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Content

Nursing Knowledge Development from the Standpoint of Philosophical and Methodological Perspective

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ABSTRACT

Knowledge development is one of the foundations for nursing to grow as a profession. Knowledge development in nursing has been greatly influenced by the philosophical perspective in different eras. This study aims at exploring the philosophical standpoints and methodological perspective of nursing knowledge development. Performing research guided by philosophy and using suitable methodology underpinning the philosophical approach is the need for strengthening nursing knowledge at present.

Keywords: Nursing science, Nursing knowledge, Philosophy.

INTRODUCTION

Latin word 'nurtrire' meaning to suckle or wet nurse was the origin for the word 'nurse'. Almost around 16th century the meaning was directed towards a person caring for infirm.[1] Today nursing has been defined 'as a profession within the health care sector focused on the care of individual, families and communities so they may attain, maintain or recover optimal health and quality of life'.[2] Broad approach for caring patient, training and extending scope related to practice differentiate nursing field from other health related fields. From the first perspective to the second definition there were the centuries involved. This paper aims to clarify the philosophical transitions for nursing knowledge development and explain how our discipline is guided by philosophical paradigms.

Philosophy is the process people undertake while trying to understand fundamental truth about their existence, the world where they live, relationships to the world. This is applicable in different academic fields as well. A Philosophy of nursing is 'a statement encompassing ontological claims about the phenomena of central interest to a discipline, epistemic claims about how those phenomena come to be known and ethical claims about what the member of discipline value'.[3] Scruton suggests that philosophy is important in nursing as it involves 'a natural extraction of our interest in truth'.[4] Thus, it helps to explore variety of approaches for

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nursing knowledge and practice. [5] Philosophy helps nursing fraternity for critical thinking and reflects the influence of nursing values on practice and way of being. Thus, clear insight of philosophy is vital to nursing discipline and professional practice. [6]

Nursing epistemology or nurse's way of knowing involves emergence of nursing knowledge, its structure, method, pattern of knowing of its members and claims validation criteria. It has engaged nurse scientist, clinicians, and educator for developing phenomena helping to explain and clarify relationships between health and illness behavior, wellbeing and nursing action. [2] Pamela Reed & Lisa Lawrence defined nursing knowledge as "Nursing knowledge refers to knowledge warranted as useful and significant to nurses and patients in understanding and facilitating human health processes". [7] Carper described four basic patterns of knowing in nursing; empirics that is the science of nursing and is 'empirical, factual, descriptive', second is esthetics; encompassing the art of nursing, personal knowledge, which is focused on the knowing, encountering and actualizing of the concrete, individual self and finally ethics concerned with moral knowledge of nurse. [8] Chinn & Kramer explained emancipatory knowing that includes socio-political, cultural context of nursing and health care, it calls for action for eliminating inequalities and injustice 9. Further the integrated expression of emancipatory knowing is praxis which brings about change that is intended to be benefit for all.

As pattern of knowing in nursing were conceived as a process of knowing nursing, end product of nursing epistemology was identified as clinical, conceptual and empirical knowledge. [10] This knowledge is the ontology. Ontology concerns itself with the nature of reality. In accordance with philosophical prospective in scientific realism ontology address debate among the concepts of disciplines. [11] Real means the existence of the entity or process in the universe, not depending on the content like belief, perception, and attitude of mind. Axiology is the science of how human value and make value judgements. [12]

There was high urge to demark nursing as a unique discipline. Donald-son and Crowley argued stating basis for nursing was 'tacit rather than explicit' and focused that nursing research should be in the discipline of nursing rather than conducted by nurse. [13] Schwab argued that discipline constitute substantive structure; concept, theories, principles, and ideas making knowledge base of discipline while syntax included method used in inquiry, means to evaluate values, credibility or usefulness of enquiry done in discipline. [14] Thus, as a response to this concern, unique language had been created as nursing diagnosis and taxonomies have been developed as the evolution of nursing science. The process of empirical scientific enquiry has been guided by the philosophy of Aristotle before 16th century that is premodern, naturalism era.

Empiricism has been defined as a bridge conjunction between nursing theory and their practice. [15] They have a belief that there is only one reality and that can be verified through senses. Empiricism believes reality being not dependent of its context and truth can be defined. [16] Further empirical knowledge allows nurses to describe, predict and even control phenomenon in nursing discipline by testing hypothesis, comparison of interventions. [17] They used quantitative research designs like experiments, surveys and analysis of secondary-source data. [17] Conformation of results is done through replication that allows comparison across research setting or timeframe 18. Empirical paradigm governed both positivism and post-positivism. The core natural science was value free.

Postpositivist empirical paradigm admit that absolute truth cannot be ascertained thus contextual factors play important role in understanding relationships between variables. [16] Thus, this makes it applicable to nursing research and practice. Logical empiricism was pertinent since 1940's to 1960's which focused on understanding nature of scientific knowledge with logical principles of reasoning. And this view governed more than

2 decades. The positivism came as a model for understanding the society; French philosopher Comte saw science as a means for getting insight about society and human behavior. He coined the term 'positive' originated from Latin word 'positum' meaning posited, thus for positivism objective truth existed and goal of science was to discover it. This purpose was termed as 'naturalism' which has been used by researcher to describe study of people in their own natural environment 19. Logical positivism aimed to strengthens positivism empiricism at the era where science matter was not directly observable arguing for the need of theoretical axioms for explaining phenomenon not being able of direct verification but anchored empirically by 'correspondence rules' 20 which were amenable for observational testing. Also, they supported the positivism to argue that empirical knowledge was the only valid form of knowing.

Logical positivism influenced the knowledge development in nursing since the end of 1960's. This placed nursing as a unique discipline, distinct from basic science. Further developing nursing as a professional discipline, involved having social construct, licensing requirements, and special context for nursing in public. This emphasized nursing science to focus on role of theory in nursing. Mechanism of theory development were emphasized for the development of nursing science from 1960's through 1980's. Logical positivism was basis for theory development. Nursing theory development were visible in this period, 1961 (Orlando), 1970 (Roger), 1970, 1971 (Roy) 21,22,23. The influence of logical positivism was gone in the early 1980's.

At this point nursing was attracted by a new paradigm following Thomas Kunh (1970-1974) which changed the philosophy of science from a focus on product to focus on a process. He believed science being organized around the idea of central paradigm. Also, paradigm was supposed to serve as disciplinary matrix that include the values and aims inherent in major substantive content of discipline. And the work of scientist was to articulate the paradigm. The word 'paradigm' became popular in nursing discipline; also 'meta-paradigm' in nursing was discussed. With some limitation Kuhn's ideas did not rule longer. Laudan (1977) focused on science as problem solving activity, providing view of science which address role of both conceptual and empirical problem while conducting science and determination of progress. As there was residual of logistic positivism and emergence of postmodernism, Laudan's idea got less attention.[22]

With the influence of historicism during 1970-1980's nurses were focused on resolution of conceptual problems. Still was not consistent with historicism but had positivist orientation. Concepts as building blocks of theory were valued. Analysis, synthesis and derivation for concept, statement and theory were focused on 1990's by Catherine Norris (1982), Walker and Avant (1983,1988), John Wilsom (1969). This is influenced by the recognition of role of theory in science. A philosophical view of concept development was formed by Rodgers (1989); targeted for providing solid foundation for conceptual work as a part of development of science and discipline in nursing.[23] As predominant problems in nursing field are conceptual in nature, and importance of concept in giving identity and scope of nursing as a discipline is crucial concept development is extremely needed. With these efforts for identifying essence of nursing, fundamental concepts were postulated as constituting core of nursing knowledge. Kim, Flaskerud and Halloran, and others identified 'nursing', 'person', 'health' and 'environment' as key concepts in nursing.[24,25] The post positivist approach utilizes different variety of data, both sensory experiences and perception of those experiences. Use of different forms of data is done to falsify hypothesis, providing support to theories. Traditional postpositivist approach undertakes using both quantitative and qualitative data in understanding phenomenon making it more flexible than positivism.

Then comes interpretive perspective which incorporates naturalistic, constructivist interpretive and humanistic paradigms. It examines phenomena through the eyes of the people who live it.[26] In this paradigm reality is complex, multifactorial and content dependent.[16] As per this paradigm, reality is composed intersubjectively through socially and experimentally developed meaning and understanding (relative ontology). Also, it assumes we cannot be separated from what we know, thus our understanding about the world is central to understanding self, others and the world (subjectivist epistemology).[27, 28] Relationship networks, believes, cultures, languages construct social reality. The main aim of interpretive paradigm is describing and interpreting the phenomenon existing in the world for gaining shared meaning with others thus believes human experience as a process of interpretation rather than sensory perception only. Interpretive paradigm has critical concerns regarding moral values.[28] Interpretation involves search for vast perspectives regarding certain event or phenomena which might provide with some possibilities regarding the truth but can't offer certainty of future event as outcome. Further interpretations are moment specific (distinguished context or situation or time), like quality of life of cancer patients immediately after diagnosis, during chemotherapy, during radiation therapy, after mastectomy, during survival. Though all of them represent cancer patient's quality of life but they differ due to their unique context and timing. Hermeneutics is a term referring to the art of interpretation. Interpretative approach uses interviewing, observation along with analysis of existing texts.[28] It includes phenomenology, grounded theory, ethnography, participatory action. The process includes formulating research question, deconstructing and critical analysis of prior conceptions, capturing the phenomena, bracketing the phenomena, construction of phenomena and finally contextualization of phenomena.[39] Research conducted in interpretive paradigm is difficult to generalize findings but is in accordance with the aim of nursing that is meeting the need of patients as it helps to uncover information about individual's experience which can be used in nursing discipline.[16] Interpretive paradigms focus on induction and theory development unlike in empirical paradigm that focus on deduction and theory testing 30. Interpretive paradigm had value laden and meaning of values of lived experiences.

In the mid to late 20th century great movement across philosophy, arts, architecture and criticism occurred making modernism depart and introduced post-modernism. Incorporating wide approaches and discipline, postmodernism was defined as attitude of skepticism, irony or rejection of ideologies of modernism. Postmodern critique included Universalist notion of objective reality, morality, truth, human nature, reason, science, language and social progress. Postmodernism is a mode of disclosure or intellectual stance which rejects the possibility of reliable knowledge denies existence of universal, stable reality further frames aesthetics and beauty as arbitrary and subjective.[31, 32] In nursing post modernism involved emphasizing narrative tradition and disclosure, critical social theories and feminism. It was based on ideas of individual truth, consistent with nursing emphasis on whole person and individual approach to care. Also, the power differences present in the society, its reflection in health care system including its interaction with care provider were considered by post modernism.

Another paradigm is Critical theory. It is 'a general perspective that uncovers social, historical and ideological forces and structures that limits human potential and that produce injustice and inequality in society'.[33] Critical paradigm, focusing on social struggle, domination, and institution with the aim of bringing egalitarian society is important paradigm for nursing.[17] Critical theory aims at man's emancipation from slavery. The global goals changes with time and nursing knowledge development cannot be addressed only by positivism

and interpretative paradigm. Rationalist, interpretivist, mediation and emancipation were the four-position suggested by Kim for explanation concerning nursing practice.[34] Critical theory applied to nursing explores the reason behind some group of people having some predisposition for some illness reduce health disparities of social origin, understand cultural differences while treating patients.

According to Butterfield bringing change in health status of patient by changing patient's belief is one of the aims of nursing, but for acknowledging the antecedent factors influencing patient's behavior and health, a wide perspective is required.[35] It incorporates the role of nurse as an advocator. As nursing moves beyond carrying only for illness and focus on minimizing harmful effect of society and contextual circumstances on individual critical paradigm is significant.[36] Critical paradigm includes participatory action research as it focuses on creating change.[34]

Feminist theory evolved through critical paradigm. Feminism evolved as a movement for arranging the world in terms of gender equality and getting rid of gender-based power differences. Being not only limited to gender it included all the minorities and marginalized group for uncovering inequalities persisting in every society. Liberal feminism, radical feminism, socialist feminism and womanism are the distinguished types of feminism.[38] Feminism was of interest for nursing fraternity as it was considering some crucial values of nursing, emphasizing the uniqueness of each individual; importance of reality of individual in terms of gender, class, social, economic, religious aspects, awareness of power differences within health care system itself.

These new philosophical emergences came along with new modes of inquiry and new methodologies in nursing. Belief of an individual, culture, social context, power differences, and multiple realities needed the development of new methods able to manifest its crucial aspects of existence through research. These philosophical differences imply that traditional scientific principles are not applicable for studying human in individual and social context pointing at the need of pluralistic approach focusing on holistic tradition of inquiry.

Post modernism accelerated the growth of qualitative methodologies for knowledge development in nursing 37. With the presence of all of these paradigms, the demand for identifying diverse but valid opinions has let pragmatism arise. Pragmatism evaluates idea utilizing 'What difference does it make?' rather than criterion 'Is it true?' 38. Nurses face diverse situations and multiple approach of problem solution are necessary 16. Thus, selection of best course of action applicable for the client is the priority. With pragmatism appraising and selecting a nursing paradigm is possible.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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A Pre-Experimental Study to Assess the Effectiveness of Video Assisted Teaching Programme on Knowledge Regarding Health Hazards of Using Mobile Phone Among School Going Children of Selected Schools of District Kangra, Himachal Pradesh

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ABSTRACT

Background: School going children represents a period of transition between childhood and adulthood. In recent years, adoption of mobile phones by school going children has been a global phenomenon. Several studies revealed that during use mobile phone and cordless phone emit radiofrequency (RF) radiation that can possibly cause cancer and long-term health issues. Therefore, children need awareness regarding health hazards of using mobile phone.

Material and methods: A quantitative research approach and pre-experimental research design was adopted to conduct study. The non-probability purposive sampling technique were used to select 60 school going children of District Kangra, Himachal Pradesh. A Self-structured knowledge questionnaire was used to assess knowledge score. Analysis of collected data was done according to the objectives of the study and data analyzed by using descriptive and inferential statistics.

Results: The mean pre-test knowledge score was 14.53 where 70% school going children were having moderately adequate knowledge, 25% were having inadequate knowledge and only 5% were having adequate knowledge. Whereas the mean post-test knowledge score was 20.77 where 55% were having adequate knowledge, 43.33% were having moderately adequate knowledge and only 1.67% having inadequate knowledge. Hence, results revealed that the post-test knowledge score (20.77) was significantly higher than pre-test (14.53) and obtained 't' value has been found statistically very highly significant (8.458) at $p<0.001$ level of significance.

Interpretation and conclusion: The study concluded that the video assisted teaching program was effective in improving the knowledge regarding health hazards of using mobile phone among school going children. As school going children were easily attracted toward video assisted teaching programme and show interest also.

Keywords: Mobile phone, Health hazards, School going children, Video assisted teaching program.

INTRODUCTION

"These days we have Smartphones, Smart cars, Smartboards, Smart everything, but consider this: if technology is getting smarter, does that mean humans are getting dumber?"
                    -(Rebecca McNutt)

School going children represented a period of transition between childhood and adulthood. It represents a child who is old enough to go to school.

Mobile phone is a portable, small communication device which provides two-way

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communication.[1] These days, we can say that mobile devices are beneficial for children but have some disadvantages too.[2] In recent times, the mobile phone industry has been one of the fastest growing industries. At present, India has 287 million mobile phone users.[3]

The concept of mobile phone was invented during the Second World War by the American Dr. Martin cooper in April 1973 at New York. Mobile phones were invented because people wanted to communicate faster at different locations. In India, Telephony was introduced in 1882. According to recent reports, India wanted to overtake China to become the world's largest mobile telecommunications market by the year 2013.[4] A world-wide popularization of smartphones and a less knowledge about their side effects triggered the author to start research on effects of smartphones on human health and life. According to the WHO, radiation from cell phones can possibly cause cancer.[5]

A study done by a Mumbai-based hospital (Lilavati) said 50% of Indian children and teenagers prone to excessive use of mobile phones. Excessive use of mobile phone can lead to a condition in teenagers called "text neck".[6]

Internet and Mobile Association of India survey in the 26 cities that covered 65,000 persons in 16,500 households, has shown 1.6 million school children use the internet for about 322 minutes a week.[7] In the present scenario, one of the powerful environmental factors that influence schooler's behavior is smart phone.[8]

Pathol Boil & Medical Journal indicates that excessive exposure of mobile phone usage can cause dizziness, extreme irritation, headache, forgetfulness, lack of concentration, memory loss, inability to learn, behavioral problem, hyperactivity, and neurophysiologic discomfort and feeling of uncomfortable restlessness when not using a cell phone.[9]

As prevention is better than cure, the hazards of the mobile's phones can be prevented at an early period through the video assisted teaching programme. Prevention of these problems is better than treating them so that the future complications and morbidity associated with that can be reduced to a greater extend. Regular eye checkups and the protection against glare also help to avoid visual problems that may result from mobile phone use.[10]

Statement of the Problem: "A pre-experimental study to assess the effectiveness of video assisted teaching programme on knowledge regarding health hazards of using mobile phone among school going children of selected schools of District Kangra, Himachal Pradesh".

OBJECTIVES OF THE STATEMENT

- To assess the pre-test knowledge scores regarding health hazards of using mobile phone among school going children.
- To assess the post-test knowledge scores regarding health hazards of using mobile phone among school going children.
- To compare the pre-test and post-test knowledge scores of school going children regarding health hazards of using mobile phone.
- To find out the association of post-test knowledge scores of the school going children with their selected socio demographic variables.

Hypothesis: Following hypothesis were tested at 0.05 level at significance:

- H_1- There will be a significant difference between mean pre-test and post-test knowledge scores regarding health hazards of using mobile phones among school going children.
- $H0_1$- There will be no significant difference between mean pre-test and post-test knowledge scores regarding health hazards of using mobile phones among school going children.
- H_2- There will be a significant association of post-test knowledge scores among school going children with their selected socio demographic variables.

- **H_{02}-** There will be no significant association of post-test knowledge scores among school going children with their selected socio demographic variables.

Assumptions: The proposed study assumes that:

- School going children may have some knowledge regarding health hazards of using mobile phone.
- Video assisted teaching programme may have some impact on the knowledge of school going children regarding health hazards of mobile phone.
- School going children may give accurate information.
- Knowledge questionnaire may help the researcher to collect relevant information related to the study.

Ethical consideration:

- All participants were informed that their participation in the study was voluntary, and they can refuse to participate and can withdraw from the study at any time.
- Apart from this, written informed consent was taken from each school going children, and permission has been taken from the authorities.
- Confidentiality and anonymity of the participants was protected throughout the study.

Operational definitions:

- **Assess:** It refers to gathering or collecting information regarding health hazards of using mobile phone among school going children.
- **Effectiveness:** In this study, it refers to the extent to which video assisted teaching programme regarding health hazards of using mobile phone is effective in improving the knowledge of school going children.
- Video Assisted Teaching Programme: In this study, it is planned video teaching programme, aimed to increase the knowledge and awareness outcome regarding the health hazards of using mobile phone and its prevention among school going children.

- **Knowledge:** In this study, it refers to the awareness or information about the health hazards of using mobile phone among school going children which was assessed by using self-structured knowledge questionnaire in terms of inadequate, moderately adequate and adequate knowledge.
- **Health Hazards:** In this study, it refers to the harmful effect which is happening by excessive use of the mobile phone among school going children.
- **Mobile phone:** In this study, it refers to an electronic device for communication purposes with additional support services such as text messaging, call and email etc.
- **School going Children:** In this study, it refers to the girls and boys who have not undergone puberty and has not reached maturity and lies between 8 to 15 years of age.

Research Methodology: Research methodology is the systematic, theoretical analysis of the methods applied to a field of study. Research methodology indicates the generalized pattern of organizing the procedure for gathering valid and reliable data for investigation.

Research Approach: Quantitative Research Approach.

Research Design: Pre-experimental one group pre-test post-test research design.

Variables: Variables are qualities, properties or characteristics of person, things or situations that change or vary, are manipulated or measured in research. In present study:

- **Independent variable**: Video assisted teaching programme on health hazards of using mobile phone.
- **Dependent variable:** Knowledge of school going children on health hazards of using mobile phone.

Study Setting: The study was conducted at following Schools of District Kangra, Himachal Pradesh.

- Himalayan Public Sen. Sec. School Paprola, District Kangra (H.P.)
- ND Memorial School Bir, District Kangra (H.P.)

Population: School going children

- **Target population:** The target population of the study was school going children of age group 8-15 years.
- **Accessible population:** The accessible population of the study was school going children of age group 8-15 years of selected schools of District Kangra, (H.P.).

Sample and Sampling Technique

Sample: The sample for present study consisted of 60 school going children of age group 8-15 years of selected Schools of District Kangra, (H.P.).

Sampling technique: Non-Probability Purposive sampling technique was employed in the present study to select the sample.

SAMPLING CRITERIA

Inclusion criteria:

The study includes school going children:-

- Who are in the age group of 8-15 years of selected Schools at District Kangra, (H.P.).
- Who read and write Hindi and English language.
- Who are willing to participate in the study.
- Present on the day of data collection.

Exclusion criteria:

The study excludes school going children:-

- Who are not willing to give consent.
- Who are physically and mentally challenged.
- Who are not present at the time of data collection.

- Who are less than 8 years and more than 15 years of age.

Sample Size Determination

Sample size determined by Slovin's farmula. The sample size calculated for the study was 58.59 by Slovin's farmula.

Slovin's farmula:

$$n = N \backslash 1 + Ne^2$$

*Note   n = Sample size

N = Population size (as per previous research studies)

e = margin error (decided by researcher as per previous study, so it is assumed to be 2% i.e. 0.02).

It was 58.59 but only 60 samples were covered in given time frame.

Development and Description of the Tool: As the study is concerned with effectiveness of video assisted teaching programme on knowledge regarding health hazards of using mobile phone and its prevention; So self-structured knowledge questionnaire was used to assess the knowledge scores of school going children**.**

Selection and Development of Tool: The tool was formulated after an extensive review of literature and discussion with the experts and guides.

The tool was consisting of two parts:-

Part-I: Socio-demographic variables: It consists of selected socio-demographic variables to obtain personal and general information of school going children.

Part-II: Section-A: Self structured knowledge questionnaire: It consists of 30 questions to assess the knowledge regarding health hazards of using and its prevention mobile phone among school going children.

Section-B: Video assisted teaching programme: It consists of systematically designed video assisted teaching programme regarding health hazards of using mobile phone and its prevention among school going children.

Interpretation of knowledge questionnaire: The self-structured knowledge questionnaire consisted of 30 questions. In which, right answer was documented as correct one mark and wrong were documented as a zero mark. The maximum score was 30 and minimum score was 0. The complete ranged from 0 to 30.

Scoring pattern:

Level of knowledge	%	Score
Inadequate	≤33%	0-10
Moderately adequate	34-66%	11-20
Adequate	≥67%	21-30

Data analysis and interpretation: The analysis was made on the basis of objectives and hypothesis. Both descriptive and inferential statistics were used for data analysis, such as:

1. Frequency and percentage distribution of the demographic data were analyzed.
2. Paired "t" test were used to find out the difference between mean pre-test and post-test knowledge scores.
3. Chi-square test was used to find out the association of post-test knowledge scores of school going children with their selected socio demographic variables.

Probability p-value of less than 0.05 was considered as statistically significant. SPSS (Statistical Package for Social System) version-18 software was used for analysis of data.

Interpretations: The result of analysis of data have been organized and presented under following sections:

Section-I: Description of socio-demographic variables of study participants (n=60): Majority of school going children (55%) were age group of 12-13 years. Most of school going children (56.67%) were female. Majority of school going children (48.33%) father were having secondary education. About (53.33%) mothers of school going children were having secondary education. Majority of school going children (53.34%) fathers were in private sector. Majority of school going children (15.00%) mothers were in private sector.

About 50% families were joint family. Majority of school going children (66.67%) family monthly income was less than Rs.10,000. Most of school going children (66.67%) were reside in rural area. About (36.76%) of school going children were having one sibling. Majority of school going children (76.67%) were having previous knowledge regarding health hazards of using mobile phone.
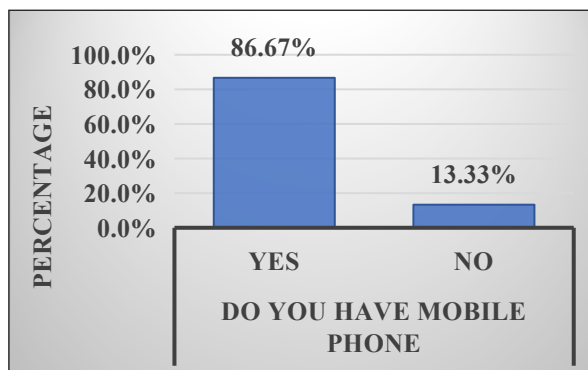
Fig.1: Bar diagram representing the percentage distribution of respondent by distribution on the basis of having mobile phone (n=60).

Figure 1 shows that majority of school going children (86.67%) were having mobile phone and only (13.33%) were having no mobile phone.

Section-II: Assess the pre-test knowledge scores regarding health hazards of using mobile phone among school going children (n=60).

This figure 2 shows that majority of schools going children i.e. 70% were having
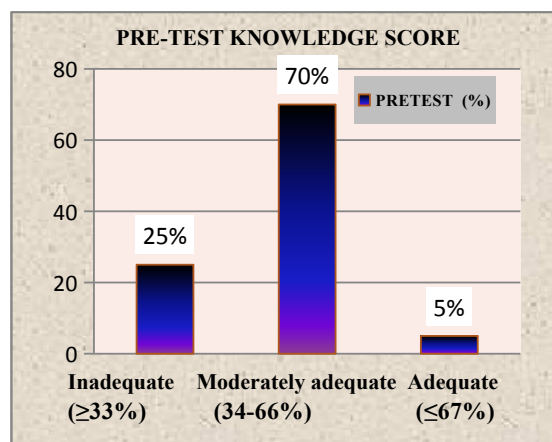
Fig. 2: Bar diagram representing Pre-test knowledge scores regarding health hazards of using mobile phone among school going children (n=60).

moderately adequate knowledge, 25% were having inadequate knowledge and only 5% were having adequate knowledge regarding health hazards of using mobile phone during their pre-test.

Section-III: Assess the post-test knowledge scores regarding health hazards of using mobile phone among school going children (n=60).

This figure 3 shows that majority of schools going children i.e. 55% were having adequate knowledge, 43.33% were having moderately adequate knowledge and only 1.67% having inadequate knowledge through self-structured knowledge questionnaire regarding health hazards of using mobile phone among school going children after their post-test

Section-IV: Comparison between pre-test and post-test knowledge scores (n=60): The paired t-test is used to compare the pre-test and post-test knowledge scores regarding health hazards of using mobile phone among school going children.

Table-1 shows the findings related to comparison between pre-test and post-test knowledge scores regarding health hazards
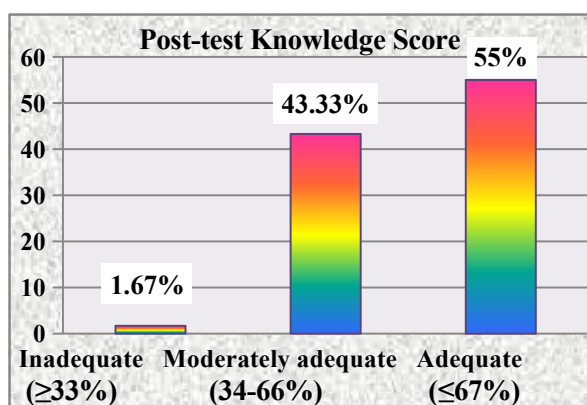
Fig.3: Bar diagram representing post-test knowledge scores regarding health hazards of using mobile phone among school going children (n=60).

of using mobile phone among school going children.

The data depicts in table-1, that the post-test knowledge score was significantly higher than pre-test. The mean post-test knowledge score was higher than (20.77) mean pre-test knowledge score (14.53) and 't' value has been found statistically very highly significant (8.458) at p<0.001 level of significance. The study concluded that the video assisted teaching program was effective in improving the knowledge on health hazards of using mobile phone among school going children.

Section-V: Association of post-test knowledge scores among school going children with their selected socio demographic variables (n=60):

The data revealed that Chi-square had no significant association of post-test knowledge scores with their selected socio demographic variables i.e. age, gender, education of father, education of mother, occupation of father, occupation of mother, type of family, monthly family income, area of residency, number of siblings, previous knowledge regarding health hazards of mobile phone, do you have mobile phone. Therefore, selected socio demographic variables had no impact on knowledge regarding health hazards of using mobile phone among school going children.

Discussion

This chapter relates the findings of the present study in accordance with the studies done earlier.

Analysis of the study indicated that in the present study, the mean of post-test score was 20.77 with standard deviation 3.407 and 't' value has been found statistically very highly significant (8.458) at p<0.001 level of significance. Similar findings had been found by J. Indhuja 2016 the mean post-test score was 21.96 with the standard deviation of

Table-1: Comparison between pre-test and post-test knowledge regarding health hazards of using mobile phone among school going children (n=60).

Knowledge scores	Mean	SD	Mean difference	Paired t test	df	P value	Table value 0.05
Pre-test Knowledge	14.53	4.237					
			6.240	8.458 *	59	<0.001	2.00
Post-test Knowledge	20.77	3.407					

P value<0.05=Significant; <0.01=Highly significant; <0.001= Very highly significant

Figure 4: Bar diagram representing the comparison of mean, median, standard deviation, maximum, minimum and mean percentage of pre-test and post-test knowledge scores regarding health hazards of using mobile phone among school going children.
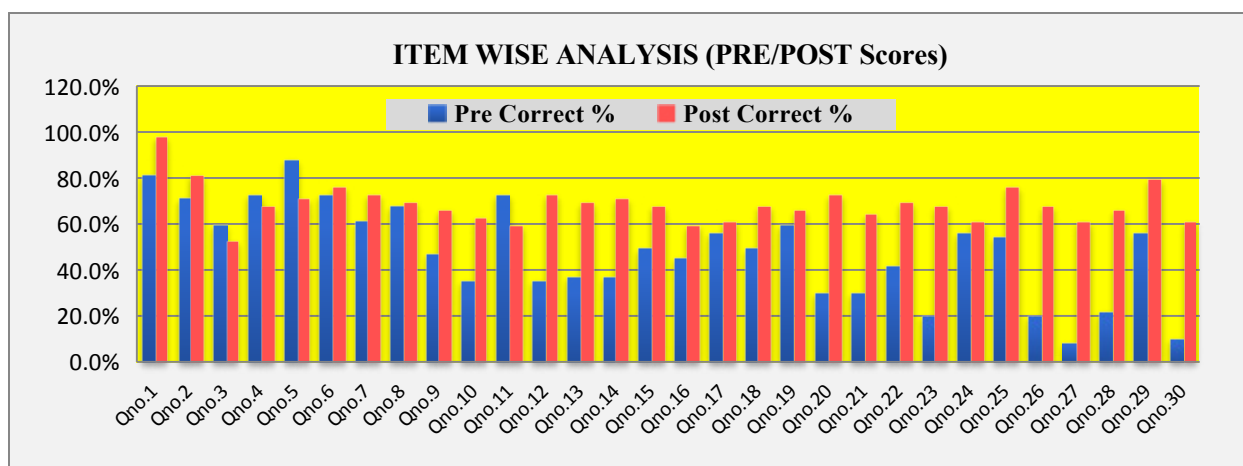
Fig. 5: Bar diagram representing item wise analysis of self-structured knowledge questionnaire among school going children (n=60).

4.05. The mean difference was 73.20. The obtained Paired 't' test value was 9.304 which is more than the table value (p=2.00), which shows that video teaching was effective in improving knowledge.

CONCLUSION

The result from the present study reveals that implementation of video assisted teaching programme to assess the knowledge regarding health hazards of using mobile phone was adequate. As school going children were easily attracted toward video assisted teaching programme and show interest also. And the chi-square value had no-significant association between knowledge score of

students regarding health hazards of using mobile phone with selected demographic variables.

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Conflict of interest: Nil

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The Effectiveness of the Anemia Prevention Education Program for Muslim Adolescent Girls in Indonesian Rural Areas

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ABSTRACT

Introduction: In adolescent girls, the need for iron increases due to accelerated growth and monthly iron loss because of menstruation. Anemia in adolescent girls can cause a decrease in learning concentration, headaches, dizziness, drowsiness, weakness, pale skin, and others. This study aimed to determine the effectiveness of the anemia prevention education program on adolescent girls' knowledge, attitudes, and practices in Indonesian rural areas.

Method: The research sample consisted of 81 respondents (40 in the control group and 41 in the intervention group) from two schools, who were selected using total sampling for the control group and quota sampling for the intervention group. The anemia prevention education intervention consisted of 4 meeting sessions held every week for a month with 30-40 minutes for each meeting.

Result: Data analysis revealed that the anemia prevention education program effectively increased anemia knowledge (p=0.00) and practice (p=0.02). However, this program was ineffective in changing adolescent girls' attitudes about anemia prevention (p=1.00) because adolescent girls had a positive attitude (100%) both before and after receiving education.

Conclusion: As a result, it can be stated that nurses and other health workers can apply for the anemia prevention education program conducted by the Public Health Center to improve adolescent girls' knowledge and practice of anemia prevention.

Keywords: *Knowledge, Attitude, Practice, HBM*

INTRODUCTION

Latin word 'nurtrire' meaning to suckle or wet nurse was the origin for the word 'nurse'. Almost around 16th century the meaning was directed towards a person caring for infirm.[1] Today nursing has been defined 'as a profession within the health care sector focused on the care of individual, families and communities so they may attain, maintain or recover optimal health and quality of life'.[2] Broad approach for caring patient, training and extending scope related to practice differentiate nursing field from other health related fields. From the first perspective to the second definition there were the centuries involved. This paper aims to clarify the philosophical transitions for nursing knowledge development and explain how our discipline is guided by philosophical paradigms.

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Philosophy is the process people undertake while trying to understand fundamental truth about their existence, the world where they live, relationships to the world. This is applicable in different academic fields as well. A Philosophy of nursing is 'a statement encompassing ontological claims about the phenomena of central interest to a discipline, epistemic claims about how those phenomena come to be known and ethical claims about what the member of discipline value'.[3] Scruton suggests that philosophy is important in nursing as it involves 'a natural extraction of our interest in truth'.[4] Thus, it helps to explore variety of approaches for nursing knowledge and practice.[5] Philosophy helps nursing fraternity for critical thinking and reflects the influence of nursing values on practice and way of being. Thus, clear insight of philosophy is vital to nursing discipline and professional practice.[6]

Nursing epistemology or nurse's way of knowing involves emergence of nursing knowledge, its structure, method, pattern of knowing of its members and claims validation criteria. It has engaged nurse scientist, clinicians, and educator for developing phenomena helping to explain and clarify relationships between health and illness behavior, wellbeing and nursing action 2. Pamela Reed & Lisa Lawrence defined nursing knowledge as "Nursing knowledge refers to knowledge warranted as useful and significant to nurses and patients in understanding and facilitating human health processes".[7] Carper described four basic patterns of knowing in nursing; empirics that is the science of nursing and is 'empirical, factual, descriptive', second is esthetics; encompassing the art of nursing, personal knowledge, which is focused on the knowing, encountering and actualizing of the concrete, individual self and finally ethics concerned with moral knowledge of nurse.[8] Chinn & Kramer explained emancipatory knowing that includes socio-political, cultural context of nursing and health care, it calls for action for eliminating inequalities and injustice.[9] Further the integrated expression of emancipatory knowing is praxis which brings about change that is intended to be benefit for all.

As pattern of knowing in nursing were conceived as a process of knowing nursing, end product of nursing epistemology was identified as clinical, conceptual and empirical knowledge.[10] This knowledge is the ontology. Ontology concerns itself with the nature of reality. In accordance with philosophical prospective in scientific realism ontology address debate among the concepts of disciplines.[11] Real means the existence of the entity or process in the universe, not depending on the content like belief, perception, and attitude of mind. Axiology is the science of how human value and make value judgements.[12]

There was high urge to demark nursing as a unique discipline. Donald-son and Crowley argued stating basis for nursing was 'tacit rather than explicit' and focused that nursing research should be in the discipline of nursing rather than conducted by nurse.[13] Schwab argued that discipline constitute substantive structure; concept, theories, principles, and ideas making knowledge base of discipline while syntax included method used in inquiry, means to evaluate values, credibility or usefulness of enquiry done in discipline.[14] Thus, as a response to this concern, unique language had been created as nursing diagnosis and taxonomies have been developed as the evolution of nursing science. The process of empirical scientific enquiry has been guided by the philosophy of Aristotle before 16th century that is premodern, naturalism era.

Empiricism has been defined as a bridge conjunction between nursing theory and their practice.[15] They have a belief that there is only one reality and that can be verified through senses. Empiricism believes reality being not dependent of its context and truth can be defined.[16] Further empirical knowledge allows nurses to describe, predict and even control phenomenon in nursing discipline by testing hypothesis, comparison of interventions.[8] They used quantitative research designs like experiments, surveys and analysis of secondary-source data.[17] Conformation of results is done through replication that

allows comparison across research setting or timeframe.[18] Empirical paradigm governed both positivism and post-positivism. The core natural science was value free.

Postpositivist empirical paradigm admit that absolute truth cannot be ascertained thus contextual factors play important role in understanding relationships between variables.[16] Thus, this makes it applicable to nursing research and practice. Logical empiricism was pertinent since 1940's to 1960's which focused on understanding nature of scientific knowledge with logical principles of reasoning. And this view governed more than 2 decades. The positivism came as a model for understanding the society; French philosopher Comte saw science as a means for getting insight about society and human behavior. He coined the term 'positive' originated from Latin word 'positum' meaning posited, thus for positivism objective truth existed and goal of science was to discover it. This purpose was termed as 'naturalism' which has been used by researcher to describe study of people in their own natural environment19. Logical positivism aimed to strengthens positivism empiricism at the era where science matter was not directly observable arguing for the need of theoretical axioms for explaining phenomenon not being able of direct verification but anchored empirically by 'correspondence rules' 20 which were amenable for observational testing. Also, they supported the positivism to argue that empirical knowledge was the only valid form of knowing.

Logical positivism influenced the knowledge development in nursing since the end of 1960's. This placed nursing as a unique discipline, distinct from basic science. Further developing nursing as a professional discipline, involved having social construct, licensing requirements, and special context for nursing in public. This emphasized nursing science to focus on role of theory in nursing. Mechanism of theory development were emphasized for the development of nursing science from 1960's through 1980's. Logical positivism was basis for theory development.

Nursing theory development were visible in this period, 1961 (Orlando), 1970 (Roger), 1970, 1971 (Roy).[22-23] The influence of logical positivism was gone in the early 1980's.

At this point nursing was attracted by a new paradigm following Thomas Kunh (1970- 1974) which changed the philosophy of science from a focus on product to focus on a process. He believed science being organized around the idea of central paradigm. Also, paradigm was supposed to serve as disciplinary matrix that include the values and aims inherent in major substantive content of discipline. And the work of scientist was to articulate the paradigm. The word 'paradigm' became popular in nursing discipline; also 'meta-paradigm' in nursing was discussed. With some limitation Kuhn's ideas did not rule longer. Laudan (1977) focused on science as problem solving activity, providing view of science which address role of both conceptual and empirical problem while conducting science and determination of progress. As there was residual of logistic positivism and emergence of postmodernism, Laudan's idea got less attention.[22]

With the influence of historicism during 1970-1980's nurses were focused on resolution of conceptual problems. Still was not consistent with historicism but had positivist orientation. Concepts as building blocks of theory were valued. Analysis, synthesis and derivation for concept, statement and theory were focused on 1990's by Catherine Norris (1982), Walker and Avant (1983,1988), John Wilsom (1969). This is influenced by the recognition of role of theory in science. A philosophical view of concept development was formed by Rodgers (1989); targeted for providing solid foundation for conceptual work as a part of development of science and discipline in nursing 23. As predominant problems in nursing field are conceptual in nature, and importance of concept in giving identity and scope of nursing as a discipline is crucial concept development is extremely needed. With these efforts for identifying essence of nursing, fundamental concepts were postulated as constituting core of nursing knowledge. Kim, Flaskerud and

Halloran, and others identified 'nursing', 'person', 'health' and 'environment' as key concepts in nursing.[24,25] The post positivist approach utilizes different variety of data, both sensory experiences and perception of those experiences. Use of different forms of data is done to falsify hypothesis, providing support to theories. Traditional postpositivist approach undertakes using both quantitative and qualitative data in understanding phenomenon making it more flexible than positivism.

Then comes interpretive perspective which incorporates naturalistic, constructivist interpretive and humanistic paradigms. It examines phenomena through the eyes of the people who live it. In this paradigm reality is complex, multifactorial and content dependent 16. As per this paradigm, reality is composed intersubjectively through socially and experimentally developed meaning and understanding (relative ontology). Also, it assumes we cannot be separated from what we know, thus our understanding about the world is central to understanding self, others and the world (subjectivist epistemology)[28]. Relationship networks, believes, cultures, languages construct social reality. The main aim of interpretive paradigm is describing and interpreting the phenomenon existing in the world for gaining shared meaning with others thus believes human experience as a process of interpretation rather than sensory perception only. Interpretive paradigm has critical concerns regarding moral values.[28] Interpretation involves search for vast perspectives regarding certain event or phenomena which might provide with some possibilities regarding the truth but can't offer certainty of future event as outcome. Further interpretations are moment specific (distinguished context or situation or time), like quality of life of cancer patients immediately after diagnosis, during chemotherapy, during radiation therapy, after mastectomy, during survival. Though all of them represent cancer patient's quality of life but they differ due to their unique context and timing. Hermeneutics is

a term referring to the art of interpretation. Interpretative approach uses interviewing, observation along with analysis of existing texts.[28,] It includes phenomenology, grounded theory, ethnography, participatory action. The process includes formulating research question, deconstructing and critical analysis of prior conceptions, capturing the phenomena, bracketing the phenomena, construction of phenomena and finally contextualization of phenomena.[39] Research conducted in interpretive paradigm is difficult to generalize findings but is in accordance with the aim of nursing that is meeting the need of patients as it helps to uncover information about individual's experience which can be used in nursing discipline.[16] Interpretive paradigms focus on induction and theory development unlike in empirical paradigm that focus on deduction and theory testing 30. Interpretive paradigm had value laden and meaning of values of lived experiences.

In the mid to late 20th century great movement across philosophy, arts, architecture and criticism occurred making modernism depart and introduced postmodernism. Incorporating wide approaches and discipline, postmodernism was defined as attitude of skepticism, irony or rejection of ideologies of modernism. Postmodern critique included Universalist notion of objective reality, morality, truth, human nature, reason, science, language and social progress. Postmodernism is a mode of disclosure or intellectual stance which rejects the possibility of reliable knowledge denies existence of universal, stable reality further frames aesthetics and beauty as arbitrary and subjective.[31,32] In nursing post modernism involved emphasizing narrative tradition and disclosure, critical social theories and feminism. It was based on ideas of individual truth, consistent with nursing emphasis on whole person and individual approach to care. Also, the power differences present in the society, its reflection in health care system including its interaction with care provider were considered by post modernism.

Another paradigm is Critical theory. It is 'a general perspective that uncovers social, historical and ideological forces and structures that limits human potential and that produce injustice and inequality in society' 33. Critical paradigm, focusing on social struggle, domination, and institution with the aim of bringing egalitarian society is important paradigm for nursing.[17] Critical theory aims at man's emancipation from slavery. The global goals changes with time and nursing knowledge development cannot be addressed only by positivism and interpretative paradigm. Rationalist, interpretivist, mediation and emancipation were the four-position suggested by Kim for explanation concerning nursing practice.[34] Critical theory applied to nursing explores the reason behind some group of people having some predisposition for some illness reduce health disparities of social origin, understand cultural differences while treating patients.

According to Butterfield bringing change in health status of patient by changing patient's belief is one of the aims of nursing, but for acknowledging the antecedent factors influencing patient's behavior and health, a wide perspective is required 35. It incorporates the role of nurse as an advocator. As nursing moves beyond carrying only for illness and focus on minimizing harmful effect of society and contextual circumstances on individual critical paradigm is significant.[36] Critical paradigm includes participatory action research as it focuses on creating change.[17]

Feminist theory evolved through critical paradigm. Feminism evolved as a movement for arranging the world in terms of gender equality and getting rid of gender-based power differences. Being not only limited to gender it included all the minorities and marginalized group for uncovering inequalities persisting in every society. Liberal feminism, radical feminism, socialist feminism and womanism are the distinguished types of feminism.[38] Feminism was of interest for nursing fraternity as it was considering some crucial values of nursing, emphasizing the uniqueness of each individual; importance of reality of individual in terms of gender, class, social, economic, religious aspects, awareness of power differences within health care system itself.

These new philosophical emergences came along with new modes of inquiry and new methodologies in nursing. Belief of an individual, culture, social context, power differences, and multiple realities needed the development of new methods able to manifest its crucial aspects of existence through research. These philosophical differences imply that traditional scientific principles are not applicable for studying human in individual and social context pointing at the need of pluralistic approach focusing on holistic tradition of inquiry.

Post modernism accelerated the growth of qualitative methodologies for knowledge development in nursing.[37] With the presence of all of these paradigms, the demand for identifying diverse but valid opinions has let pragmatism arise. Pragmatism evaluates idea utilizing 'What difference does it make?' rather than criterion 'Is it true?'.[38] Nurses face diverse situations and multiple approach of problem solution are necessary.[16] Thus, selection of best course of action applicable for the client is the priority. With pragmatism appraising and selecting a nursing paradigm is possible.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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Nil

ETHICAL CLEARANCE

This article does not required an ethical clearance.

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History of Hand Hygiene Increases Undergraduate Nursing Students' Positive Attitude Toward Hand Hygiene Practice

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ABSTRACT

Various media on hand hygiene topics have been developed to make it easier for students to master the procedure, but positive attitudes toward applying these skills have not significantly developed. The study aimed to determine the effect of hand hygiene history on undergraduate nursing students' attitudes to hand hygiene. A quasi-experiment using a pre-and post-test with a control group design was conducted. Fifty-four students were invited and randomly assigned to an intervention group and a control group. The intervention group obtained the hand hygiene history through a booklet, while the control group got no treatment. The data were collected using a questionnaire. The paired and unpaired t-test was applied to analyze the data. The results showed that the average score of students' attitudes in the intervention group increased from 58.44 ± 5.98 to 65.52 ± 5.29 ($p<0.001$), while in the control group, it only increased from 60.41 ± 4.12 to 60.78 ± 5.06 ($p=0.769$). There was a significant difference in the attitude value between the two groups ($p = 0.021$). In conclusion, hand hygiene history improved students' attitudes toward hand hygiene significantly. This study recommends complementing hand hygiene learning with its history so that students are skilled and have the expected attitude to apply it.

Keywords: Attitude, Hand hygiene; nursing student; the history of hand hygiene.

INTRODUCTION

Many people have written that history provides many benefits. Xi Jinping asserts that history is the best teacher, is valuable, and can even function as a mirror.[1] As a mirror, the history describes the past event, highlighting the impact and effects of actions shown in the past. That past event, whether about documented mistakes or achievements, can be used as a lesson for the next generation. As a result of studying history, present or future generations can use it as an important lesson to be imitated, improved, or avoided.[2] Therefore, it is right to say that history can make man wise.[3]

One of the interesting histories is hand-hygiene history. The history of hand hygiene began in Vienna in 1847.[4,5] An obstetrician, Ignaz Philipp Semmelweis (1818-1865), noted that puerperal fever was more common in the maternity ward where medical students worked. He believed that the hands of students were contaminated when dissecting cadavers. The infection and death rate dropped sharply after Doctor Semmelweis told all students to wash their hands with chlorinated lime after dissecting and before examining the patient. When postpartum women experienced puerperal fever on the ward even though the students

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had no contact with cadavers, Semmelweis concluded that living organisms, such as health workers, also transmitted infection. Transmission occurred by health workers who carried out examinations on patients because they rarely washed their hands. He, then, insisted that all health workers must wash their hands with chlorinated lime. At that time, few doctors believed in the theory of Semmelweis. Unfortunately, he refused to publish his findings. In 1851, and 1855, in hospitals where rates of infection and death were high, the method of applying antiseptics to the hands resulted in a marked reduction in infection and death. In 1857, Semmelweis reported some of his findings, but until he died in 1865, his findings that appropriate hand hygiene significantly reduced the risk of puerperal infections and maternal deaths were still rejected by peers.[6]

It was acknowledged that nurses must accurately comprehend and perform hand hygiene. Therefore, hand hygiene is one of nursing procedures that nursing students must master it. Based on the context, successful hand hygiene learning means students understand why hand hygiene is essential, when it should be done, and how to perform hand hygiene procedures properly. A successful outcome is incorporating hand hygiene practices in students' behavior and work culture.

Proper hand hygiene requires a strict procedure. WHO, in 2009, adopted new global guidelines for hand hygiene[4]. The duration of the entire procedure is 40-60 seconds for hand hygiene with water and soap,[20-30] seconds for hand hygiene with alcohol-based hand rub. In the guidelines, WHO also appointed five critical moments for hand hygiene, which are: before touching a patient (Moment 1), before a procedure (Moment 2), after a procedure (Moment 3), after touching a patient (Moment 4) and after touching a patient's surroundings (Moment 5). The nurses typically have several contacts with patients requiring hand hygiene in between, which may make a third of the time spent just washing hands.[7] Such frequent hand hygiene can also irritate the skin, especially using hot water, which may cause dermatitis and other skin problems[8-10] outpacing the capacity and resources of health systems worldwide. A therapeutic vaccine is not yet on the rise, and preventive measures are the current approach to restraint the transmission of cases. As the virus is highly contagious via respiratory route (droplets from infected persons, widely spread by coughing or sneezing. This, overall, makes it seem like it is hard to practice hand hygiene consistently. Therefore, a positive attitude toward hand hygiene is essential.

Recently, several studies on student attitudes towards hand hygiene gave different results. Attitudes involved belief or disbelief, acceptance or rejection, and favoring or not favoring some aspect of hand hygiene[11]. Studies report that, in Sri Lanka, the students' attitudes towards hand hygiene and hand hygiene practices are inadequate[12,13]compliance of healthcare workers to hand hygiene guidelines are reportedly poor. It is important therefore to instill adequate knowledge and good attitudes and practices at the time of primary training of the healthcare workers. This study was done to identify gaps in knowledge, attitudes and practices to improve existing training programs and enhance good practices and working ethics in the future. A self-administered questionnaire based cross sectional study was done to compare the knowledge, attitudes, practices and satisfaction of facilities between final year medical and nursing students of the Faculty of Medical Sciences, University of Sri Jayewardenepura. Participants had moderate knowledge (77%; however, the Irish nursing students' attitudes were generally positive[14]nursing students have direct patient contact during clinical practice; hence, good hand hygiene practice among nursing students is essential. Low to moderate levels of hand hygiene knowledge and poor attitudes and practices are reported among nursing students. However, less is known about their attitudes and practices of handrubbing with ABHR, even though handrubbing is the recommended optimum practice in most situations. Aim The aim of this study was to explore attitudes and practices

of hand hygiene, in particular handrubbing with alcohol-based hand rub, among nursing students in Ireland. Design This survey employed a descriptive, self-report design using a questionnaire to gather data. It was administered electronically to all undergraduate nursing students (n = 342, and there are moderately positive attitudes among Saudi Arabian and Jordanian nursing students[15,16].

The several studies above focus on the description of nursing students' attitudes towards hand hygiene, but there are only a few studies related to building or improving a positive attitude toward hand hygiene in clinical practice. It was proven that Giving lectures, experiential learning with Petri dishes, and various presentations using games improved preschool educators' attitudes, knowledge, and beliefs regarding hand washing[17]. The individual intensive hand hygiene education enhances the hand washing behavior of an influenza-positive child[18]measured quality of hand washing (QHW. Therefore, studies on how to increase positive attitudes towards hand hygiene, besides lectures, still need to be explored.

One way to cultivate a positive attitude is to take advantage of the power of history. Researchers have studied the effectiveness of history as a learning resource, some of which have proven that history effectively increases student understanding and interest. One study has demonstrated that the history of science can positively impact and improve the conceptual understanding of physics and increase scientific knowledge[3]. This result showed that understanding hand hygiene history may also foster a positive attitude related to hand hygiene behavior. Therefore, it becomes a question whether the history of hand hygiene positively impacts students' attitudes towards hand hygiene.

PURPOSE

The purpose of this study was to determine the effect of the history of hand hygiene on nursing students' attitudes toward hand hygiene in clinical practice.

METHODS

Study design

This study was quasi-experimental using a pre-and post-test with a control group design.

Participants

This study involved all 54 undergraduate nursing students in semester seven at the Nursing Program University of Jenderal Soedirman Purwokerto. Students are randomly divided into control (n=27) and intervention (n=27) groups. All participants in the study have been taught about infection control, practiced hand hygiene in the nursing laboratory in semester two, and had two weeks of clinical practice experience in semester six.

Instruments

The history of hand hygiene was constructed in the form of a booklet. This form of delivery is chosen following the results of preliminary studies on media selection, in which students are expected to study the history of hand hygiene through a booklet. Researchers compiled the history of hand hygiene from many resources. The history of hand hygiene was created mainly referring to the historical perspectives on hand hygiene in health care[4,5]. The booklet was prepared and then evaluated for accuracy by the two primary nursing teachers.

Data were collected through questionnaires. A positive attitude regarding hand hygiene includes accepting to perform the procedures correctly, applying hand hygiene at five critical moments, becoming a model as an excellent hand hygiene practitioner, and incorporating hand hygiene as part of daily practice. The students' attitudes were measured with 19 items responding to the statement: "For each statement, tell us whether you strongly agree, agree, disagree or strongly disagree with a particular statement related to applying hand hygiene in clinical nursing practice" (e.g., "Don't care for any hand hygiene"; "Before administering medication to any patient" and "Done only in the presence

of friends/nurses")).' This scale measured the attitude using this scale: 1= 'strongly disagree'; 2= 'disagree'; 3= 'agree', and 4=' strongly agree'. After reverse scoring, total scores range from 19 to 76, with greater scores corresponding to a more positive attitude toward hand hygiene. Internal consistency reliability estimates were 0.90 for total scores. A set of these attitude tests was administered before and after the intervention.

Intervention

The control group was the group that underwent a pretest attitude description towards hand hygiene activity in the clinic and a post-test without intervention. The intervention group was the group that underwent a pretest, directly followed by studying the history of hand hygiene and then post-test. The intervention group read the booklet simultaneously and did not take the booklet home to avoid cross-contamination. The post-test was carried out three days after the pretest for both groups.

Data analyses

The data of this study were analyzed using the SPSS version 18. Data were described using mean and standard deviation. The Shapiro-Wilk test confirmed the normal distribution of data. This study used the paired t-test to analyze the pre-post attitude change in each group and the independent t-test to compare the attitude change between groups. The p-value of less than .05 was accepted as statistically significant.

Ethical considerations

This study has been approved by the Medical Faculty University of Jenderal Soedirman Purwokerto Ethics Committee (No. 1937/ KEPK/IV/2018). Participants were informed of the purposes of the study in detail, and written consent was obtained from students who agreed to enroll in this study. They were guaranteed anonymity and confidentiality. Participation in this study was voluntary, and every participant could withdraw from this study at any time without adverse impact.

RESULTS

Of the included respondents, 87,04% were female, and the test showed no statistically significant difference related to the composition of gender between the two groups (Table 1).

In Table 2, it can be seen that the control group, the paired-sample t-test found that there was no statistically significant difference in the mean scores on attitude toward hand hygiene behavior in pre- and post-tests (p>0.05), whereas a statistically significant result was observed in the intervention group (p<0.05).

Table 1: Participants' characteristics

Characteristics	Intervention (n=27)		Control (n=27)		P value
	n	%	n	%	
Male	3	11,11	4	14.81	0.500*
Female	24	88.89	23	85.19	

*Fisher's Exact Test

Table 2: Description score of pre-post test attitudes

Group	Pretest x̄ Mean ±SD	Postest x̄ Mean ±SD	Pre-Post Shift Mean ±SD	ta Pre-Posttest	Difference Pre-posttest (p)
Intervention	58.44±5.98	65.52±5.29	7.07±7.29	-5.042	<0.001
Control	60.41±4.12	60.78±5.06	0.37±6.75	-0.370	0.769
tb	-1.406	4.740	2.378		
p-Value	0.167	0.001	0.021		

Note: aPaired-sample t-test, bIndependent-sample t-test

It also can be seen that the two groups showed homogeneity in the mean scores on students' attitudes toward hand hygiene behavior before the intervention (p>0.05). In the post-test, however, there were statistically significant differences in the scores (p<0.05). The test to determine the difference between the two mean shift scores found a statistically significant difference between the two groups (p=0.021).

DISCUSSION

Based on these results, it was found that knowledge of handwashing history can develop positive attitudes in nursing students toward hand hygiene behavior (p = 0.021). Participants may already understand that maintaining hand hygiene will prevent them from getting sick, and it also reduces the risk of infecting others; however, learning the history behind hand hygiene had tended to encourage more interest, which led them to an increased appreciation for implementing it better.

The results showed that the attitude in the intervention group increased significantly after intervention (p<0.001) compared to the control group (0.769). It was known that the formation of a positive attitude increases after studying history since it provides a better understanding.[2,7] Thus, the history of hand hygiene helps students better understand the effect of hand hygiene in preventing the transmission of pathogenic microorganisms between individuals. It provides a clear picture of the effects of contaminated hands on patients[2,19] and makes sense[3]. It is conceivable that contaminated hands are responsible for spreading the infection, which can lead to the death of patients. Sufficient knowledge about hand hygiene increases positive attitudes [12,20,21].compliance of healthcare workers to hand hygiene guidelines are reportedly poor. It is important therefore to instill adequate knowledge and good attitudes and practices at the time of primary training of the healthcare workers. This study was done to identify gaps in knowledge, attitudes and practices to improve existing training programs and enhance good practices and working ethics in the future. A self-administered questionnaire based cross sectional study was done to compare the knowledge, attitudes, practices and satisfaction of facilities between final year medical and nursing students of the Faculty of Medical Sciences, University of Sri Jayewardenepura. Participants had moderate knowledge (77%**).**

History allows students to learn from past mistakes, allowing them to make the right decisions[2]. Correct decisions result from critical thinking and metacognitive reflection by connecting history to their understanding of the topic. The reflection not only enriches understanding but furthermore can provoke participants to revise or improve. The history of hand hygiene raises awareness that nurses, as key health workers, have the potential to become people who might give patients infections.[5] After studying hand hygiene history, students may be determined not to repeat past mistakes by not abandoning their hand hygiene prior to contact with patients. The unwanted repeating of past mistakes explains why the shift score of attitudes before and after intervention in the intervention group increased significantly (p<0.05).

A significant increase in score after the intervention in the intervention group may also have occurred because some participants who initially did not pay attention to the importance of maintaining hand hygiene became concerned about it. Studying the history behind hand hygiene raised more interest and motivation, which led to improved conceptual learning and increased appreciation for its application, as the history of science increased the motivation of students with non-science majors[3].

The increase in students' positive attitudes regarding hand hygiene in this study may indicate that history helps students develop a new level of appreciation beyond simply maintaining hand hygiene. Practicing hand hygiene gains new meanings. They practice

hand hygiene appropriately, not only following the applicable rules in the clinical practice, as hand hygiene is also a form of caring for patients and themselves and a form of responsibility for the nursing profession.

There was little literature that adequately describes measures or captures the long-term impact of history learning methods. This study has also not tested whether the positive attitudes that have been formed from studying the history of hand hygiene will last in the long term. Further research is still needed.

LIMITATION

A limitation of this study is the small sample size, which may limit the generalizability of the findings. This study also did not explore the experience of maintaining hand hygiene for each respondent during practice. However, in the next academic year, this research will be re-examined in a larger group and with changes to several factors, including the student experience.

CONCLUSION AND RECOMMENDATION

Based on these results, this study proves that using history can improve conceptual understanding and make a positive impact on students' attitudes. Students' attitudes tend to accept their responsibility for maintaining hand hygiene and applying it correctly in the future. Recommendations for future research include increasing the sample size and scope by including several institutions from different regions and conducting a comparative study of various learning methods used to build positive student attitudes toward hand hygiene in clinical settings.

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Correlation between Preventive Practices Towards COVID-19 and its Knowledge Among Nursing Students

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ABSTRACT

Background: Preventive practices towards COVID-19 and its knowledge among nursing students should be considered in the planning of effective educational interventions for COVID-19 pandemic and to increase awareness about the health risks brought about by the disease.

Methods: A descriptive survey with quantitative approach was conducted among 330 B.Sc. Nursing students, by convenience sampling. An online data collection was carried out by sending the questionnaires through Google forms. The instruments were; Tool I- *Section A* – Socio-demographic data. *Section B* includes the Rating scale on Preventive practices towards COVID-19. Tool II- includes the questionnaire on Knowledge on preventive practices towards COVID-19. Data analysis was performed using SPSS 22.0.

Results: The study report shows that most of the 321(97%) nursing students were having good preventive practices towards COVID-19. Also, majority 310(94%) of them were having good knowledge on Preventive practices towards COVID-19. There was significant correlation between the preventive practices towards COVID-19 and its knowledge among B.Sc. Nursing students and the correlation coefficient is 0.287.

Conclusion: The findings of this study have provided baseline information on the current status of preventive practices towards COVID-19 and its knowledge among B.Sc. Nursing students.

Keywords: COVID-19, Knowledge, Nursing students, Preventive practices.

INTRODUCTION

COVID-19 is currently the most horrifying disease around the world as there is no proven vaccine or medicine right now. The only way left to this situation is to slow down or eradicate the rapid spread by adopting prevention measures. Person to person transmission is rapid and it is necessary to control the disease to avoid its quick spread throughout. With this mode of transmission, healthcare workers are among the highest risk of being infected and it is an additional hazard for the healthcare system.[1]

The current research is an attempt to identify the preventive practices and its knowledge towards COVID-19 among nursing students.

To guarantee successful disease control, people's adherences to preventive measures are essential. This adherence is highly dependent on knowledge and preventive

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practices. The previous studies indicate that the knowledge and practices are associated which can further contribute to the attempts to prevent the spread of the disease.[2]

According to WHO (2020) the following are recommended to prevent further spread of COVID-19:

1. Frequent hand washing.
2. Social distancing of 6 feet.
3. Avoid touching mucus membrane of mouth, eyes and nose.
4. Respiratory protection and hygiene by using personal protective equipment (PPE), masks etc.
5. Identification of infected personnel and contact tracings.
6. Travel restrictions.[3]

A research study was conducted on knowledge, attitude and practices towards COVID19 among Indian residents during the pandemic among 751 respondents based on the snowball sampling technique. An online semistructured questionnaire was used. The result shows that; 90.5% of participants agreed for adequate control, though 97.6% of respondents agreed about frequent hand washing, only 77.87% confirmed about washing hands ≥20 seconds. The adherence to social distancing and lockdown restrictions was confirmed by 97.3% and 97.3%, respectively. Around 75% followed hand hygiene guidelines and a few (5%) didn't follow lockdown restrictions. Suggested that there is a gap between information and implementation.[4]

Observance of preventive measures by the health Professionals is essential for controlling the spread of COVID-19, which is affected by their knowledge and practices towards COVID-19. Therefore, the researchers intended to conduct a survey to investigate the preventive practices and its knowledge towards COVID-19 among the nursing students during the rapid rise period of the COVID-19 outbreak.

Healthcare workers are at the frontline of the COVID-19 pandemic response and are exposed to dangers like pathogen exposure, long working hours, psychological distress, fatigue, occupational burnout and stigma etc. Despite the national measures in combating the outbreak, the success or failure of these efforts is largely dependent on the adherence to the preventive measures. Adherence is likely to be influenced by knowledge and practice.[5]

Few research studies showed that, health care workers infected with COVID 19 also were an important group involved in disease spread. Hence it is imperative to ensure the safety of healthcare workers not only to safeguard continuous patient care but also to ensure they do not transmit the virus.[6]

A research study was conducted to investigate the knowledge, attitude, and preventive practices toward COVID-19 among general people. A total of 441 respondents voluntarily participated in a web-based cross-sectional survey. A structured questionnaire was created using Google Forms and the link was shared through authors' networks. Collected information was analyzed using univariate, bivariate, and multivariate techniques. Results showed that the respondent of age 30 and above are more optimistic (Adjusted Odds Ratio [AOR] =1.96, 95% Confidence Interval [CI], 1.13 to 3.41; P=0.016) compared to respondents of age 18-29. For 1 unit change in the knowledge score the likelihood of staying home and wearing mask increases by 1.73 (95% CI, 1.43 to 2.09; P<0.01) and 1.54 (95% CI, 1.25 to 1.77; P<0.01) times respectively. From the linear regression analysis, we see that urban residence type (vs. rural, β=0.274; P=0.024) are significantly associated with higher knowledge scores. Additionally, a significant positive correlation exists between the COVID-19 knowledge score and the preventive practice score (r=0.291, P<0.01). The study concluded that knowledge and preventive practices among people are encouraging and suggest that updated knowledge be provided by healthcare authorities to enhance appropriate preventive practices throughout the COVID-19 outbreak.[7]

Another study was conducted to assess the knowledge, attitude, and practice of medical students towards coronavirus disease 2019 (COVID-19). A self-designed questionnaire was developed and given to the students of a government medical college in Uttarakhand. The demographics, mean knowledge, attitude, and practice of the participants were investigated, and the scores were calculated. t-test and ANOVA were used for statistical analysis. The results showed that; Out of the total participants (n=354), 50.3% were male and 54.5% were 21-23 years. Almost all the participants (96.6%) increase the frequency of washing hands under the influence of COVID-19. Although no significant relationship was found between different religions, age-categories in terms of knowledge, the participants who were aged 21-23 years had higher knowledge. In addition, gender had a significant impact on practice scores (P<0.05) while no demographic variable was found to have a significant relation with attitude score (P>0.05). The study concluded that majority of the participants had good knowledge, a positive attitude, and sufficient practice.[8]

Based on these evidences, this research is an attempt to identify the correlation between the preventive practices towards COVID-19 and its knowledge among nursing students which may further help to prevent the development and transmission of disease.

RESEARCH METHODOLOGY

The present descriptive survey was done online with a quantitative approach. The students studying for B.Sc. Nursing programme at Amrita College of Nursing were the sample for the study and the data was collected by sending the questionnaire through what's App or E-mail according to their choice. The sample size was 330 and the Sampling technique was convenience Sampling. Obtained written informed consent through the online mode from each subject after being briefed on the study protocol. Also obtained permission from the Nursing Director and from the Principal, Amrita College of Nursing before the data collection.

The data collection instruments were; Tool I- *Section A,* the socio-demographic data of the nursing student which includes the age, gender, year of study, number of family members, history of COVID-19 in the family, number of people affected, history of hospitalization, quarantine in the family and the number of people experienced the quarantine. *Section B* includes the Rating scale to assess the preventive practices by the nursing students towards COVID-19. Tool II is a structured questionnaire to assess the knowledge of nursing students about the preventive practices towards COVID-19.

The Pilot study was conducted among 10% of the sample to know the feasibility of the study. The data collection methods were; sent the purpose and other details of the study through the E-mail/ What's App of each person, collected online informed consent from each subject. Sent questionnaires through either What's App or E-mail to each person according to their choice. Set the time frame to get back the filled-up questionnaires.

Data analysis was performed using SPSS 22.0. Analyzed the collected data by using descriptive (frequency and percentage) and inferential statistics (Chi-square test).

RESULTS

Socio-demographic Profile of the Study Subjects

The study illustrates that all the study subjects, 330(100%) of them were between the age group of 19 to 21 years and the majority 308(93%) of them were females. Regarding the year of programme in which the students studies shows that 90(27%) each in the second and third year, also 80(25%) of them in the first year and 70(21%) of them were studying in fourth year B.Sc. Nursing. The number of family members showed that more than half of them 179(54%) were having four members in each family and 107(33%) of them were having five or above in number of family

members. In response to the history of family members in quarantine, the majority 273(83%) of them were having experience of quarantine in their family. The study subjects responded that the majority 312(94%) of them had the incidence of COVID-19 in their family. Majority 320(97%) of the subjects reported that they had a history of hospitalisation due to COVID-19 in their family.

Figure-1 displays that out of 330 study subjects, majority 321(97%) of them were having good preventive practices 5(2%) of them were having moderate preventive practices and a less percentage, 4(1%) of them were having poor preventive practices towards COVID-19. Though the result shows the majority of the students were adhering to the COVID-19 protocols, it is mandatory that all the nursing students should strictly follow the COVID-19 instructions as they are health care professionals.

Figure-2 illustrates that out of 330 study subjects, majority 310(94%) of them were having good knowledge on Preventive practices towards COVID-19, 16(5%) of them were having moderate knowledge and 4(1%) of them were having inadequate knowledge.
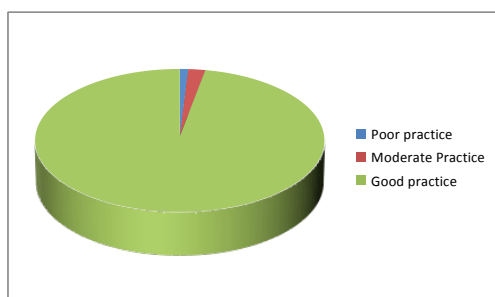
Fig. 1: Preventive practices towards COVID-19 among Nursing students.
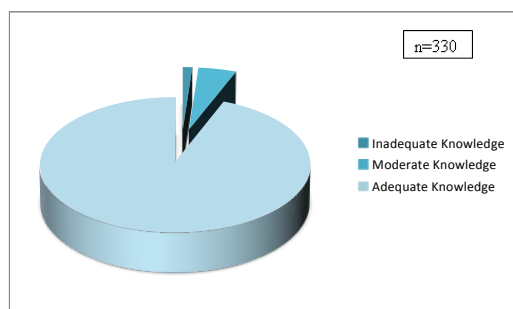
Fig. 2: Knowledge on Preventive practices towards COVID-19 among Nursing students.

Table-1 illustrated the association between the preventive practices towards COVID-19 and the demographic variables of the study subjects. It showed that the gender, history of COVID-19 in the family, history of hospitalization due to COVID-19 in the family are associated with the preventive practices among the subject is significant with the p value less than 0.05. Other demographic variables

Table 1: Association between the Preventive practices towards COVID-19 and the Demographic variables of the study subjects.

n=330

Demographic variables	Chi Square	df	p value
Age	38.86	48	0.824
Gender	20.74	8	0.008
Year of Study	20.58	24	0.663
No. of Family members	12.54	32	0.999
History of Quarantine in the family	6.85	8	0.552
History of COVID-19 in the family	35.36	8	0.000
History of hospitalization due to COVID-19 in the family	35.04	8	0.000

*p value <0.05 Significant

Table 2: Association between the Knowledge on Preventive practices towards COVID-19 and the Demographic variables of the study subjects

n=330

Demographic variables	Chi Square	df	p value
Gender	0.19	2	0.906
Year of Study	15.65	6	0.016
No. of Family members	1.33	8	0.995
History of Quarantine in the family	0.92	2	0.629
History of COVID-19 in the family	9.31	2	0.010
History of hospitalization due to COVID-19 in the family	1.24	2	0.536

*p value <0.05 Significant

Table 3- Correlation between the Preventive practices towards COVID-19 and its Knowledge among the study subjects.

n=330

Preventive practices towards COVID-19 and its Knowledge.	r- value
Score among caregivers	0.287**

**Correlation is significant at the 0.01 level (2-tailed).

were not significant with the preventive practices among the study subjects.

Table- 2 illustrated the association between the knowledge on preventive practices towards COVID-19 and the demographic variables of the study subjects. It showed that the year of study and the history of COVID-19 in the family are associated with the knowledge on preventive practices among the study subjects are significant with the p value less than 0.05. Other demographic variables were not significant with the preventive practices among the study subjects.

Table 3 showed the correlation coefficient computed between the preventive practices towards COVID-19 and its knowledge among B.Sc. Nursing students. It shows that there is significant correlation between the preventive practices towards COVID-19 and its knowledge among B.Sc. Nursing students and the correlation coefficient is 0.287. This indicates that there is a relationship between preventive practices towards COVID-19 and its knowledge.

DISCUSSION

The study was conducted among 330 B.Sc. Nursing students through online mode of data collection with convenience sampling.

Objective 1: Assess the preventive practices towards COVID-19 and its knowledge among nursing students in a selected nursing college at Ernakulum.

The present study showed that out of 330 study subjects, majority 321(97%) of them were having good preventive practices 5(2%) of them were having moderate preventive practices and a less percentage, 4(1%) of

them were having poor preventive practices towards COVID-19. Though the result shows the majority of the students were adhering to the COVID-19 protocols, it is mandatory that all the nursing students should strictly follow the COVID-19 instructions as they are health care professionals.

Previous literature has also shown the similar results that most of the nursing students were having good knowledge regarding COVID-19. A cross-sectional study was conducted among 575 nursing students and they all were interviewed. The mean age was 22.29 ± 4.2. The overall score indicates good knowledge (p=0.046) and good practices among the four courses of study (p=0.038). Multivariate linear regression showed that practice score (b = -0.29; p = 0.024) and Knowledge score (b = 0.10; p = 0.026) adjusted for age, gender, year of study, perceived economic status, perceived health status were significantly associated with Practice score.[9]

Objective 2: Find association between the preventive practices towards COVID-19 and the demographic variables of the nursing students.

The current study revealed that there is statistically significant association between the gender, history of COVID-19 in the family, history of hospitalization due to COVID-19 in the family with the preventive practices among the nursing students (*P*=0.05).

A cross-sectional, web-based survey, conducted among 8591 participants from the general population of Iran above 15 years of age, a series of questions regarding the KAP of the population about COVID-19 was asked. The participants' demographic characteristics and source of information regarding COVID-19 were recorded and analyzed. The result showed a significant association between female gender, higher age, and higher education with knowledge, attitude, and practice. Based on multiple linear regression analysis, male gender, non-healthcare related professions, single, and lower level of education were significantly associated with lower knowledge scores.[10]

Objective 3: Find association between the knowledge on preventive practices and the demographic variables of the nursing students.

Results of the present study illustrated that there is statistically significant association between the year of study and the history of COVID-19 in the family are associated with the knowledge on preventive practices among the study subjects (P=0.05).

A similar result has also been found in a quantitative, descriptive, and cross-sectional design among 1,226 student nurses from seven universities in Saudi Arabia. The study was conducted with a four-part online survey by convenient sampling. Majority of the students (99.2%), always performed most of the preventive behavior on COVID-19. Being the fourth year student, gaining good perceived knowledge was associated with high actual COVID-19 knowledge. University, gender, age, academic level, and perceived COVID-19 knowledge were the associated factors.[11]

CONCLUSION

The findings of the study have provided baseline information on the current state nursing students' preventive practices and its knowledge toward COVID-19 as the crisis is happening. The findings revealed some areas that should be focused on by nursing education to ensure that the students have adequate knowledge and correct preventive practices.

Conflicts of interest - Nil

Sources of funding - Self

Ethical clearance

Taken from the Institutional Review Board of Amrita Institute of Medical Sciences, Kochi, Kerala

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Effect of a Planned Teaching Programme (PTP) on Knowledge Regarding Identification and Management of Cardiac Arrhythmias Among Staff Nurses Working in a Selected Hospital at Kerala

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ABSTRACT

Cardiac arrhythmias are cardiac rhythm disorders that comprise an important epidemiological and public health problem. **Objectives:** The objectives of the study were to evaluate the effect of a Planned Teaching Programme on knowledge regarding identification and management of Cardiac Arrhythmias among staff nurses and find the association between the pretest knowledge level regarding identification and management of Cardiac Arrhythmias among staff nurses and the selected sociodemographic variables. **Methodology:** A quantitative research approach was used with quasi experimental design (one group pretest posttest design). The sample consists of 40 staff nurses, selected conveniently. Data were collected using the tools - socio-demographic data and structured knowledge questionnaire. Pretest was conducted on day 1. Planned Teaching Programme was given for 45 minutes on the same day. Posttest was conducted on day 14. **Results:** The paired 't' test showed that the calculated 't' value (12.37) was greater than the table 't' value (3.55) which was significant at P < 0.001. There was significant association between the sociodemographic variable - area of working and the pretest knowledge level of staff nurses. **Conclusion:** Planned Teaching Programme is highly effective in improving the knowledge of staff nurses regarding identification and management of cardiac arrhythmias.

Key words: Cardiac Arrhythmias, Knowledge, Planned Teaching Programme.

INTRODUCTION

Cardiac rhythm disorders occurs when the heart's electrical system malfunctions. Depending upon the abnormality, the heart may begin to beat too fast, too slow, irregularly, or not at all.[1] Cardiac arrhythmias are cardiac rhythm disorders that comprise an important epidemiological and public health problem.[2] Cardiac arrhythmias are increasingly present in developed countries and represent a major health and economic burden. [3]

Arrhythmia affects millions of people. Arrhythmias may occur at any age but are more common among older people.[4] Cardiac arrhythmias are one of the most complex, insufficiently studied, and therefore one of the most urgent problems of modern cardiology. [5]

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Knowledge is essential for prevention of errors and providing higher quality care.[6] Studies in India and other developed countries revealed that nurses are having less knowledge regarding identification and management of cardiac arrhythmias.

A pre-experimental study was conducted in 2017 to assess the effectiveness of Self Instructional Module on knowledge regarding identification and management of cardiac arrhythmias among staff nurses in Pune. One group pretest posttest design was used and the sample size was 50. The findings of the study revealed that majority of the sample 58% had poor knowledge and 42% had average knowledge regarding identification and management of cardiac arrhythmias.[7]

Cardiac arrhythmias are significantly associated with increased risks of cardiovascular complications and sudden death, consequently leading to decreased quality of life, disability, high mortality, and healthcare expense.[2] All staff nurses should have sufficient knowledge to manage such patients with life threatening arrhythmias effectively.

Though it is deemed important, there are hardly few studies which have examined the effect of interventions on knowledge regarding identification and management of cardiac arrhythmias in Kerala. The investigator during her clinical experience has also observed that only senior nurses are capable to identify cardiac arrhythmias. All these motivated the investigator and felt that there is a need to conduct a research study, to test the effect of a Planned Teaching Programme on identification and management of cardiac arrhythmias.

OBJECTIVES

Objectives of the study were to,

1. assess the knowledge of staff nurses regarding identification and management of Cardiac Arrhythmias before and after giving the Planned Teaching Programme.

2. evaluate the effect of a Planned Teaching Programme on knowledge regarding identification and management of Cardiac Arrhythmias among staff nurses.

3. find the association between the pretest knowledge level regarding identification and management of Cardiac Arrhythmias among staff nurses and the selected socio-demographic variables.

OPERATIONAL DEFINITIONS

a) Effect

It refers to the outcome of a Planned Teaching Programme on identification and management of cardiac arrhythmias in terms of knowledge score as measured by the structured knowledge questionnaire.

b) Planned Teaching Programme

It refers to systemically organized information with audio visual aids prepared and delivered by the investigator to the staff nurses for duration of 45 minutes regarding conduction system of heart, normal ECG, definition, etiology, main types, its ECG characteristics and management of cardiac arrhythmias.

c) Knowledge

Ability of the staff nurses to recall and give correct responses related to identification and management of cardiac arrhythmias as measured by the structured knowledge questionnaire.

d) Cardiac Arrhythmias

In this study, cardiac arrhythmias refers to a group of atrial and ventricular conditions in which the electrical activity of the heart is irregular or is faster than the normal. It includes Atrial Flutter, Atrial Fibrillation, Paroxysmal Supraventricular Tachycardia, Premature Ventricular Contractions, Ventricular Tachycardia and Ventricular Fibrillation.

e) Staff nurses

Professionals possessing nursing degrees (B.Sc, Post Basic B.Sc, M.Sc) or certificates (GNM) with valid license and practicing nursing duties in cardiology/MICU of the selected hospital.

Hypotheses

H_1: The mean posttest knowledge score of staff nurses regarding Cardiac Arrhythmias is significantly higher than the mean pretest knowledge score at 0.05 level of significance.

H_2: There is significant association between the pretest level of knowledge and the selected socio-demographic variables at 0.05 level of significance.

Conceptual Framework

The conceptual framework of the present study was developed based on Imogene M. King's 'Theory of Goal Attainment'.

MATERIALS AND METHODS

Research approach and design: A quantitative approach with Quasi-experimental, one group pretest posttest design was used.

Variables: Dependent, independent and extraneous variables.

Independent Variable: Planned Teaching Programme regarding identification and management of cardiac arrhythmias.

Dependent variable: Knowledge regarding identification and management of cardiac arrhythmias among staff nurses.

Extraneous variables: Age in years, gender, educational status, area of working, total years of experience, years of experience in cardiology/MICU, experience in managing cardiac arrythmias, exposure to in-service education regarding cardiac arrhythmias more than two times within six months.

Setting of the study: The study was conducted in Samaritan Hospital, Pazhanganad.

Population: All staff nurses working in cardiology/MICU of Samaritan Hospital.

Sample: Staff nurses working in cardiology/MICU in Samaritan Hospital who fulfilled the inclusion criteria.

Sample size: 40. It was estimated based on the power analysis and statistician's opinion. The obtained sample size was 36 and considering 10% attrition it was decided to take a sample of 40 staff nurses.

Sampling Technique: Convenient sampling was used in the present study.

Inclusion criteria

Staff nurses who are,

- working in cardiology or MICU
- male or female
- willing to participate in the study

Exclusion criteria

Staff nurses who have,

- attended in-service education on cardiac arrhythmias more than two times within six months.

Development of tool: The tools developed for the study were socio-demographic data and structured knowledge questionnaire.

Description of the tool

Part 1: Socio-demographic data

The socio-demographic data consists of eight items such as age in years, gender, educational status, area of working, total years of experience, years of experience in cardiology/MICU, experience in managing cardiac arrhythmias, exposure to in-service education regarding cardiac arrhythmias more than two times within six months.

Part 2: Structured Knowledge Questionnaire

A structured knowledge questionnaire with 40 items was constructed to assess the knowledge of staff nurses regarding identification and management of cardiac arrhythmias. Each right answer was given a score of one and wrong answer was given a score of zero. The maximum score was 40.

Planned Teaching Programme

The Planned Teaching Programme was prepared in English and contents included were: conduction system of heart, normal ECG, definition, etiology, main types of cardiac arrhythmias (Atrial Flutter, Atrial Fibrillation, Paroxysmal Supraventricular Tachycardia, Premature Ventricular Contractions, Ventricular Tachycardia and Ventricular Fibrillation) its ECG characteristics and management.

Content validity and reliability of the tool

The content validity of tools were obtained from seven experts (nursing and medical) and necessary modifications were made in the tool based on their valuable suggestions and opinions. The reliability of the structured knowledge questionnaire was done by test-retest method. Scores of the tool administered were calculated by using the formula of Karl Pearson's correlation coefficient. The 'r' value was 0.96 which indicated that the tool was reliable.

Data collection process

The study was conducted after obtaining approval of Institutional Ethics committee. The data was collected during the period between 08/02/2019 to 23/02/2019. Forty staff nurses, satisfying the sampling criteria were selected conveniently and informed consent was obtained from the participants. As there was difficulty in getting the sample together during the pilot study, it was decided that the main study would be conducted in two sessions. On 08/02/19 pretest was conducted for the first group of staff nurses (morning and evening shift) working in cardiology (n=25). Similarly on 09/02/19 pretest was conducted for the remaining staff nurses from cardiology (night shift), and MICU (n= 15). Planned Teaching Programme regarding identification and management of cardiac arrhythmias was administered to the group on the same day of the pretest for 45 minutes. Planned Teaching Programme was administered using power point. Posttest was conducted using the same structured knowledge questionnaire for the group on day 14 (on 22/02/19 for the first group and on 23/02/19 for the second group).

RESULTS

Description of sample characteristics

Majority of sample 50% have studied GNM and 87.5% were working in cardiology with 100% no exposure to in-service education regarding cardiac arrhythmias more than 2 times within 6 months (table 1).

Table 1: Frequency and percentage distribution of sample based on socio-demographic ariables.

(N = 40)

Demographic variable	Frequency (f)	Percentage (%)
Age in years		
20-30	25	62.5
31-40	13	32.5
>40	2	5
Gender		
Male	6	15
Female	34	85
Educational status		
GNM	20	50
B.Sc (N)	14	35
PB.BSc (N)	6	15
M.Sc (N)	0	0
Area of working		
Cardiology	35	87.5
MICU	5	12.5
Total years of experience		
<5 years	21	52.5
5-10 years	15	37.5
>10 years	4	10
Years of experience in cardiology/MICU		
<5 years	25	62.5
5-10 years	13	32.5
>10 years	2	5
Experience in managing cardiac arrhythmias		
Yes	28	70
No	12	30
Exposure to in-service education regarding cardiac arrhythmias more than 2 times within 6 months		
Yes	0	0
No	40	100

Knowledge of staff nurses regarding identification and management of cardiac arrhythmias

The mean 31.7 and mean percentage 79.25% of posttest knowledge score is higher than the mean 21.9 and mean percentage 54.75% of pretest knowledge score (table 2).

Table 2: Mean and mean percentage of knowledge regarding identification and management of cardiac arrhythmias among staff nurses

(N=40)

Variable	Maximum score	Pretest		Posttest	
		Mean	Percentage	Mean	Percentage
Knowledge	40	21.9	54.75	31.7	79.25

Table 3: Comparison of the pretest and posttest knowledge score of staff nurses

(N=40)

Group	Mean	Standard deviation	t(calculated value)	t(table value)
Pretest	21.9	5.82	12.37***	3.55
Posttest	31.7	4.75		

*** Significant level at 0.001

Effect of a Planned Teaching Programme on knowledge of staff nurses regarding identification and management of cardiac arrhythmias.

As the p value is <0.001, it is found to be statistically significant. Hence the null hypothesis (H_{01}) is rejected and the research hypothesis (H_1) is accepted (table 3). This shows that there is significant improvement in the knowledge score of the sample after the Planned Teaching Programme.

Association of pretest knowledge level of staff nurses regarding identification and management of cardiac arrhythmias with the selected socio-demographic variables

There was significant association between the socio-demographic variable - area of working and the pretest knowledge level of staff nurses. Hence the null hypothesis (H_{02}) was rejected and the research hypothesis (H_2) was accepted for this variable. Hence the null hypothesis was accepted for all the other variables as there was no significant association.

DISCUSSION

The frequency and percentage distribution of the demographic variables in the present study revealed that the majority of sample were females 34 (85%) and majority of sample 20 (50%) had studied GNM . The study is compared to a descriptive cross sectional study that was conducted to assess the knowledge and skill level of nurses in identification of life threatening arrhythmias in Tanzania in 2018. Total sample size was 141. Majority of the sample 112 (79.4%) were females and had diploma in nursing 99 (70.2%) as their qualification.[8] This supports the present study findings with respect to gender and educational status.

In the present study the mean posttest knowledge score 31.7 was higher than the mean pretest knowledge score (21.9). The calculated 't' value (t=12.37) was greater than the table value (t=3.55).As the p value was <0.001, it was found to be statistically significant. Hence the null hypothesis (H_{01}) was rejected and the research hypothesis (H_1) was accepted. This supports the hypothesis that there is significant improvement in the knowledge score of the group after the Planned Teaching Programme.

A similar finding of improvement in knowledge was observed in a true experimental study which was conducted in Erode in 2016 with the purpose to assess the effectiveness of Video Assisted Teaching Programme on level of knowledge regarding identification and management of cardiac arrhythmias among staff nurses. The findings revealed that the posttest mean of experimental group (29 ± 5.4) was higher than the posttest mean of control group (16 ± 5.8). The result concluded that

video assisted teaching programme was most effective in improving knowledge.[9]

In the present study there was significant association between pretest knowledge level and the socio-demographic variable - area of working. The present study findings were compared with a pre-experimental study that was done in 2017 to assess the effectiveness of Self Instructional Module on knowledge regarding identification and management of cardiac arrhythmias among staff nurses in Pune. Sample (n=50) were selected using convenient sampling technique. The study revealed that, there was a significant association between knowledge regarding identification and management of cardiac arrhythmias with the work experience in critical care unit as p value is < 0.001. There was no association between the knowledge score and other selected demographic variables like age gender, area of working.

CONCLUSION

Nurses play a critical role in arrhythmia identification and management at the bedside.[10] Nurses knowledge and practices regarding life threatening cardiac arrhythmias are inadequate and need to be improved.[11] From the study it is evident that staff nurses had deficit knowledge regarding identification and management of cardiac arrhythmias and Planned Teaching Programme was an effective strategy in improving the knowledge of staff nurses regarding identification and management of cardiac arrhythmias.

NURSING IMPLICATIONS

Nursing Practice

- The findings of the study provide an insight to the poor knowledge of the staff nurses regarding identification and management of cardiac arrhythmias. Being a primary care provider the nurse can utilize the PTP as a reference material for early identification of cardiac arrhythmias and managing it to save the life of the patients.

Nursing Education

- Planned Teaching Programme prepared for the present study can be utilized by the nurse educator to teach the nursing students regarding identification and management of cardiac arrhythmias.

Nursing Administration

- Nurse administrator can plan and organize in-service education programme to improve the knowledge of staff nurses regarding identification and management of cardiac arrhythmias.

Nursing Research

- The present study findings can be utilized as a background for further study.

LIMITATIONS

- Planned Teaching Programme was done in two sessions due to the non-availability of all sample together. The staff nurses from cardiology (morning and evening shift) were included in the first session and the remaining staff nurses of cardiology (night shift) and MICU in the second session.

RECOMMENDATIONS

- The present study can be conducted on the same topic with other selective cardiac arrhythmias.

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ETHICAL CLEARANCE: The study was conducted after obtaining approval of Institutional Ethics committee.

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Greek Women's Knowledge and Perceptions Related to Breast Cancer Prevention

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ABSTRACT

Background: Breast cancer is the most common form of cancer and the leading cause of cancer death in women worldwide. The aim of this survey was to investigate Greece women's knowledge and perceptions related to breast cancer prevention.

Methods: A reliable questionnaire from the literature was used which then was translated using the forward and backward translation method. It contained 37 questions and the sample consisted of 650 women. The statistical analysis was completed using SPSS 25. The study found that the majority of the sample had knowledge regarding breast cancer prevention, they knew the importance of breast self-examination and annual clinical breast examination needed to be conducted as well as the age to undergo their first mammogram. Age, occupation, annual family income, education level, and marital status significantly influenced women's knowledge and perceptions related to breast cancer prevention.

Conclusions: The state, the media and schools contribute to raising awareness and the involvement of health professionals is essential to better inform and educate adolescent girls and women on this issue.

Keywords: Breast cancer, Health professionals, Prevention.

INTRODUCTION

Cancer is the 2nd leading cause of death worldwide, accounting for nearly 10 million deaths in 2019[1]. In Greece, a total of 64,530 new cancer diagnoses were recorded in 2020 and 36,166 lost the battle with cancer in the past year[2].

Breast cancer

Breast cancer is the most common cancer making it the second common cause of cancer death worldwide. Approximately 685,000 women, worldwide, died from the disease in 2020 while a total of 7,772 new diagnoses were recorded in Greece in 2020, moving

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breast cancer to first place in terms of deaths[3]. Interestingly, the majority of breast cancer cases and deaths occur in low and middle income countries[4]. Evidence shows that 5-year breast cancer survival exceeds 90% in high-income countries but falls to 66% in India and 40% in South Africa.[5]

Risk Factors

Age is the strongest risk factor for non-hereditary breast cancer. Women over 65 years of age have a higher risk of the disease than women aged 40 years[6] and the disease is extremely rare in women under 30 years of age[7]. In addition, hereditary breast cancer is responsible for 5% to 10% of all breast cancers and is caused by mutations in the BRCA1 or BRCA2 genes[8]. Furthermore, obesity, high-fat diet, alcohol and lack of physical activity are associated with breast cancer.[9]

Treatment

The majority of the patients present early-stage non-metastatic breast cancer symptoms and cancer relapse may occur at any time as metastatic disease. However, the risk is greatest within the first 5 to 10 years after diagnosis[10]. The most common sites of metastasis are identified in the bones, lymph nodes, lung and liver[11]. Surgical options include breast conservation, are the usual treatment modality offering a 5-year survival rate to modified radical mastectomy[12]. Finally, systemic treatments include chemotherapy, hormone therapy, bisphosphonate therapy or biological therapy for metastatic disease throughout the body.[13]

Prevention

Treatment of breast cancer when detected early has a much higher chance of cure and a better outcome. However, prevention is extremely important since detecting breast cancer in the early stages; the 5-year relative survival rate is 99%.[14] It therefore becomes clear that early diagnosis is the key to disease management and cure. Early detection includes breast self-examination, clinical examination and a mammogram.

It is found that 40% of breast cancer diagnoses occur when women palpate a mass during self-examination.[15] As a result, breast self-examination is essential and valuable for breast cancer screening in addition to assisting women to become familiar with breast physiology so that they can identify any changes. A research indicates that women need to receive a clinical examination by a gynaecologist every 3 years from the age of 20 to 39 years and annually over the age of 40 years.[16] Finally, mammograms represent the basic breast cancer screening tool. Mammogram screaming offers 77-95% sensitivity, 94-97% specificity and are asso-ciated with a decrease in breast cancer mortality.[17]

The role of the nurse in the prevention of breast cancer

Nurses are members of the primary health care team among health professionals that can actively contribute to educating women in breast cancer prevention. Nurses have the ability to educate women in the detection of breast abnormalities, palpation and the necessity of performing tests[18]. In addition, nurses are seen as the most accessible members of the health care workforce and therefore can play a key role in raising awareness in the patients' relatives as well as the community.

In addition, the nurse intervenes in the family's eating habits by emphasizing healthy habits and taking preventive measures against cancer. Also, suggests self-protection measures in situations where there is a possibility the individual may be exposed to carcinogens, aims to form new patterns of behavior in the removal of cancer causative agents while emphasizing the importance of early diagnosis and early physician consultation[19]

School nurses also play an important role in this direction. The school nurse's multidimensional role is more relevant than ever. The key to school health enables early identification of health and development related problems in the school population.[20]

It is generally accepted that in the prevention and awareness context concerning breast physiology and the disease, the school nurse is the most appropriate person to teach and properly inform the adolescent girls within the school community.[21]

Research on the above topic explores the quality of life of women with breast cancer and the psychological impact of the disease. There is a lack of research studies on women's knowledge and perceptions of breast cancer prevention.

Purpose

The purpose of this survey was to investigate Greek women's knowledge and perceptions related to breast cancer prevention.

MATERIALS AND METHODS

A reliable questionnaire[16] which included 32 questions was chosen. The questions were divided into four themes (Knowledge about Breast Cancer and Prevention, Self-examination, Clinical Examination and Mammogram Screaming questions). Questions regarding participants demographic characteristics were included at the end of the questionnaire. The questionnaire was translated into Greek using the forward and backward translation method. The research team received approval from the original author to use the questionnaire.

Procedure

Due to the Covid-19 pandemic and restrictive measures in place the questionnaire was distributed via electronic form (Google Forms platform). The questionnaire was forwarded to the Panhellenic Association of Women with Breast Cancer "Alma Zois" and to various women's groups - forums. In this way information was collected from a wide range of participants. Specifically, from women suffering from cancer, women who are in remission as well as health women. Letters providing information of the study were sent to the webmasters of the websites.

Once permission was granted, the questionnaire was uploaded to the Forums. The first page of the questionnaire explained the purpose of the study as well as questionnaire completion guidelines. Information regarding participants' anonymity, confidentiality and voluntary participation were included. Women who had access to the forum website and agreed to participate in the study were able to complete the questionnaire. The time needed to complete the questionnaire was 7-10 minutes.

Ethics

All procedures were performed in compliance with relevant laws and institutional guidelines. This study received ethical approval by the institutional review board of the University of Patras (Greek registration number: 4796).

Sample

The survey was conducted in the last quarter of 2020. The questionnaire was completed by a total of 650 women.

Statistical analysis

Descriptive statistical analysis was used regarding the sample's demographic characteristics (Table 1). Normality test was performed based on the Kolmogorov Smirnov statistical test and revealed that the distribution was normal ($p>0.05$). Furthermore, to determine whether there is a statistically significant difference between demographic characteristics and the questions, non-parametric (chi-square tests) analysis was used. Statistical analysis was performed using SPSS v.25.

RESULTS

The mean age of the sample was 37.66 years, 48.9% was married, while the majority worked in the public and private sector (47.3%). The majority of the sample had completed higher education (75.1%), while the majority of the sample claimed they had not competed postgraduate studies (78.3%) with no

Table 1: Demographic characteristics of the sample

Age	Range: 16-75 έτη			Mean: 37,66 έτη	
Marital status	Unmarried 41,1%	Married 48,9%	Divorced 8,8%	Widow 1,2%	
Occupation	Private Sector 28,5%	Public sector 18,8%	Self-employed 18,3%	Student 25,4%	Retired 9%
Educational level	Secondary education 24,9%		Higher education 75,1%		
Postgraduate studies	MSc 19,1%	PhD 2,2%	Neither 78,3%	Both 0,5%	
Annual family income	<10.000 € 25,4%	10.000-20.000 € 37,4%	20.000-30.000€ 22,5%	30.000-40.000€ 8,5%	>40.000 € 6,3%

postgraduate studies (78.3%) and 37.4% had an annual family income of 10,001-20,000 €.

Knowledge and opinion questions

The majority of the sample responded that the main sources of information concerning breast cancer were the media (24.4%), books/magazines (18.8%) and friends/relatives (12.5%), whereas no family member had breast cancer (57.4%).

Regarding the sample's responses about breast self-examination, 97.7% were familiar with the term, considered it useful (99.7%) and 80.2% had been taught how to perform it by their gynaecologist. In addition, the majority of the sample (66%) knew that self-examination should begin at 20 years of age, and that it should be is performed by the individual (78.6%), every month (61.9%) one week after menstruation (66.8%). Furthermore, most respondents (72.4%) mention they have conducted a breast self-examination, thus indicating the main advantages of self-examination being early detection of breast cancer (34.7%) and detection of a breast abnormality (21.2%).

Regarding mammogram screaming, almost all the participants (98.2%) knew its value as a tool for early cancer diagnosis, 74.5% knew the appropriate age to have a mammogram (40 years) and 83.5% answered that it is necessary to be performed annually. It is worth mentioning that half the sample (55.4%) has undergone mammogram screaming and the main reasons for the others not having one were not having the appropriate age (80.6%) or due to financial difficulties (5%).

Similarly, when asked about clinical breast examination, the participants responded they knew it was used to detect cancer (91.7%) and performed by a qualified physician (97.2%). In addition, many women (84.4%) responded that the clinical examination should be done yearly and includes a mammogram (31.4%), palpation (21.1%) and ultrasound (11.2%).

Chi-square tests between demographic characteristics and questions

The results indicate that age, occupation and annual income are significantly related to breast self-examination. The older participants (x^2=125.989, df=53, p<0.05), people who were working in the public service sector (x^2=43.903, df=8, p<0.05) with higher annual income (x^2=9.640, df=4, p<0.05), knew the term "breast self-examination". In addition, participants who were married had been taught how to perform self-examination (x^2=20.588, df=3, p<0.05), knew the appropriate age to perform self-examination (x^2=30.069, df=12, p<0.05) and how often it should be performed (x^2=29.652, df=15, p<0.05).

Regarding breast screening, participants with a higher income knew that it was used to detect cancer (x^2=14.182, df=4, p<0.05). Also, women who had a university degree (x^2=12.605, df=6, p<0.05), completed postgraduate studies (x^2=34.282, df=18, p<0.05) and have a high annual family income (x^2=52.062, df=24, p<0.05) knew that clinical breast examination needed to be performed by a qualified physician. Also, women who were married knew that clinical breast examination is necessary to be conducted every year (x^2=25.022, df=15, p<0.05).

Lastly, questions regarding mammogram screaming, women who were married (x^2=52.495, df=15, p<0.05) and working in the public sector (x^2=90.119, df=40, p<0.05) knew at what age it is necessary to undergo a mammogram for the first time. Older participants (x^2=337.999, df=265, p<0.05), who were married (x^2=52.562, df=15, p<0.05) and working in the public sector (x^2=71.535, df=40, p<0.05) knew that a mammogram needed to be performed every year. Lastly, women who were married (x^2=281.716, df=3, p<0.05), who were older (x^2=437.498, df=53, p<0.05**)**, who worked in the public sector (x^2=264.2002, df=8, p<0. 05), had a university degree (x^2=28.520, df=1, p<0.05) and a higher annual family income (x^2=25.513, df=4, p<0.05), had already undergone a mammogram.

DISCUSSION

The results of the present study show that the majority of women have positive attitudes and sufficient knowledge regarding breast cancer screening, in particular self-examination, clinical examination and mammogram screaming. The results of this study are similar to the other research findings.[21-23] More specifically, the majority of the sample had conducted monthly self-examinations (72.4%), clinical examinations (84.4%) and annual mammograms (55.4%).

It is worth mentioning that the main sources of information were provided by the media, books, friends and relatives. It is generally accepted that the media makes an important contribution to the dissemination of medical information. According to a recent survey by the Hellenic Statistical Authority, 65.2% of internet searches are seeking health-related information thus, being a primary source of information. However, only 10% of medical information posted from freely available Internet sources is considered reliable[24]. It is imperative for the media to provide accurate information and encourage individuals to be tested regularly as treatment of breast cancer when detected early has a higher chance of cure and better outcome.

Regarding self-examination although women are aware of the method, a quarter of the sample (27.5%) has never performed a self-examination. It seems that carelessness is the main reason for not doing it. This fact comes as a reminder that once again adolescent women and older need to be informed and educated about the importance of breast self-examination. They must be able to openly discuss such topics with their family, friends, and health professionals. The school nurse has an important role, properly and accurately informing the school population, reassuring fears and motivating regular screening and proper testing for signs and symptoms.

It is worth mentioning that age, occupation and annual family income are statistically correlated (p<0.05) with the preventative method of self-examination. More specifically, older women working in the public sector with a high annual family income were aware of the method of breast self-examination. Also, women who were married had been taught how to perform self-examination and are more knowledgeable about the appropriate age to perform a self-examination and how often it should be performed. It seems that with increasing age, marital status and higher family income influence the way women think in terms of the concept of preventive self-examination.

Regarding questions concerning breast examination and mammograms, factors that play a significant role (p<0.05) in knowledge are annual family income, education and marital

status, specifically being married. It is generally accepted that women, especially after having children, are more motivated to maintain good health thus, setting an example to their children. By reading new information regarding nutrition and exercise as well as having information acquisition skills from university such as performing a literature review, they can adapt an attitude and perception about the importance and necessity of prevention regarding breast cancer. The higher the level of education, the more informed women appear[25].

It is true that since Covid-19 began, visits to health care facilities have been limited to situations that are absolutely urgent. Unfortunately, women who want to have an annual mammogram have avoided visiting health care facilities. Research has shown that the number of patients who have had a mammogram has dropped by more than two-thirds[26]. For example, recent research showed a significant 61.7% reduction in mammograms compared to the average weekly imaging volume of previous months and 20.5% in surgical procedures.[27] Similar results, showed reduced mammogram screening during the pandemic as was recorded by a study in Taiwan.[28]

LIMITATIONS OF THE STUDY

Although this study revealed important information, the sample could be considered small. Therefore, future research is deemed necessary using a larger sample.

CONCLUSIONS

The results of this study showed complex factors influencing women's knowledge and opinions about breast self-examination, clinical examination and mammogram screening. Although the study showed women with positive attitudes and fairly good knowledge about preventative measures issues related to breast cancer, it is imperative that the state intervenes due to the importance of this issue. Prevention policies, early diagnosis, proper information and education of women by health professionals are the basis for the correct treatment of breast cancer.

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Monkeypox-Trending Mutating & Out Bursting Disease

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ABSTRACT

Monkey pox is a trending as well as mutating viral disease condition spreading all over the world especially the African countries. Monkeypox is a transmittable disease caused by the monkeypox virus that can occur in certain animals as well as humans. The name monkeypox initiates from the preliminary discovery of the virus in monkeys in a Danish laboratory in 1958. The first human case was identified in a child in the Democratic Republic of the Congo in 1970.The time from acquaintance to onset of symptoms is usually 7 to 14 days. The West African clade, which has so far been distinguished in the cases reported in Europe, has been observed to have a case casualty rate of about 3.3% in Nigeria. Till now there is no official confirmed cases of Monkeypox have been reported in India. Monkeypox commences with fever, headache, muscle aches and ends with exhaustion. Some other clinical manifestations are swollen lymph nodes, chills, fever, headache, muscle aches, backache, exhaustion etc. Vaccination in contrast to smallpox was verified through several observational studies to be about 85% effective in avoiding monkeypox.

Keywords: Ankara strain, Lymphadenopathy, Orthopoxvirus, Pustules, Scabs, Variola, Zoonosis

INTRODUCTION

Monkeypox is a viral zoonosis (a virus spread to humans from animals) with symptoms almost similar to those seen in the past in smallpox patients, even if it is clinically less severe and unique. With the abolition of smallpox in 1980 and consequent cessation of smallpox vaccination, monkeypox has risen as the most significant orthopoxvirus for public health. Monkeypox principally occurs in central and west Africa, often in propinquity to tropical rainforests, and has been progressively appearing in urban areas.

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Animal hosts include an assortment of rodents and non-human primates.[1]

Monkeypox is a transmittable disease caused by the monkeypox virus that can occur in certain animals as well as humans. Symptoms starts with muscle pains, fever, headache, swollen lymph nodes, and feeling tired. This is trailed by a rash that forms blisters and crusts over. The time from acquaintance to onset of symptoms is usually 7 to 14 days. The duration of symptoms is stereotypically two to four weeks. There is no ethnical connection known for harlequin disorder.[2] Higher occurrence may be come across in cultures where parental consanguinity is common.[3]

Monkeypox virus is a type of Orthopoxvirus, a genus which includes cowpox, vaccinia, camelpox and variola viruses. The virus is the leading Orthopoxvirus affecting human populations since smallpox abolition, confirmed by the WHO in the year 1980. Clinical recognition, diagnosis, and prevention still keep on challenges in the resource-poor endemic areas where monkeypox is found. Furthermore, foundational ecological studies are essential to better understand the animal species intricate in transmission and maintenance of the virus, and to further inform prevention measures.[4]

METHODOLOGY

We performed a PubMed, Google Scholar, Cochrane quest in May 2022 by using the phrases Monkey pox, Monkey virus, Monkey pox pathophysiology, Monkey pox treatment, MPV, MPXV, VARV, CPX VACA etc. The search borne almost 42 papers, including reviews, case reports, case series, and clinical studies. After excluding the 12 non-English reports without an English abstract, we encompassed the remaining 30, irrespective of publication date.

OUTBREAK

Cases of monkeypox in non-endemic countries reported to WHO between 13 to 21 May 2022 as at 13:00

Country	Confirmed	Suspected
Australia	1-5	-
Belgium	1-5	1-5
Canada	1-5	11-20
France	1-5	1-5
Germany	1-5	-
Italy	1-5	-
Netherlands	1-5	-
Portugal	21-30	-
Spain	21-30	6-10
Sweden	1-5	-
United Kingdom	21-30	-
United States of America	1-5	-
Total	**92**	**28**

Cases of monkeypox in widespread countries between the time period of 15 December 2021 to 1 May 2022.

Country	Time period	Cumulative cases	Cumulative deaths
Cameroon	15 December 2021 to 22 February 2022	25	<5
Central African Republic	4 March to 10 April 2022	6	<5
Democratic Republic of the Congo	1 January to 1 May 2022	1238	57
Nigeria	1 January 2022 to 30 April 2022	46	0

EPIDEMIOLOGY

Monkeypox is an erratic disease due to infection with monkeypox virus. Monkey pox was first revealed in 1958 when explosions of a pox-like disease befell in monkeys kept for research. The first human case was documented in 1970 in the DRC and since then the infection has been informed in a number of central and western African countries. No further country separate West and Central Africa has reported similar outbreaks. As of **16 May**, a total of 14 monkeypox cases have been reported in the UK since 2018, 7 of which have been reported in May 2022. On **7 May 2022**, a monkeypox case was recognized in an individual with recent travel history to Nigeria. On **14 May**, 2 additional cases, with no known links to the case proclaimed on 7 May, were reported in individuals from the same household. On dated **16 May**, 4 further monkeypox cases were reported in England. These cases have no identified connections with the cases informed on **7** and **14 May**. Contact tracing and investigations are ongoing to identify where and how the cases reported on **14** and **16 May** acquired their infection. **May and June 2021**, 3 monkeypox cases were testified from within the same family; the directory case had recent travel history to

Nigeria. In the month of **December 2019**, a person in England was long-established to have monkeypox after recently travelling from Nigeria to the UK. In **September 2018**, 2 cases of monkeypox were identified in persons who had recently voyaged from Nigeria to the UK. The cases were epidemiologically distinct. The third monkeypox case was reported in **September 2018**. Travel related monkeypox cases have also been reported in the US in **2021**, Singapore in **2019**, Israel in **2018** and Benin in **1978**.[6]

BACKGROUND

This is the first time that chains of communication are reported in Europe without known epidemiological associations to West or Central Africa. These are also the first cases international reported among MSM. The clinical manifestation of monkeypox is typically mild. The West African clade, which has so far been distinguished in the cases reported in Europe, has been observed to have a case casualty rate of about 3.3% in Nigeria. Mortality is higher among children and young adults and immunocompromised persons are especially at risk of severe disease. Most people recuperate within weeks.[7]

The virus is called monkeypox because investigators first detected it in laboratory monkeys in 1958, but it is thought to diffuse to people from wild animals such as rodents or from other infested people. The number of cases noticed outside of Africa in the past week alone — which is almost certain to increase — has already exceeded the total number detected outside the land since **1970**, when the virus was first found to cause illness in humans. This rapid blowout is what has scientists on high alert.[8]

INDIA'S POSITION

Till now there is no official confirmed cases of Monkeypox have been reported in India. Though, keeping in mind the safety of Indians BMC has issued guidelines for the isolation and management of suspected cases of monkeypox. Nevertheless, the disease can prove fatal with the strain causing the current outbreak killing one in 100 infected.[9]

ORIGIN OF THE NAME

The name monkeypox initiates from the preliminary discovery of the virus in monkeys in a **Danish laboratory in 1958**. The first human case was identified in a child in the **Democratic Republic of the Congo in 1970**.[4]

RISK ASSESSMENT

Widespread monkeypox disease is customarily geographically inadequate to West and Central Africa. The identification of established and so-called cases of monkeypox without any travel history to an endemic area in multiple countries is nonconforming. Hence, there is an urgent need to elevation awareness about monkeypox and undertake wide-ranging case finding and separation (as long as with supportive care), contact drawing and supportive care to limit further onward transmission. Whereas one vaccine (MVA-BN) and one specific conduct (tecovirimat) were agreed for monkeypox, in 2019 and 2022 correspondingly, these countermeasures are not yet extensively available.

With a number of countries in several WHO districts reporting cases of monkeypox, it is highly likely that other countries will identify cases. The situation is evolving and WHO imagines there will be more cases of monkeypox identified as surveillance expands in non-endemic countries.[4]

CAUSE

Monkeypox virus reasons the disease in both humans and animals. It was first recognized by Preben von Magnus in 1958 as a pathogen of crab-eating macaque monkeys (Macaca fascicularis) being used as laboratory animals, when two outbreaks of a smallpox-like disease arose in colonies of monkeys kept for research. The crab-eating macaque is often used for neurological researches. The virus is split into Congo Basin and West African clades, corresponding the geographical areas.[10]

PATHOPHYSIOLOGY
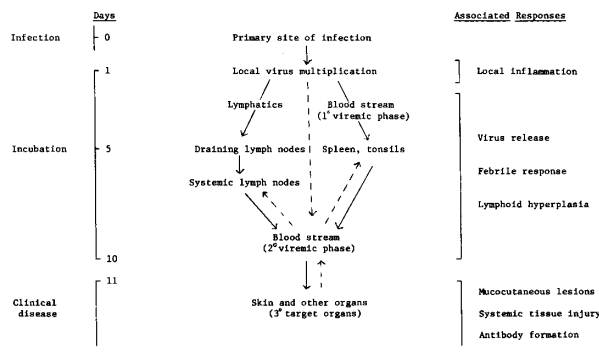
TRANSMISSION

Spread of the monkeypox virus among human beings is limited, but it can happen through close skin contact, air droplets, bodily fluids, and virus-contaminated objects.

CLINICAL FEATURES

Monkeypox commences with fever, headache, muscle aches and ends with exhaustion. The main variance between symptoms of smallpox and monkeypox is that monkeypox causes lymph nodes to swell (lymphadenopathy) whereas smallpox does not. The incubation period (time from infection to symptoms) for monkeypox is usually 7−14 days but can array from 5−21 days. The illness instigates with:

- Swollen lymph nodes
- Chills
- Fever
- Headache
- Muscle aches
- Backache
- Exhaustion

Within first 1 to 3 days (occasionally longer) after the arrival of fever, the patient develops a rash, often beginning on the face then spreading to other parts of the body. Lesions progress through the subsequent stages before falling off:

- Macules
- Pustules
- Papules
- Vesicles
- Scabs

The illness archetypally lasts for 2−4 weeks. In Africa, monkeypox has been revealed to cause death in as many as 1 in 10 persons who contract the disease.[12]

DIAGNOSIS

Clinical discrepancy diagnosis must deliberate other rash illnesses such as measles, chickenpox, bacterial skin infections, syphilis, scabies and medication-associated allergies. Lymphadenopathy during the prodromal

a) early vesicle, 3mm diameter

b) small pustule, 2mm diameter

c) umbilicated pustule, 3-4mm diameter

d) ulcerated lesion, 5mm diameter

e) crusting of a mature lesion

f) partially removed scab

CLINICAL FEATURES
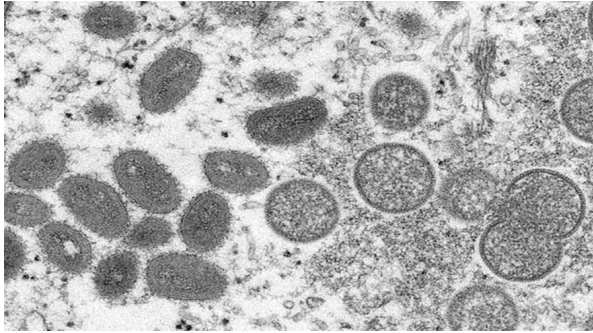
DIAGNOSIS

stage of illness can differentiate monkeypox from chickenpox or smallpox. Diagnosis can be confirmed by testing for the virus.

PCR testing of samples from skin lesions is the preferred laboratory test. To infer test results, information is compulsory on date of onset of fever, date of onset of rash, date of specimen collection, existing stage of rash, and patient age.[13]

DIFFERENTIAL DIAGNOSIS

- Smallpox
- Generalized vaccinia
- Disseminated zoster
- Chickenpox
- Yaws
- Scabies
- Disseminated herpes simplex
- Syphilis
- Bacterial skin infections
- Rickettsial pox
- Measles
- Eczema herpeticum
- Drug-associated eruption[14]

COMPLICATIONS

Monkeypox is generally a self-limited disease with the warning signs lasting from 2 to 4 weeks. Underlying insusceptible deficiencies may lead to inferior outcomes. Although vaccination counter to smallpox was protective in the past, today persons younger than 40 to 50 years of age may be more liable to monkeypox due to termination of smallpox vaccination campaigns globally after purge of the disease. Complications of monkeypox can consist of subordinate infections along with bronchopneumonia, sepsis, encephalitis, and infection of the cornea with following loss of vision. The extent to which asymptomatic infection may happen is unknown.

TREATMENT

Treatment for monkeypox is mainly supportive. The illness is usually mild and most of those infected will recover within a few weeks without treatment. Vaccination against smallpox can be used for both pre and post exposure and is up to 85% effective in preventing monkeypox. People vaccinated against smallpox in childhood may experience a milder disease.[5]

Vaccination

Vaccination in contrast to smallpox was verified through several observational studies to be about 85% effective in avoiding monkeypox. Therefore, prior smallpox immunization may result in milder illness. Indications of prior vaccination against smallpox can generally be initiate as a scar on the upper arm. At the present time, the unique (first-generation) smallpox vaccines are no longer accessible to the general public. A still new-fangled vaccine based on a modified attenuated vaccinia virus (Ankara strain) was permitted for the prevention of monkeypox in 2019. This is a two-dose vaccine for which availability remains partial. Presently, there is **no confirmed, safe treatment** for monkeypox virus infection. [11]

PREVENTION

Rising awareness of risk factors and educating people about the events they can take to lessen exposure to the virus is the main prevention strategy for monkeypox. Scientific studies are now underway to evaluate the practicability and appropriateness of vaccination for the prevention and control of monkeypox. Some countries have, or are evolving, policies to offer vaccine to persons who may be at risk

such as laboratory employees, rapid response teams and health workers. We can prevent monkeypox virus infection by some following particular steps by:

- Evading contact with sick animals (especially sick or dead animals).
- Avoiding contact with bedding and other materials soiled with the virus.
- Should wash hands with soap and water after coming into contact with an infected animal.
- Thoroughly cooking all foods containing animal meat or parts.
- Evading contact with people who seems to be disease-ridden with the virus.
- Using PPE when caring for people infected with the virus.

HOW MONKEYPOX RELATES TO SMALLPOX

The clinical presentation of monkeypox look like that of smallpox, a related orthopoxvirus contagion which has been eradicated. Smallpox was more simply transmitted and more often deadly as about 30% of patients died. The last case of certainly acquired smallpox occurred in 1977 and in 1980 smallpox was avowed to have been eradicated worldwide after a global campaign of vaccination and containment. To confirm global preparedness in the event of re-emergence of smallpox, newer vaccines, diagnostics and antiviral agents are being established.[14]

KEY FACTS

- ✓ Vaccines used during the smallpox eradication programme also provided protection against effect of monkeypox. Newer vaccines have been established of which one has been approved for prevention of monkeypox
- ✓ Monkeypox is triggered by monkeypox virus, a member of the Orthopoxvirus genus in the family Poxviridae.
- ✓ Monkeypox is generally a self-limited disease with the symptoms lasting from

2 to 4 weeks. Severe cases can occur. In recent times, the case casualty ratio has been around 3–6%.

- ✓ Monkeypox virus is conveyed from one person to another by close contact with lesions, body fluids, respiratory droplets and soiled materials such as bedding.
- ✓ Monkeypox is a viral zoonotic ailment that occurs mainly in tropical rainforest areas of central and west Africa and is rarely exported to other provinces.
- ✓ An antiviral agent developed for the action of smallpox has also been approved for the treatment of monkeypox.
- ✓ The clinical presentation of monkeypox looks like that of smallpox, an associated orthopoxvirus infection which was professed eradicated worldwide in 1980. Monkeypox is less transmissible than smallpox and causes a smaller amount of severe illness.
- ✓ Monkeypox typically presents clinically with fever, rash and swollen lymph nodes and may lead to a range of medical complications.[15]
- ✓ Monkeypox is a viral zoonotic disease that arises primarily in tropical rainforest areas of Central and West Africa and is sporadically exported to other regions.
- ✓ Monkeypox can be transmitted from Animal to Humans as well as human to human. The virus comes in the body through broken skin (even if not visible), respiratory tract, or mucous membranes (eyes, nose, or mouth).
- ✓ Human-to-human transmission is thought to occur mostly through large respiratory droplets usually requiring a continued close contact.
- ✓ Incubation period is generally 7-14 days but can range from 5-21 days and the person is usually not transmissible during this period.
- ✓ An infected person may transmit the disease from 1-2 days before appearance of the rash and persist contagious nature till all the scabs fall off.[8]

CONCLUSION

Still, we have not able to come out from the severe panic and deadly effect of the COVID-19. But presently Monkey pox is the trending and widely spreading virus causing panic for the people all over the world. So, we, authors have tried to cover the associated information about this viral infection. We assume that the readers will get adequate information as well as interest about this treading disease condition.

LIST OF ABBREVIATIONS

WHO   - World Health Organization

MPV   - Monkeypox virus

BMC   - Brihanmumbai Municipal Corporation Public Health Department

MSM   - Men who had sex with men

VARV   - Variola Virus

PPE   -Personal Protective Equipment

VIG   - Vaccinia Immune Globulin

VACA   -Vacuolating Cytotoxin

MVA-BN- Modified Vaccinia Ankara Bavarian Nordic Strain

DRC   - Democratic Republic of the Congo

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Statement of the Problem: A Study to Evaluate the Effectiveness of Video Assisted Teaching (VAT) on Knowledge Regarding Prevention of Corona Virus Among Staff Nurses Working in AH & RC, B G Nagara, Karnataka

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ABSTRACT

At present scenario COVID infection creates a pandemic and cruel deadly situation through worldwide. First case of Corona virus infection reported in Wuhan City of China in December 2019.Begining from normal fever & common cold it becomes severe with the symptoms of breathing difficulty, persistent fever, loss of taste & smell etc. It travels through air from human to human as a form of droplet infection. So, to check and increases the knowledge regarding prevention of corona virus among staff nurses working in AH & RC, B.G Nagara, Karnataka; I have done one video assisted teaching (VAT) session. Among total 60 staff nurse I have divided them into two groups as follows: 40 members in Experimental group & 20 members in Control group. The data collection done from 01-10-2021 to 11-10-2021 in AH & RC, B. G Nagara. After data analysing found that in the pre-test level of knowledge 80% Poor, 15% Average, 5% Good knowledge in control group and 75% Poor, 20% Average, 5% Good knowledge experimental group. The above posttest reveals that the percentage distribution of level of knowledge 60% Poor, 30% Average, 10% Good knowledge in control group and Average 7.5% ,62.5% Good & 30% having very good knowledge in experimental group.The results show that gained knowledge by the effectiveness of video assisted teaching in experimental group is 44.43%.

Keywords: MERS, SERS, CDC, N 95, RT PCR, and VAT.

INTRODUCTION

Corona Virus is an RNA virus mainly affects birds & mammals. The name "coronavirus" is consequent from Latin corona, denoting as "crown" or "wreath". At first, Coronaviruses were discovered in the year 1960. But later in 2012 a new type of coronavirus was identified, initially called Novel Coronavirus 2012, and now officially named as MERS-CoV. Chinese four family members have been identified with coronavirus in the UAE.[1]But now a days the frequent changing variant of Corona virus affecting humans & causing mild to deadly Respiratory problems including common cold, fever, breathing difficulty, loss of smell, loss of taste, even death in severe cases. In human

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more lethal varieties or strains of this virus are SERS (severe acute respiratory syndrome), MERS (Middle East respiratory syndrome), COVID-19(Coronavirus disease 2019).[2]Based on the statistics dated 13 Aug 2021, 08:00 IST (GMT+5:30) in India Total active cases are 3,87,987; total cured 3,12,60,050; total deaths 4,29,669; total samples tested 48,94,70,779. The following states are in red light spotted areas due to over increasing COVID cases -Maharashtra, Delhi, Kerala, Andhra Pradesh, Karnataka.[3,7]

Experts believe that COVID infection mainly spreads through person to person through respiratory system by inhalation. Droplets or aerosols, Airborne transmission, Surface transmission, Faecal-oral- these are some routes of Corona Virus transmission.[4]The CDC endorses that by covering the mouth and nose with a tissue while coughing or sneezing by using inner part of the elbow is more convenient if no tissue is available around.[9] They suggest to do frequent hand washing too at least for 20 seconds if time is not adequate.[10]Using frequent hand sanitizer containing at least 60% alcohol also helps a lot to prevent spreading of COVID infection, but only when soap and water are not hardly available.[2]

COVID-19 reported symptoms include fever, pneumonia, haemoptysis cough, fatigue, headache, diarrhoea and dyspnoea. Preventive measures such as wearing masks, using hand hygiene practices, avoidance of public contact, case detection by doing more rapid & RT-PCR tests, contact tracing, and quarantines have been discussed as ways to reduce transmission.[8]As per latest studies no specific antiviral treatment has proven effective; hence, infected people primarily rely on symptomatic treatment and supportive care.[5]

A study was conducted in USA on November 4,2020 entitled as Interim Infection Prevention and Control Recommendations for Healthcare Personnel During the Coronavirus Disease 2019 (COVID-19) Pandemic. They have also mentioned to get updated about modes of transmission, clinical management, air or ground medical transport, or laboratory settings, current mode of testing & vaccination from the health care setting or physician.[6]

OBJECTIVES OF THE STUDY

1. To identify the knowledge of staff nurses giving care to COVID patients in experimental and control group regarding COVID prevention.

2. To determine the knowledge of staff nurses giving care to COVID patients in experimental and control group regarding COVID prevention after the administration of Video Assisted Teaching (VAT).

3. To evaluate the effectiveness of Video Assisted Teaching (VAT) by comparing post-test knowledge scores regarding COVID prevention between experimental and control group among staff nurses giving care to COVID patients.

4. To associate the pre-test knowledge scores with selected socio-demographic variables regarding COVID prevention among the staff nurses of COVID patients in experimental and control group.

METHODOLOGY

Methodology of research organizes all the components of study in a way that is most likely to lead to valid answers to the problems to have been posed.

Research approach

The selection of the research is a basic procedure for the conduction of research study. In view of the nature of the problem selected for the study and objectives to be accomplished, evaluative research approach was adopted.

Research design

The form research design denotes to a plan of a scientific study. Research design combines the most important methodology decisions that researches makes in leading a research study.

It depicts the complete plan for organization of scientific examination. It helps the researches in choice of subjects, manipulation of the independent variable, observation of a type of statistical investigation to be used to interpret the data.

The research design selected for the present study was pre-test and post-test with nonequivalent control group design.

Variables under study

A notion which can take on different qualitative standards is called a variable

Independent Variable

An independent variable is that stances alive and is not dependent on any additional

In the study independent variable refers to the Video Assisted Teaching (VAT) on COVID Prevention.

Dependent Variable

A dependent variable is the variable the researcher involved in understanding, explaining or forecasting

Knowledge of staff nurses about COVID prevention is the dependent variable in this study.

Population

The entire set of individuals or objects withsome common features

In the present study the population comprised of staff nurses of COVID patients

Sample and sample size

Sample- Sample is a subgroup of a population designated to participate in a research study.

It is a position of the population which signifies the entire population.

In this study samples were staff nurses giving care to the COVID patients in the AH & RC.

Sample size- 60 staff nurses were selected.

Sampling technique

Sampling refers to the course of selecting the portion of population to signify the whole population. Non-probability convenient sampling technique was espoused for the present study.

Selection and development of tool

The tool selected in research must be the vehicle that acquires the best data for drawing conclusions to the study. The tool act as an instrument to assess and gather the data from the respondents of the study.

Keeping in mind a self-administered questionnaire was selected and developed. The main purpose behind developing this tool was need of the hour to educate the staff nurses of COVID patients. The tool was developed based on,

Past clinical knowledge of the student investigator

➢ Related review of literature (Books, Journals, Periodicals, and articles published and unpublished research studies) was reviewed and used to develop the tool.

➢ Based on the concept of the study.

➢ Based on the opinions of the subject experts.

➢ Based on the purposes of the study, the blue print was arranged under 3 main

GROUP	PRETEST	INTERVENTION	POST TEST
Staff Nurses giving care to the COVID patients	Knowledge regarding COVID Prevention	Video Assisted Teaching (VAT)	Knowledge regarding COVID Prevention
	O1	X	O2
Key: O1 = Assessment of pre-test scores X = Video Assisted Teaching (VAT), O2 = Assessment of post-test scores			

areas namely information, conception and application. The arranged items were imperilled to content validation, pre-testing and estimation of reliability.

RESULTS

Presentation of Data

The analysed data has been organized and presented in the following sections: Section 1: Description of socio demographic variables of the caregivers in the experimental and control group.

The analysed data has been organized and presented in the following sections.

Section A: Description of socio-demographic variable of the COVID patient admitted in AH & RC.

Section B: Analyses and interpretation of pre-test and post-test level of knowledge of experimental group.

Data Collection and Analysis

Prior permission was obtained from the hospitals (Adichunchanagiri Hospital & Research Centre), B. G Nagara to conduct the study. The data was collected by the investigator from 01-10-2021 to 11-10-2021 in Adichunchanagiri Hospital & Research Centre, B. G Nagara. Pre-test was conducted on 01-10-2021 by distributing the questionnaire to the staff nurses of COVID patients; the time was taken for the completion of the pre-test was approximately 60 minutes. Soon after the pre-test the VAT was given to the participants. On 10th day 11-10-2021, the post-test was conducted by using the same tool, to determine the effectiveness of the VAT. The data obtained was analysed by using descriptive and inferential statistics in terms of occurrence, percentage, mean, standard deviation, paired 't' test and Chi-square test.

Pre-Test knowledge distribution

Table 1: Frequency and percentage distribution of pre-test level of knowledge of staff nurses in control and experimental group.

n=60

	Pre-test			
	Control group (n=20)		Experimental Group (n=40)	
Level of knowledge	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Poor	16	80	30	75
Average	3	15	8	20
Good	1	5	2	5
Very Good	0	0	0	0

Post-Test knowledge distribution

Table 2: Frequency and percentage distribution of post-test level of knowledge of staff nurses in control and experimental group

n=60

	Post-test			
	Control group (n=20)		Experimental Group (n=40)	
Level of knowledge	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Poor	12	60	0	0
Average	6	30	3	7.5
Good	2	10	25	62.5
Very Good	0	0	12	30

Area-wise Pre-Test & Post-test knowledge distribution

Table 3: Area-wise pre-test and post-test knowledge score between control and experimental group.

n=60

	Max. possible score	Pretest				Post test			
		Control Group		Experimental group		Control group		Experimental group	
Area		Mean ± SD	Mean%	Mean ± SD	Mean%	Mean ± SD	Mean%	Mean±SD	Mean%
Anatomy and physiology	6	3.4 ± 1.4	56.66	3.9 ± 1.5	65	4.1 ± 1.5	68.33	4.94 ± 1	82.33
Corona Virus Infection	15	7.5 ± 3.3	50	6.96 ± 2.76	46.4	10.65 ± 2.64	71	12.75 ± 2.22	85
COVID Prevention	14	3.45 ± 1.4	26.53	4.2 ± 1.69	32.30	4.025 ± 1.78	30.96	8.71 ± 1.48	67

Effectiveness of Video Assisted Teaching (VAT)

Table 4: Effectiveness of Video Assisted Teaching (VAT) on COVID prevention   n=60

Group	% of Pretest knowledge score	% of Posttest knowledge score	% of Gain in knowledge
Control Group	35	37.42	2.42
Experimental group	35.86	80.29	44.43

Inclusion criteria

a. Staff Nurses of COVID patient, willing to participate in the study.

b. Staff Nurses of patient infected with COVID who understand Kannada and English.

Exclusion criteria

a. Staff Nurses of COVID patients having visual and hearing defects.

b. Staff Nurses of COVID patients who are absent at the time of the study.

DISCUSSION

Based on the objectives of the study, the findings of the pre-test knowledge score of staff nurses of COVID patients regarding COVID prevention shows that they were able to answer the questions up to some extent. In pre-test, staff nurses were having average 35% of knowledge in control group and 37.42% in experimental group in overall aspects. Staff Nurse's pre-test level of knowledge on COVID prevention shows 80% Poor, 15%

Average, 5% Good in control group whereas 75% Poor, 20% Average and 5% Good in experimental group. Considering the aspects of COVID prevention, they are having below average knowledge.

Based on knowledge of staff nurses of COVID patients regarding COVID prevention above part of the study, findings of the post-test knowledge score of the staff nurses of COVID patients regarding COVID prevention shows that, staff nurses got 80.29% of overall score in experimental group after VAT. Post-test level of knowledge on COVID prevention says that 7.5% of them were having Average knowledge, 62.5% of staff nurses gained Good knowledge and 30% of them had Very good knowledge in experimental group and 60% Poor, 30% Average, and 10% Good knowledge in control group. Considering the post-test scores, staff nurses have shown adequate knowledge on all aspects in experimental group.

Based on the effectiveness of Video Assisted Teaching (VAT) regarding COVID prevention between the experimental & control group, the findings show significant

increase in the post-test knowledge score after the administration of VAT. The post-test knowledge score in control group was 35.86% and the post-test knowledge score in experimental group was 80.29%. The difference between pre-test and post-test score was 44.43% in experimental group. In pre-test 35.86% of staff nurses were having inadequate knowledge in experimental group. After the administration of VAT, 80.29% staff nurses gained adequate knowledge in post-test. The result shows effectiveness of VAT on COVID prevention in experimental group.

CONCLUSION

In conclusion the below mentioned initiation should be taken

1. Motivate the COVID infected patients and their family members to keep them updated with necessary knowledge with regarding aspects of COVID prevention & reoccurrence.
2. A suitable environment for learning could be maintained through regular clinical teaching and practice sessions on COVID prevention.
3. Regular different therapies should be demonstrated for gaining skill in COVID prevention.
4. A suitable counseling program should be conducted to the patient and staff nurses to strengthen psychologically.
5. The study suggests that respected government need to open more COVID care centers (CCC) in all areas to give more quality & significant care.

LIST OF ABBREVIATION

CEST: - Central European Summer Time
MERS: - Middle East Respiratory Syndrome
N 95: - Non-Oil 95% efficiency
RT-PCR: - Reverse Transcription-polymerase Chain reaction
SERS: - Severe Acute Respiratory Syndrome
VAT: - Video Assisted Teaching
WHO: - World Health Organization
CDC: - Centres for Disease Control

ETHICAL CLEARANCE

Ethical clearance has been obtained from the concerned authority and participants.

SOURCE OF FUNDING

CONFLICT OF INTEREST

Have no conflict of interest relevant to this research study.

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10. Prevention C for DC and. Interim Infection Prevention and Control Recommendations for Healthcare Personnel During the Coronavirus Disease 2019 (COVID-19) Pandemic. 2020

Evaluation Techniques in Nursing Education and their Influence on Students' Performances

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ABSTRACT

Background: Evaluation of nursing education is a topic that received much attention by the scientific community recently as it has direct bearing on students' academic and clinical performance.

Aim: The study assessed the evaluating techniques and their influence on academic and clinical performances among student nurses.

Methods: A mixed method research design was employed. The target population comprises of all the tutors, clinical instructors, and students of five schools of Nursing in three States of Northern Nigeria. Multistage sampling technique aided the selection of targeted participants. Three instruments (questionnaire, Focus group discussion, and checklist) were used for data collection. The quantitative data was analysed using descriptive and inferential statistics while the qualitative data was analysed using thematic content analysis.

Findings: The findings of the study showed that most of the tutors used written examination, long essay questions, and multiple choice questions in theory examinations, and Objective Structured Clinical Examination (OSCE) for practical examination. Overall, the tutors use formative and summative evaluation approaches. There were significant influences of evaluation techniques on students' academic performance in two subjects (mental health nursing and pharmacology), $p < 0.05$. The majority of the students submitted that they recorded good grade with long essay examinations as compared with multiple choice questions (MCQs) and combination of long essays and MCQs. For the clinical examination, the OSCE had more impact on students' clinical performance compared to traditional clinical assessment because of the objectivity and smart nature of the technique.

Conclusion: Tutors should consider an evaluation technique that favours students' academic and clinical performances. Much effort is required to improve the students' position with the MCQs and the computer-based test (CBT) exams as virtually all educational agencies are gradually moving towards such techniques.

Keywords: Academic performance, clinical performance, evaluation techniques, nursing education

INTRODUCTION

Nursing is a field which requires having both strong theoretical based knowledge as well as clinical knowledge and skills to care for the patients and families as we deal and handle real life situations,[1] as such, nursing education prepares graduates to practice as competent healthcare professionals in a highly complex, diverse, and ever-changing environment. Inculcating these values, knowledge and skills in the graduate is a long-term gradual tedious process of training that involves the use of variety of evidence based approaches as methods of instruction, learning methods, evaluation techniques and the modification of the environment to

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suit learning because the learning process in nursing is very unique and aimed at preparing students to perform the activities of the profession.[2] According to Mac-Farlane, academic performance is the ability of students to cope with their studies as well as how various tasks assigned to them by their instructors are accomplished. It also includes the ability to study and remember facts and to be able to express such knowledge gained either verbally or in writing.[3]

Evaluation is the process of eliciting the extent to which learners have achieved the educational objectives. It is used also for assessment of both the teacher and the students and its outcome helps both the teacher and the students to know areas of their deficiencies and areas of strength.[4] Evaluation can be formative or summative.[5] Some of the evaluation strategies in clinical nursing training according to Oermann and Gaberson[4] include written and oral assignments.

Evaluation of nursing education is a topic that received much attention by the scientific community recently as different evaluation concepts, methods and activities were found to have direct bearing on students' academic and clinical performance. Evaluation in nursing is the process of judging the effectiveness of education experience through careful appraisal of students learning achievements and clinical skills and as a practice-based discipline, clinical evaluation which is integrated form of evaluation seeking to combine knowledge, understanding, problem solving, technical skills, attitudes, and ethics in evaluation is held with all seriousness and importance.[6] In evaluation which can be formative or summative, several testing and assessment methods have been employed by educators to test their students' achievements such as the use of multiple choice questions, short answers, long essay, true or false questions and objective structured clinical examination (OSCE).[7] Clinical evaluation is one of the complex tasks of faculty and health instructors and a challenge for nursing and other health professions.[8]

Clinical evaluation, as a way of determining clinical competence, is one of the fundamental principles of development and student achievement measurement in nursing education.[9] It must be ensured that the students in clinical settings have an appropriate professional behaviour, establish an appropriate interaction with the patients, prioritize the problems, have the basic knowledge about clinical methods, perform the care procedures correctly, and apply critical thinking while doing so.[10]

However, there is limited literature regarding the use of evaluation techniques among nursing educators in Nigeria. In addition, with the commencement of OSCE by the Nursing and Midwifery Council of Nigeria (NMCN) there are limited empirical reports to evaluate OSCE or other techniques as assessment tools. Furthermore, there is a need to ascertain the influence of these evaluation methods on the students' performances. Therefore, this study was initiated to determine the evaluation techniques use in nursing education and their influence on students' academic and clinical performances.

METHOD

Design

In this study, a mixed design (quantitative and qualitative) was employed to examine a cross-sectional of tutors and students concerning the use of evaluation techniques and approaches. Quantitative and qualitative data were collected concurrently and used to describe the evaluation techniques and their influences on students' academic and clinical performances

Population and sampling

The study population were tutors (91), clinical instructors (31), 2nd and 3rd year students, and the final year students for General Nurse's examination (698). Five Schools of Nursing were selected in Northern Nigeria. Cluster random sampling was applied to select three (3) states from the seven (7) states.

Five (5) available schools in the selected states were used for the study. All the 73 tutors (who thought 2nd year and 3rd year students) participated in the survey. On the part of students, we purposefully chose 28 students from each school across the levels (2nd and 3rd year). There were seven discussants for each focus group making a total of 140 discussants for the five (5) selected schools. Foreign students in adaptation programme were excluded from the study.

Instrument for data collection

Three developed instruments were used for data collection. These were structured questionnaire, Focused Group Discussion Guide (FOGDIG), and Checklist for the assessment of students' clinical and academic performances. The questionnaire assessed sociodemographic characteristics (age, gender, school, and levels); and evaluation techniques used in testing students' performances. Each item was rated "yes" or "no" for the respondent to choose one option for each item. The focus group discussion guide also sought participants'' sociodemographic data and questions outlined to explore various evaluation techniques used in the schools. For the student' performances, a checklist was devised to ascertain the students' clinical and academic performances from the students' records in the schools.

We extracted and adapted questions from Questionnaire for the assessment of teaching methods and evaluation techniques (QATE). Based on the study objectives, we developed the focus group discussion guide and the checklist for the study.

A pre-test was conducted among 11 students from another school of Nursing (different from the selected states). The pre-test yield a reliability index of 0.83 (Cronbach's Alpha). We also pre-test the discussion guide in different schools using two FGDs groups (seven participants per group in a). The responses from the two groups were consistent. In addition, five (5) experts in

the fields of nursing education validate the content of the three assessment tools.

Data collection

Prior to data collection, we sought ethical clearance and permission from the heads of the training institutions. Each participant was informed about the objective of the study and their consent was obtained. The trained research assistants administered the questionnaires to the tutors and the students. Four FGDs (two in each of the 2nd and 3rd year classes) were conducted using seven discussants per group in each school. Each FGDs last over 20-30 minutes. An audio tape recorder was used to record each FGD. The checklist was used to obtain the students clinical and academic performances from the school records.

Data analyses

Data were analysed using descriptive statistics. The socio-demographic characteristics were presented using frequency, percentage, and mean. The evaluation techniques were also summarised using descriptive statistic in the form of frequencies and percentages. We used ONE-WAY Analyses of variance to compare the three most used evaluation technique for each subject against the overall academic performances of students. For the data from FGDs, we used thematic content analysis to extract and present themes and subthemes with participants' responses quoted verbatim. Data form qualitative component was presented after the quantitative component based on the study objective in a form of triangulation.

RESULTS

Sociodemographic Characteristics

On average results showed that the tutors were aged 36.5 years, mostly males (74.6%) and had a degree or HND (58.7%). The average age of the students was 19.2 years; mostly were females (69%) and the majority of them (37.1%) were in the third year.

Evaluation Techniques and Approaches

Results in Table 1 indicated that, the most often used evaluation techniques were written examination (77.8%), followed by a written assignment (66.7%, homework (58.7%), and class attendance (57.1%). Overall combined summative and formative approach were used to give the students final academic and clinical performances.

The majority of the teachers indicated using written examinations as an evaluation techniques employed in the schools of nursing. The qualitative study from the students' perspective confirmed that long essays and multiple-choice questions (MCQ) were the most frequent evaluation technique employed by tutors in schools of nursing. Although most of the schools were using a combination of long essays and MCQ, the combination was started on the 2nd or 3rd year of the study as stated by FGD 2;

"When we are at 300 level the new system say we will be writing semester exams that consists of three essay questions and

Table 1: *Evaluation Techniques*

Evaluation Technique and Approaches	Frequency	Percent (%)
Evaluation Technique		
Instructor observation	22	34.9
Peer Assessment	14	22.2
Attendance or participations in class	36	57.1
Written examination	49	77.8
Oral examinations	28	44.4
Steeple chase	16	25.4
OSCE	33	52.4
QUIZ	24	38.1
Assignment	42	66.7
Homework	37	58.7
Class presentation	25	39.7
Evaluation Approach		
Summative only	3	4.8
Both formative and summative	60	95.2
Total	63	100.0

40 objectives." In a related development, some schools employed the use of various evaluation methods in the exams as stated by FGD 16; "They are mixing long essays with MCQ, true/false, cross matching, and objectives".

Moreover, some schools used computer-based tests (CBT) as a method of evaluation of nursing students as described by FGD 9:

"Well our teachers are using the long essay and objectives to evaluate us. The objective questions are using computer-based test. Before the last semester that we started using CBT, they use to give us three essay questions and 40 objectives with cross-matching" (FGD 9).   On the other hand, most schools of nursing had adopted objective structured clinical examinations (OSCE) as the method of evaluation of clinical skills of nursing students. Most schools started OSCE examinations at 2nd and 3rd year of the study as stated by FGD 2:

"Issue of OSCE we have started the OSCE since we are in level two. The NMCN has changed the pattern of practical examination to adopt OSCE. Since year two we have changed the practice exams to OSCE and viva after the OSCE" (FGD 1).

Influence of evaluation techniques on students performances

Results in Table 2 indicate that the evaluation technique has significant influence on students' academic performance in two subjects (mental health and pharmacology), p, values <0.05. However, evaluation techniques had no significant influence on the academic performances in other subjects compared (p-values >0.05).

As lamented by a group of students who participated in the FGD, evaluation techniques had an influence on the academic and clinical performance of nursing students. Most of the students revealed that long essays have an impact that is more positive about their academic performance as compared with other methods of evaluation. The majority said that

Table 2: Summary on influence of evaluation technique on academic performance

Subject Areas	Evaluation Tech.	Sum of Squares	df	Mean Square	F	Sig.
Anatomy and Physiology 3rd Year	Between Groups	.008	1	.008	.007	.934
	Within Groups	69.643	61	1.142		
	Total	69.651	62			
Pharmacology 3rd Year	Between Groups	.875	1	.875	.989	.324
	Within Groups	53.982	61	.885		
	Total	54.857	62			
Research 3rd Year	Between Groups	.127	1	.127	.295	.589
	Within Groups	26.286	61	.431		
	Total	26.413	62			
Mental health 3rd Year	Between Groups	128.960	1	82.960	**5.568**	**.045**
	Within Groups	37.357	61	.612		
	Total	38.317	62			
Medical-surgical Nursing 3rd Year	Between Groups	.032	1	.032	.059	.808
	Within Groups	32.571	61	.534		
	Total	32.603	62			
Nutrition 2nd Year	Between Groups	.161	1	.161	.501	.482
	Within Groups	19.554	61	.321		
	Total	19.714	62			
Pharmacology2nd Year	Between Groups	132.643	1	91.643	6.298	0.039
	Within Groups	30.214	61	.495		
	Total	30.857	62			
Medical Surgical Nursing 2nd Year	Between Groups	.240	1	.240	.703	.405
	Within Groups	20.839	61	.342		
	Total	21.079	62			

they recorded good grade with long essay examinations as compared with MCQs and combination of long essays and MCQs. FGD 1 stated that long essay exams had more influence on academic performance as shown below:

FGD 1: "I think the long essay has an impact that is more positive on the academic performances of us the students."

Another group of participants compares the impact of long essay examinations on their performance as compared with MCQs. FGD 11 sated;

"Like I say initially, the essay is better like if you are asking describe so-so-so and is five marks you can be able to write something that

you can get three marks or two even if you don't know but MCQ if you don't know that is all" (FGD 11).

Participants cited several reasons for why a long essay method of evaluation had more impact on their academic performances such as the most common exams, in-depth knowledge and poor performance with the other methods. FGD 9 and 10 narrated that long essay questions have more impact on their academic performance because the nature of all exams were long essays. FDG 10 shares; "To me is a long essay question because all exams have theory questions in the entire subject". Furthermore, FDG 14 stated that long essays were the most common

type of evaluation they were exposed to since their first year and had good result with it as compared with MCQs. They elaborated:

"The long essay method of examination has an impact on our results than the MCQ because is the essay exams is the one we started since from our first year of introductory classes up to 3rd year. Now they introduce objectives with the essays. If you check our results is better with the objectives than the essays. So long essays are better for us" (FDG 14).

Moreover, some participants lamented poor results with CBT in their last semester examinations as the reasons why long essay examinations have more impact on their academic performances. FDG 9 lamented their experience with CBT examinations; "to me is long essay questions. The last exam has a problem because the last semester we had very poor results. I think the problem is the CBT. I think they should improve it."

Meanwhile, the participants lamented that the OSCE had more impact on their clinical performance because of the objectivity and smart nature of the examinations. Participants cited reasons why OSCE had more impact of their performances such as easements, objectivity, in-line with the Nursing and Midwifery Council of Nigeria Professional Examinations. FGD 4 shared their experiences:

"We agreed is an OSCE because the Council is using it for the exam. Though is a new tradition for us, but I really love OSCE, it is like objectives and prevent patients that will not cooperate with you and affect your performance" (FGD 4).

DISCUSSION

The average age of the tutors and students were 36.5 years and 19.2 years respectively. Most of the tutors were male, but the majority of the students were females.

In the present study, the tutors identified several evaluation methods they regularly employ and majority of them submitted that they use written examination consisting of essay and MCQs in evaluation, and

another large proportion reported that they use assignment, while a few uses peer assessments to grade their students' learning achievements. Most of the tutors used both formative and summative evaluation approaches. Iqbal, Samiullah and Anjum,[11] found that continuous assessment had positive effects on students' achievement. These submissions were corroborated by the students in the FGDs where they confirmed that long essay and MCQ test items were the most frequently used by the tutors. Sabzevari, Abbaszade and Borhani[12] conducted a study on assessment methods for Nursing Students of Kerman University of Medical Sciences in Iran. The findings indicated that mixed assessment methods including true or false were the most frequently used to evaluate students learning.

For clinical performance evaluation, like the tutors, the students confirmed that OSCE is the strategy been used by the school since its introduction by the NMCN however, some schools still find it difficult to leave the traditional practical examination and use the OSCE exclusively as one of the focus groups confirmed that the traditional practical examination is still been used by their schools in the 1st year but they will use the OSCE for the 2nd and 3rd year evaluations respectively. These findings are not far from those reported by Margret, Young and Ndidi in a study where they established that nursing institutions in Nigeria still practice the Oral Practical and the OSCE in clinical performance evaluation.[13]

From the findings, a relationship was found between students' academic performance two subjects (mental health and pharmacology). When compared to the students' submissions in the FGD, across all schools and levels they did not segregate the positive impact of evaluation techniques on their general performances across all the courses and they were emphatic in describing their love for long essay tests and have describe their dislike for MCQs and CBT exams as they felt that the tests do not have desired influence on their academic performance. The student submitted

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that they recorded good grade with long essay examinations as compared with MCQs and combination of long essays and MCQs. Findings contradicted that of Sabzevari, et al. who found that mixed assessment approach, including MCQs (in the form of True and false) significantly affect students learning.[12] This requires efforts to improve the students' position with the MCQ test items and the CBT exams as virtually all educational agencies and institutions in Nigeria are gradually moving to the use of MCQs and CBT examinations, including the Nursing and Midwifery Council of Nigeria as currently 40% of the council's pre-licensure/professional examination marks come from MCQs.

For clinical performance, the participants agreed that OSCE has more impact on their performances than the traditional practical examination which is still being used in the schools in addition to the OSCE recommended by the NMCN. The findings corroborate with Ghazanfar, mature, Alireza, Kojuri, and Mousavinasab.[14] Ghazanfar, et al. conclude based on the findings that besides focusing on upgrading the current clinical evaluation forms, nursing trainers should improve their knowledge and apply objective clinical evaluation methods and tools, and perform a formative and summative clinical evaluation.[14] A systematic review of studies suggested that traditional practical assessment of clinical competes is open to the subjective bias of the assessors, and the quality of assessments varies greatly.[15] This coincides with the NMCN's rationale behind the shift from the traditional examination to OSCE in 2018 (in Nigeria) as the later promotes the development of better clinical competence.

CONCLUSION

The tutors used long essay questions and multiple choice questions in theory examinations and the OSCE for practical, though some schools still deploy a combination of OSCE and the traditional practical examination. The tutors also adopted formative and summative evaluation approaches. Evaluation techniques have significant influence on students' academic performance in mental health and pharmacology. Students revealed that long essays have an impact that is more positive about their academic performance compared to other evaluation technique. For the clinical evaluation, OSCE yields much impact than traditional clinical examination. Schools should encourage tutors to employ a variety of techniques in evaluation to involve the students actively in their evaluation using methods such as peer evaluation.

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Performance of Students toward small group teaching in University College of Sabya

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ABSTRACT

Background: Small group training may be incredibly useful for both learners and facilitators. Successful small groups, on the other hand, encourage active and deliberate participation and enhance student learning.

Main Body: The goal of this study was to see how students react to small-group teaching.

Patients and methods: A descriptive faculty-based study was done at Jazan University College of Sabya including 335 students from three departments participating in an online questionnaire about their knowledge, abilities, and attitudes toward small group teaching. **Results:** Most of the students had a high level of knowledge and abilities, as well as a good attitude toward small group instruction (67.75%).

Conclusion: These results highlight the importance of taking into account students' success in small group education.

Recommendations: I recommend giving more attention to education through small group discussion

K**eywords:** student performance, knowledge, attitude, small group, teaching.

INTRODUCTION

Small group teaching is a popular, creative, and successful educational learning technique that strives to promote students' knowledge application, higher-order thinking, and self-directed learning abilities.[1] Small-group learning encourages active learning, retention, pleasure, and the development of problem-solving and collaboration abilities. However, little is known about students' opinions of various small group teaching styles, as well as their preferences.[2] Active facilitation and group management are critical to the success of SGTs and, as a consequence,

to enhanced learning outcomes. When the facilitation talents of the clinical instructors develop, teaching becomes more effective, engaging, and the joyful for both the tutors and students.[3] SGT encourages students to share and debate their ideas in a secure learning environment free of tutor control.[4] Group discussions, feedback, role-playing, and web-based training are all possibilities. Increasing class numbers, changing learning preferences, and budgetary and logistical constraints have an impact on the design and delivery of communication skills in undergraduate veterinary education.[5-7]

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In order for Small Group Active Learning (SMAL) to be successful, students must actively engage in learning activities that help them increase their knowledge. Teachers may find it difficult to engage their pupils in this process. We employed the ideas of epistemic beliefs and learning techniques to determine the differences in medical students' enthusiasm for small group instruction to encourage participation [8]. Student happiness is an important aspect in the quality of healthcare education, and the results of this research might be useful in future curriculum development. According to the research given here, a curriculum is developed on a hybrid PBL modelled by professionals [9]. Healthcare students typically have a favorable attitude toward small-group, active learning approaches. The facilitator position, tutorial format, individual student considerations, case authenticity, improved feedback, and group cohesion are all important aspects impacting this degree of pleasure. Small-group instruction is a widely used educational strategy in several universities. Small group teaching is emphasized at Harvard University, Oxford and Cambridge, German universities, and the Chinese University of Hong Kong, which asserts that faculties and departments tend to prioritize specialized teaching and lectures [10]. The purpose of the new colleges should be to provide general education.

Small group instruction can help students achieve a number of critical higher education goals [9]. It teaches students to organize their thoughts by comparing ideas and interpretations and to give structure to their grasp of a subject by giving expression to it [11]. As a result, it is critical as a learning medium. In committees and in more general interactions with clients and colleagues, professionals are increasingly required to display oral skills. Cooperation and teamwork have become commonplace in most workplaces.

The aim of this study was to see how students' performance, knowledge, attitude, and abilities in small group teaching.

METHODOLOGY

Research design

The current study was conducted using a descriptive research methodology and 335 students from Saby Jazan University in Saudi Arabia were enrolled.

Study Setting

The study was conducted at Sabya University College, which is a major center of Jazan University. Sabya University College has three departments, of which the researcher sampled from the nursing department, computer science, and accounting.

Participants

A convenience sample technique was used to choose 335 students from three departments for this research. An online survey was administered to 199 (60%) nursing students, 73 (22%) computer science students, and 60 (18%) accounting students to assess their knowledge, abilities, and attitudes towards small group teaching.

Instrument

The researcher collected data on knowledge, abilities, and attitudes about small group teaching using structured online questionnaires. It was divided into four sections:

Part 1: demographics of the students such as age, specialty, and academic level.

Part 2: Twenty statements were prepared on the students' knowledge.

Part (3): Concerning the students' abilities, five statements were compiled.

Part (4): Five statements were compiled on the students' attitudes regarding them.

five (5) points For scoring, a Likert scale was used: Strongly Agree 5, Agree 4, Neutral 3, Disagree 2, and Strongly Disagree 1.The researcher used several statistical treatments as following treatments: Means : to extract

%ages and estimates The %age equation: to extract the %age of a single item, the equation is as follows: (means - 1) 2 x 100 Judgment and evaluation criteria for issuing judgment and estimating %ages, and it is as follows: 0%-%20 estimate V. low ,%20-%40 low. %40-60% medium ,60% -80% high and 80% - %100 V. high.

Data collection technique

This study was approved by Jazan University's Research Ethics Committee and the Deanship of Scientific Research. Students' responses to an online structured questionnaire regarding their knowledge, abilities, and attitudes toward small group training were gathered. The researcher's writing clearly establishes the study's advantages, and there is no damage to the volunteers. The aims of the research were specified on the informed consent form. It also described their freedom to refuse or withdraw from participation, as well as their anonymity. The researcher's contact information was given in the informed consent form so that participants may contact her if they had any issues. Every piece of information on the participants.

Data Management and Analysis

Cronbach's alpha values for the three questionnaire axes (knowledge, skills, and attitude), as well as the entire questionnaire, are (.956), (.960), (.942), and (.911), respectively, which are high and thus acceptable values, indicating the questionnaire's stability and thus its validity for use in the current study. To be sure, the researcher used two split-half methods to calculate the stability value of the questionnaire: Spearman-Brown and Guttman's methods, which yielded the following results: knowledge (.901-.896), skills (.876-.871), attitude (.928-.881), and the questionnaire as a whole (.906-.873), respectively. We see that all of these numbers are high and so acceptable, showing that the two scales are comparable.

RESULTS

We can see from the data in Table 1 that all items on the (knowledge) axis were within the range of high estimation ratios, meaning that they were limited between (61 % - 80 %), with the exception of items (13, 14), which were in the range of medium estimation ratios, with %ages of (50 % and 45.5 %, respectively). We

Table 1: Showing the %ages and estimates for the knowledge items for small groups (N335) teaching

NO	items	Rank	Mean	Std. Deviation	%	Estimates
1	Allowing students to engage with group	(8)	3.83	1.25	%70.75	high
2	Providing students active involvement	(5)	3.92	1.21	%73	high
3	develop student academic	(6)	3.90	1.27	%72.5	high
4	Helping students to share ideas	(1)	3.99	1.24	%74.75	high
5	Providing for students to receive more immediate feedback	(4)	3.95	1.24	%73.75	high
6	Encourage students independent learning	(9)	3.80	1.31	%70	high
7	Providing more opportunities for peer learning	(8)	3.81	1.26	%70.25	high
8	sharing responsibility	(7)	3.88	1.28	%72	high
9	develop critical thinking and problem solving	(2)	3.97	1.23	%74.25	high
10	develop skills in communication (listening, responding, interacting) and interpersonal relations	(3)	3.96	1.22	%74	high

NO	items	Rank	Mean	Std. Deviation	%	Estimates
11	5 to 8 students	(14)	3.66	1.39	%66.5	high
12	9 to 15 students	(16)	3.49	1.43	%62.25	high
13	16 to 30 students	(17)	3.00	1.54	%50	medium
14	above 30 students	(18)	2.82	1.61	%45.5	medium
15	problem based learning	(11)	3.77	1.24	%69.25	high
16	Role plays	(14)	3.66	1.31	%66.5	high
17	Case based teaching	(10)	3.79	1.24	%69.75	high
18	Student seminar presentations	(15)	3.58	1.28	%64.5	high
19	Simulations	(13)	3.67	1.27	%66.75	high
20	Films and videotapes	(11)	3.77	1.28	%69.25	high
21	bed side clinical teaching	(12)	3.73	1.34	%68.25	high
		The total of knowledge	3.71	1.30	%67.75	

Table 2: Showing the Percentages and estimates for the skills items for teaching small groups

NO	items	rank	Mean	Std. Deviation	%	Estimates
22	Team work and actively involved in process of learning	(5)	4.02	1.13	%75.5	high
23	Communication skills	(4)	4.03	1.16	%75.75	high
24	Share responsibility for the success of the group	(1)	4.08	1.10	%77	high
25	Accomplish the task	(2)	4.07	1.08	%76.75	high
26	Provide feedback	(3)	4.04	1.10	%76	high
		The total of practice	4.04	1.11	%76	high

should also mention that the lowest% of age came from item No. (14), with a% of age of 45.5 %, and the highest proportion came from item No. (4), with a% of age of 45.5 % (73.75%). Because the majority of the axis items in the range have high %ages, the overall estimate for the total score of the axis in the range (67.75 %) is high, with an arithmetic mean of (3.71). As a result, students have a high level of expertise regarding small group teaching.

We can see from Table 2 that all items on the (skills) axis arrived in a range of high estimation ratios, meaning that they were limited between (61 % - 80 %), and that the lowest %age came for item No. (22) The greatest percentage (75.5%) was for item

(24), which had the highest %age (75.5%). (77 %). Because most of the axis items in the range have large %ages, the overall estimate for the total score of the axis in the range is high (76%) with arithmetic mean (4.04). As a result, the degree of student ability to teach small groups is high.

The data in Table 3 which included the %ages and estimation for the items of the (student's attitude) axis, we note that all items came in a range of high estimation ratios, meaning that they were limited between (61% - 80%), and we note that the lowest %age came for item No. (30) The %age reached (60.25%), while the highest %age was for item (28), where it reached (62.2%). Since the %ages of

Table 3: Showing the %ages and estimates for the student's attitude items for teaching small groups

NO	items	rank	Mean	Std. Deviation	%	Estimates
27	tutors talk too much during student discussion time	(2)	3.48	1.42	%62	high
28	Low level of participation from some students	(1)	3.50	1.33	%62.2	high
29	Poor facility for teaching small group	(3)	3.45	1.32	%61.25	high
30	Poor feedback from students	(5)	3.41	1.33	%60.25	high
31	Small group teaching needs more time to complete the course plan.	(4)	3.44	1.40	%61	high
The total of			3.45	1.36	%61.25	high

Table 4: Shows the %ages and estimates for the Performance axes of students toward small group teaching

NO	items	rank	Mean	Std. Deviation	%	Estimates
1	Knowledge	(2)(2)	3.71	1.30	%67.75	high
2	Practice	(1)	4.04	1.11	%76	high
3	Attitudes	(3)	3.45	1.36	%61.25	high
Total			3.70	1.25	%67.5	high

Table 5: Spearman Test Result relationship between the performance students in teaching small groups and their grade level

Variable					
Dependent Variable	independent variable	N	Spearman's correlation	Sig. (2-tailed)	Inference
Knowledge			.251**	.000	Sig. positive relationship
Practice	Grade level	355	.207**	.000	Sig. positive relationship
Attitudes			.146**	.007	Sig. positive relationship
Total			.253**	.000	Sig. positive relationship
**Correlation is significant at the 0.01 level (2-tailed). * The correlation is significant at the 0.05 level (2-tailed)					

most of the axis items in the range are high, the overall estimate for the total score of the axis in the range is high by (61.25%), with arithmetic mean (3.45). So, the result: The degree of student's attitude toward the small group teaching is high.

In the table 4, which included the %ages and estimation for the total Performance axis, we note that all items came in a range of high estimation ratios, meaning that they were limited between (61% - 80%), and we note that the lowest %age came for (Attitudes). The %age reached (61.25%), while the highest %age was for (Practice), where it reached (76%). The total estimate of the performance is high by (67.5%), with arithmetic mean (3.70).

In Table (5), we notice that all Spearman correlation values are statistically significant at the level of significance 01. Looking again at the signs of the correlation coefficients, we notice that they are all positive, which means that the rustle is :(There is a positive, statistically significant relationship between the performance of Sabya University College students in teaching small groups and their grade level.

DISCUSSION

The purpose of this study was to investigate the performance of students in small group teaching at University Saby College in order to determine knowledge, skills, and student attitudes. Participants who have a strong understanding of the benefits of small group instruction Several studies have demonstrated the benefits of small group education, including allowing students to interact with the group, providing students with active participation, developing student academics, and assisting students in sharing ideas. Making it possible for students to obtain more quick feedback, Encouraging students' self-directed learning, Increasing possibilities for peer learning, sharing responsibility, developing critical thinking and problem solving abilities, and developing communication (listening, responding, engaging) and interpersonal relations skills [12].

A small group size offers opportunities for interactive demonstrations and student participation, The participants highly about %66>5 mentioned their group size 5 to 8 students; furthermore, students were asked which teaching methods elicited the best quality of small group teaching shifted from traditional didactic lectures to this new teaching method strategies as the respondents could tick all teaching methods problem-based learning, role plays, case-based teaching, Student seminar presentations, Simulations , Films and videotapes and bedside clinical teaching students in university college Saber were satisfied about small group teaching and they enjoy the all method of small group teaching generate high quality. The finding of this study is similar to the finding of the study [13]. Even though the participants were particularly concerned their skills toward small group teaching as team work and actively involved in process of learning, Communication skills, Share responsibility for the success of the group, accomplish the task and provide feedback [14].

Among the problems which were faced participants by the experience of small group teaching, Students in particular emphasized that tutor talk too much during student discussion time %62 highly believing tutor-led discussion , Low level of participation from some students, Poor facility for teaching small group It has been reported that the main disadvantages of small Poor feedback from students , Small group teaching need more time to finished course [15].

CONCLUSION

These findings highlight the performance of students towards small group teaching that should be considered to counteract students' be evidence for the potential of this orientation in the search for continuity of new students' center learning approach.

Ethical clearance

Taken from Standing Committee for Scientific Research - Jazan University (HAPO-10-Z-001)

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The Experience of Giving Birth; Insights of Evaluation of Childbirth Satisfaction

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ABSTRACT

The importance of service as an added value different between organizations and improving customer conservation has motivated organizations to adopt models and instruments to improve service and enhance customer satisfaction. Based on the premise that "managing means assessing", organizations have been investing in various tools aimed at assessing service, detecting service gaps, and identifying the central elements that affect customer satisfaction.

The study characterized and compared two central tools for assessing satisfaction: the SERVICEQUAL model, which examines the gaps in service in five different dimensions, and the PS3 model, which examines the effect of three elements—Personal care, Physical surrounding, and Process technical—on women's satisfaction with childbirth care.

The findings show that in both models, the dimension of personal touch, particularly empathy, accessibility, and reliability of the medical team, was the most meaningful parameter in determining the level of satisfaction and the service experience of the mother. Additionally, according to the SQ model, the tangibles of the service also carry an important role in the patient's satisfaction during childbirth. In other words, better service in terms of the tangible elements of the process lead to higher satisfaction among the patients.

Keywords: Childcare, SERVICEQUAL, Personal care, Physical surrounding, Process Technical, Service Satisfaction

REVIEW OF LITERATURE

The Role of Service Satisfaction

Service satisfaction is one of the main factors influence customer loyalty mainly within service organization.[1,2] As compared to tangible products, service has unique characteristics that require specific attention by the organization. Some of its unique characteristics are the following.[3] First, since service is not tangible, the possibility of an unsuccessful purchase creates higher levels of anxiety for the consumer. Second, the perception of the service is affected by the perception of the service provider. Third, there could be considerable variance between services, even when they are provided by the same provider. Finally, a service cannot be stored, thus the supply and demand must be synchronized. These characteristics require more diverse and creative marketing for services compared to tangible products, such as providing a tangible environment to demonstrate the service, training service

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providers in treating customers with empathy and courtesy, acquiring skills in providing uniform service, or offering special sales to increase low demand (such as special sales on swimming pools in winter or online shopping during a pandemic lockdown).[4,5]

Today, as there is lower differentiation between physical products (for instance, it is hard to identify differences between two different computers or two different colleges), many organizations are creating differentiation by emphasizing the service and focusing on its marketing. "Service is the new marketing" is not just a slogan but reality.[3-5]

In tangible products customer service is based on the product's quality where in non-tangible services the customer satisfaction is based on the service fulfilment during the service. The customer's satisfaction often works as a key reason for loyalty and thus for customer conservation. When the service is perceived as being of high quality and the customers are satisfied with it, they will be more likely to remain loyal to the brand, forgive its mistakes, recommend it to friends, and increase their purchase from the company[3,4,5] Increasing customers' share in the market as well as customer's loyalty, will be possible if the service is excellent and results in conserving the current pool of customers.[6-8]

Thus, organizations of all sizes and in various industries invest significant resources in improving service and keeping satisfied and loyal customers. In addition, organizations also assess their service and their customers' satisfaction before, during, and after the service is provided. These efforts, which are geared towards improving service, include training employees, investing in measuring customer satisfaction, and comparing it to expectations, and conducting market surveys before, during, and after the purchase. These are only some of the tools used to improve service and increase satisfaction among existing customers.[5,7]

Service's Involvements: Involvement is defined as the level of effort invested by the consumer while purchasing, and it derives from the perceived risk of unsuccessful purchase. An additional definition for involvement includes the level of engagement of the customer with the service.[8-10] When the involvement is higher, so is the level of anxiety over the possibility of unsuccessful purchase, because the customer has more to lose if the purchase turns out to be a failure. In addition, high involvement increases the customer's loyalty to the organization or service.[11]

Studies have shown that when the level of involvement is high, the customer is more interested in intensifying the communication and relationship with the service provider than in cases of low involvement [8,11,12]. In high-involvement services, such as financial, medical, or computer services, customers have been found to seek more engagement, create longer interactions with the service provider, and be generally more involved. This entails that the satisfaction of customers with high involvement services often depends on their relationship with the service provider. They expect the service provider to consult with them and adjust the service to their specific needs, and even tailor unique services, creating multiple opportunities to engage in the service.[11]

Empathy of the service provider, as it reflects specific, experience-oriented attitude towards the customer, probably creates a subjective sense of involvement. Empathy is defined as a person's ability to enter another person's world and experience his subjective experience while also preserving the stance of an objective observer. Empathy involves recognizing a person's emotion rather than offering practical assistance. It is interesting to examine the component of empathy in the experience of childbirth care: will recognizing the mother's emotions and understanding her experience suffice to create a sense of satisfaction or is practical assistance a crucial component of the experience.[13-15]

Models Evaluate Service Satisfaction

Understanding the importance of customer satisfaction, organizations channel considerable

resources towards measuring the satisfaction of their customers to improve their services accordingly, under the assumption that management requires measurement. Numerous models have been developed for measuring the service and its various parameters. One of these models is PS3, which is based on the understanding that since service is not physical and based on customer's experience, it is harder to assess.[16-18]

According to this model, there are three dimension that affect the customer's satisfaction with services: Personal care, Process Technical and and Physical surroundings. Personal care focuses on the service provider and includes reliability, professionality, the relationship with the customer, courtesy, empathy, fairness, involving the customer in decisions, and giving the customer a sense of being uniquely treated as an individual with special needs that must be attended to.[18]

The parameter of technical process focuses on the service itself. It refers to the availability of the service, the wait time required before receiving the service, the clarity and efficiency of the process, and what technical elements, equipment, and special resources are needed for providing the service (such as access to a user-friendly website or medical equipment) [17, 19]. This parameter is especially important in ongoing services, such as health services, which require a long-term relationship. It is also vital where customer satisfaction derives, among other things, from the accessibility of the service provider and the relevant medical equipment.

The parameter of physical surroundings refers to the physical space where the service is given. It assesses whether it is clean and aesthetic, has a pleasant atmosphere, allows privacy, marked by clear and effective signage, includes special features such as breastfeeding corners, and more.[20] The surroundings are not necessarily a physical space but might be an online store; in that case, this parameter is measured by the coherence and clarity of the website, the languages it uses, and more.

Examples of such cases are tourism services and short-term services, where the atmosphere is important for demonstrating the service as it is perceived by the customer, and online consumer services, where the website should be user-friendly. In these cases, the service environment and atmosphere has a crucial effect on customer satisfaction.[19, 21]

Studies that examined satisfaction with birthing services have found that the personal care and the technical process parameters are the most significant factors. It has been shown that the mother's satisfaction with the delivery services increases when the medical staff is perceived as highly professional, creates an empathic connection with the mother, is readily accessible, involves the mother, and shows empathy toward her and her companions [17, 19, 21]. The effect of these elements on the satisfaction of the mother is unrelated to her demographic characteristics, such as marital status, age, or religious affiliation.

Another model estimate customer satisfaction is SERVICEQUAL (SQ), which measures the gaps between customers' expectations prior to obtaining the service and their perception of the service after receiving it. The model measures the gaps over five dimensions, initialed as RATER.[1, 22, 23] The first parameter is Reliability, which refers to the organization's ability to deliver the service dependably and accurately. The second parameter is Assurance which is the knowledge and courtesy demonstrated by the employees, and their ability to inspire trust and confidence. The tangibles parameter refers to the appearance of the physical facility, the equipment, personnel, and written materials. The parameter of Empathy relates to caring, easy access, good communication, customer understanding, and individualized attention to customers. The final parameter, Responsiveness, is the willingness to provide the service promptly.

The model is based on the rationale that a substantial gap between the expectation of a customer and the actual service performance translates into a low level of satisfaction.

Thus, an organization must identify the expectations against the actual performance and reduce any existing gaps. When such gaps are reduced and the expectations resemble the actual performance, then the customer will not be disappointed but rather satisfied with the service and therefore will be loyal and return for repeating purchase [12,14].

The five parameters of SQ were selected based on research showing that the customer expects service that is Reliable, Assurance, Tangible, Empathy, and Responsiveness. Studies carried out in various industries, such as health, finance, and tourism [24, 25], did not single out one parameter as showing consistently significant gaps and failing to meet the customers' expectations. Most studies have shown that all five RATER dimensions significantly affect customer satisfaction, so reducing gaps in all five dimensions is important. However, studies regarding health services have shown that the dimension of tangibles is the most meaningful one, probably since the customer expects to be served in an aesthetic, well-kept clinic [24,25,26].

Insights from Studies Analyze Mother's Satisfaction from Chilbirth:

In 2020, 117,307 babies were born in Israel: 91,101 (51.4%) boys and 86,206 (48.6%) girls in Israel. The average age of women at birth of first child in Israel is 27.4(29.4 in EU). (https://www.cbs.gov.il/en/mediarelease/Pages/2022/Births-and-Fertility-in-Israel-2020.aspx). Due to the excellent quality of the public health system, and because of fear of home births, 99% of deliveries in Israel take place in public hospitals, compared to a rate of 33% home deliveries in Holland and Belgium [14]. Women can choose to deliver a baby at any hospital, regardless of where they live, and because hospitals receive high grans (over $3,000) from the Ministry of Health for every delivery, the competition between them is fierce. As a result, hospitals put much effort into improving women's childbirth experience, including offering stylish delivery rooms, choice of the type of childbirth (water birth, natural birth, etc.), hotel-style post-partum conditions, and other benefits [14,21].

Two studies we conducted in 2020-2021 [26, 27] were based on the SQ and PS3 models. They examined the parameters that affect the experience of childbirth. The PS3 model highlighted the role of the human connection with the service provider in the patient's satisfaction. According to the study based on this model, the mother was affected by components such as empathy, kindness, and consultation with the medical team during the labor process. When the team is kind and attentive to the mother's needs, involving her in the process and giving her the feeling that she is not alone, then she is more satisfied with the procedure [27-28]. According to these studies, the human factor was significant both in the secular population and the religious orthodox one, which is characterized by being more modest, less exposed to internet content, and in general runs a closed and traditional lifestyle. Women who had given birth reported that when they were treated kindly and involved in the process, they felt better and valued the service more [26,28].

Another important factor was the technical process [28], including elements such as presence of the medical team and availability of medical machinery and alternative care equipment. These also had a direct effect on creating a sense of satisfaction, although to a lesser degree than the human factor.

The physical surroundings were found to have a minor effect on the woman's general satisfaction [29,30]. The study participants reported that their level of satisfaction had not increased or decreased because of the delivery room's aesthetics, privacy, or atmosphere.

When we employed the SERVICEQUAL model to examine the dimensions that affect satisfaction with childbirth, we found that prior to delivery, the only meaningful associations were between empathy and responsiveness and empathy and service tangibles. This means that the dimension of empathy had the strongest impact on mothers' satisfaction. In contrast, after childbirth, the correlation was high between all five dimensions, so that if the mother felt that the medical staff was

reliable, she also perceived it as responsive and empathic, and was pleased with the tangible aspects of the treatment [11,33,34].

Furthermore, findings from the study based on the SQ model revealed that the biggest gap between prepartum expectations and postpartum perception of service was in the dimension of tangibles. According to this finding, when women give birth, they expect the tangible aspects of the service to be better than they are; for example, they expect the delivery room to be comfortable, contain appropriate medical equipment, and be hygienic. However, after the process they perceive these aspects as unsatisfactory, leading to disappointment because their expectations have not been met. In the other dimensions, the gaps between expectations and perceived performance were insignificant [26,31]. In other words, the mothers' expectations of the staff in terms of reliability, accessibility, assurance, and empathy have been satisfied. Among other things, the dimension of tangibles includes advanced medical and alternative care equipment in the delivery room, in addition to hygiene of the midwife and comfort of the room. The study has shown that regardless of the mother's previous experience with childbirth, she expects the tangibles of the facilities, including professional equipment and emergency equipment, to meet a certain standard, which has a marked effect on her overall satisfaction. [28 ,34]

CONCLUSIONS

The motivation behind the studies we conducted, which measured women's satisfaction with childbirth services, was to assess the service to gain insights into the customer's experience and ways to assure her long-term loyalty. The studies drew on two models, instruments of service evaluation. The first model is the PS3 model, which measures customer's satisfaction in three dimensions: Who provide the service, how does it provide and where. The second model is SQ, which focuses on the gaps between customers' expectations before obtaining the service

and their perception of the performance. These gaps are tested over five dimensions: reliability, accessibility, and empathy of the service provider, alongside the service's assurance and tangibles [19,21].

Even though each model measures the service in a different context—PS3 highlights the three dimensions of service whereas SQ focuses on the gaps between expectations and performance—both models underscore the service as a differentiating factor that may account for customer constant buying and emphasize the significance of measuring service and customer satisfaction to evaluate the service level and improve it.

Both instruments according to our findings as well as previous research [23, 26, 31] —indicate the important role of the service provider: our findings have shown that the experience of childbirth depends on the interpersonal communication between the woman in labor and the obstetric team, and that this interaction prioritizes over the birthing process and the physical environment in determining the level of satisfaction. In both models, regardless of marital status, previous childbirths, religious faith, education or income, the most significant components is determining the mother's satisfaction were the communication with the staff during the process and whether she was treated as a partner and her needs were respected.

In this aspect of human resource, both models lead to a similar conclusion, by highlighting the role of the human factor. Thus, if hospitals are interested in raising patients' satisfaction to create loyalty so that women return to the same facility for their next deliveries, they must teach these skills to the medical teams, including training and seminars, emphasizing the role of establishing a positive relationship with the mothers. The explanation for the effect of the human factor on the mother's satisfaction may draw from the fact that childbirth is a medical service with high involvement[32,33]. A pregnant woman tends to be anxious and unsure of the outcome, her condition during the

pregnancy, and how it will end. Therefore, the attitude of the personnel and the way she is treated, involved in decision making, and explained the procedures (regardless of the physical pain)—all these elements affect her perception of staff reliability and service quality.

Numerous other studies,[28,34] which focused on medical or financial services with high involvement, also pointed to the important role of the relationship between the customer and service personnel, since the service extends over time, requiring a fruitful partnership with the customer. However, our study also underscores the role of service tangibles, in addition to the attitude of the service provider. Because of the high involvement of a pregnant woman, she expects to be informed about the process at every step. It is possible that the high level of stress associated with pregnant women (regardless of the number of previous childbirths) produces high expectation for a comfortable experience with high-end equipment and emergency devices. When these elements are present, the woman feels more reassured in the face of the challenging experience of labor.

LIMITATIONS

There are several limitations to the research

First, we compared results of two models, each measuring mothers' satisfaction using different measures and distinct parameters. Second, the study participants had delivered their babies up to one year before the study. This timeframe may have affected their perception of the experience. Finally, the study was conducted during the Covid pandemic and lockdowns. This additional stressor may have affected the mothers' expectations and overall experience during childbirth.

DECLARATIONS

Ethics approval and consent to participate:

The ethical approval was granted by the Internal Ethical Review Board of Hadassah Academic College in March 2021.

Consent to publish

The manuscript does not include any individual person's data, hence consent to publish is not applicable.

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Assess Knowledge and Attitude on Home Based Newborn Care (HBNC) Among Post Natal Mothers in Selected Hospital, Bhubaneswar, Odisha

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ABSTRACT

Introduction: Each year nearly 3.1 million of the newborns die during the neonatal period and almost (99%) death occur in the developing countries. They need optimal care for improved survival. The care depends on the knowledge and attitude of mother. Objectives: To identify the knowledge & attitude on home based newborn care among post natal mothers.

Methodology: A total of 169 post natal mothers were participated in the study. A non-experimental descriptive survey design and consecutive sampling was used in this study. Data were collected by the researcher by face to face interview. A structured interview schedule covering socio-demographic factors, knowledge, & attitude of post-natal women on home-based baby care was employed, using 25 MCQs and a 5-point Likert scale. Data were analyzed by SPSS-20.

Results: The study's findings revealed that there was a weakly positive association between knowledge & attitude on home-based newborn care among postnatal mothers, with a correlation coefficient of 0.079 and a p value of 0.937, which was not statistically significant. The knowledge level are statistically significant with selected socio demographic variables of Educational qualification, Occupation, Parity, Monthly family income and the attitude level are statistically significant with selected Socio demographic Variables Age, Educational qualification, Parity and Monthly family income.

Conclusion: The mother is the typical person who provides immediate care for the infant. As a result, a variety of factors influence her knowledge and attitude towards baby care. As a result, time and satisfactory performance at home-based new-born care necessitate instructional programmes aimed specifically at postnatal mothers.

Keywords: Post natal Mother, HBNC, Knowledge, Attitude.

INTRODUCTION

Healthy baby are the greatest resource and pride of a nation. The term "newborn baby" refers to the period between birth and the age of 28 days. When a baby is born he/she has to transition from foetal life to extra uterine life. All the body systems undergo some changes. For a better chance of survival, they require the best possible care. Because protecting the life of a newborn is linked to the future adult's survival and productivity,

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newborn care is extremely cost-effective. They are the building blocks of life. As a result, vital infant care is stressed in order to lower neonatal death and morbidity rates.[1]

Each parent has the right to get necessary information regarding every procedure and they have to learn about to perform successfully to their child. Their attention should be a focus on immediate and exclusive breastfeeding, drying, warming, weighing, and measuring of baby, immunization, periodic heal the visits, etc. Neonatal care is the term used to describe the treatment given to a newborn child from the time of delivery until around a month later. [2]

More than one million newborn babies die every year in India without having access to medical care. There is a need to provide home-based care to newborn babies because over 85% of births in rural India occur at home. A significant proportion of deaths are caused by potentially preventable conditions such as sepsis, hypothermia, and birth asphyxia. Home Based Newborn Care scheme for reduction of neonatal mortality.[3]

OBJECTIVES

1. To identify the knowledge and attitude on home based newborn care (HBNC) among post natal mothers.

2. To find out the co-relation between knowledge & attitude on home based newborn care (HBNC) among post natal mothers.

3. To find out the association of knowledge with selected socio-demographic variables.

4. To find out the association of attitude with selected socio-demographic variables.

MATERIAL & METHODS

The study included descriptive Survey research design. Before conducting the final study, a pilot study was carried out for the period of 1 week with 17 samples. As a result 169 postnala mother were chosen who were admitted in postnatal ward by using consecutive sampling technique. Data were collected by the researcher by face to face interview. With 25MCQs and a 5-point Likert scale, a structured interview schedule comprising socio-demographic variables, knowledge, and attitude of post-natal mother on home-based newborn care was used. Data were analyzed by SPSS-20. Approval of research proposal from institute review board. The hospital's medical superintendent, the professor in charge, and the nurse in charge of the postnatal unit all gave their written consent.

ANALYSIS AND INTERPRETATION

The results of the study were organized and presented under the following sections.

Section-I: Frequency & percentage distribution of participants according socio-demographics variables of postnatal mothers.

In this study, More than half (61%) participants were in age group 26-30yrs and (7%) were in age group more than 36yrs respectively. Majority (87%) participants were in Hindu religion and only (13%) were in Muslim religion.More than half (59%) participants were in higher secondary education, only (15%) no of participants were in Graduation and above. Majority (89%) participants were in Unemployed and only (11%) no of participants were employed. More than half (64%) participants were Nuclear family and (36%) participants were Joint family. More than half (63%) participants were in rural area and only (37%) participants were in urban area. More than half (63 %) participants were primipara and (37%) participants were Multipara. More than half (69%) participants were lower segment caesarean section and only (31%) participants were Normal Vaginal delivery. Majority (70%) participants were Gestational age Term Baby and only (13%) were having post term baby. More than half (53 %) participants were Monthly family income 20000-29999 and (2%) were <10000. Majority (88%) participants were age of newborn baby 0-6 days and (12%) were age of newborn baby 7-14 days. More than half (62 %) participants

were Birth Weight of the Baby 2.5-3kg and only (16%) were having birth weight of the baby less than 2.5kg.In relation to gender of child, More than half (56%) were Boy child and (44%) were Girl child. More than half (65%) participants were information regarding new born care in Health Professional and only (7%) were in Family and friends.

Section-II: Descriptive statistics to assess the level of knowledge on home based newborn care among post natal mother in terms of frequency and percentage.

Table 1 shows that More than half (49.11%) no of participants had average knowledge, (41.42%) had good knowledge, and only (9.46%) had poor knowledge on home based newborn care among postnatal mother.

Section-III: In terms of frequency and percentage, descriptive statistics to assess the level of attitude toward home-based newborn care among post-natal mothers.

Table 2 shows that More than half (57.98%) no of participants were having average positive attitude, (36.68%) were neutral attitude and only (5.32%) were having negative attitude on home based newborn care among postnatal mother.

Section-IV: This section describes the correlation between knowledge and attitude on home based care among post natal mother.

Table 3 shows that the correlation value between knowledge and attitude toward

Table 1: Frequency & percentage distribution to assess the level of knowledge on home based newborn care among postnatal mother

n=169

Knowledge of postnatal mother	Frequency (f)	Percentage (%)
Poor knowledge(8-13)	16	9.46
Average knowledge(14-20)	83	49.11
Good knowledge(21-25)	70	41.42

Table 2: Frequency & percentage distribution to assess the level of attitude on home based newborn care among post natal mother

n=169

Attitude of postnatal mother	Frequency (f)	Percentage (%)
Negative (30-40)	9	5.32
Neutral(41-50)	62	36.68
Positive(51-60)	98	57.98

Table 3: Correlation between knowledge and attitude on home based newborn care among post natal mother

n=169

Criteria	Mean	r value	P value
Knowledge of post natal mother	19.331	0.079	0.937
Attitude of post natal mother	49.952		

P≤ 0.05* is significant

Table 4: Chi-square analysis to find out the association between levels of knowledge with selected socio-demographic variables

n=169

Socio-demographic characteristics	Chi-square	df	P value
Age	9.68	6	0.138
Educational qualification	14.99	4	0.005*
Occupation	14.33	2	0.001*
Parity	7.91	2	0.019
Monthly family income	33.74	6	0.000*
Age of newborn	5.92	2	0.052
Source of information	3.45	4	0.484

Table 5: Chi-square analysis to find out the association between levels of attitude with selected socio-demographic variables

n=169

Socio-demographic characteristics	Chi-square	df	P value
Age	26.08	6	**0.000***
Educational qualification	12.84	4	**0.012***
Occupation	5.95	2	0.061
Parity	.7..73	2	**0.021***
Monthly family income	35.43	6	**0.000***
Age of newborn	4.275	2	0.118
Source of information	5.54	4	0.236

P≤ 0.05* is significant

home-based newborn care among postnatal mothers being 0.079, with a statistically significant p value of 0.937, indicating that there was a weak positive correlation between knowledge & attitude toward home-based newborn care among postnatal mothers.

Section-V: This section discusses the findings about the relationship between postnatal mother's knowledge and their chosen socio-demographic characteristics.

Table 4 shows that the knowledge level are statistically significant with selected socio demographic variables of Educational qualification, Occupation, Parity, Monthly family income as the chi square value are 14.99, 14.33, 7.91 and 33.74 & p values are 0.005, 0.001, 0.019 & 0.000 respectively which is >0.05. The chi square value of age of post natal mother, Age of Newborn and Source of information regarding newborn care 9.68, 5.92 and 3.45 & p values are 0.138, 0.052, & 0.484 respectively which are not statistically significant.

Section-VI: This section describes the findings related to association between attitudes of post natal mother with their selected socio-demographic variables.

Table 5 shows that the attitude level are statistically significant with selected socio demographic variables Age, Educational qualification, Parity and monthly family income as the chi square values are 26.08, 12.84,7.73 and 35.43 and p values are 0.000,

0.012,0.021 and 0.000 respectively which is <0.05. The chi square value of Occupation, Age of Newborn and Source of information regarding newborn care are 5.95, 4.27 and 5.54 & p values are 0.051, 0.118 & 0.236 respectively which are not statistically significant.

DISCUSSION

In this study, More than half participants (49.11%) were average knowledge, (41.42%) were good knowledge, and (9.46%) were poor knowledge on home based newborn care among postnatal mother and More than half participants (57.98%) were average positive attitude, (36.68%) were neutral attitude and (5.32%) were negative attitude on home based newborn care among postnatal mother. There was poor positive correlation between level of knowledge and attitude on home based newborn care among postnatal mother as evidenced by r value 0.079 and p value 0.937 which was statistically significant. In socio-demographic variables like Educational qualification, Occupation, Parity, Monthly family income were statistical significance association with knowledge on home based newborn care among postnatal mother as the chi square values were 14.99, 14.33, 7.91 and 33.74 & p values were 0.005, 0.001, 0.019 and 0.000 respectively which was >0.05.

Age, Educational qualification, Parity and monthly family income were statistical

significance association with attitude on home based newborn care among postnatal mother as the chi square values were as the chi square values are 26.08, 12.84,7.73 and 35.43 and p values are 0.000, 0.012,0.021 and 0.000 respectively which was <0.05.

In this study the result findings that majority (87%) participants were having Hindu religion and 13% were Muslim religion.

The result is supported by the study of Choudhary Mangi Lal et al. (2021) on Determinants of knowledge & practices of postnatal mothers on essential newborn care in a selected area of rural Haryana, where he found that (96.7%) postnatal mothers belonged to Hindu religion. [36]

In the present study the Educational status of the post natal mother was predictor of knowledge, with p value <0.05, which was significant.

The result is supported by the study of Mall A et al. (2021) the knowledge & practices toward neonatal care among primipara mothers in Dehradun, Uttarakhand: A correlation study where they found that Educational qualification.[39]

LIMITATIONS

- Data were collected from post natal mother who were available in the IPD of hospital on the day of the survey, which means participants that were in home were excluded.
- It can't be conducted according to initial planning i.e in the community setting due to covid-19 situation.

CONCLUSION

Healthy baby are the greatest resource and pride of nation .Care and nurturing of the newborn become primary responsibilities of parents, specially the mother.The mother is usual person for the immediate care provider of the newborn. Hence, her knowledge and attitude regarding newborn care is influenced by various factors. Therefore, educational

programs specially directed at postnatal mother are a need for time and the satisfactory performance at home based new born care.

Conflict of Interest: Nil

Source of Funding: Self

Ethical Clearance

The proposal was authorized by the ethics committee of SOA, Deemed to be university, for the current research investigation. The hospital's medical superintendent, the professor in charge, and the nurse in charge of the postnatal unit all gave their written consent. At the time of data collection, all study participants signed a written informed consent form.

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A Study to Assess the Effectiveness of Kneading Technique on Joint Pain Among Old Age People Residing in Selected Village at Panipat

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ABSTRACT

Kneading is a form of massage that involves a gradual circular compression of the soft tissues under the bones. Great pressure is applied as the hands move closer, although the contact continues. Stirring stimulates the flow of tissue fluids and causes reflex vasodilatation. This reduces inflammation and helps resolve inflammation. Exercising vigorously reduces muscle cramps and can stretch the muscles shortened by injury and stimulates the nervous system which can produce calm and reduce feelings of stress and anxiety. Objectives of the study: To assess the level of joint pain among the elderly prior to the initiation of the mixing procedure in the study group. To evaluate the effectiveness of the mixing procedures at the level of joint pain among the elderly in the study group. Comparison of post-test pain scores reported between older adults between the study group and the control group. Finding a link between the level of joint pain between older people and their chosen variables. The scientist has developed a method of multidisciplinary research research and experimental style for sixty seniors living in the Panipat valley in a way that is easily accessible. The Modified Extremities Functional Scale is designed to measure a patient's joint pain. Results: In the evaluation group the pain assessment rate showed that (56.67%) the subject had minimal pain, (43.33%) the subject had moderate joint pain and none of the subjects (0%) had significant pain, severe pain and no pain. respectively while the control group (43.33%) the subject had severe pain, (39%) the subject had severe pain, (26.67%) the subject had moderate pain and none of the subjects had minor or no pain. the mixing method is effective in relieving the level of joint pain.

Keywords: Assess, Joint pain, Effectiveness, Kneading technique.

INTRODUCTION

Health is the state of being loud, healthy or whole in body, mind or soul, especially the state of relief from physical illness or pain. Health is a dynamic state caused by constant physical adjustment, flexibility in response to stress and changes in the internal balance system called homeostasis. Life is a level of efficiency or metabolic efficiency of an organism.

For humans, it is the ability of individuals or communities to adapt and control themselves in the face of physical, mental or social challenges.[1] Health and disease are biological concepts in the same sense as the Heart, Lungs and Blood Pressure. In this sense health and disease cannot be measured or imagined. A complete understanding of human life includes the greatest possible harmony of all

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human potential and strength, the greatest spiritual development of the human body and the finest manifestation of spiritual needs. and illness.[2] These conditions are also built on a broad set of powers: economic, social and political policies. Aging has been described as a series of changes that allow people to gradually die. It is an inevitable process but it is not really bad.[4]Aging is just part of the cycle of life, i.e. a person is born, goes through childhood, adolescence, adolescence, a certain period of time and begins to age. But the process of aging does not start at the same time for everyone, and even all the organs of the same person grow at the same rate. However, for statistical and social purposes, aging is generally defined as 60 or 65 years or older.[5]

NEED FOR THE STUDY

Joint pain or arthralgia refers to discomfort, pain, and pain in any joint organs. It can be caused by an injury or disease that affects any ligaments, bursae (for example bursitis) or the muscles around the joint.[6] Injury or disease (for example immune systemic diseases lupus erythematous and Rheumatoid arthritis) can also affect the ligaments, cartilage and internal bones, leading to painful joints. Pain is also a factor in abnormal joint functions (eg pigmented villonodular synovitis) or chronic fatigue syndrome. Symptoms of joint pain can develop gradually or suddenly. The most common symptoms of joint pain are redness, swelling, tenderness, joint warmth, limp, joint closure. Loss of range of motion of joints, stiffness. Treatment of joint pain is directed at a specific cause.[7] If the problem is an injury or arthritis, the first treatment usually includes rest, cold application, and anti-inflammatory drugs. If there is a disease of the bone, ligament, or cartilage, surgery may be necessary.[9]

Statement of the Problem

A study to assess the effectiveness of kneading technique on joint pain among old age people residing in selected village at Panipat.

OBJECTIVES OF THE STUDY

1) Assessing the level of joint pain among the elderly prior to the initiation of the mixing procedure in the study group.

2) To evaluate the effectiveness of the mixing method at the level of joint pain among older people in the experimental group.

3) Comparison of post-test pain scores evaluated between older people between the study group and the control group.

4) To find a correlation between the level of joint pain between adults and their chosen variables.

HYPOTHESIS

- H_0: There will be no significant difference in the level of joint pain after strategic mixing between older people in the experimental and control group.
- H_1: There will be no significant difference in the level of joint pain after way mixing among older adults in the trial.

OPERATIONAL DEFINITIONS

Efficacy: Refers to the effect of the mixing method on relieving joint pain among the elderly which can be measured with a Modified extremities functional scale.

Stirring method: Stirring is a circular massage method in which the tissues are lifted, folded and lightened by a compressive action.

Joint pain: Joint pain refers to a physical condition in which two or more bones meet to form a joint, ranging from minor to paralysis.

Aging: Refers to people over the age of 60 of both sexes.

ASSUMPTIONS

➢ Medication may be effective in reducing the pain of adult joints.

➢ A mixing method may be effective in removing inflammation on the major joints.

DELIMITATIONS

➢ The number of samples is limited to 60 (30 in the experimental group and 30 in the control group).

➢ Duration of data collection is limited to 4 weeks.

RESEARCH METHODOLOGY

- **RESEACH APPROACH**

  Quantitative approach adopted by the researcher for the accomplishment of the present study.

- **RESEARCH DESIGN**

  Experimental research design.

- **SETTINGS OF THE RESEACH**

  The present study was conducted in villages of Panipat, Haryana.

- **POPULATION**

  In this study, the target population consisted old aged people residing in selected village,Panipat

- **SAMPLE**

  The sample in this study includes old aged people.

- **SAMPLE SIZE**

  In the present study, the sample size comprised of 60 old aged people.

- **SAMPLING TECHNIQUE**

  The sample for this study was drawn by convenient sampling technique.

PLAN FOR DATA ANALYSIS

➢ Descriptive and inferential statistics was used to analyze the data.

➢ Frequency and percentage would be computed to describe demographic data.

ORGANIZATION OF FINDINGS

The analysis of data from study is presented under the following headings:

Section I: Socio-demographic profile of study subjects.

Section II: Finding related to pre-test and post-test level of joint pain among old age people in experimental and control group.

Section III: Comparison pre-test and post-test mean of joint pain among old age people in experimental and control group regarding the effectiveness of kneading technique.

Section IV: Finding related to association between the level of joint pain among old age people and their selected demographical variables in both experimental and control group. (Table 1).

Table 1 depicts that there was no statistically significant difference in pre-test level of pain of old age people in experimental (62.80±22.40) and control group (63.56±15.52). However, there was statistically significant in post-test level of pain among experimental group (32.43±14.33) and control group (46.46±23.89) with t=2.7781, df=58 at p=0.0109. Further there was no statistical difference

Table 1

Joint Pain	Pre test		Post test	
	Mean	S.D.	Mean	S.D.
Experimental Group	62.80	22.40	32.43	14.33
Control Group	63.46	15.52	46.56	23.89
Unpaired 't' Value	t = 0.1327^{NS} p = 0.894 df= 58		t = 2.7781* p = 0.0109 df= 58	
Paired 't' Value	t = 3.2492 p = 0.0023 df= 58		t = 4.068* p = 0.0001 df= 58	

NS= Non-Significant   * =Significant

p- value< 0.05

among pre-test (63.46±15.52) and post-test score (46.56±15.52) in control group. But there was a statistically significant difference in pre-test score (62.80±22.40) and post-test score (32.43±14.33) in experimental group with t= 4.068 at p value 0.0001. Hence, it can be inferred that pre-test level of pain among old age people in experimental and control group was approximately similar. However, after implementing kneading technique among old age people having joint pain to the experimental group the value of post-test score was significantly lower than the pr-test. So, it is concluded that the kneading technique on relieving joint pain among old age people was effective (Table 2).

Table 2 reveals the mean, SD and mean percentage of joint pain among old age people between experimental and control group. The pre-test score of joint pain among old age people in experimental group had mean value 62.80% and SD of 22.40%, and the mean % is 76.58 whereas in control group mean value of joint pain is 63.46 or SD is 15.52 and mean % is 77.39 which shows that pre-test level of joint pain among experimental and control group was approximately similar and both the groups were homogenous. Further unpaired t- test value shows no significance difference among the mean scores. Hence, null hypothesis is accepted.

Section IV: Finding related to association between the post-test level of joint pain among old age people in both experimental and control group with their selected socio-demographic variable.

Table 3

Experimental Group (n=30)			
Characteristics	Chi square	df	p value
Age	3.8070[NS]	9	0.2830
Gender	0.0226[NS]	3	0.8804
Educational Status	2.9459[NS]	9	0.4000
Marital Status	0.3054[NS]	3	0.5804
Type of Family	3.3518[NS]	6	0.1871
Occupation	0,0226[NS]	9	0.8804
Dietary Habits	0.9070[NS]	6	0.6353
Duration of pain	2.737[NS]	3	0.00980
Do you know about kneading technique	2.5490[NS]	3	0.1103
Source	NA	6	NA

NS= Non-Significant   * = Significant
p- value< 0.05   NA= Not Applicable
Chi-Square is applied

Table: 3 depict that post-test level of joint pain in experimental group was non-significant with their selected demographic variables like age, gender, marital status. Type of family, educational status, occupation, dietary habits, duration of pain and knowledge about kneading technique at p= 0.05 by using chi-square test.

DISCUSSION

The findings revealed that mean, SD and mean percentage of post-test level of joint pain among experimental and control group shows that in control group mean level of joint pain score (46.56), SD (23.89) and mean percentage equal to (62.08) was significantly higher than the experimental group mean joint pain score (32.43), SD (14.33) and mean% (64.86)

Table 2: Mean, SD, Mean % of pre-test level of joint pain among old age people regarding kneading technique on relieving joint pain

Group	Mean	SD	Max	Min	Range	Mean %	p- value	Unpaired t-value	Table value at 0.05
Experimental Group	62.80	22.40	82	26	56	76.58	0.894	0.1327	2.66
Control Group	63.46	15.52	82	36	46	77.39	0.894	0.1327	2.66

* Significance value 0.05

which shows that kneading technique on joint pain is effective. Unpaired t-test value shows significant difference among the mean score so research hypothesis is accepted.

Nursing Implications

The implications of the study had been discussed in relation to nursing practice, nursing education, nursing administration and nursing research.

Nursing Research

The result of present study finding serves as basis for the professionals and students to conduct further studies regarding effectiveness of kneading technique in reducing the joint pain among old age people. The nurses and educators can conduct the same study with different variables on a larger sample or in community setting.

Nursing Practice

Nursing professional should be able to render seminars according to changing needs of society. The study implies that nurses can use knowledge in skills on implementation of kneading technique to the community people. Nurses also teach and demonstrate different exercise's, yoga which help in prevention of joint pain and home management of joint pain.

Nursing Administration

Nurse administrator should encourage and implement for training program on health education to the nurses and nursing students regarding joint pain. A nursing administrator should give preference and attention for proper selection and placement of trained nurses who could teach the other nurses regarding different techniques of pain management. The nurse administrator should organise some educational session to increase the knowledge regarding management of health problems of old age people in community.

Nursing Education

Nurse educator should plan the teaching and learning activities in such a way that the students and nurses can get more knowledge and skills in nursing care of patient with joint pain on arthritis. The nurse educator should plan an organise some in-service education program like workshops, seminars, conference etc. on care of old age people.

Recommendations

- Similar study can be replicated on a large sample for broad generalisation.
- A comparative study can be done to assess the effectiveness on different pain management techniques to reduce the joint pain among old age persons.
- True experimental study can be conducted on different age group person with jointpain.
- Similar study can be conducted on obese person to assess the effectiveness of kneading technique.

Ethical clearance

Taken from Prem Institute of Medical Sciences, Panipat.

Source of funding- Self

Conflict of Interest – NIL

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Effectiveness of Structured Teaching Programme on knowledge and practices regarding Endotracheal Suctioning among Staff Nurses working in Intensive Care Units of Selected Hospitals of Jalandhar, Punjab, 2021

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ABSTRACT

A Quasi experimental design was used in the study. Sample size was 100 registered staff nurses with 50 in control group and 50 in experimental group working in intensive care units of selected hospitals of Jalandhar, Punjab. For sample collection, Convenience sampling technique was used. Descriptive and inferential statistics was used for data analysed. The result revealed that in experimental group there was significant difference between pre test and post test mean knowledge score & SD (10.72 ± 3.252) and (18.22 ± 3.893) respectively, whereas in control group there was no significant difference between pre test and post test mean knowledge score & SD (10.34 ± 2.344) and (10.44 ± 2.459) respectively regarding endotracheal suctioning among staff nurses. Furthermore, It was found that in experimental group there was a significant difference between pre test and post test mean practices score & SD (21.66±2.677) and (28.50±3.581) respectively, whereas in control group there was no significant difference between pre test and post test mean practices score & SD (21.30 ± 3.518) and (21.18 ± 3.433) respectively regarding endotracheal suctioning among staff nurses. Thus it was concluded that the structured teaching programme was effective in improving knowledge and practices regarding endotracheal suctioning among staff nurses in experimental group.

Keywords: Knowledge, Practices, Structured Teaching Programme, Endotracheal Suctioning.

INTRODUCTION

Endotracheal intubation involves passing an endotracheal tube through the mouth or nose into the trachea and Endotracheal intubation is a means of providing an airway for patients who cannot maintain an adequate airway on their spontaneous effort (e.g., comatose patients, patients with upper airway obstruction), for patients needing mechanical ventilation, and for suctioning secretions from the pulmonary tree.[1] When the patient is having respiratory distress that cannot be treated with simpler methods and is the method of choice in emergency care, intubation provides a patent airway.

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For maintaining a patent airway in those who are unconscious or unable to maintain their airway for other reasons, Endotracheal intubation is the placement of a tube into the trachea. Compared to the use of pharyngeal airways (oropharyngeal or nasopharyngeal), benefits of an endotracheal airway include: Protection against aspiration and gastric insufflation, more effective ventilation and oxygenation, facilitation of suctioning, delivery of anaesthetic, and other drugs via the endotracheal tube (ETT).[2]

Endotracheal suctioning (ETS) is the removal of secretions from the tracheobronchial tree through an endotracheal tube with the help of mechanical suction device. It is a component of bronchial hygiene therapy and mechanical ventilation that involves the mechanical aspiration of pulmonary secretions from a patient's artificial airway to prevent its obstruction, the procedure includes patient preparation, the suctioning event, post procedure care.[3]

An obstructed airway leads to the deprivation of oxygen in the body or blood. Deprived ventilation leads to the death of brain within few minutes. So, the purpose of artificial airway is to provide continuous oxygen to the brain. When the patient gets intubated or critically ill, he/she requires an artificial airway. There are many types of artificial airways are used like endotracheal tube, tracheostomy tube, oropharyngeal tube, nasopharyngeal tube, etc. which can be used for protecting and maintaining the airway, facilitating the artificial ventilation and removal of secretions from the lungs.[4]

Hence, there was a need felt by the researcher to review the existing practices and knowledge of nurses related to ETS practices and thus recommending guidelines related to effective and safe practice. These guidelines and focused practice-based education would further have a positive impact on improving patient's outcomes, reduce healthcare costs, and promote safe patient care.

Statement of Problem

A Quasi Experimental study to Assess the Effectiveness of Structured Teaching Programme on knowledge and practices regarding Endotracheal Suctioning among Staff Nurses working in Intensive Care Units of Selected Hospitals of Jalandhar, Punjab, 2021.

OBJECTIVE

1. To assess the pre test knowledge and practices regarding Endotracheal Suctioning among staff nurses in control group and experimental group.

2. To assess the post test knowledge and practices regarding Endotracheal Suctioning among staff nurses in control group and experimental group.

3. To compare the pre test and post test knowledge and practices regarding Endotracheal Suctioning among staff nurses in control group and experimental group.

4. To find out the association between post test knowledge and practices regarding Endotracheal Suctioning among staff nurses with their selected socio demographic variables.

Hypothesis

- H_0: There is no significant difference in the mean pre- test and post- test level of knowledge regarding Endotracheal suctioning among staff nurses in experimental group than control group.

- H_1: There is significant difference in the mean pre- test and post- test level of knowledge regarding Endotracheal suctioning among staff nurses in experimental group than control group.

- H_{02}: There is no significant difference in the mean pre- test and post- test level of practices regarding Endotracheal suctioning among staff nurses in experimental group than control group.

- H_2: There is significant difference in the mean pre- test and post- test level

of practices regarding Endotracheal suctioning among staff nurses in experimental group than control group.

RESEARCH METHODOLOGY

Research Approach: Quantitative research approach was used for the study.

Research Design: A quasi experimental (Non-randomized control group design) selected for the study.

Research Setting: The study was conducted in the selected hospitals of Jalandhar, Punjab.

- Joshi hospital and Oxford hospital, Jalandhar as experimental group.
- S.G.L. Charitable hospital and Johal multispeciality hospital, Jalandhar as control group.

Population: Population included registered staff nurses working in hospitals of Jalandhar, Punjab.

Sample: It comprised of 100 registered staff nurses working in selected hospitals of Jalandhar, Punjab.

Sampling technique: Staff nurses who were available and willing to participate selected as a sample.

Sample size: Sample comprised 100 registered staff nurse i.e. 50 in control group and 50 in experimental group.

Development of Tool

The tool was developed consisting of following sections:-

Part 1- Selected socio-demographic variables of registered staff nurses.

Part 2- Structured knowledge questionnaire.

Part 3- Structured observational check list.

Part 4- Structured Teaching Programme regarding Endotracheal Suctioning.

Description of Tool

Criterion measures used in this study were as follows.

Assessment of knowledge: There were total 30 items to assess the Knowledge regarding Endotracheal Suctioning. The maximum score was 30 and minimum score was 00.

Assessment of Practices: There were total 20 items to assess the Practices regarding Endotracheal Suctioning. The maximum score was 40 and minimum score was 00.

Method of Data Collection

Convenience sampling technique was used for sample collection. After checking validity and reliability of tool, knowledge was assessed by self structured questionnaire and practices by using observational checklist and structured teaching programme and demonstration was given to experimental group. Descriptive and inferential statistics was used for data analysed.

RESULTS

1. Based on the objective 1, the study revealed that in pre test knowledge of experimental group out of 50 staff nurses majority of 28(56%) staff nurses had poor knowledge score followed by 22(44%) staff nurses had average knowledge score and no one had good knowledge score. In comparison to control group majority of staff nurses 31(50%) staff nurses had poor knowledge score followed by 19(38%) staff nurses had average knowledge score and no one had good knowledge score.

   In pre test practices of experimental group, out of 50 staff nurses majority of 36(72%) staff nurses had good practices score followed by 14(28%) staff nurses had average practices score and no one had excellent and poor practices score. In comparison to control group 25(50%) staff nurses had good and average practices score whereas no one had excellent and poor practices score.

2. Based on the objective 2 of the study, it was found the study revealed that in post test knowledge of experimental group out of 50 staff nurses majority of 30(60%)

staff nurses had average knowledge score followed by 20(40%) staff nurses had good knowledge score and no one had poor knowledge score. In comparison to control group majority of staff nurses 28(56%) had poor knowledge score followed by 22(44%) staff nurses had average knowledge score and no one had good knowledge score.

In post-test practices of experimental group out of 50 staff nurses majority of 33(66%) staff nurses had good practices score followed by 17(34%) staff nurses had excellent practices score and no one had average and poor practices score. In comparison to control group majority of staff nurses 25(50%) had average practices score, 24(48%) staff nurses had good practices score, 1(2%) staff nurses had excellent practices score, and 0(00%) had poor practices score.

3. Based on the objective 3, In comparison of pre-test and post-test knowledge of staff nurses of experimental and control group. Result revealed that in experimental group there was significant ('t' test value 15.434) difference between pre test (10.72±3.252) and post test (18.22±3.893) knowledge regarding endotracheal suctioning among staff nurses. Whereas in control group there was no significant ('t' test value 1.300) difference between pre test (10.34±2.344) and post test (10.44±2.459) knowledge regarding endotracheal suctioning among staff nurses. Hence, research hypothesis (H_1) was accepted and null hypothesis (H_0) was rejected. Thus it was concluded that the structured teaching programme was effective in providing knowledge regarding endotracheal suctioning among staff nurses in experimental group.

In comparison of pre-test and post-test practices of staff nurses of experimental and control group. Result revealed that in experimental group there was significant ('t' test value 10.386) difference between pre test (21.66±2.677) and post test (28.50±3.581) practices regarding endotracheal suctioning among staff nurses. Whereas in control group there was no significant ('t' test value 0.785) difference between pre test (21.30±3.518) and post test (21.18±3.433) practices regarding endotracheal suctioning among staff nurses. Hence, research hypothesis (H_2) was accepted and null hypothesis (H_{02}) was rejected. Thus it was concluded that the structured teaching programme was effective to improve practices regarding endotracheal suctioning among staff nurses in experimental group.

4. Based on the objective 4, the findings of the study concluded that association between the post test level of knowledge and practices among staff nurses with their selected socio-demographic variables group i.e. Age, gender, professional qualification, total experience (in ICU), in service attended education programme in experimental group and control group. There was no significant association between knowledge and practices score regarding Endotracheal Suctioning among staff nurses with their selected demographic variables. Thus it was interpreted that level of knowledge and practices were not dependent on demographic variables.

CONCLUSION

1. Pre test taken with the help of structured questionnaire and observational check list regarding endotracheal suctioning in experimental group and control group.

2. Finding showed staff nurses had inadequate knowledge and practices regarding endotracheal suctioning.

3. Structured teaching programme was provided to the staff nurses regarding endotracheal suctioning in experimental group.

4. Post test taken with the help of structured questionnaire and observational check list regarding endotracheal suctioning in experimental group and control group. Results showed that Structured teaching

programme was effective to improve the level of knowledge and practices regarding endotracheal suctioning among staff nurses in experimental group.

5. There was no significant relationship between demographic variables of staff nurses with their level of knowledge and practices related to endotracheal suctioning.

IMPLICATIONS

Nursing Implication

The findings of the study have implications for nursing service, nursing education, nursing administration, and nursing research. The findings of study have several implications which are discussed as follows:

Nursing Practices

1. Nursing personnel can be encouraged to attend workshops/conferences related to endotracheal suctioning.
2. Nursing personnel should take an active part in endotracheal suctioning.
3. Nursing personnel must appraise on the basis of practices related to endotracheal suctioning.

Nursing Education

1. Nursing curriculum needs to be updated to identify the aspects of nursing care that are lacking to provide supportive education on endotracheal suctioning.
2. The findings will help the nursing students to understand the needs of those equipped with adequate knowledge.
3. Nursing teachers can be conducted a planned teaching programme on endotracheal suctioning in nursing institutes.
4. Refresher courses or education programme can be conducted regularly in nursing institutes for student nurses and staffs.

Nursing Administration

1. Nurse as an administrator can plan for in-service, continuing education programme on ET intubation for fresher nurses.

2. Nurse administrator should arrange regular training programmes on endotracheal suctioning.
3. Nurse administrator should organize in service education programmes regarding endotracheal suctioning.

Nursing Research

1. The findings can be utilized for conducting research on effectiveness of structured teaching programme on various aspects of nursing.
2. Disseminate the findings through conferences, seminars, and publications in professional, national, and international journals.
3. The findings of the study can help to expand the scientific body of professional knowledge upon which further research can be conducted.
4. The generalization of study result can be made by further replication of study.

Conflict Interest: None

Source of Fund: Self

Ethical Clearance

1. Written permission was taken from the Principal of S.G.L. Nursing College, Semi, Jalandhar, Punjab.
2. Ethical clearance was obtained from the Ethical clearance committee of S.G.L. Nursing College, Semi, Jalandhar, Punjab.
3. Written permission was taken from Medical Superintendent of Oxford, Joshi, Johal multispeciality and S.G.L. Charitable hospitals, Jalandhar, Punjab.
4. An informed written consent was taken from each study sample.
5. Confidentiality and anonymity of study samples were maintained throughout the study.

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Treatment Outcome and Associated Factors of Severe Acute Malnutrition (SAM) among Under Five Children in Selected Nutritional Rehabilitation Centres (NRC) of Odisha

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ABSTRACT

Background: Children with severe acute malnutrition are therapeutically managed in the nutritional rehabilitation centres in terms of diet and required medicines based on their medical complication. There is visible improvement in the treatment outcome indicators at a minimal stay of fifteen days in nutritional rehabilitation centre.

Objectives: Study objective was to assess the associated actors of SAM and to identify the treatment outcome among under five children admitted in nutritional rehabilitation centres.

Methods: Quantitative approach with descriptive research design was adopted. A total of 62 samples were taken by using non-probability convenience sampling. Data were collected by using interviewer administered questionnaire on demographic characteristics and associated factors of SAM. Health assessment was done by the structured outcome indicators on admission, at one week of treatment and on discharge to identify the treatment outcome.

Result: Findings of the study revealed that there were significant association between occupation of mother and exclusive breastfeeding practice at 0.05 level of significance as the p value is $< 0.05^*$. The repeated measure ANOVA analysis shows that there are significant changes occurring in the treatment outcome indicators from admission to discharge as the p value is 0.00^* and the selected treatment outcome weight is associated with age of the child at 0.05 level of significance.

Conclusion: Hence the treatment outcome of SAM is good in terms of outcome indicators. Lack of exclusive breastfeeding practices due to occupation of mother is the factor associated with SAM.

Keywords: Associated factors, NRC, Severe acute malnutrition, Treatment outcome.

INTRODUCTION

Every child today is the future tomorrow. A healthy childhood excels to a healthy adulthood. Nutrition plays a major role in the utmost growth and development of a child. So, it is essential for each child to get minimum required calorie at daily basis to prevent the consequences of malnutrition. Children under 5 years of age are vulnerable to malnutrition and several types of infectious diseases. [1]

Malnutrition is the major cause of under-five morbidity and mortality and it is

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manifested as under-weight (37%), stunting (41%), wasting (11%). Children with severe acute malnutrition (SAM) are nine times more likely to die than children without malnutrition. Globally SAM cases were reported from lower- and middle-income countries like Nepal and India. [2]

It has been found that, 7.9% of under-five children in India suffer from SAM. It is distinctively seen in socio-economically deprived communities. From various studies, it has been outlined that; age, gender, parental illiteracy, income, occupation and large family size are the associated risk factors of SAM. [3]

Combating child malnutrition is of great public health importance to the future economic development and social well-being of countries. It is essential to know the causes and risk factors of child malnutrition to deal with the problem of child malnutrition adequately. The prevalence of malnutrition in India and various parts of India is relatively well documented, but there is very minimal information for associated factors of severe acute malnutrition (SAM). [4]

While being in clinical posting, often researcher was coming across of many malnourished children were from rural communities of Odisha and according to NFHS report of 2015-16 prevalence of SAM was 6.4 % in Odisha. Researcher also observed that, there was lack of awareness among the parents of under five children regarding requirement of balance diet, malnutrition and factors contributing to SAM. So, researcher took interest to conduct this study to identify the associated factors of SAM and how far the treatment of SAM children while being in NRC is helpful for prognosis and depletion in complication related to SAM.

OBJECTIVES

1. To assess the associated actors of SAM.

2. To find out the association between selected associated factors of SAM with selected socio demographic variables.

3. To identify the treatment outcome among under five children in selected NRC.

4. To find out the association between treatment outcome with selected sociodemographic variables of under five children in selected NRC.

METHOD AND MATERIAL

Quantitative approach with descriptive survey design was adopted to assess treatment outcome and associated factors of severe acute malnutrition among under-five children. The present study was conducted in the selected nutritional rehabilitation centers of eastern zone of Odisha. Under-five children aged 6 months to 5 years are fulfilling inclusion and exclusion criteria were included in the study. Total 62 children were selected for the study by using convenience sampling technique. Before conducting study, ethical permission was taken from the Institutional Ethical Committee and administrative permission was taken from the respective CDMOs of the hospitals attached with nutritional rehabilitation center. The tools used to collect data were as follows: (1) Demographic questionnaire, (2) Structured questionnaire for associated factors of SAM, (3) Structured Outcome checklist. The reliability value of structured questionnaire is r = 0.79 and structured outcome checklist is r = 0.99. Data were collected from the under- five SAM children on admission to the nutritional rehabilitation center by using structured demographic questionnaire, structured questionnaire for associated factors of SAM by interview schedule. Initial health assessment was done by structured outcome checklist on admission, after 1 week of treatment and on discharge to assess the treatment outcome of SAM at the end of staying in Nutritional rehabilitation center by using physical assessment technique. The data were analyzed using descriptive and inferential statistics with SPSS version 20.

RESULT

Demographic characteristics of under- five SAM children shows that highest percentage of SAM children (47%) belongs to the age group 1.1 -3 years. Highest percentage of under- five

SAM children (53%) were female child. In context of level of education, a highest of 43.54% of mothers of under- five SAM children have no formal education and a highest of 37.09% of fathers of under – five SAM children have no formal education. In terms of religion a highest of 90.32% of under- five SAM children belong to Hindu and a highest of 58.06% under- five SAM children belong to joint family. Most of 83.87% under- five SAM children reside in rural area. Demographic characteristics in terms of occupation, fathers of under- five SAM children represents that, a highest of 93.54% of fathers were working in private sector and a highest of 87.09% of mothers of under- five SAM children were house wife. Highest percentage of 43.54% of under- five SAM children come under Rs. 1001- 3000 per capita monthly family income group (Table 1).

The data in table 1 represented that the calculated chi- square value 15.12 which is more than tabulated value of chi square at 0.05 level of significance at df =8 which implies there is association between occupation of mother with Exclusive breast feeding (Table 2).

Repeated measure analysis of treatment outcome of SAM is effective in terms of all the outcome indicator is effective from admission to discharge (the F value is greater than tabulated F value at df =1 and df = 61 and p value is 0.00, which is statistically significant).

Data represented in figure 1 shows that there is a significant weight change for the age group 0-1 year as the admission mean value of 5399.68 to discharge mean value of 6307.72, For the age group 1.1- 3 year the admission mean value of 7295.37 to discharge mean value of 8331.37 and for the age group 3.1 – 5 year the admission mean value of 9643.75 to discharge mean value of 11140.75. Hence treatment outcome of SAM is effective in terms of weight gain.

Data represented in figure 2 shows that there is a significant change in height for the age group 0-1 year as the admission mean value of 64.96 to discharge mean value of 65. 28, For the age group 1.1- 3 year the admission mean value of 77.65 to discharge mean value of 78.03 and for the age group 3.1 – 5 year the admission mean value of 91.75 to discharge

Table 1: Chi-square analysis to findout the association between occupation of mother and exclusive breast feeding
N= 62

Factors	df	chi square	p value
Exclusive breast feeding	8	15.12	.056 *

p≤0.05* is significant

Table 2: Repeated measure analysis to identify the treatment outcome of SAM   **N= 62**

Indicators	F value	df	P value
Weight	785.88	1, 61	0.00
Height	2482.77	1, 61	0.00
MUAC	3197.99	1, 61	0.00
Edema	375.61	1, 61	0.00
Abdominal girth	5138.38	1, 61	0.00
Pulse	4301.01	1, 61	0.00
Respiration	3241.56	1, 61	0.00
Temperature	1554.11	1, 61	0.00
Vomiting	370.18	1, 61	0.00
Appetite	919.43	1, 61	0.00
Cough	345.62	1, 61	0.00

mean value of 92.37. Hence treatment outcome of SAM is effective in terms of increase in height.

Data represented in figure 3 show that there was a significant change in MUAC for the age group 0-1 year as the admission mean value of 10.40 to discharge mean value of 11.18, For the age group 1.1- 3 year the admission mean value of 11.45 to discharge mean value of 12.25 and for the age group 3.1 – 5 year the admission mean value of 12.15 to discharge mean value of 12.66. Hence treatment outcome of SAM is effective in terms of increase in MUAC.

Data represented in figure 4 show that there was a significant change in edema for the age group 0-1 year as the admission mean value of 1.16 to discharge mean value of 1.32, For the age group 1.1- 3 year the admission

mean value of 1.10 to discharge mean value of 1.27 and for the age group 3.1 – 5 year the admission mean value of 1.12 to discharge mean value of 1.25. Hence treatment outcome of SAM is effective in terms of decrease in edema.

Data represented in figure 5 show that there was a significant change in abdominal girth for the age group 0-1 year as the admission mean value of 13.16 to discharge mean value of 13.00, For the age group 1.1-3 year the admission mean value of 14.72 to discharge mean value of 14.27 and for the age group 3.1 – 5 year the admission mean value of 16.87 to discharge mean value of 16.37. Hence, treatment outcome of SAM is effective in terms of decrease in abdominal girth.

The data in the table 3 show that calculated chi square value of out come indicator in terms

N= 62
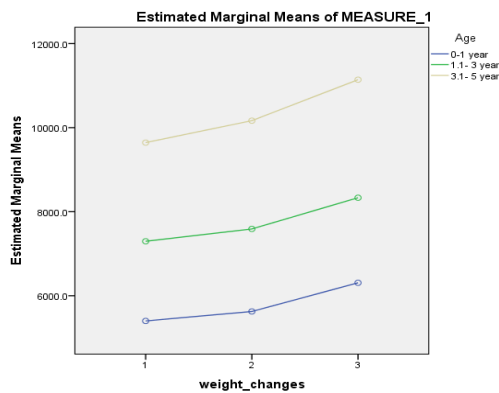
Fig. 1: Estimated weight gain

N=62
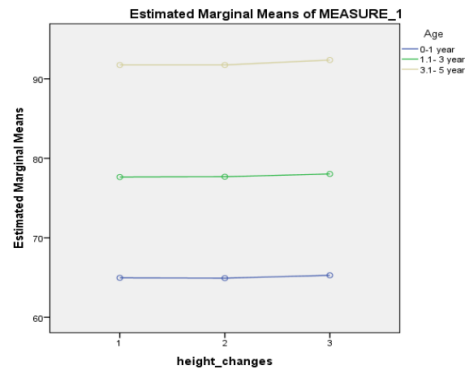
Fig. 2: Estimated changes in height

N=62
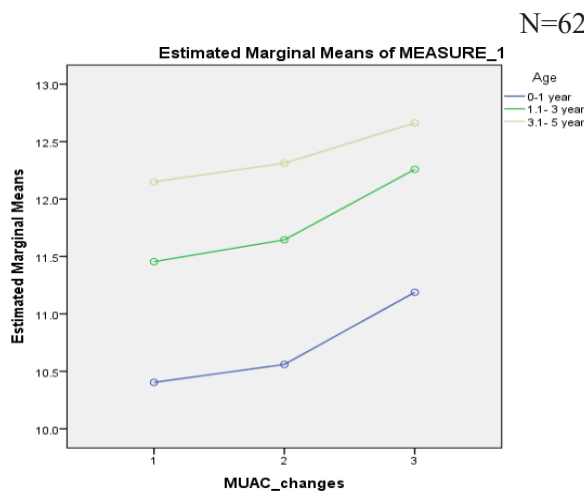
Fig.3: Estimated changes in MUAC

N=62
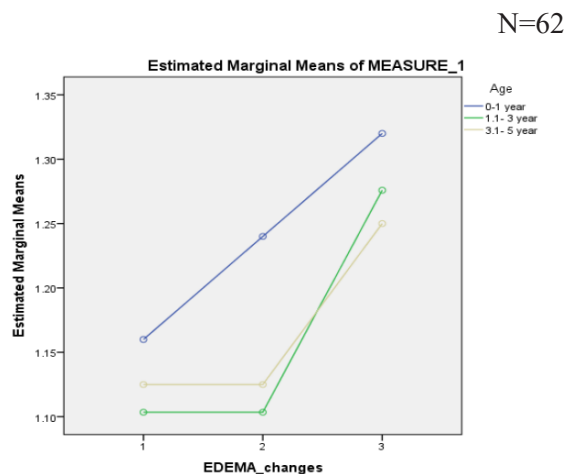
Fig.4: Estimated changes in edema
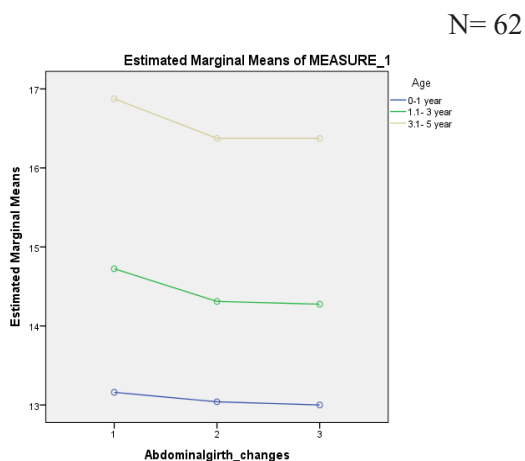
Fig. 5: Estimated changes in abdominal girth

Table 3: Chi- square analysis to find out the association between treatment outcome and selected socio demographic variable age.

N=62

Outcome indicators	df	chi square	p value
weight	4	10.80	**0.029***
Height	9	15.01	0.090
MUAC	8	12.11	0.146

p ≤ 0.05* is significant

of weight and demographic variable age is 10.80 which is more than tabulated value of chi square at 0.05 level of significance at df=4 which implies there is significant association between treatment outcome in terms of weight with demographic variable age.

DISCUSSION

Discussion related to other studies on socio demographic variables

In the present study the result show that 83.87% SAM children reside in rural area and remaining 16.12% SAM children reside in urban area. This result is supported by the study of Wafaa Y. Abdel Wahed et.al (2017), where majority of malnutrition children were from rural areas of Fayom district. [5] This result also supported by Sujata Murarkar et.al. (2020), where majority of under nourished children were residing in rural areas of Maharastra. [6]

In the present study the result reveal that 58.06% SAM children belong to joint family

and 41.93% belong to nuclear family. This result is supported by the study of Umesh Ghimire et.al. (2020), where the severe acute malnutrition was significantly associated with larger family size (five or more members).[7] This result is also supported by AS Bhadoria et.al. (2017), where majority of SAM children were from joint family.[8]

Discussion related to associated factors of SAM

Chi square analysis was done to determine the associated factors of severe acute malnutrition. The p value for the chi square analysis of occupation of mother and exclusive breast feeding is < 0.05. Therefore, the occupation of mother and exclusive breastfeeding practices is associated with each other. This result is supported by the study of Umesh Ghimire et.al. (2020) where exclusive breastfeeding practice was significantly associated with SAM. [9]

Discussion related to treatment outcome of SAM.

In the present study the treatment outcome of SAM is assessed by a set of indicators weight, height, MUAC, Abdominal girth, pulse rate, respiration rate, temperature, vomiting, appetite, cough. Significant changes from admission to discharge is analyzed by repeated measure analysis, where calculated F value is greater than tabulated F value at df=1 and df=61, p =0.00, which is statistically significant. This result is supported by Mahama Saaka et.al (2015), where SAM children were discharged from treatment when there is visible subside in edema, weight for height z score is ≥−2 -score and MUAC is ≥125 mm. [10]

CONCLUSION

Treatment outcome of severe acute malnutrition in this study is good. It shows that mother occupation is associated with the exclusive breast- feeding practices as unavailability of mother cause lack of practice of exclusive breastfeeding. Treatment outcome of SAM children in terms of changes

in weight, height, MUAC, edema, abdominal girth, vital signs, vomiting, appetite, cough are assessed on admission, at 1 week of treatment and on discharge, which shows statistically significant improvement in each indicator. To improve the treatment outcome for children with SAM, continuous supervision has to be done for health care professionals and initiatives need be taken to create awareness in the community setting regarding functions of NRC in management of SAM children. So that defaulter from the treatment of SAM will be less which will incorporate towards a positive treatment outcome of SAM among under five children.

Ethical clearance – Ethical permission was taken from institutional ethical committee of Siksha O Anusandhan, deemed to be University, Bhubaneswar and Superintendent of SVPPGIP, Cuttack, Superintendent of Capital hospital, Bhubaneswar, Chief District Medical Officer of Athagarh, Bhadrak, Balasore, Baripada (Mayurbhanj)

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Risk Factors and Adverse Events During Intra Hospital Transportation Among Critically Ill with a View to Develop Patient Transport Checklist

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ABSTRACT

AIM: A study to assess the risk factors and adverse events during intra hospital transportation among critically ill with a view to develop patient transport checklist

OBJECTIVES:

1. To determine the risk factors associated with intra hospital transportation of critically ill patients.
2. To identify the adverse events that occurs during intra hospital transport of critically ill patients.
3. To correlate the risk factors of intra hospital patient transportation and selected baseline variables.
4. To find out the association between risk factors during intra hospital transport and selected baseline variables
5. To develop an intra-hospital patient transport checklist

METHODOLOGY: For this study, a descriptive research design was used and 100 critically ill patients were selected using convenient sampling technique. Baseline variables, were assessed using baseline proforma, risk factors and adverse events were identified by using the checklists. Formal written permission was obtained from the authorities prior to the data collection process. The data was analyzed by using both descriptive and inferential statistics on the basis of objectives and assumptions of the study.

RESULT: Positive correlation was found between the patients risk score of transportation with APACHE II (rs= 0.48) and FiO2(rs=0.58). APACHE II (p=0.001), GCS (p=0.001), heart rate during transport (p=0.007), MAP during transport (p=0.010),respiratory rate during transport (p=0.031), Fio2 during transport (p=0.001), airway (Z= -7.03,p =0.001), mode of transport (Z= -3.08, p=0.002), presence of central venous lines(Z= -7.08,p=0.001), arterial line (Z= -3.79,p=0.001), ionotropes (Z= -5.08,p=0.001), sedation(Z= -3.11 p=0.002), nasogastric tube (Z= -7.62, p=0.001) and Foleys catheter (Z= -4.55, p=0.001) have significant association with patients risk scores of transportation. Hence, the researcher concludes that identifying the patients risk scores before transportation can significantly reduce the adverse events during transport by strict adherence to hospital protocols and usage of checklists.

Keywords : Adverse events, Intra hospital transportation, Risk factors.

INTRODUCTION/BACKGROUND

Critical illness is a fatal condition that requires supreme care and is a menacing process that can result in significant morbidity and mortality. Population-based studies in the developed world suggest that the burden

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of critical illness is higher than generally appreciated and will increase as the population ages.[1]

In India around 5 million patients require ICU care and the demand for critical care is increasing day by day.[3] Intensive Care Units (ICUs) are complex areas in the hospital for the care of severely ill patients who require specific physical spaces, specialized human resources, and advanced technology and equipment.[4] Management of critically ill patients in the intensive care unit (ICU) requires investigations and therapeutic procedures leading to numerous transports outside the ICU.[5]

Despite the current sophistication of intensive care units, neither all the necessary care nor all appropriate investigations can be offered at the bed side. Hence intra hospital transportation is inevitable.[6] In recent years intra hospital transportation have been extensively studied and described as high-risk procedure among critically ill patients. In 1970 the first article was published related to the intra hospital transportation (IHT) which states that IHT is potentially dangerous during which arrhythmia occurred in 84% of patients, who were at high risk for cardiovascular diseases.[11]

Critical care transports either inter or intra hospital are performed by especially trained individuals. A multi-disciplinary team of physicians, nurses, respiratory therapists, hospital administrative and local emergency medical services is formed to plan and coordinate the process. In practice, it is observed that transportation of hospitalized patients is often carried out automatically, without prior planning. This lack of planning may impair the preparation of the team, materials, and equipment and may facilitate the occurrence of adverse events.[7]

Measures to reduce incidents include better pre-transport planning, the introduction of standardized procedures related to personnel, organization and equipment during transport and the use of checklists during the preparation phase. Indeed, some guidelines on optimal intra hospital transportation are available but they are not easily translated into practical measures to reduce incidents. As an alternative, checklists are practical and can provide tools to improve safety.[18]

MATERIALS AND METHODS

Assumptions

1. Intra hospital transportation of critically ill patients involves considerable risks and mishaps

2. Implementation of patient care checklist ensures standardization of nursing practice

Research Approach: Quantitative research approach

Research Design: Descriptive research design

VARIABLES

Independent variable is the intra hospital transportation.

Dependent variables in the present study are the risk factors and adverse events of intra hospital transportation.

Settings: This study was done in critical care units in a selected hospital at Pathanamthitta district.

Sample and sample size: Patients admitted in critical care units of a selected hospital at Pathanamthitta district. The sample size was 100 critically ill patients.

Sample technique: Convenient Sampling technique

Inclusion criteria

- Critically ill patients

- Patients transferred within medical intensive care units to isolation and respiratory intensive care unit.

- Patients undergoing diagnostic evaluations, transferred to other intensive care units and wards within the hospital

- Patients who are willing to participate in the study.

Exclusion criteria

- Patients those who are not willing to participate in the study.
- Patients who underwent more than one IHT were considered as multiple events and excluded from the study.

Data collection technique and tools

Tool 1: **Baseline proforma**: It includes age, gender, diagnosis, history of any comorbidities, APACHE II score, patient assessment pre-transport, pre transportation checklist, area to be transported, reason for transport, mode of transport, time of shifting, evaluation during intra hospital transportation and at destination, documents/records and time of return or at destination. The investigator will assess the patient before, during and after the procedures with this tool.

Tool 2: Structured intra hospital patient transport risk assessment checklist

The checklist consists of 12 items and each items are subdivided into 3 with individual scores of 0, 1, 2 and the total score given is 24.

Score interpretations

Low risk : 0-12
Moderate risk : 13-18
High risk : 19-24

Tool 3: Structured intra hospital patient transport adverse events assessment checklist

The checklist consists of 3 parts, patient related major events, patient related minor events and equipment related events.

Data collection procedure

Data collection was done for a period of 6 weeks. Each day approximately 5-8 samples were collected and the researcher accompanied the samples during transportations and assessed the risk factors and adverse events with the structured checklists.

FINDINGS

The data collected were analyzed using Statistical Package for Social Sciences, (SPSS) software, IBM SPSS version 20.

The data were analyzed under the following headings

- **Section 1:** Sample characteristics
- Section 2: Risk factors associated with intra hospital transportation
- Section 3: Adverse events associated with intra hospital transportation
- Section 4: Correlation of risk factors with selected baseline variables
- Section 5: Association of risk factors and selected baseline variables
- Section 6: Development of patient transport checklist

SECTION I: Description of demographic characteristics of sample.

- Most patients 50(50%) belongs to 61-80 years of age, 67(67%) were male, and 82(82%) of patients had history of comorbidities. Among the transportations, 54(54%) of them were on room air, 89(89%) were not on any vasoactive drugs and only six(6%) of patients were on opioids.

- Majority of patients 82(82%) had indwelling foleys catheter and only 2(2%) patients had intercostal chest drainage tube during transport and majority of patients had more than one invasive catheters during transport.

- The mean heart rate prior to transport were 88.32 (SD±16.03)beats/minute, mean respiratory rate was 21.90 (SD±4.547)breaths/minute, the mean arterial pressure was 102.54 (SD±15.67) mm/Hg, the mean oxygen saturation was 95.12 (SD ± 2.72).The mean Fio2 prior to transport was 29.43 (SD ± 13.57), with mean PEEP of 5 cm H_2O(SD ± 0.00). Glasgow coma score had mean of 12.51(SD ± 3.54) with mean APACHE II score of 17.69 (SD ± 10.26).
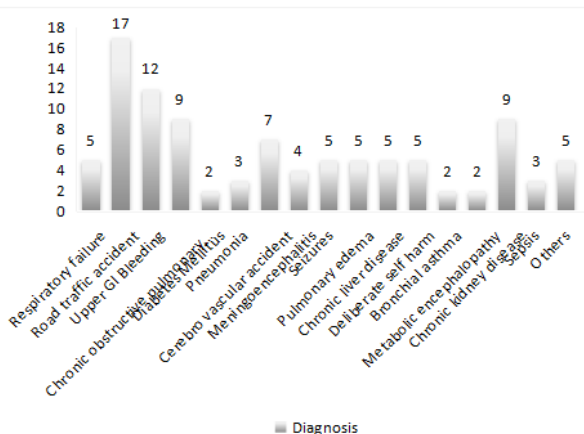
Fig 1: Frequency and Percentage distribution of patients according to their diagnosis

The figure 1 represents that 17(17%) of patients were admitted due to road traffic accident and 12(12%) with upper GI bleeding.

✠ Majority of the transfers were to wards 31(31%) and least patient transports were to the MRI 7(7%) department. 57(57%) of patients transports were done for urgent investigation and 12(12%) of patients were transferred to specialty. The majority of mode of transports were done by stretcher 89(89%) and 11(11%) of critically ill were transported with their ICU patients bed.

SECTION 2: Risk factors associated with intra hospital transportation

The figure 2 depicts that the majority of transports were under low risk category and only 10 (10%) had high risk for transportation.

✠ Majority 67(67%) of patients had heart rate between 70-100 beats / minute, 52(52%) of patients were hemodynamically unstable, 61(61%) were not having infusion pumps during transport and 55(55%) of patients Glasgow coma score were in the range of 14-15.

✠ Majority of transports 60 (60%) were not associated with any utility factors and 59 (59%) of transports were not accompanied by any pharmacological support.
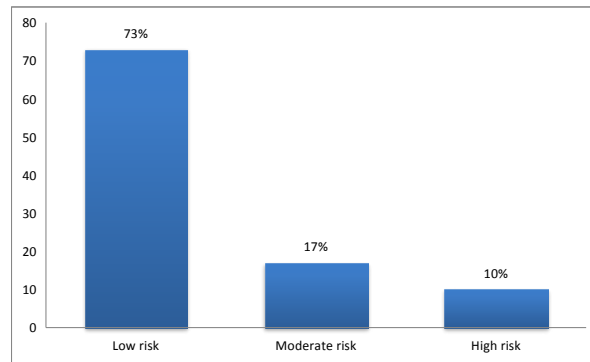
Fig 2: Percentage distribution of patients according to risk scores for intra hospital transportation

SECTION 3: Adverse events associated with intra hospital patient transportation (IHT)

✠ Majority of transports 72 (72%) were associated with adverse events and 28 (28%) of transports were not associated with any adverse events.
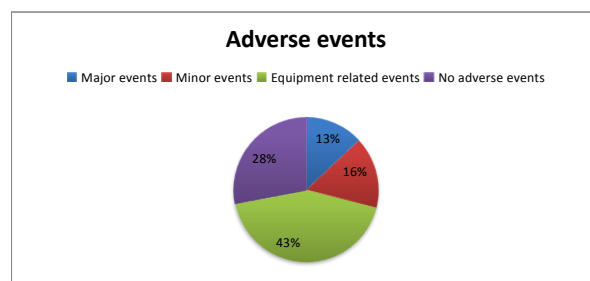
Fig 3: Percentage distribution of adverse events associated with intra hospital patient transportation

The figure 3 illustrates that majority of adverse events were related to equipment related events 43(43%) and 28(28%) of patient transports were not associated with any adverse events.

✠ Oxygen desaturation 9 (9%) was one among the major events and only 3 (3%) were due to increased vasopressor dose. 9 (9%) of minor events were related to disconnection of endotracheal tube and airway equipment and in events related to equipment, majority 17 (17%) were battery failure of the monitor.

SECTION 4: Correlation of risk factors with selected baseline variables

The table 1 depicts that there was significant moderately positive correlation between

APACHE II(r_s=0.48, p=0.001) and FiO$_2$ (r_s=0.58, p=0.001), with the patients risk score of transportation and the correlation is significant 0.001 level.

SECTION 5: Association of risk factors with selected baseline variables

The table 2 represents that there is statistically significant difference in risk factor score of intra hospital transportation with APACHE II, with a median (IQR) of 30.50 (25.75-41.50), (χ2(2)= 28.39, p=0.001), and Glasgow coma score with median(IQR)of 6 (4.75-7), (χ2(2)= 57.31, p=0.001).

✠ There is statistically significant difference in risk factor score of intra hospital transportation with heart rate during

transport with median (IQR) of 111 (100-121.50), (χ2(2)=9.82, p=0.007) and MAP during transport with median (IQR) of 82.66 (69.16-96.16), (χ2(2)=9.15, p=0.010).

✠ There is significant association noted between risk factor score of intra hospital transportation with presence of central venous lines(Z= -7.08,p=0.001), arterial line(Z= -3.79,p=0.001), ionotropes(Z= -5.08,p=0.001), sedation(Z= -3.11 p=0.002), nasogastric tube(Z= -7.62, p=0.001), Foleys catheter(Z= -4.55, p=0.001).

Section 6: Development of patient transport checklist

The identified risk factors that can result in patient related adverse events were included in

Table 1: Correlation of patients risk score of intra hospital transportation with selected baseline variables

(Spearmann correlation)
(N=100 transports)

Variable	Risk Factors of IHT	
	Rs Value	(P Value)
Age	0.04	0.656
Apache II score	0.48*	0.001*
Fio2	0.58*	0.001*
Pre transport GCS	-0.73*	0.001*

** Level of significance at p< 0.01

Table 2: Association of patients APACHE II score and GCS on the day of transport with risk factors of intra hospital patient transportation

(Kruskal-Wallis test)
(N=100 transports)

Baseline Variable	Median(25th-75th Percentile)	Mean Rank	df	χ2	p value
APACHE II SCORE					
Low risk	15 (8.50- 19)	41.47			
Moderate risk	25 (17- 30.50)	68.68	2	28.39	0.001*
High risk	30.50 (25.75- 41.50)	85.55			
GLASGOW COMA SCALE					
On the day of transport					
Low risk	15 (14-15)	62.70			
Moderate risk	10 (6.50-13)	22.18	2	57.31	0.001*
High risk	6 (4.75-7)	9.60			

** Level of significance at p<0.05

the structured internal patient transfer nursing checklist.

CONCLUSION

The study findings revealed that intra hospital transportation is still a risky procedure and identifying the risk factors and grouping the patients according to their risk scores, strict adherence to hospital policies, protocols and checklists can significantly reduce the adverse events associated with the transport.

LIMITATIONS OF THE STUDY

- The study was limited to small sample size
- The study was limited to six weeks
- The study was limited to a selected hospital
- The study was limited to critical care patients
- Self-report was the technique adopted which could be over reporting or under reporting.
- The effectiveness of the nursing checklist was not assessed.

RECOMMENDATIONS

- A similar study could be performed with large samples.
- A study can be performed in other areas such as Emergency Department, Wards, and other specialized areas.
- Another study can be performed to assess the nurses knowledge regarding intra hospital transportation.
- Another study could be performed to assess the adherence and effectiveness of the checklist of intra hospital transportation.
- Abstract of the study could be published in various journals.

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SOURCE OF FUNDING

CONFLICT OF INTEREST

The author declared no conflict of interest.

ETHICAL CLEARENCE

The ethical clearance of this study was obtained from institutional Ethical Committee (IEC).

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A Comparative Study Regarding Online and Offline Educational Learning Method on Second Year And Third Year Basic B.Sc. Nursing Students in Selected College

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ABSTRACT

Background: The sudden outbreak of COVID 19 pandemic shook the entire world and this situation challenged the education system across the world which forced the educators to shift to an online mode of teaching overnight. However the effective use of online leaning method in nursing field is unknown. Methods: A comparative survey research design was used. The sample for the study were second and third year Basic B. Sc. Nursing students. A 5 point Likert scale was used to collect the comparative data. Purposive sampling technique was used to collect the data from 62 students. Results: For online educational learning method: 36.33% strongly agree, 11% agree, 38.22% neutral, 12% disagree, 3.5% strongly disagree. For offline educational learning method: 42.36% strongly agree, 1.18% agree, 16.02% neutral, 39.89% disagree, 0.10% strongly disagree. Conclusion: The conclusion drawn from the findings of the study is that offline learning method is better than online learning method according to second and third year Basic B. Sc. Nursing students.

Keywords: Online, offline, educational learning method

INTRODUCTION

Education is the key to unlock the golden door of freedom

- **George Washington Carver**

In late December 2019, COVID 19 started wreaking mayhem across the globe thanks to that education was affected vastly. According to the United Nations Educational, Scientific and Cultural Organization (UNESCO), over 800 million learners from around the world were affected due to which they were not able to attend the schools or colleges.[1] As the novel corona virus escalated into a worldwide pandemic, the schools and colleges all over the world had to shut their doors and were forced to shift to distance learning. This situation seemed temporary at first but even graduating seniors were forced to finish the school year remotely.[2] This situation also affected the medical as well as paramedical fields. Even the nursing institutions were forced to adopt online platforms for teaching the students.

Today, digital information is accessed by everybody and everywhere. In this era of

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information technology, medical education is now confronted with no challenges. The online health care information is continuously challenging medical as well as nursing students to rapidly update and expand their existing body of knowledge. On the other hand, the information competency requirements of healthcare technology, such as utilizing electronic healthcare records, learning systems and aided-diagnosis systems, also present a new challenge for medical as well as nursing students to master, even forth questionable digital native learners.

Need for study

E-learning tools have content a vital role throughout this pandemic and helped schools, colleges and universities facilitate student learning throughout the closure of institutions (Subedi et al., 2020). The use of suitable and relevant method for online education may depend on the expertise and exposure to information and communications technology (ICT) for both teachers and the learners. Some of the online platforms used for teaching included Zoom and Google met which allowed the teachers to create educational courses, training and skill development programmes (Petrie, 2020).[3] These platforms were not only used for teaching purpose were also used for making interactions between teachers and student's parents.

Along with innovation the manner in which we learn new abilities has also changed. Nowadays, due to pandemic many nursing institutions have started using online platforms for taking lectures due closure of the colleges. In addition to completing the course, the doubts are also being cleared online. As lectures are conducted online as well as offline the main debate has raised that which method is better. The question still remains unanswered that online is better or offline is better in the field of nursing. With offline learning, participants are required to sit in lecture hall, or classroom of college. With online learning, on the other hand, the training can be conducted from practically anywhere in the world.[4]

MATERIALS AND METHODS

Formal permission was taken from Principal of Dr. V. V. P. F's College of Nursing. Permission was also taken from class coordinators of second and third year Basic B. Sc. Nursing respectively. The students fulfilling the inclusion criteria were selected through non-probability purposive sampling technique for the study. In the present study, the population comprised of 32 second year and 30 third year B. B. Sc. Nursing. On the day of data collection, informed consent was taken from the students and online Google form link was given to the students for data collection. As these students had already attended both online and offline lectures during their academic no any intervention was given, only data was collected. For the questionnaire 5 point Likert scale was used. The data was collected to find out the comparison between online and offline educational learning method.

Inferential statistics

Unpaired t test was used to find out the comparison between online and offline educational learning method.

RESULTS

OVERALL ONLINE PERCENTAGE

Learning Method	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Online	36.33%	11%	38.22%	12%	3.5%

OVERALL OFFLINE PERCENTAGE

Learning Method	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Offline	42.36%	1.18%	16.02%	39.89%	0.10%

COMPARISION BETWEEN ONLINE AND OFFLINE

Learning Method	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Online (Series1)	36.33%	11%	38.22%	12%	3.5%
Offline (series2)	42.36%	1.18%	16.02%	39.89%	0.10%

CONCLUSION

After comparing both the results it showed that students prefer offline educational learning method as compared to online educational learning method according second and third year Basic B. Sc. Nursing students.

RECOMMENDATIONS

Keeping in view the findings of the study following recommendations were made:

1. Comparative study can be conducted between first and final year Basic B. Sc. Nursing students

2. Similar study can be conducted for the teaching faculty.

3. Similar study can be conducted for other fields also for students as well as faculty members

Ethical clearance: Taken from Dr. V. V. P. F's College of Nursing ethical committee.

Source of funding: Research was self funded.

Conflict of interest: Nil

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Exploring the Impact of the Use of Immersive Virtual Reality Interactive Experiences on Student Learning of Obstetrical Nursing

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ABSTRACT

Background: Virtual reality technology can improve traditional teaching methods by removing time and space constraints for learners, increasing learning interest, and promoting the potential for greater empathy and better communication skills in learners through immersion in the subjective experience of others from a first-person perspective.

Methods: An immersive virtual reality obstetrical nursing learning system was constructed and applied to an obstetrical nursing curriculum. Qualitative interviews and feedback forms filled out by students were used to understand nursing students' learning experiences and feelings about the application of VR interactive experiences to obstetrical nursing.

Result: Most of the students found that the VR interactive experience could inspire empathy, enhance communication between patients and nurses, provide a stress-free learning environment, and increase interest and confidence in learning.

Conclusion: The development of innovative VR learning materials will help students to overcome the constraints of time and space, and provide them with the opportunity to practice their skills in an immersive simulation should in-person classes be discontinued in response to emerging epidemics, thus facilitating learning continuity.

Keywords: Empathy, Interactive experience, Learning interest, Obstetrical nursing, Virtual reality,

INTRODUCTION

Because of the emphasis on patient-centred care and concern for patient safety, teaching with simulated scenarios has always been an important strategy in clinical teaching. As it becomes the trend for people to learn in many different ways and also in response to the COVID-19 pandemic, educators have had to adapt their teaching methods to suit learners. Virtual reality (VR), which provides an immersive experience, has in recent years been integrated into nursing teaching, creating an environment that resembles a clinical situation and allows students to make

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mistakes without harming real patients. VR is using a head-mounted display (HMD) to see a computer-generated, 360-degree panoramic view of a simulated scenario. In the 3D virtual illusion displayed in the HMD, the user can manipulate, control and reflect the events and objects in the virtual environment with a data glove, which greatly enhances the realism and interactivity.[1,2] Simulation teaching is the design of a scenario that resembles an actual clinical scenario; the use of VR allows users to overcome the constraints of time and space. By having students participate in experiential tasks with a certain level of realism, they are trained in clinical judgement, skills and operations, and the risk of causing safety issues for patients due to inexperience is reduced, plus proficiency can be increased through repetitive practice, enhancing learning outcomes.

Many studies have shown that teaching with VR does improve nursing students' nursing skills, including surgical aseptic skills,[3] tracheostomy care[4], urinary catheterization[5], decontamination,[6] and the ability to communicate with those with dementia.[7] As a result of these learning experiences, most students found the VR experience interesting, and the knowledge and skills they learned left a greater impression on them, since immersion in a virtual environment allowed them to practice the skills quickly, continuously and repeatedly.[8,9] Innovative, interdisciplinary VR teaching diversifies the learning content, and can be applied in the teaching environment to enhance the students' integration of what they've learned from different subjects and to let students to have interest in learning.[10] Empathy is a concrete expression of humanity in healthcare professionals; it is the ability of a carer to understand the patient's world, and to feel and think from the patient's point of view without being judgmental. Nursing educators should be doing more to guide students in developing their empathy.[11] Experiential thinking and mind-body medicine skills can help medical and nursing students to develop empathy and reduce

their feelings of stress in learning.[12] Empathy is also the basis for effective communication, and only by improving the expression of empathy in nurses can treatment outcomes and communication between patients and nurses improve.[13] Therefore, it is important for nursing education to strengthen and improve students' empathy. VR has the potential to enhance the demonstration of empathy and communication skills by providing a first-person perspective on the subjective experience of others.

To summarise the background of this study, VR interactive experiences were applied to the teaching of obstetrical nursing; students put on VR headsets and entered an immersive VR environment from the perspective of a nurse to learn how to properly and smoothly administer a nursing intervention. Students were able to observe and rehearse the experience repeatedly, as well as train their nurse-patient communication skills; they could also switch to the first-person perspective of the woman in labour in order to experience the woman's nervousness and anxiety while nursing interventions were being administered, and demonstrate empathy in the nurse-patient relationship. Thus, the study aims to understand the learning experiences and feelings of nursing students studying obstetrical nursing towards VR interactive experiences.

METHODS AND MATERIALS

The Development of a VR Learning System

The theme of the study's VR scenario lesson plan is assessment and care during labour, which includes: admission assessment, provision of non-pharmacological pain relief measures, use and guidance of birthing balls, slow dance exercises, massage and acupressure, application and guidance of breathing relaxation techniques. During the exercise, students can demonstrate their empathy and effective communication skills. This study uses a mobile VR app with a low-cost VR headset as the basis for development. Both Android and iOS handheld devices

are supported, and the programme can run smoothly on both with the Google VR SDK tool; together with Unity, a software for developing 3D interactive experiences, all kinds of interactions and applications required in the VR can be developed. A 4K HD 360° panoramic camera was used to film the content of the lesson plan in real locales, and then post-production and editing was done with video editing software to create a 360° panoramic image that fits clinical contexts. The Unity Google VR SDK integrated the 360° panoramic image with the Unity interactive software, and then Unity was utilized to program the functions of the VR system, design the code for the interactive program, and pack and test the app. Finally, students only need an ordinary mobile phone and a 3D VR headset to experience the interactive obstetrical nursing VR app.

Operating Procedures for the VR Learning System

1. Click on the VR app; students can choose either the nurse's perspective or the mother's according to their learning needs.

2. After entering the system, students can put their mobile phones into the VR headset to begin the interactive experience.

3. Use the eye centre dot to select the menu, and the buttons on your handheld device to select the lesson and the content; the lesson icon will be enlarged and shown in colour as a prompt to students to confirm their choice. When students use their handheld devices to click on their selection, they'll be taken to their chosen VR lesson to begin learning (Figure 1).

4. Click on the Back button of the handheld device to return to the main menu, and continue onto the next lesson.

5. After leaving the system, students can then choose to continue their learning process from another perspective (nurse or mother), depending on their learning needs, until they have completed their learning objectives.

Fig. 1: The VR APP interface for selecting interactions

Procedures for Teaching with VR

- **Step 1:** The instructor explains how to use the VR learning system and clarifies learning objectives.

- **Step 2:** Students put on their VR headsets and practice how to demonstrate empathy in their interaction and communication with the woman in labour from the first-person perspective of the nurse (Figure 2). At the same time, they need to also correctly and smoothly conduct their assessment to collect a comprehensive set of subjective and objective information; carry out birthing ball exercises, slow dance exercises, massage relaxation techniques, and breathing relaxation techniques; and instruct the mother on various ways to relieve pain during labour (Figure 3).

- **Step 3:** Students learn to empathise with the nervousness and anxiety a woman in labour feels while nursing interventions are being administered in the first-person perspective of the woman (Figure 4).

- **Step 4:** The instructor leads a discussion in which students share with one another

how they made critical decisions in the VR scenario, so that they can look back, review and internalise the experiences and feelings they went through in the scenario.

- **Step 5:** Students fill in their feedback forms.

Fig. 2: Students put on VR headsets and enter the immersive virtual environment

Fig. 3: Conducting the exercise from the first-person perspective of a nurse

Fig. 4: Conducting the exercise from the first-person perspective of a woman in labour

RESULTS

The VR learning system was applied to an obstetrical nursing course in March 2022. In the after-class feedback of 42 students from the nursing department of a university in New Taipei City, Taiwan, the majority of the students gave positive feedback on the VR learning system. Points made in the students' feedback were grouped into the following categories:

1. **Inspiring empathy:** VR has the effect of stimulating the senses, and an immersive virtual experience enhances the feeling of being in a situation; students learned to put themselves in other people's shoes, which enhanced their ability to demonstrate empathy.

Two students stated the following:

"Once I got used to it, I began to feel like I was the woman in labour, and I could feel that the nurses were very nice to me and that I had to cooperate with treatment."

"I gradually got into the situation, and I could feel that I was the woman in labour, so I followed the nurse's instructions and started doing birthing ball exercises. What a unique experience."

2. **Improving nurse-patient communication skills:** In the VR learning system, students can switch the nurse's and the mother's first-person point of view. This provides a variety of scenarios in which the nurse and the patient communicate with each other, which can enhance communication skills and in turn improve the nurse-patient relationship.

Two students stated the following:

"When I experienced things from the nurse's point of view, it allowed me to observe the pregnant woman's reactions over and over again and learn to communicate more effectively."

"The VR was very realistic. When I was the woman in labour, it allowed me to sense if the nurse's tone, method of asking questions and provision of information during health education was appropriate, so I could correct what I used to do wrong often while communicating."

3. **Stress-free learning environment:** With traditional teaching approaches, skills are inevitably taught and demonstrated by instructors in person. But, this often causes learners to feel nervous, afraid, or unconfident, which can affect their

performance. However, the VR creates a self-directed and stress-free learning environment.

Two students stated the following:

"When instructors teach one-on-one, I always got nervous and felt afraid of making mistakes, but the learning environment provided by the VR system allows me to learn better without stress."

"In the learning environment provided by the VR system, we can practice skills without the presence of instructors, and so the learning pressure is greatly reduced."

4. **Increasing interest in learning and self-confidence:** In VR, students can do things repeatedly to enhance their proficiency and skills, so their interest in learning and self-confidence is increased in a virtual environment.

Three students stated the following:

"It's amazing how the VR can recreate clinical scenarios in a realistic way and make the learning process more interesting. Things are no longer taught in just one boring way, and I learned a lot from it."

"VR not only made the course more interesting but also helped me learn the correct care-providing process during labour and reinforced that knowledge, which gives me more confidence for my future internship in obstetrics."

"I've never had such a realistic and interesting experience of learning about obstetrics through VR. It's very realistic, and I won't be afraid of caring for women in labour if I work in a maternity ward in the future."

DISCUSSION

The VR interactive experience was applied in obstetrical nursing education to help students think and learn deeply; it would be worthwhile to explore abstract issues in depth through using VR experiences. In the VR Obstetrical Nursing Learning System, students can choose between the first-person perspective of either the nurse or the woman in labour, depending on their learning progress. Students are able to not only learn about assessments during labour as well as various kinds of pain relief, but also experience the anxiety and fear that women feel when nursing interventions are administered; it helps students to enhance their communication skills, ethical literacy, caring spirit and empathy as well as to think from the perspective of their patients, understand how their patients would feel, and provide care that is humane. The VR learning system provides students with the opportunity to view exercises and practice repeatedly, so they can familiarise themselves with common aspects of caring for women during labour, make the link between professional knowledge and real-life clinical scenarios, and explore learning objectives in real-life scenarios during labour. More importantly, the design of virtual versions of clinical scenarios in the lesson plan allows students to repeat the exercises safely, which not only reduces training costs but also prevents patient exposure to high-risk environments, allowing learners to train in a way that is safe and secure[8]. In addition, most students reported that VR made learning more interesting, since a stress-free learning environment provides positive learning effects, inspires empathy, and enhances one's proficiency in a skill; not only did VR reduce the students' worries about their learning, but also increased their interest and confidence in learning[9, 14, 15]. Incorporating virtual reality into courses can create a positive learning experience and serve as an effective teaching tool to enhance course activities[16], thus facilitating a more fun learning environment.

CONCLUSION

This study aims to establish an innovative teaching model for obstetrical nursing that uses simulations via the development and application of lesson plans that incorporate

VR scenarios, which will help students overcome constraints of time and space and give them the opportunity to practice their skills in an immersive simulation should in-person classes be discontinued in response to emerging epidemics, thus facilitating learning continuity.

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Perception: A Critical Analysis of the Hospitalized Patients on Falls

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ABSTRACT

There is an estimate of 700,000 to one million hospitalized patients who have a fall each year. Fall can lead to injury and prolong hospitalization. Patients have their own perception about falls and falls prevention measures. In order to prevent falls, nurses do perform fall risk assessment for all vulnerable hospitalized patients. But do not take into consideration the perception of patients on falls. The primary objective of the study was to correlate fall related perception of patients and nurses fall risk assessment. A descriptive correlational research design was used for the study. The study was conducted on patients who were at risk for fall and admitted in the general surgical wards of a tertiary care Centre. Study subjects were in the age group of 17- 65 years, spoke Tamil, Hindi or English and those with scores between 1 – 10 in the nurses fall risk assessment were included in the study. Those who had cognitive deficits, dementia, delirium and not ambulatory were excluded from the study. A simple random sampling method was used in recruiting study sample. A written consent was obtained from the patients who consented to participate. Following this a self- administered Fall-related Perceptions questionnaire was handed over to them in a language of their preference. Majority of the study participants were in the age group of 51-60 years. Gender distribution of males were high as 80.4%. About 42.7% were educated and 92.2% were employed and 92.4% had an annual income of less than Rs. 10000. Those who had undergone surgeries were 68.4% and none of the study subjects had a history of fall in the past. It was found that there is a positive relationship between the patients perception on the likelihood of falling and the nurses fall risk assessment. (r value = .261 p = .000).

Keywords: Fall related perception of patients, Likelihood of falling, Nurses fall risk assessment.

INTRODUCTION

Falls are generally described as an event that results when one comes to rest on the floor. Falls in the hospitals are identified to be the most frequently reported incidents among all accidents leading to significant complications. It is considered to be a huge public health concern world wide and is considered to be the second most leading cause of accidental deaths. There is an estimate of 7,00,000 to one million hospitalised patients who have a fall each year.[1]

Falls is definitely worrying as trauma due to fall could result in physical injury, functional impairment and delayed recovery. Falls can further lead to dependency, loss of autonomy, confusion, immobilization causing deterioration of the quality of life that one lives. This informs that the aftermath of falls is severe and increases morbidity rate and

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death rate.[2] Although falls is counted as one of the important indicator for quality care in an institution it still poses a challenge to health care workers.

Nurses undoubtedly are the key to reducing in-patient falls due to their constant presence and their ability to continuously monitor for any unusual changes from time to time. Factors such as age, previous fall history, elimination, medications, environment, mobility etc., are assessed for risk for falls by nurses.[3] While the urses do a keen assessment of their patients on the above mentioned factors it is worthwhile to know if patients have any innate factors that might interfere with their safety. Concerns of fear, lack of confidence, consequence of falling and intention in engaging in fall prevention may be necessary to assess as they may also intervene and be responsible for falls. They may have perceptions of their own risk that influences non adherence to fall prevention measures [4;5;6;7]. Developed countries in the west insist that patients be involved in their own health care as is deemed important for both quality and safety.[8;9] Moreover there have been suggestions to incorporate human factors including design of health care systems from patients perspectives.

Therefore when patients' perceptions are included along with nurses' assessment of fall risk it may be more comprehensive in identifying risk factors for falls. But studies on fall related perceptions are very few. This research would reflect if there are any discrepancies between health workers' assessment and patients' perception of fall.

OBJECTIVES

Primary objective of the study was to assess and correlate fall related perception of patients with nurses fall risk assessment.

METHOD

Design and Sampling

A quantitative descriptive correlational design was used to assess fall related perception of patients and nurses fall risk assessment admitted in a tertiary care Centre in South India. The required sample size to correlate the patients fall risk perception with nurses fall risk assessment was 225 based on a published study with the power of 80% and an alpha error of 5% [10]. Study subjects were in the age group of 17-65 years, spoke Tamil, Hindi or English and those with scores between 1 – 10 in the nurses fall risk assessment were included in the study. Those who had cognitive deficits, dementia, delirium and not ambulatory were excluded from the study. A simple random sampling method was used for recruiting study sample.

Instruments

Demographic and clinical proforma was used to collect study participants demographic and clinical details

Fall related perception questionnaire is prepared by Renee et al, 2015. The scale has good reliability and validity with cronbach's alpha of 0.90. The criterion related validity is (r = 0.40 – 0.73, p = .001). The construct validity was examined by using principal axis factor analysis. The instrument measures four aspects of patients perception on fall prevention ie. confidence, consequences of fall, fear of fall and the intention to engage in fall prevention. It is a 5 point likert scale with the responses ranging from strongly disagree (1) to strongly agree (5) for all the aspects except for the fear of fall. Fear of fall is measured with the responses ranging from not at all concerned / likely (1) to very concerned/likely (4). Apart from this there are 3 single items that measures participants perceived likelihood of falling, perceived likelihood of injury if they did fall and also perceived fear of fall. Total possible score for the fall related perception questionnaire is 183. For the individual aspects it is 35 for confidence, 60 for the consequences of fall, 45 for the intention to engage in fall prevention, 28 for fear of fall and 15 for the single items.

Data collection Procedure

A simple random sampling method was used in recruiting study sample. The investigator

identified the study subjects by going through their hospital records. A table was prepared with all eligible patients identification numbers and 10 patients per day were selected randomly using lots method by the investigator. Study purpose was explained to the selected subjects and the information about the study was given to them. A written consent was obtained from the patients who consented to participate. Following this a self-administered Fall-related Perceptions questionnaire was handed over to them in a language of their preference. Fall-related Perceptions questionnaire assesses the subjects confidence to engage in falls prevention, consequences of fall, intention to engage in fall prevention, likelihood of falling, fear of being injured and fear of falling.

RESULTS AND DISCUSSION

Majority of the study participants belonged to the age group of 51-60 years. About 80.4% were males. 42.7% had a higher secondary education and 94.2% were employed. Among the study participants, 92.4% had an annual income less than Rs. 10000. Those who had undergone surgeries were 68.4% and no one had a history of fall.

The highest mean score for fall related perception was on consequences of falling (40.20) and the lowest mean was for Fear of falling (3.42). These findings are contradictory to the research findings of Renee et al, 2015 which showed highest mean on intention to engage in fall behaviors (3.89)

The table 1 shows that the correlation of perception of patients on likelihood of falling and the nurses fall risk assessment is highly significant (p=.000). Here the findings suggests that the patients had perceived that they had a likelihood of falling and similarly the nurses too had identified them to be at risk for falls This is contradictory to the findings of Renee et al, (2015) who revealed that there is a complete mismatch between the nurses risk assessment on falls and patients perception on falls.

Table 1: Fall related perception of patients

Sl. No	Components of fall related perception of patients	Mean / standard deviation
1	Confidence	22.12 ± 8.54
2	Intention	29.91 ± 8.79
3	Consequence	40.20 ± 9.29
4	Likelihood of falling	3.57 ± 1.78
5	Fear of being injured	3.48 ± 1.12
6	Fear of falling (Single)	3.42 ± 1.14
7	Fear of falling	19.44 ± 5.78
	Fall related Perception of patients	122.13 ± 20.03

Table 2: Correlation of fall related perception and nurses fall risk assessment

Fall related perception	Pearson's correlation coefficient	P value
Confidence	. 143	.032
Intention	. 121	.071
Consequences	- . 008	.909
Likelihood of falling	. 261	.000
Fear of being injured	. 007	.248
Fear of falling (Single)	. 036	.588
Fear of falling	. 051	.446
Fall related perception of patients	. 033	.625

The observation in this study clearly suggests that when patients are confident to engage in fall prevention and are aware of the consequences of fall they do take measures to prevent occurrence of falls although nurses have assessed them to be at risk for falls. The reason for their confidence could be attributed to the host of relatives who accompany the patients and remain with them constantly during the entire hospitalization unlike the western countries. In the Indian context relatives are a pillar of strength and accompany the patients while they sit, stand, walk around the bed or to the bathroom or out on the corridor of the wards. Also the awareness of the consequences of falls may have perhaps kept them alert and prevented adverse events like falls.

Limitations of the study

The study was done by taking nurses fall risk scores from the patients charts and was correlated with the scores of fall related perceptions of patients. There could be a possibility that the risk assessment done by the nurses may have been more reliable if it was validated before they were taken for statistical analysis.

CONCLUSION

This research can be put into practice by incorporating fall related perceptions as they assess each patients risk factors. This can be further integrated into fall prevention plans and nurses could discuss about falls to fit individual patients perception. Perception being key and a vital component in predicting those who are at risk for falls newer assessment screening tools may be developed and could also be tested. Research could be done in future to identify strategies to shapen patients perception on falls. Qualitative studies can be done to study in depth about the important components and predictors of perception of falls for better understanding.

Ethical Considerations: Study was approved by the College of Nursing research committee and the Institutional Research Board before the study was conducted. A written consent was obtained from all the participants, after informing them about the following:

- Purpose of the study
- Benefits
- Maintenance of confidentiality

Conflict of Interest: NIL

Source of Funding: Self

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Effect of Mindsound Resonanace Technique (MSRT) on Working Memory Among High School Children in a Selectected High School, Bhubaneswar, Odisha

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ABSTRACT

Introduction: The school aged children are going through numerous stressors and anxiety in their life which could impact their academic performance. Yoga is an ancient science that has found useful in enhancing the children's working memory ability. The main aim of the study to evaluate the effect of MSRT on working memory ability of high school students**.**

Methodology: The Present study consisted of students divided into control group and experiment group. A quasi-experimental research design was used and purposive sampling technique were used to pick a total of 80 samples. Samples who met the inclusion criteria are categorized in to experimental group (n = 40) and Control group (n = 40), Self-structured socio demographic Performa and standardised Digit Span Test used to collect the data in selected High School, Bhubaneswar, Odisha.

Result: The study result showed a significant difference between the pre-test and post -test level of working memory after giving the intervention. There was significant association between Working memory ability with the selected demographic variable i.e., Age in year in both intervention and control group.

Conclusion: The present study concluded that Mind sound Resonance Technique is effective to enhancing the working memory ability among high school students. Further study can be conducted with large sample and with the alternative technique to improve the working memory ability.

 Keywords: Working Memory, High school students, MSRT

INTRODUCTION

The school age children are facing various problems in their day-to-day life and when their worlds are less steady than their expectations, kids respond more strongly and their efforts and hopes are less likely to be rewarded with desired outcomes.[1] ˮWorking memory refers to the capacity to store and manipulate information over short period of time. "As Alloway (2009) points out, working memory reflects a relatively pure measure of a child's learning potential". Working memory affects how we perform in tests and learn things". It helps us to focus when there

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are distractions and it aids in the generation of new knowledge through a mental process, as well as the application of existing knowledge in people's daily lives The central executive is in charge of focusing and switching attention, as well as planning, controlling, and monitoring cognitive activities .[2]

Mind Sound Resonance Technique a yoga-based relaxation Technique which is also recognized to aid in the restoration of an individual's autonomic balance. The MSRT can used to improve willpower, concentration and relaxation. The practice of MSRT has been shown to help people with low self-esteem. it helps people to feel less anxious and improves their psychomotor performance .[3]

According to research, there has been a decrease working memories and in school aged children, academic performance is linked to anxiety and this is not only affecting the cognition level such as working memory of children's but it affects the physical issues, tension type headache, fatigue etc. Cognitive performance can be affected by the no. of factors, including non-cognitive one like the emotional state of the test-tracker. There are several major factors that can have an impact on taxing cognitive performance. MSRT (a yoga-based relaxation technique) has been discovered to be a good way for the school age children to enhance cognitive function and also encourage mindfulness [4].

When I first received MSRT training from S-Vyasa university Bangalore for 20 days on online mode, as a new researcher, I directly felt the impact of this relaxing technique in my daily life. It improves focus while also lowering stress levels and improving sleep quality. Despite the fact that multiple researchers have found a favourable influence on MSRT, there are few studies on the impact of MSRT on psychological functions such as stress, anxiety, and working memory in school-aged children. As a result, the purpose of this study is to see how MSRT affects working memory abilities in high school students.

OBJECTIVES

1. To assess the working Memory abilities of High school students.
2. To evaluate the effect of MSRT on working memory abilities of High school students after the intervention.
3. To find out the as sociation bet ween working memory abilities with selected sociodemographic variables.

MATERIAL & METHODS

The Study included Quasi- Experimental Pre- Post-test control group design. Before conducting the main study, a pilot study was carried out for the period of 1week with 08 samples. As a result, 80 student was chosen by using the Purposive sampling technique. The intervention was given for a total of 30 days. High School students were from "Sai Saraswati School and Saraswati Vidyamandir, Dumduma", Bhubaneswar, Odisha and the students had aged 14 to 16 who met the inclusion criteria are categorized in to experimental group (n = 40) and Control group (n = 40), The data was collected using the following tools 1. Sociodemographic questionnaire, 2. Digit span test to assess the working memory abilities. "Ethical clearance and permission were obtained from the institutional ethical committee, Siksha 'O' Anusandhan and administrative permission obtained from the principal of all respective High Schools. The sample characteristics were analysed using frequency and percentage".

ANALYSIS AND INTERPRETATION

After the data was collected through demographic profile from two groups, descriptive statistics were employed to examine the effect of the intervention on the working memory abilities through T-test and chi-square test.

Section -I Descriptive statistics by frequency and percentage distribution of demographic characteristics of High School Children's

The demographic data Shows that most of the study participants (40%) were 15-16 years of

age in experimental group and 35% in control group are 16 years. 50% of sample were male & 50% female "in experimental group and 57.50% were male in control group. Most of the samples in experimental group (52.50%) were middle socio-economic status in control group and the most of samples in experimental group were (57.50%) in 10th class and 77% in 9th class in control group. The majority of the sample were from joint family (57.50%) in experimental group and 58% in control group were from nuclear family and most of the samples (67%) and (87.50%) were from urban area in both the group respectively. Majority of the participants had <10,000 monthly family income and most of the sample were belongs to mother only supportive and caring family environment".

Section-II- Descriptive statistics to assess the working memory abilities of high school children.

Data represented in fig.1 shows that in the experimental pretest group, 100% of the children had good working memory, while in the posttest group, 50% of the children had

N= 80 (n1=40, n2 =40)
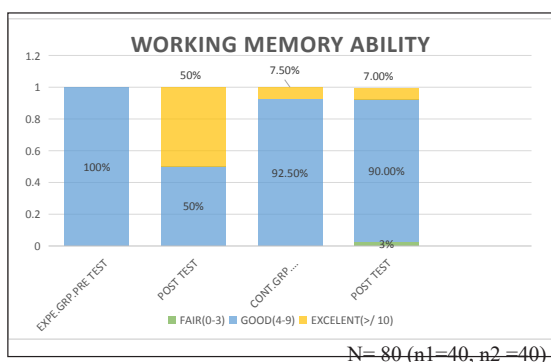
Fig 1: Frequency (f) and Percentage (%) of high school students according to their working memory ability

good working memory and 50% had Excellent working memory, and in the control pretest group, 7.50% of the children had fair working memory, 92.50% had good memory, while in the posttest group,90% of the children had good working memory and 7% had Excellent working memory.

Section-III Inferential statistics to find out the effect of Mind Sound Resonance Technique (MSRT) a relaxation technique on Working Memory ability among High School Children's by using paired and unpaired t- test.

The data in table-2 shows that the mean score of post-tests was more than the mean score of Pre-test of working Memory ability in experimental group, with the P value 0.01, which was Highly Statistically significant, inference shows that the working Memory ability was increased in post-test, that means the intervention was effective and the research hypothesis was accepted.

The mean score of post-tests was less than the mean score of pre-tests of working Memory ability in control group, with the P value 0.180, which was not Statistically significant, that means the research hypothesis was rejected.

Table -3 shows that the pre-test mean, standard deviation of Working Memory ability in experimental group were (6.22 ± 1.36) and Control group were (6.32 ± 1.70) and p value 0.773, which was not Statistically significant that means the research hypothesis was rejected.

Table- 4 Shows that the post-test means, standard deviation working memory ability

Table 1: Mean, SD, Paired t value, P value to assess the effect of Mind sound resonance technique on Working memory ability

N= 80 (n$_1$=40, n$_2$ =40)

Criteria	Mean ± S. D				
Working Memory	Pre-test	Post-test	t- value	df	p-value
Experimental group	6.22 ± 1.36	9.42 ± 1.48	16.26	39	0.01*
Control group	6.32 ± 1.70	6.75 ± 1.58	1.35	39	0.180

P<0.05 *(Highly Statistically Significant.

Table 2: Mean, SD, Unpaired t value, P value of pre-test score of experimental and control group to assess the effect of Mind sound resonance technique Working memory ability.

N= 80 (n1=40, n2 =40)

Criteria	Pre-test				
	Mean ± S. D	SE	t - value	df	P-value
Working Memory Abilities			0.290	39	0.773
Experimental group	6.22 ± 1.36	.21628			
Control group	6.32 ± 1.70	.26887			

P<0.05 *(Highly Statistically Significant).

Table 3: Mean, SD, Unpaired t value, P value of post test score of experimental and control group to assess the effect of Mind sound resonance technique on Working memory ability

N= 80 (n1=40, n2 =40)

Criteria	Post -Test				
Working Memory abilities.	Mean ± SD	SE	t-value	df	P-value
Experimental Group	9.42 ± 1.48	.234	9.26	39	0.000*
Control Group	6.25 ± 1.58	.250			

P≤0.05 *(Highly Statistically Significant)

Table-4: Association between pre- test of Working Memory ability with selected demographic variables in experimental and control group

N= 80 (n1=40, n2 =40)

Demographic Variable	Experimental Group			Control Group		
	Chi-square	df	P-value	Chi-square	df	P-value
1. Age in years	12.536	5	0.028*	13.156	6	0.41*
2. Gender of the Participant	1.253	2	.535	.921	1	.337
3. Socio-economic Status of family	0.958	2	.619	0.017	1	.896
4. Educational Status	0.921	1	.337	0.942	1	.332
5. Types of Family	0.102	1	.749	2.397	1	.122
6. Residential area	0.114	1	.736	0.463	1	.496
7. Monthly Family Income in rupees	3.493	2	.174	3.585	2	.167
8. Family Environment	0.232	2	.890	0.811	1	.368
9. Religion	0.688	1	.407	0.688	1	.407

P≤0.05 *(Highly Statistically Significant

in Experimental group were (9.42 ± 1.48) and control group were (6.25± 1.58) at p value 0.000, which was Statistically significant, that means the research hypothesis was accepted.

Section- IV: Association between Working Memory ability with selected socio-demographic variables".

The data in table- 5: reveals that in working memory ability there is significantly associated with the Age in year in both the Experimental and control group but not with other sociodemographic variables.

DISCUSSION

The working memory ability in high school children in experimental group pretest represents (100%) were scored good working memory, whereas post-test group represents (50%) were scored good working memory and (50%) were scored excellent working memory and in control group pre-test represents (7.50%) were scored fair working memory, (92.50%) were scored good memory where as in post-test group (90%) were scored good working memory and (7%) were scored excellent working memory. This current study

is supported to study findings of other study which conducted by Virve vuonetala, Anna-Mairia Troberg, et al. (2013) experimental study in 8-12-year-old children to explore working memory, attention, inhibition, as well as their links to adaptive function and emotional symptoms. The cognitive capacities showed significant age effects. Inhibitory control was linked to improved adaptive functioning. [5] The present study was supported to the study conducted by Apor Abhinash, e.t.a.l (2020) a randomized controlled trail, at a govt. school in south India to evaluate the yoga-based relaxation tech." (MSRT) on psychological and cognitive behavior. The study findings concluded that there was significant difference in experimental group with post test score of anxiety, attention and working memory.[6]

The present study showed that the working memory ability is significantly associated with the Age in year in both the Experimental and control group there is age in year but not statistically significant with other sociodemographic variables.

LIMITATION

The study is restricted to high school students with age group 14-16 years. Individuals with major psychological problems and chronic disease were not included in the study. The intervention period was short.

CONCLUSION

The findings from this study revealed that training in MSRT may enhance the working memory ability in high school children. And incorporating the MSRT as a regular practice in school may help to enhance the psychological wellbeing and also the cognitive function of high school student.

Conflict of Interest; Nil

Source of funding: self.

ETHICAL CLEARANCE

The Ethical consideration of present study was included-

Approval of research problem and objectives by the research committee of Sum Nursing College and approval for conducting study from IEC, SOA Deemed to be university. Obtaining permission from the higher authority of selected High School in Bhubaneswar. Informed consent was obtained from participants.

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Burden and Quality of Life Among Caregivers of Patient Suffering with Cardiovascular Diseases at IMS & Sum Hospital, Bhubaneswar, Odisha

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ABSTRACT

Introduction: Burden is a termed make use for the care-giver & it is a kind of agony, that caregiver suffers from a result of caring for the client. A family member or relative who regularly looks after the patients. Care giver may involve in personal care, financial support, helping with medical procedure, transportation etc. The cardiovascular disease patients caregivers will experience significant level of burden that influence their QOL. The main aim of the study to find out the level of burden and QOL of caregivers.

Methodology: A descriptive co-relational research design was used & purposive sampling technique were used to pick a total of 200 samples., (n=200). Self-structured socio demographic questionnaire was used to collect the socio demographic data & standardized Caregiver Burden Inventory Scale and standardized WHOQOL- BREF scale was used to collect the data in IMS & SUM Hospital, Bhubaneswar, Odisha.

Result: The study result showed the Karl Pearson's correlation co-efficient reveals that there is burden have a significant negative correlation (-0.306, p=<0.01) with QOL. The ANOVA test & t test reveals that significant difference between burden & QOL with socio-demographic variables.

Conclusion: The present study concluded that majority are in 30-40 years age group are having high burden . Care givers require more counselling to cope-up with the burden & to manage the burden of care giving for the cardiovascular patients. QOL was worst affected due to the burden & care giving to the cardiovascular patients. The QOL of young people is more affected than the elderly due to care giving.

Keywords: Caregiver burden, Cardiovascular diseases, Quality of life.

INTRODUCTION

Burden is a state or the condition of proper functioning of a human in certain situation genetic and environment & disease is a state of body or its organs which either interferes with the functioning of the body or deranges its functions. The cardiovascular disorder are the most health illness difficulty in all around the world. Cardiovascular disorder is a universal phrase for a illness of the heart and blood vessels. India has one of the excessive burdens of cardiovascular disorder worldwide. The annual number of deaths arise from Cardiovascular illness in India is forecast to increase from 2.26 millions in the year of 1990 to 4.77 millions in the year of

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2021. Over 1 crore annual deaths are reported in India . Cardio-vascular disorders are most causes 20.3% of death in the male and 16.9% of deaths in female respectively.[1] Care-givers are the peoples who through the progress of the diseases & treatments are the maximum engaged persons in care for clients & help out them to adjust & accomplish their long-term diseases. Care-givers are usually relatives of client who will take care of the patient on a regular basis & care for clients in socially, physically, mentally, but do not accept any type of compensate for the care of client. The long-term nature of cardiovascular diseases various difficulties and significant changes in life style of clients which causes the excessive level of burden.[2]

Burden is a termed used for care-giver & it is a kind of agony, that caregiver suffers from a result of caring of the client. A family member or relative who regularly looks after the patients. Care giver may involve in personal care, financial support, helping with medical procedure, transportation etc.. The cardiovascular disease patients caregivers will experience significant level of burden. Raising of burden & diminishing QOL can lead to complications such as depression[3]. Burden influence the care-giver QOL & it may result in decreased care facilities & decay health condition of clients with long-term disease.[4]

As a result, the purpose of this study is to find out the level of burden and quality of life of caregivers of patients suffering with cardiovascular diseases.

OBJECTIVES

1. To assess the level of burden and quality of life among caregivers of patients with cardiovascular diseases.

2. To find out the co-relation between burden & quality of life among caregiver of patients with cardiovascular diseases.

3. To find out the association between burden and quality of life with selected socio demographic variables.

MATERIAL & METHODS

The Study included Descriptive co-relational research design. Before conducting the main study, a pilot study was carried out for the period of 1week with 20 samples. As a result, 200 caregivers was chosen by using the Purposive sampling technique. The data was collected using the following tools 1. Socio demographic questionnaire, 2. standardized Caregiver Burden Inventory Scale to find out the burden and 3. standardized WHOQOL-BREF Scale to assess the QOL. "Ethical clearance and permission were obtained from the institutional ethical committee, Siksha 'O' Anusandhan and written permission was obtained from medical superintendent of IMS & SUM hospital and administrative permission was obtained from the institutional review of board. The sample characteristics were analyzed using frequency and percentage".

ANALYSIS AND INTERPRETATION

After the data was collected through demographic profile , descriptive statistics were used to find out the level of burden and assess the QOL of caregivers. Find out the co-relation between burden and quality of life through Karl Pearson's correlation co-efficient and comparison between burden and QOL with socio-demographic variables through ANOVA test and t test.

Section – I

The data in the above table shows that descriptive statistics of caregiver burden. The mean Caregiver burden was for time dependency items score was 61.5 ± 16.0 and median was 60.0 Corresponding value for Development items, Physical health items, Emotional health items and Social relationship items were 54.3 ± 10.3 with median was 55.0, 56.1 ± 10.7 with median was 56.3 and 50.1 ± 11.5 with median was 50.0 and 48.8- 10.1 and median 50.0 respectively. This implied the burden on the caregiver was very high due to the role of caregivers for cardio vascular patients.

Table 1: Descriptive statistics of burden of caregivers of patients with cardiovascular disease.

n = 200

Descriptive statistics of Burden of caregiver					
	Score in percentage				
Descriptive Statistics	*Time dependency items*	*Development items*	*Physical health items*	*Emotional health items*	*Social relationship items*
Mean	61.5	54.3	56.1	50.1	48.8
SD	16.0	10.3	10.7	11.5	10.1
Median	60.0	55.0	56.3	50.0	50.0

Table 2: Descriptive statistics of QOL of caregivers of patients with cardiovascular disease.

n = 200

Descriptive statistics of Quality of life of caregiver				
	Score in percentage			
Descriptive Statistics	*Physical health*	*Psychological health*	*Social relationship*	*Environmental heath*
Mean	21.6	17.1	8.7	23.4
SD	2.9	2.9	1.9	3.8
Median	22	17	9	23

The data in the above table shows that descriptive statistics of caregiver QOL. The mean Caregiver quality of life was for physical health score was 21.6 ± 2.9 and median was 22, Corresponding value for Psychological health, social relationship and environmental health were 17.1 ± 2.9 with median was 17 , 8.7 ± 1.9 with median was 9 and 23.4 ± 3.8 with median was 23 respectively. This implied the QOL was worst affected due to the role of care givers for cardio-vascular patients.

Section – II

The data in the above table shows that the Karl Pearson's correlation co-efficient reveals that burden have a significant negative correlation (-0.306, p=<0.01) with QOL . This implied higher the burden score poorer is the QOL.

Section – III

Table -4 reveals that the comparison of mean score of burden, quality of life by socio demographic profile of care givers. The mean burden score did not have significant variation by age groups with p = 0.571. However, the

Table 3 : Co-relation between level of burden & QOL of caregivers of patients with cardiovascular disease.

n = 200

Correlation of burden, QOL		
Variables	*Burden*	*Quality of life*
Burden	1	-.306**
Quality of life		1
** Correlation is significant at the 0.01 level (2-tailed).		

quality of life score significantly varied with age group (p=0.010). The mean quality of life score is higher for younger age groups depicting that younger age people are more affected due to their role as care givers because of their other roles get restricted due to the care giving. The factors like gender, income per month, duration of disease condition, dependency of patients with ADLs and relationship with patient did not significantly affect the burden, QOL due to the role as caregivers (p>0.05). The educational status significantly affect the burden and QOL. The care givers with higher education level have lower mean burden score (p=0.030) and higher QOL score (p=0.002). The mean burden score was significantly higher

Table 4: Comparison of burden & QOL care givers of patients suffering from cardio-vascular disease by socio-economic variables

n = 200

Variables	Classification	n(%)	Burden Mean ± SD	Burden F'/'t' value	Quality of life Mean ± SD	Quality of life F'/'t' value
Age group in years	20-30	25(12.5%)	52.7 ± 6.0	0.761*	63.0 ± 6.3	3.898*
	30-40	87(43.5%)	53.8 ± 7.9		59.0 ± 8.4	
	40-50	70(35%)	54.4 ± 6.8		58.7 ± 7.8	
	50-60	18(9%)	55.8 ± 5.8		54.9 ± 7.2	
ANOVA 'p' value				0.517	0.010	
Gender	Male	129(64.5%)	54.4 ± 7.3	0.854#	58.5 ± 7.9	-1.383#
	Female	71(35.5%)	53.5 ± 6.8		60.1 ± 8.1	
Independent sample 't' test 'p' value				0.394	0.168	
Education status	Primary	24(12%)	55.3 ± 5.5	3.036*	59.0 ± 7.7	4.475*
	High school	68(34%)	55.6 ± 5.9		56.5 ± 7.1	
	UG	65(32.5%)	53.6 ± 7.5		59.9 ± 8.6	
	PG	43(21.5%)	51.7 ± 8.6		61.8 ± 7.8	
ANOVA 'p' value				0.030	0.005	
Occupation	Government employee	10(5%)	57.9 ± 7.5	4.468*	52.4 ± 5.7	5.12*
	Private employee	51(25.5%)	51.5 ± 8.8		61.9 ± 8.6	
	Business	54(27%)	55.8 ± 7.3		58.1 ± 6.8	
	Un employee	85(42.5%)	54.0 ± 5.2		58.7 ± 8.0	
ANOVA 'p' value				0.005	0.002	
Income per month	<10,000	21(10.5%)	54.9 ± 5.5	0.427*	57.7 ± 8.2	0.441*
	10,000-30,000	127(63.5%)	54.2 ± 6.3		59.4 ± 7.7	
	31,000-50,000	52(26%)	53.4 ± 9.4		58.8 ± 8.7	
ANOVA 'p' value				0.653	0.644	
Marital status	Unmarried	65(32.5%)	52.7 ± 7.2	1.406*	59.5 ± 8.2	3.048*
	Married	112(56%)	54.6 ± 7.5		59.1 ± 8.0	
	Widow	21(10.5%)	55.8 ± 4.7		56.0 ± 6.3	
	Divorce	2(1%)	54.2 ± 0.0		72.3 ± 2.2	
ANOVA 'p' value				0.242	0.030	
Duration of disease condition	< 5 year	52(26%)	54.2 ± 7.0	0.193*	59.7 ± 8.3	0.442*
	6-8 year	122(61%)	54.2 ± 7.5		58.7 ± 7.7	
	9-20 year	18(9%)	53.6 ± 6.4		60.3 ± 9.0	
	> 20 year	8(4%)	52.3 ± 2.7		57.2 ± 8.7	
ANOVA 'p' value				0.901	0.723	

Variables	Classification	n(%)	Score in Percentage				
			Burden		Quality of life		
			Mean ± SD	F' / 't' value	Mean ± SD	F' / 't' value	
Dependency of patient in ADLs	No	59(29.5%)	54.1 ± 8.3	0.075#	60.1 ± 8.2	1.153#	
	Yes	141(70.5%)	54.0 ± 6.6		58.6 ± 7.9		
Independent sample 't' test 'p' value			0.940		0.250		
Relationship with patient	Father	27(13.5%)	56.6 ± 7.5	1.922*	55.2 ± 7.0	2.220*	
	Son	67(33.5%)	52.4 ± 7.6		60.3 ± 8.0		
	Daughter	21(10.5%)	53.9 ± 7.2		60.4 ± 8.6		
	Other relatives	84(42%)	54.6 ± 6.4		58.9 ± 7.9		
	Friend	1(0.5%)	58.3 ±		59.2 ±		
ANOVA 'p' value			0.108		0.068		
Number of family member in patient family	2-4	87(43.5%)	52.8 ± 7.6	-2.255#	60.3 ± 7.9	1.920#	
	4-7	113(56.5%)	55.1 ± 6.6		58.1 ± 8.0		
Independent sample 't' test 'p' value			0.025		0.056		
* 'F'- value, # - 't' value							

for Govt. employees and business peoples. The mean quality of life score was significantly higher for private employee (p=0.002). The marital status did not affect the mean burden score (p=0.242). The divorce have significantly higher QOL score (72.3 ± 2.2) with p=0.030. The higher have the number of family members, the higher is the mean burden score (55.1 ± 6.6) with p=0.025. The mean QOL & score did not differ significantly with family size (p=0.056) respectively.

DISCUSSION

In the present study it was found that, 200 caregivers were participated in this study, among them maximum 43.5% are in 30-40 years age group and 35% are in 40-50 years.64.5% caregivers are male & 35.5% were female. A cross-sectional study was conducted in the Valiasr hospital in Zanjan , Iran & he found that A total number of 110 caregivers were participated in this study. The majority of caregivers were males 30.0% and 70.0 %. Were females.[5] In the present study the result

shows that , burden on the care giver was very high due to the role of care givers for cardio-vascular patients. . A study supported by **Ertekin, Serkan Ozakbas et al. (2014)**, care-giver burden, QOL & walking ability in different disability levels of multiple sclerosis disease, 772 multiple sclerosis patients were recruited,

47 multiple sclerosis patients and their 47 caregivers finished the study. Disability , walking ability, QOL, disease impact of multiple sclerosis participants the burden, QOL ,self-efficacy, life satisfaction of the caregivers were evaluated. Multiple sclerosis patients with higher disability had significantly worse scores on the MSWS-12,MUSIQOL,MSIS-29, and PDSS. The caregivers facing with higher disability had significantly worse scores on CBI and CAREQOL. In the present study the results shows that , mean quality of life score was 59.0 ± 8.0 with median 57.7. This implied the quality of life was worst affected due to the role of care givers for cardio-vascular patients.[6]

LIMITATION

Data were collected from caregivers who were available in the OPD of hospital on the day of the survey, which means participants that were in home were excluded. Limited data collection period due to sudden closing of OPDs. Sample size is reduced. The study is limited to single setting. The tools used are standardized and self-structured tool.

CONCLUSION

The present study concluded that majority are in 30-40 years age group are having high burden . Care givers require more counselling to cope-up with the burden & to manage the burden of care giving for the cardiovascular patients. Quality of life was worst affected due to the burden & care giving to the cardiovascular patients. The quality of life of young people is more affected than the elderly due to care giving.

Conflict of interest : Nil

Source of funding : Self

ETHICAL CLEARANCE

The Ethical consideration of present study was included – Approval of research problem and objectives by the research committee of Sum Nursing College and approval for conducting study from IEC, SOA Deemed to be university. Written permission was obtained from medical superintendent of IMS & SUM hospital and administrative permission was obtained from the institutional review of board. Informed consent was obtained from participants.

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A Study to Assess the Internet Addition and Social Withdrawal Among Students of Private Institute of Block Pacchad, Distt. Sirmour, H.P.

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ABSTRACT

Background: Internet addiction is one of the socially growing issues. It has been affecting large number of population mainly the youth. Internet has become essential part of our daily life mainly among students, adolescents and youth. The study aims to find out the correlation between internet addiction and loneliness.

Methods: Correlation study design was used for the conduction of study. By using total enumerative sampling 98 samples were selected. Internet addiction and UCLA loneliness scale were used for data collection. Study results revealed that most of sample were of 21years and 52% study samples were UG students. 41.8% of the students having family income between 2.5 to 5 lakh. 41.8% of the students use their phone for 2-4 hours per day and mostly 77.6% spending time on social networking applications. 86.7% samples spent 500-700Rs for monthly data packs. 46.9% samples reported that they had satisfactory relationship with their family members. 70.0% of the students often feel stressed for not being able to use internet for couple of hours.

Conclusion: Study results showed that there was correlation between internet addictions and loneliness. This study conclude that that internet addiction does not lead to loneliness.

Keywords: Internet addiction, Loneliness, Students.

INTRODUCTION

Internet addiction is one of the socially growing issue. It has been affecting large number of population mainly the youth. Internet has become essential part of our daily life mainly among students, adolescents and youth. With the help of internet people can have easy access to educational material. It also helps in sharing variety of information and knowledge. Some internet users may develop an emotional attachment to online friends and activities they create on their computer screens. Internet addiction can lead to anxiety, sleeping disorders, depression, isolation and feeling of guilt. It can also cause headache, weight gain, carpal tunnel syndrome and blurred or stained vision.

A study was conducted in Dutch in which it was found that online gaming and social apps can increase the risk of internet addiction among adolcents.[1]

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According to one study which was conducted in India, Depression, anxiety, and interpersonal sensitivity were found to be correlated with Internet addiction. Along with that, low self-esteem has been found in students to be associated with possible users of Internet.[2]

In the University of Shkodra a study was conducted on internet addiction and loneliness, in that study the results showed that there is a mild negative correlation between loneliness and Internet addiction, on the other hand no gender differences was found in terms of internet addiction and loneliness level. The results suggest that students addicted to the Internet have significantly lower rates of loneliness.[3]

Need of the study: India is a developing country and in the recent years use of mobile phone and internet has been increased significantly. Now in each and every house there is a mobile phone and it is not without internet access. Indian Adolescents are spending more time on social media now a days that can lead them to the social withdrawal. And this area of internet addiction and lonlineness has not been researched more.

STATEMENT OF THE STUDY

A correlational study to assess the internet addiction and social withdrawal among students of selected private institute of block Pacchad, district. Sirmour, H.P.

AIM OF THE STUDY

To find out the correlation between internet addiction and loneliness.

OBJECTIVES OF THE STUDY

To assess the level of internet addiction among the students of private institutes of block Pacchad.

To assess the social withdraw due to internet addiction among selected students of private institute if block Pacchad.

1. To find out the correlation between internet addiction and social withdraw.

OPERATIONAL DEFINITION

INTERNET ADDICTION: Internet addiction is a behavior addiction in which a person become dependent on use of internet or other online devices that can be assessed with the help of internet addiction test.

SOCIAL WITHDRAW: Social withdraw is a complete or partially complete lack of contact between an individual and society .There are many type of social withdraw Loneliness ,shyness and Avoiders etc. In this study researchers had only included the concept of loneliness which determines the degree of social withdrawal among students which can be assessed with the help of UCLA scale.

RESEARCH VARIABLES

Independent variable: Internet addiction.

Dependent variable: Social withdraw.

Assumption

Most of the undergraduate student will have social withdraw due to internet addiction.

Delimitations

The study is delimited to selected area of private institutes of block Pacchad.

The study is delimited to specific age group of private institutes if block Pacchad.

MATERIAL AND METHOD

Research approach: Quantitative Research Approach was adopted for conduction of study.

Research design

Correlational research design was used for present study. This design is selected because in this study researchers were interested in finding the relation between Internet Addiction and Social Withdrawal [loneliness] among students studying in selected private institute of Block Pacchad.

Research setting

Selected private institutes of block Pacchad as per easy accessibility.

Population

Target Population: Students of age group: 17-22 years.

Study Population: Students of age group 17-22 years in private institute of block Pachhad.

Sample: Students of age group 17-22 years that met the inclusion criteria.

Sampling technique: Total enumerative sampling technique was used.

Sample size: 98

Sample selection Criteria

Inclusion Criteria:

- Students of age group 17-22 years

- Students who are able to understand English language.

- Students who are willing to participate in the study.

Exclusion Criteria

- Students those who were not present at the time of data collection.

Data Collection instruments

Tools were divided into 3 parts:

Part A : Socio-demographic Data sheet which includes personal information about subject such as year of studying, mothers education, mothers occupation, fathers education, hour of internet use, device used for internet usage etc.

PART B: Standardized tool (Internet addiction test) for the assessment of internet addiction.

PART C: Standardized tool (UCLA loneliness scale) for the assessment of lonliness

RESULTS AND DISCUSSION:

Data analysis and interpretation: in current study data analysis is described under following sections:

Section A: Socio demographic profiles of students.

Section B: level of internet addiction

Section C: Level of lonliness and correlation between internet addiction and lonliness

Results related to Socio demographic variables:

The results of socio demographic variables showed that most of the participants were 19 years of age, 52% of them were in 2nd year of their graduation. 41.8% of the samples reported that they spend 2-4 hours daily on internet. 77.6% participants were spending 100-500 INR on internet per month.

Results related to loneliness

33 (33.6%) of adolescent are often feel that they are Intune with people around them. 8(8.2%) of adolescent are often feel that they have lack of companionship. 9.2% of adolescent are often feel that there were no one whom that they can trust. 14.3% of adolescent often feel alone. 36.7% of adolescent often feel that they are a part of group of friends. 17.3% of adolescent often feel that they have common with the people around them. 13.3% of adolescent are often feel that they are no longer close to any one. 13.3% of adolescent are often feel that their interesting ideas are not share by those who around them. 26.5% of adolescent are often feel outgoing and friendly. 18.4% of adolescent are often feel that they are close to people. 13.3% of adolescent are often feel left out. 15.3% 0f adolescent often feel that their relationship with others are meaningful. 28.6% of adolescent often feel that no one really knows them well. 11.2% of adolescent often feel isolated from other. 9.2% of adolescent are often feel that people are around them
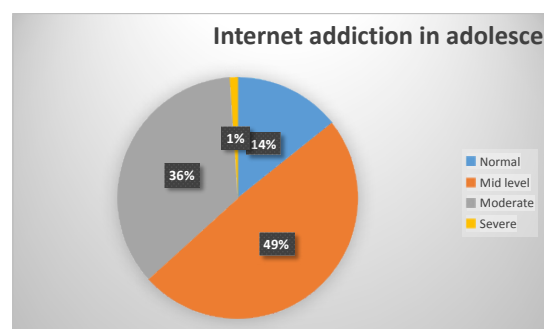
Fig. 1: Internet addiction among adolescents

Table 1: Correlation between internet addiction and loneliness.   N=98

Variable		Loneliness	Internet addiction
Loneliness	R	1	-.063
Internet addiction		.-063	1

but not with them. 21.4% of adolescent often feel that there are people who understand them.18.4% of adolescent often feel shy. 19.4% of adolescent often feel that there are people with them they can talk. 17.3% of adolescent often feel that there are people with them they can turn to.

There is no correlation found between loneliness and internet, as the Pearson value found during the analysis was- 063.

DISCUSSION

Finding of the present study revealed that majority of the subjects were between the age group of 19years i.e. 27.9%.Major portion of student that is 49.0% were mildly addicted to internet ,while 35.7% were moderately addicted to internet,14.3%students have no internet addiction ,and only 1.0% student were found to be severely addicted . Bulk of student i.e. 51.0% have moderate level of loneliness, while 42.9% have mild level of loneliness and only 6.1% have severe level of loneliness. There is negative correlation between internet addiction and loneliness i.e. -0.63.

A similar study was done in Abdulrahman University in the year 2020 in this study the finding revealed that there was no significant correlation between student internet addiction, loneliness and life satisfaction. However significant positive correlation was found between loneliness and life satisfaction.[4]

A similar study done in the year 2019 in this study a total of 215 university student were selected between the age group of 18 to 25 years. Addiction profile index internet addiction form (APIINT) was used for the assessment of internet addiction among the students. Results showed that 51 people were

not addited to internet. Whereas 24.3% of the students were addicted to the internet.[5]

CONCLUSION AND ACKNOWLEDGMENT

The results of the present study showed that bulk of students are mildly addicted to internet and students have moderate level of loneliness. There is negative correlation that exist between internet addiction and loneliness. In our study we found that students neglect their important activities due to the level they are dependent on social networking sites and internet. This problem can be overcome by indulging into other activities such as sports, meditation, etc. which keeps our brains occupied. These parameters should be taken into consideration while promoting awareness of problematic internet use and social behavior and educate students regarding healthy internet use.

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A Study to Assess the Effectiveness of Structured Teaching Programme on Knowledge and Attitude Regarding Childhood Behaviour Disorder Autism Among Mothers Child with Autism of Selected Developmental Centres of Agartala, Tripura, India

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ABSTRACT

Abstract: Childhood Behaviour Disorder Autism is a fast growing problem worldwide according to present scenario. 1 in 100 children in India are suffering from childhood behaviour disorder Autism. This disorder has a drastic negative impact on the normal development of a child. Mothers are the primary care giver for their children. So that a strong knowledge and attitude of mothers child with Autism is the vital factor in proper guidance for behaviour management of their under developed child.

Aim: The present pilot study was carried out with the aim of assessment of knowledge and attitude regarding childhood behaviour disorder Autism among mothers child with Autism.

Material and method: 50 mothers child with Autism were selected for present experimental pilot study. Purposive sampling technique, structured teaching programme, semi structured questionnaire based on knowledge and attitude were implemented. The present pilot study was carried out 6.1.2022 to 13.1.2022 in the District Disability Rehabilitation Centre of Agartala.

Result: pre-test knowledge of mothers about child hood behaviour disorder mean was 5.05, post-test knowledge of mothers about child hood behaviour disorder mean was 11.75 with standard deviation 2.195,t test value 18.160 and p value .000.So the result of pilot study of knowledge among mothers is significant. Pre-test positive (favourable) Attitude response mean was 10.7255, post test positive Attitude response was 13.2745, Standard deviation of pre-test positive response 1.73296, t test value 50, df 50 and p value .000, so favourable attitude response is significant.

Conclusion: Mothers with lower in education, non-availability of child development centres facility and financial support, lack of awareness regarding Autism negatively impacted the study result which significantly improved in the end result of this experimental comparative study. Proper health education for improvement of knowledge and attitude is an important key factor for mothers how they should treat and care their child. According to the study education of mothers, financial support, healthcare support are the most important factors which can improve the knowledge and attitude of mothers.

Keywords: Mother, Demography, knowledge, attitude, Autism, Autistic, behaviour, children, pilot study.

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INTRODUCTION

History says before 1911 Eugen Bleuler used the word Autism which means remaining in self. In the year 1943 Leo Kanne also described Autism child's common traits as impairment in socialization, memory problems, echolalia, and oversensitivity to any stimulation especially hipper sensitivity to sound. Some children have feeding and spontaneous activity problems. He also mentioned that we can sometimes find good intelligence in children from talented families. In the year 1944 Hans Asperger an independent paediatrician as Kanner for these children told that they have autistic psychopaths. Almost they both Hans Asperger and Kanner gave the same description of autistic children. United Nations General Assembly declared 2nd April as World Autism Day On December 18, 2007.[1]

Neurodevelopment disorder Autism is described by social interaction problems, communication impairments, and restricted and repetitive behaviour. They have stereotyped behaviour which appears mostly first some years of child growing.[2]

It is estimated that in our country India more than 2 million citizens are suffering from Autism. Studies showing an increasing prevalence of Autism in our country. All these study helping us to make people more aware about Autism as well as helping in diagnosis system. Studies not only helping us how to diagnose cases in the early age as well as helping us to recognise how to diagnose Autism cases in the alternative way.[3]

With the goal to make child with Autism emotionally stable, at least for primary level conversation skill development, normal postural and gestural skill development, view pointing, answering, social communication making with others cluster of therapy social skill therapy studied more. As part of social skill

therapy based on peer related mediation, video assisted modelling, social activity oriented simple story telling and story showing.[4]

PILOT STUDY: To assess the feasibility of study, a pilot study was conducted in the child developmental centre after getting prior permission from the concerning authority.

OBJECTIVES

- Assessment of the available cases of child with Autism.
- Assessment of the practical utilization of the research tools.
- To point out the drawbacks of current methodology utilization.
- To analyse the collected data.
- To gathering confidence before main study with big samples.
- To study the requirements of data analysis and interpretation of data.

Ethical permission: Pilot study permission was taken from D.D.R.C (District Disability Rehabilitation Centre), Agartala.

Statistical analysis

Distribution of knowledge score with frequency and percentage.

Attitude scale: Likert 4 points attitude scale using scoring key strongly disagree, disagree, neutral, agree, and strongly agree (Table 2).

DISCUSSION

Here effectiveness of STP on knowledge and attitude regarding childhood behavioural problems Autism among a sample of 50 mothers in selected developmental centre D.D.R.C at Agartala, Tripura. The data collected were analysed by suitable descriptive and inferential analysis and interpreted in accordance study objectives.

Table 1

Knowledge	Mean	Std. Deviation	t test value	df	P value	Significance
Pre-test	5.05	1.154	18.160	50	.000	S
Post test	11.73	2.195				

Table 2: Attitude Results of pilot study

	Mean	Std. Deviation	t test value	df	P value	Significance
Pre-test Positive response	10.7255	1.73296	11.177	50	.000	S
Post test Positive response	13.2745	1.73296				
Pre-test Negative response	7.4706	1.40503				NS
Post-test Negative response	7.4706	2.05283	.000	50	1.000	
Pre-test Positive response	10.7255	1.73296				S
Post-test Negative response	7.4706	2.05283	8.369	50	.000	
Pre-test Negative response	7.4706	1.40503	17.770	50	.000	S
Post test Positive response	13.2745	1.73296				

Std favourable response 1.73296

Table 3: Association of knowledge with socio-demographic data

Characteristics	Category	Frequency	Percentage
1. Age of mother	Below 20 years	9	18
	21-30 years	16	32
	31-40	15	30
	Above 41years	10	20
2. Religion of Mother	Hindu	34	68
	Muslim	9	18
	Christian	5	10
	Others	2	4
3. Education of mother	No formal education	5	10
	Under graduate	40	80
	Graduate	4	4
	Post-Graduation and above	1	2
4. Mother with special training Outside of Tripura	Yes	2	4
	No	48	96
5. Residence	Permanent residence at Agartala, Tripura	43	86
	Temporary residence at Agartala, Tripura	7	14
6. Source of income	Permanent employment	2	4
	Temporary employment	7	14
	Self-employment	2	4
	House wife with no income	39	78
7. Background of family support	Good	19	38
	Poor	31	62
8. Type of family	Joint family	5	10
	Nuclear family	36	72
	Brocken family	8	16
	Single family	1	2

Characteristics	Category	Frequency	Percentage
9. Family history of mental Disability –if yes to whom	Maternal side	15	30
	Paternal side	9	18
	Both side	10	20
	No family history	16	32
10. Intra-natal infectious disease history of mother	Yes	38	76
	No	12	24
11. Place of delivery	Institutional delivery	27	54
	Home delivery	23	46
12. Method of delivery	Normal vaginal delivery	20	40
	Cesarean section	14	28
	Forceps delivery	9	18
	Any other abnormal delivery history	7	14
13. History of first cry of diseased child of mother	Strong cry	8	16
	Weak cry	31	62
	No cry after birth up to 1 hour	5	10
	No cry after birth more than 1 hour	6	12
14. Access of others institutional health care and counseling -center facility for behavioral disorder autism of child	Yes	47	94
	No	3	6

MAJOR FINDINGS

Section I: Development and Validation of tools:

Opinion was taken for validation of tools and content of structured teaching program from the experts of respective nursing fields.

Section II: Major findings related to the description of the demographic profile of the mother's child with Autism:

Most of mothers of the study were in 21-30 years (32%),68% mothers were Hindu, Undergraduate 80%, without special training outside of Tripura 96%, permanent residence at Agartala 86%,housewife with no income78%,belonging nuclear family 72%,family history of mental disability 30%,intra-natal infectious disease history of mothers 76%,place of delivery most of mothers institutional 54%,history of first weak cry of diseased child 62%,access of institutional health care and counselling facility 94%,

Section III: Assessment of knowledge regarding behavioural disorder autism among mothers of children with autism:

Pre-test knowledge of mothers about child hood behaviour disorder mean was 5.05, post-test knowledge of mothers about child hood behaviour disorder mean was 11.75 with

standard deviation 2.195,t test value 18.160 and p value .000.So the result of pilot study of knowledge among mothers was significant.

Section-IV: Assessment of knowledge regarding behavioural disorder autism among mothers of children with autism:

The pilot study pre-test positive attitude mean response 10.7255 and Post test Positive attitude mean response 13.2745, Pre and post negative response7.4706.There was significant favorable attitude increase in the study with structured teaching program.

CONCLUSION

From the study it can be conclude that the structured teaching program regarding childhood behavior disorder autism among mothers with autistic children was effective in increasing knowledge and attitude. The structured teaching program used in the study on behavior disorder autism among mothers can be used as an effective teaching tool to improve knowledge and attitude. And also mothers with autistic children can be motivated to improve knowledge and attitude through the structured teaching program used in the study. Further study is needed with large population. Mothers should be educated more about care for their child by special knowledgeable healthcare expert team regarding autism in child. Mothers' economical, educational, familial support and more awareness regarding autism also highly recommended in the conclusion of the study.

RECOMMENDATION

1. A similar study can be conducted in different settings.

2. A similar study can be conducted in different disease conditions of child under development.

3. A similar study can be conducted with a large sample.

4. A similar study can be conducted with a random sampling technique. A Study to Assess Knowledge Regarding Austin Among.

5. A similar study can be conducted by using other teaching strategies like video-based teaching, self-instructional module, and Information Booklet.

6. A similar study can be conducted among community gatherings like markets, schools, and hospitals.

Conflict of interest: No conflict of interest

Source of support: Present study done by me with the support and guidance of my University (Desh Bhagat University)

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A Study to Assess the Knowledge Regarding COVID-19 among Mother Child with Autism at District Disability Rehabilitation Centre at Agartala, Tripura, India

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ABSTRACT

In spite of high density of population, higher in poverty, lower levels of per capita public health infrastructure in our country interestingly recovery rate of COVID-19 is good. COVID-19 is a novel respiratory disease. Studies suggest that lack of proper knowledge regarding COVID-19, severe morbidity and high mortality also high in our country. During any kind of disaster or pandemic vulnerable groups or populations like mental and neorudevelopmetal disorder like child with autism spectrum disorder known to be overly effected in negative way. According to epidemiological research report during the last decade there is dramatically increase in the rate of autism with prevalence of 5 to 10 cases of classic autism per 10,000 . Knowledge regarding COVID-19 among mothers child with autism was negatively correlated with the demographical value and social functional support reported by the mothers child with autism. This study sought to assess the knowledge toward COVID-19 among mother with autism seeking care for their child with autism in the District Disability Rehabilitation Centre, Tripura. This descriptive study hypothesized there are adequate knowledge about COVID-19 as because awareness was done by mass media from government and nongovernment side in a very intensive way. We conduct an investigation how mother child with autism with their specific demographical properties shows their knowledge about COVID-19 awareness and strategy they applied to prevent and recover from COVID-19.Our sample was selected randomly. Our study shows that knowledge and strategy of mother regarding COVID-19 significantly associated with their education, mother with special training, source of income, background of family support. The awareness level high among mothers about COVID-19 in percent was high 6.7 levels. Proportion of High Strategic capacity with COVID- 19 as high percentage18.7. This descriptive study is according result is significant with selected demographical variables of mothers child with autism.

Method: A descriptive study was conducted in District Disability Rehabilitation Centre, Tripura. A simple random sampling technique was conducted with structured questionnaire in this centre. A total 50 mothers with child autism were randomly sampled. Descriptive analysis was used to assess the knowledge between the mothers with autism with demographic variables. Data was analyzed depending priorities on source of hearing and visualizing awareness, awareness regarding source of infection, sign and symptoms of infection, strategies adopted to withstand challenges from COVID-19,vulnerable group's members, Proportion of high strategies capacity with COVID-19.

Result: The awareness level high among mothers about COVID-19 in percent was 6.7 levels. Because our Government did mass awareness on Covid-19 as well as District Disability Centre also. Distribution source of hearing about COVID-19 knowledge among mothers according to study mostly from newspaper is 37%. Awareness among mothers about sources of infection high in percentage via handshaking is 70.3, Cough

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Droplets and Public Gathering are same as 49.3.Symptom awareness of fever, cough, breathlessness are equal as in percentage 70.Strategies adopted to withstand challenges from COVID-19 in percentages in hand washing and using sanitizer 70.9. The demographical independent variables are the age, religion, education, family income, residential area, with chronic stress child with autism. Mothers child with autism without family support and with no formal education negatively associated with Covid-19 strategic capacity in percentage. According to our study mothers have adequate knowledge regarding COVID-19 is resulted Proportion of high Strategic capacity with COVID-19 in percentage is 18.7

Conclusion: Although majority of mothers have adequate knowledge about COVID-19 and engaged in good practice of COVID-19, awareness level have to increase in all mothers with different demographical variables .As a study result mothers are aware about COVID-19 in percent 33.3 in low lavel,60 percent are in medium level. From result there is some decrease in awareness depending on demographical value as education, family income, special training, background of family support and types of family negatively impact- the adequate knowledge among mothers. From we come in conclusion that mothers have adequate knowledge about COVID-19 with path of strategic capacity.

Key words: Autism, mother, Demographic variables, knowledge, COVID-19,

INTRODUCTION

Corona virus disease 20199(Covid-19)is an emerging respiratory disease caused by sever acute respiratory syndrome coronavirus-2(SARS-COVA2),which is a single-stand, positive –sense ribonucleic acid (RNA) virus.[1] Confirmed cases of Covid-19 usually present with clinical signs and symptoms of fever, dry cough, tiredness and shortness of breath with an incubation period of 2-14 days after exposure to the virus.[2-5] The virus may cause morbidity in the range of mild respiratory illness to severe complications characterized by acute respiratory distress syndrome, septic shock, and other metabolic and homeostasis disorder , and eventually death.[4,5] (Most of the fatal forms of COVID-19 including acute respiratory syndrome occurred in older adults and people with underlying medical comobidities.[6-7]

Pandemics are similar to other disasters in their unpredictability, fatalities, and persistent effects, yet, they are dissociate from disasters as they prevent victims from converging and gathering and instead requiring the opposite reactions of separation ,isolation, and quarantine ,which end up interfering with family norms, rituals that generally protect family functioning during crisis.[8] Such rituals are especially relevant the ASD population, where repetitive behaviors and interests area defining feature of the condition and affected individuals adhere to rigid daily rituals .Beyond their health and fatality consequences, pandemics of infectious disease tend to induce widespread anxiety and psychological problems. [9]

Social support from friends that carries some importance for stress protection in caregivers in children with ASD likely become less available during the social isolation measures of COVID-19 .Moreover ,parents of children with ASD were found to display higher cortisol response to psychosocial response compared to parents of typically developing children and this increased physiological stress[10]may result in parents with ASD experiencing more stress during during COVID-19 compared to parents of typically developing children which may be even more aggravated by increased behavioral problems quarantine anxiety levels and difficulties experienced by the children including but not limited to behavioral problems reciprocally exacerbate each other over the course of pandemic.[11]

On the other hand, some COVID-19-related situations may be dealt with easier by some children with ASD and their families. The adherence to rules and routines and aversion of socialization and physical contact in individuals with ASD may follow mandated hygiene measures like frequent hand washing and avoiding physical contact

in individuals with people or surfaces. The risk of sensory overload maybe lowered as the children will be out of home less frequently due to home confinement measures. In their recent qualitative study on children with special needs ,of which the majority has ASD, and their parents , Asbery et al .found that a small proportion of participants reported some positive impacts of the quarantine ,such as not experiencing the challenges of daily routines as going to school or other public places or anxiety of socializing with others[12] Yet ,these ASD related strengths for dealing with COVID-19 measures are likely to be limited and not balance out of the participated and challenges.

From all the study done earlier have been hypothesized that the knowledge of COVID -19 measures are adequate like wearing mask, using sanitizer, avoidance of crowd depending on demographical variation.

OBJECTIVE

- To assess knowledge of mothers child autism regarding COVID-19,
- To assess strategies adopted to withstand challenges from COVID-19,
- To assess the awareness sources regarding COVID-19,
- To assess the knowledge about sources of infection of infection of COVID-19,
- To assess the knowledge about symptoms of disease,
- To know about vulnerable group members of disease COVID-19.

Methodology: Descriptive study has done to achieve the objectives of the study. A quantitative experimental research approach was considered to be the most appropriate. The target population for the study is the mother's child with behaviors disorder autism of Tripura in the selected development center of Tripura D.D.R.C (District Disability Rehabilitation Centre), Agartala.

Study design: A non comparative descriptive research design was used.

Target population: Mother with child with autism in the selected development center of District Disability centre

Sample and sampling technique: The total sample sizes are 50 numbers of mothers. This non-experimental Comparative study was conducted in D.D.R.C offering service for the child with autism. A r a n d o m sampling technique, structured questionnaire, and descriptive analysis were used to assess the knowledge among mothers child with autism regarding COVID-19.

Statistical analysis: Statistical numerical analysis done based on percentage among 50 mothers selected for study. Data was entered in MS Excel and analysis was performed using SPSS version 25.In the descriptive analysis, continuous variable were expressed as count (percentage).

Distribution of knowledge

Sources of hearing about COVID-19 (*in percentages*)

Source	%
News Paper	37.0
TV	28.0
Family members, friends	25.0
Social Media	20.0
Govt. awareness Program	16.6

Awareness about sources of infection (*in percentages*)

Source	%
Cough Droplets	49.3
Through Water	6.7
Through Air	6.7
Quarantine Areas	Nil
Handshaking	70.3
Public Gathering	49.3
Hugging	13.3
Sharing Food Items	6.7
Sharing Clothes	13.3
Others	Nil

Awareness about symptoms of infection (*in percentages*)

Source	%
Fever	70.0

Fatigue	23.4
Cough	70.0
Body Ache	16.6
Breathlessness	70.0

Awareness Index of COVID-19

	Low	Medium	High
Awareness level	33.3	60.0	6.7

Strategies adopted to withstand challenges from COVID-19 (*in percentages*)

Measures	%
No contact with the infected person	25.3
No contact with the person who has recent travel history	43.3
Wearing Mask	43.3
Washing hands/hand sanitizer	70.9
Maintaining Distance	53.0
Avoid crowding Place	26.0

Protecting vulnerable group members (*in percentage*)

Vulnerable Groups	%
Children	63.0
Older	53.3
Person with Chronic illness	33.0

Proportion of High Strategic capacity with COVID- 19

	Percentage
High	18.7

DISCUSSION

In this study investigated the knowledge about COVID-19 among mother child with autism. Our study found that mother has adequate knowledge regarding COVID-19 in the District Disability Rehabilitation Centre of Agartala, Tripura. They are adequate aware about source of infection, sign and symptom of infection and path of strategy from recovery of COVID-19.However mothers with no formal education, lower income, nuclear family, background of family support mother's

knowledge about COVID-19 awareness level negatively associate with the significant of study and strategic capacity .

A similar study done by Clements JM, 2020 on knowledge and behavior toward COVID-19 among US residence based cross sectional online questionnaire on during the early days of the pandemic. The results of the study indicated that the overall knowledge regarding COVID-19 was poor in less than 90% of pregnant women. Although about 70% of the cases achieved acceptable knowledge score. This finding was supported by surveys conducted in different countries, for example, Nigeria, China, the United States and Bangladesh, suggesting that pregnant women had acceptable levels of knowledge of COVID-19.[13-16]

Sirchan et al (2020) stated in their study efforts made by governmental and nongovernmental organizations aimed to educate people through various methods including social media, newspapers, television programs, and short message services. However, these findings were not universal and reported that most Thai women (74.1%) had poor knowledge about COVID-19.[17]

Talking about knowledge, the highest knowledge score found for routes of transmission of COVID-19, which harden correctly answered by more than 80% of the pregnant mothers. These findings were 19, which had been correctly answered by more than 80%of the pregnant mothers. These findings were consistent with the results of the study by **Farhan and Mannan** [18] in which most Bangladeshi women had adequate knowledge about routs of transmission of COVID-19. This high level of knowledge can be considered as an advantageous point because it can lead to people to take proper preventive measures. About two third of the participants in the present study had acceptable knowledge regarding the most common manifestation of COVID-19. Having an acceptable knowledge regarding common symptoms of this condition can help people become aware of common symptoms of this condition can help people become aware

of common symptoms of disease and on-time referrals to healthcare centers and hospitals, hence not infect unaffected individual if people refer to hospital for any unimportant manifestation of COVID -19, it can result in burnout among healthcare workers. On the other hand referring late to hospital for any unimportant manifestations.

Ethical clearance: Ethical permission was taken from Dr. Dipti Bikash Roy District Disability Rehabilitation Officer, DDRC, West Tripua.

Source of funding: Self.

Conflict of interest: Nil.

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A Study to Assess the Effectiveness of Structured Teaching Programme on Knowledge and Attitude Regarding Childhood Behaviour Disorder Autism Among Mothers of Selected Developmental Centres of Agartala, Tripura, India

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ABSTRACT

Background of the study: Autism is a Global burden including in our country India. Autism in the developmental disorder included under the umbrella of the pervasive development disorder. Childhood developmental disorder Autism characterized by deficits in social interaction, communication with unusual repetitive behaviour. Usually they live in their won world. Event they may show no interest what is happening around their. They remain usually in their won world. Socialization, education are big challenge for mothers whose has the child with Autism. Because in the way of development of such children needed specialised knowledge and attitude of mothers including caregivers, parents and teachers. Keeping mind the concurrent, the present study aims to progression of awareness and development of childhood behaviour disorder Autism in Tripura, Agartala as well as in our country India.

Materials and methods: Present study is a quasi-experimental research design.500 mothers of Vidya Welfare Society and Tripura Medical College & Dr.B.R.A.M Teaching Hospital, Agartala with child with Autism were selected by purposive sampling technique. Dr. Nola Pender theory was implied in this study. 40 Semi structured questionnaire of knowledge and 12 Attitude were administered after structured teaching programme. The estimated reliability of the tool is 0.90. Data were analysed by inferential quantitative method.

Results: The results of post-test knowledge showed the increase in knowledge regarding childhood behaviour disorder autism. The reliability of the tool structure knowledge questionnaire was 0.82 and the tool for attitude was 0.90. The enhancement of knowledge regarding meaning and characteristics of autism was 38.7%, enhancement of knowledge regarding causes of autism was 41.2% and enhancement of knowledge regarding management was 39.6% and the over all aspects of knowledge was 39.4%. The increase or enhancement of attitude regarding childhood behavioural disorder autism was 19.1%. The paired t-test was carried out and it was found to be remain significant for knowledge and attitude at p<0.001 level. Results implied that increase in knowledge and the increase in attitude regarding childhood behavioural disorder autism among mothers child with autism in this present study.

Conclusion: Mothers with more education and financial empowerment will make easier path to manage childhood behaviour disorder Autism. This study also suggest for more family support, Intra-natal care ,to provide child joint family environment, access of others institutional health care and counselling centres facility for behaviour disorder autism of child also need for proper knowledge and attitude of mothers' child with autism.

Keywords: Autism, ASD, Autistic, Attitude. Childhood behavioural disorder, Knowledge.

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INTRODUCTION

Autism is a neurodevelopment disorder by impairments in social interactions, communication, and Restricted, repetitive, and stereotyped pattern of behaviour that typically emerge in the first few years of life.[1] Autism is a serious behavioural disorder among young children that now occurs at epidemic rates in developing countries like India. Autism is a neurodevelopment disorder with a range of clinical presentations, now classified in a broader class of disease called autism spectrum disorders which includes autism, Asperger syndrome, and pervasive developmental disorder-not otherwise specified. Impaired social interaction, associated with verbal and nonverbal communication deficits and stereotyped behaviour are the most common clinical sign.[2] There are only a few studies focusing on its prevalence in community settings. Furthermore, the lack of uniform application of fully validated and translated autism diagnostic tools makes it difficult to estimate the exact prevalence of ASD.[3] There is also under-recognition of the disorder due to a delay in the diagnosis of ASD at a young age.[4]

LITERATURE REVIEW

Abdullah Y. Naser, Mohammad H. Alyami, and Salem H. Alharethi (2022) conducted a cross-sectional research study. The study said about ASD is not easy as there is no direct test that exists to establish such a diagnosis. It is very important to improve the knowledge of healthcare professionals' knowledge about ASD children screening, diagnosis, and early treatment by specialists. In this way, only children with ASD will get early detection and treatment. The study actually explored the general people how much knowledge they have and their status of attitude regarding autism also. A total of 769 participants were involved in the study which was conducted between November 2021 to February 2022 using an online survey tool to explore the knowledge of the general population in Saudi Arabia regarding typical child development and ASD. A conclusion of the study said the participants the study

showed limited knowledge about autism. Government funds should be made available to facilitate educational services for ASD children. More funding and resources should be allocated by the government to provide assistance for children with special needs, and changes in public facilities are required to meet the demands of ASD patients. The special educational effort, and assistance of media platform support should be given to improve public understanding of ASD and to fulfil the demand of ASD patients.[5]

Kate Tsiplova, Jathishinie Jegathisawaran, and PatMirenda (2022) conducted a study on Parent coaching interventions for young children suspected of having autism spectrum disorder (ASD). The objectives were to measure the costs of parent coaching and the pre-diagnosis utilization of services and treatments related to autism and to compare costs between families who received parent coaching and those who received enhanced community treatment. Prospectively alongside a randomized comparative effectiveness trial of a parent coaching intervention in British Columbia, Canada. Twenty-four participants were randomly assigned to the parent coaching group and received 24 weeks of coaching support and 25 participants were assigned to the ECT group. Families in both groups also received health, education, and community services. Parent-reported service utilization was collected for the 6 months prior to initiation of parent coaching and for the period coinciding with receipt of one of the two interventions. As a conclusion of the study said the findings can be used to inform funding and decision–making to enhance the treatment options available for young children awaiting an autism spectrum disorder diagnosis.[6]

Sabriti Acharya and Kalpana Sharma (2021) in their research qualitative phenomenological study of lived experiences of mothers raising children with autism in Chitwan District, Nepal, qualitative phenomenological study. Nine mothers were selected having at least one clinically diagnosed autistic child. The purposive sampling technique was used to select samples. Findings revealed that

the mothers raising children with this problem encountered numerous problems in their life. The economic problem was also acute among mothers due to job loss, costly medical treatment, and therapies. So to deal with the stressors they faced, mothers adopted various coping strategies such as respite care, problem-focused strategies, religious coping, and positive coping in their everyday life. In conclusion, the study said this is the first study on Nepalese mothers having children with autism documenting experiences. Hence healthcare professionals need to pay more attention to addressing the problems of mothers while treating their autistic children. The Government of Nepal also needs to formulate a policy for the rehabilitation of autistic children in society. [7]

Major findings of the study

**Section I: Development and Validation of tools**

Opinion had taken for validation of tools and content of structured teaching program from the experts of the respective fields. The agreement and suggestions of the experts were taken and modifications were made according to the experts' opinions.

Section II: Findings related to the description of the demographic profile of the mother's child with Autism

- 19.6% below 20 years, 29.6%in the age of 21-30 years, 21.8%mothers are in 41 years and above.
- 72.8% of mothers are Hindu, 19.6% are Muslim, and 7.6% are Christian.
- 9.6% of mothers have no formal education, 57.2% of mothers are undergraduate, 28.4% graduate, and 4.8% of mothers are postgraduate and above.

Chart-3: Distribution of mothers according to education
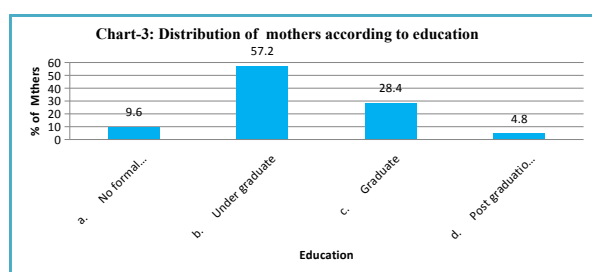
- 98.6% have no special training from outside of Tripura, 3, 4% have special training from outside of Tripura.
- The distribution of mothers according to the type of residence in Tripura is 86.6%, and 13.4% of mothers are outside of Tripura.
- Mothers with permanent income are 6.8%, 22.4% mothers are with temporary income, 14% self-employment, and 56.8% mothers are housewives.
- Distribution of mothers according to family support- 75.2% mothers with poor support, 24.8% with good family support.

Chart-6: Distribution of mothers according source of income
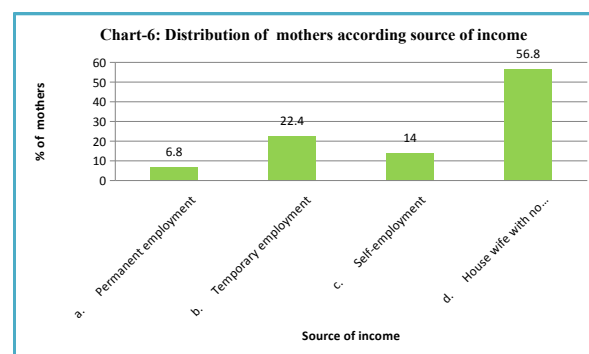
- Distribution of mothers according to the type of family-2.4% with single family, 60.4% with a nuclear family, 33.6% joint family, 3.6% with a broken family.
- Distribution of mothers according to family history of maternal disability-35.6% with no family history, 19.6% with maternal side, 17.2% on the paternal side, and 27.6% on both sides.
- Distribution of mothers according to intra-_natal disease history-68.8% with intra-natal disease history, 31.2% without intra-natal disease history.
- Distribution of mothers according to a place of delivery-56.4% with institutional delivery, 43.6% with home delivery.
- Distribution of mothers according to their method of delivery-43.4% with normal vaginal delivery,41.2% with caesarean delivery,13,4% forceps delivery, and 2% with another abnormal delivery history.

- Distribution of mothers according to their history of the first cry of diseased child-22.4% strong cry, 54.4% weak cry, 18.4% no cry after birth up to 1 hour, 4.8% no cry after birth more than 1 hour

- Distribution of mothers according to access to other institutional health care and counselling centers-76.6 % had the facility of access to other institutional health care and counselling centers, and 24.4% had no facility of access to other institutional health care and counselling centers.

Section III: Assessment of knowledge regarding behavioural disorder autism among mothers of children with autism

Chart-14: Distribution of mothers according to access to other institutional health care and

75.6%   24.4%

■ a.   Institutional delivery ■ b.Home delivery
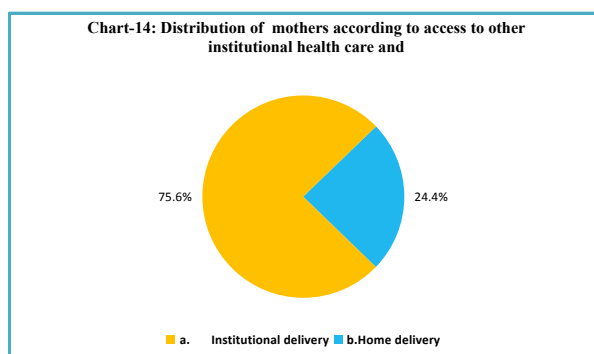
The frequency and percentage of mothers of children with autism according to pre and post-test level of knowledge. Of the sample, a majority of 425(85.0%) mothers had inadequate knowledge, 75(15.0%) had moderately adequate knowledge and none of them had adequate knowledge before STP. But, after STP, 58(11.6%) had moderately adequate knowledge, 442(88.4%) had adequate knowledge and none of them had inadequate knowledge. It evidenced an increase in knowledge regarding childhood behavioural disorder autism after STP among mothers of children with autism.

Mean and SD of pre and post-test knowledge regarding childhood behaviour disorder autism among mothers of a child with autism- the outcomes of range, mean, SD, and mean score percentage knowledge regarding childhood behavioural disorder autism among a sample of 500 mothers before

and after STP over three aspects of knowledge. According to overall aspects of knowledge, initially, the subjects were ranging from 6-to 23 with a mean of 16.67 and an SD of 2.64 out of the maximum possible scores of 40. The mean score percentage was 41.6%. But, after the administration of STP, it was found to be increased and the subjects ranged from 27-38 with a mean of 32.44 and SD of 1.79 out of the maximum score of 40. The mean score percentage was 80.4%. Also, the table evidenced the comparison of pre and post-test scores over the different aspects (domains) of knowledge. According to meaning and characteristics of autism, the pre-test means score percentage was 41.6% and it was increased to 80.4% in the post-test, Similarly, knowledge regarding causes of autism was 40.2% in the pre-test and it was increased to 81.2% in the post-test, another aspect of knowledge regarding management of autism was 42.1% in pre-test and it has increased to 81.0% in the post-test. The results of post-test knowledge showed an increase in knowledge regarding childhood behaviour disorder autism.

Mean and SD of pre and post-test knowledge regarding childhood behaviour disorder autism among mothers of a child with autism- the outcomes of range, mean, SD, and means score percentage of attitude regarding childhood behaviour disorder autism among a sample of 500 mothers before and after STP. According to overall aspects of mentality, initially, the subjects were ranging from 22-50 with a mean of 38.24 and SD of 4.91 out of the maximum possible scores of 70. The mean score percentage was 54.6%. But, after the administration of STP, it was found to be increased and the subjects ranged from 38-to 68 with a mean of 51.58 and SD of 5.87 out of the maximum score of 70. The mean score percentage was 73.6%. The results of post-test knowledge showed an increase in attitude regarding childhood behaviour disorder autism.

Section-IV: Correlation between knowledge and attitude regarding childhood beha-vioural disorder autism among mothers of child with autism

Correlation between knowledge and attitude regarding childhood behavioural disorder autism among mothers of child with autism: the outcomes of correlation between knowledge and attitude regarding childhood behavioural disorder autism among mothers of a child with autism. The Karl Pearson correlation was worked out and in order to establish reliability, the Split-half method of reliability was used. The reliability of the tool structure knowledge questionnaire was 0.82 and the tool for attitude was 0.90.for post-test level knowledge and attitude were positive and statistically significant at 5% level ($p<0.05$). It implied that an increase in knowledge had an increase in attitude regarding childhood behavioural disorder autism among mothers of children with autism.

CONCLUSION

From the study, it can be concluded that the structured teaching program on childhood behaviour disorder autism among mothers with autism children is effective in increasing their knowledge as the computed t-test is significant at 0.05 level.The structured teaching program on childhood behaviour disorder autism among mothers with autism child can be used as an effective teaching strategy to improve knowledge and attitude and practice. Also concludes that mothers with autism child were motivated to gain knowledge through the structured teaching program.

RECOMMENDATION

On the basis of the findings, the following recommendations have been made:

- A similar study can be conducted in different settings.
- A similar study can be conducted on different disease conditions.
- A similar study can be conducted with a large sample.

- A similar study can be conducted with a random sampling technique.
- A similar study can be conducted by using other teaching strategies like video-based teaching, self-instructional module, and Information Booklet.
- A similar study can be conducted among community gatherings like markets, schools, and hospitals.

SUMMARY

This chapter has dealt with the summary of the study findings, discussion, and implications to the nursing field, limitation of experience by the investigator, and recommendations for future research.

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Hyperthermic Intra Peritoneal Chemotherapy (HIPEC)

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ABSTRACT

Abdominal cancer in advanced stages known to be less responsive to any treatment modalities has gained positive results with HIPEC procedure done after a complete cyto-reductive surgery. HIPEC causes selective cell killing of the malignant cell, enhances the drug potency and increases the tissue penetration by the chemo therapeutic agent. It also causes regional dose intensification. Proved to be a successfully emerging option it is the need of the hour for the perioperative nurse to be updated with the latest knowledge, skill, and trends regarding HIPEC.

Key words: HIPEC, perioperative Nurse, cyto-reductive surgery, chemotherapy.

Definition: HIPEC is a highly concentrated, heated chemotherapy treatment that is delivered directly into the abdomen during surgery.

INTRODUCTION

During an intravenous systemic chemotherapy drug administration, the drug is circulated and absorbed throughout the body causing many side effects when destroying the cancer cells. But during HIPEC procedure (that is performed after cyto-reductive surgery of the visible tumors in the abdomen), the sterile chemotherapy solution at a temperature of 41-42°c is circulated throughout the peritoneal cavity for approximately 30 to 120 minutes, to penetrate and destroy the remaining cancer cells in the abdomen. It was first introduced in the year 1980.[1,2]

Indications.[3]

- Colorectal cancer
- Uterine cancer
- Primary peritoneal cancer
- Ovarian cancer with spreads in the abdominal cavity
- Stomach cancer
- Appendiceal cancer
- Pseudomyxoma

- Soft tissue sarcoma
- Wilms tumor
- Desmoplastic small round cell tumor

Advantages:[4]

- Highly suitable when high doses of chemo is required.
- Destroys the deeper micro cancer cells
- Enhances efficiency of chemotherapy
- Minimizes the rest of the body's exposure to the chemotherapy
- Improves chemotherapy absorption and susceptibility of cancer cells
- Fewer side effects even at higher concentration of chemotherapy due to the inability to cross the peritoneal plasma barrier from the peritoneal cavity.
- Reduces the risk for cancer recurrence

Disadvantages:[5]

Inadequate circulation of the heated drug leads to pooling and accumulation of heat

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and chemotherapy in dependent parts of the abdomen leading to increased systemic absorption causing postoperative ileus, bowel perforation and fistula.

Side effects of HIPEC[5]

- Pain
- Nausea, vomiting
- Diarrhea, constipation
- Bloating
- Weight loss
- Insomnia

Procedure- Roles and Responsibilities of Scrub and Circulatory Nurse

1. Patient Preparation

- Explanation of the procedure to the patient and the family members
- Obtaining history of allergy and comorbidity
- Verification of the chemotherapy consent
- Assessment of the physical and mental status

2. HIPEC Drug Regimens

- 1.5% dextrose isotonic peritoneal dialysis solution is the most widely used
- Some groups use regular crystalloids (N/saline or 5% dextrose in water)
- Both the drugs dose and carrier solution volume should be calculated based on BSA, so that toxicity can be predictable.

3. Common chemotherapeutic drugs used[6]

- Inj. Cisplatin
- Inj, Carboplatin
- Inj. 5 FU
- Inj. Taxanes
- Inj. Irinotecan
- Inj. Mitomycin
- Inj. Adreomycin

4. Preparation of Drug[7]

- Chemotherapy solution is prepared in the pharmacy and it is sent to the respective OR in a sealed light-protected bag. With double gloves check the integrity of bag. Any leak detected results in the bag being returned to the pharmacy.

- If the bag is approved, there is no risk of direct exposure and it is given to the person responsible for the perfusion who must check the patients name, drug and dose delivered as per the order.
- Strict aseptic technique to be followed.
- Wash hands before and after drug handling
- Wear powder free, long cuff, and 2 pairs of gloves.
- Wear gown that is non-permeable, long sleeved, cuffed and front closed.
- Wear goggles (with side shields), N95 mask, and fully covered footwear.

5. Safe administration of HIPEC[7-9]

- At the beginning of the operation the surgical field should be arrange with impervious disposable sheets and drapes, avoid using reusable drapes.

- After cyto-reduction, minimal personnel are permitted inside OR.

- Place absorbent towels with impervious back on the floor and all around the surgical table for possible spills

- Rigid container, leak proof for biological hazardous material and properly labeled with "cyto toxic agents" labels are placed in the OR. They should not be more than half full. Chemotherapy contaminate material should be handled as little as possible and with minimal agitation to prevent spillage in to the environment.

- Universal precaution for handling biological hazardous materials are implemented and monitored continuously

- A smoke evacuator should be working continuously under the plastic sheet during the perfusion.

- Chemotherapy is diluted, and doses of drugs are in micrograms.

- Connect the 10L peritoneal fluid loaded with chemotherapy drug into the peritoneal cavity. Set the temperature of the machine at 40-41°C

- A Roller pump forces chemotherapy perfusion in to the peritoneal cavity for a period of 30- 120 minutes, through the Tenckhoff catheter and pulls it out through the drain, with a fixed flow rate into a separate disposable suction bag.

- Assist in closing the wound and apply the dressing

- Transfer the patient to PACU/ ICU

- Settle the specimen

- Dispose the cytotoxic waste as per the hospital protocol

- Wash instruments thrice with soap and water. Follow it with the regular instrument disinfection and sterilization.

- The surgical suit (all surfaces and floor) to be cleaned with soap and water initially, later the surface with ecoshield and the floor with 7% lysol.

- During chemical spill follow the hospital protocol.

CONCLUSION

Assisting in the HIPEC procedure is a challenge as it involves patient, personal, and environmental safety. It is mandatory for the perioperative nurse to have critical thinking, knowledge, and skill through continuous in-service education, simulation, and workshops. Coordination and proper communication among the multidisciplinary team should be facilitated by the OR Nurse to perform the procedure in the most efficient way.

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The Relationship between Patient Care Management and Nurse Job Satisfaction in a Regional Hospital

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ABSTRACT

The hospital's demand to increase nurse job satisfaction is influenced by various factors including the implementation of good patient care management. In nursing professional development, job satisfaction provides guidelines for various hospital services. This study aims to determine the relationship between patient care management and nurse job satisfaction. A cross-sectional study was conducted among 303 nurses working in a regional Hospital in Indonesia. The demographic data were collected using the patient care management questionnaire on the Main Duties and Functions of the case manager for the Hospital Accreditation Commission while information on job satisfaction was assessed through the Minnesota Satisfaction Questionnaire, then the analysis was carried out with the Chi-Square Test. The bivariate test showed that patient care management has a p-value of 0.004. There was a relationship between patient care management and job satisfaction. Based on the results, nurses need to understand patient care management from the case manager's perspective to increase their job satisfaction.

Keywords: Patient Care Management, Nurse Job Satisfaction, Hospital

INTRODUCTION

Hospitals are an integral part of the overall health care system, helping patients with various types of services.[5] Meanwhile, nurse job satisfaction is influenced by various factors. The micro-organizational level is related to management and leadership, workload and content, schedule, interdisciplinary collaboration, staffing, salary, as well as physical and psychological well-being.[3] Job satisfaction is determined by the work environment, workplace conditions, interpersonal relationships, superior leadership style, nature of work, and benefits.[2]

Nurse job satisfaction in hospitals needs to be considered due to its important outputs, one of which is patient care management led by case managers. Case management is a collaborative process of assessment, planning, facilitation, and advocacy to select and meet individual health needs through communication and available resources to improve quality and cost-effective outcomes.[4] In general, case managers treat each case individually, identifying the most cost-effective providers, therapies, and settings for the insured individual.[12]

The term case management in Indonesia is not widely known, although it has

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often been discussed in various hospital management forums. Kamil (2017) explained that the implementation of case management at Zainoel Abidin Hospital Banda Aceh is running smoothly but has not been implemented according to the required standards and qualifications due to the absence of performance improvement such as case manager/MPP training.

METHOD

This study used a descriptive-analytic method with a Cross-Sectional approach to determine the relationship between patient care management and nurse job satisfaction. Data were analyzed using the Chi-Square Test. Respondents were observed only once and analyzed based on the circumstances and time[17].

The study population were nurses at the Pidie Regional Hospital selected using non-probability sampling with the purposive sampling method according to inclusion criteria. The sample size was taken using the Isaac and Michael formula.[16] hence, the total number selected was 303 nurses. This study was approved by the Research Ethics Commission at the Faculty of Nursing Syiah Kuala University on November 15, 2021.

RESULTS

This research was conducted at Pidie Regional Hospital involving 2 enumerators then distributed questionnaires to 303 nurses according to the research criteria. The data that has been collected is analyzed using univariate and bivariate statistics. The results of the data analysis can be seen in the table 1.

Univariate analysis results

The table 1 shows that among 303 respondents, the majority or 155 (51.2%) were adults aged between 26-35 years. Based on gender, the majority were females with a total of 207 or 68.3%. Most of respondents also had a Diploma in Nursing with a total of 162 or 53.5%. The working period was relatively long, namely > 3 years with 204 or 67.3%,

Table 1: Nurse Characteristics

No	Characteristics	Frequency	Percentage
Age			
1	Early Adult: 26- 35 Years	155	51,2
2	Late Adult: 36- 45 Years	94	31,0
3	Early Elderly: 46- 55 Years	54	17,8
Total		303	100,0
Gender			
1	Male	96	31,7
2	Female	207	68,3
Total		303	100,0
Education			
1	Diploma of Nursing	162	53,5
2	Bachelor of Nursing	63	20,8
3	Nurse Profession	78	25,7
Total		303	100,0
Working Period			
1	New: < 3 Years	99	32,7
2	Old: > 3 Years	204	67,3
Total		303	100,0
Salary			
1	<Minimum Regional Wage of IDR 3.165.030	103	34,0
2	> Minimum Regional Wage of IDR 3.165.030	200	66,0
Total		303	100,0
Marital Status			
1	Married	179	59,1
2	Not Married	111	36,6
3	Divorced	13	4,3
Total		303	100,0

while the majority had income > Minimum Regional Wages of IDR 3,165,030 with 200 or 66%. As for marital status, most were married, namely 179 or 59.1%.

Table 2 shows that the majority of respondents namely 174 or 57.4% have a good

perception of patient care management and 180 (59.4%) were satisfied with their job.

Bivariate analysis results

Table 3 presents the analysis of the relationship between patient care management and nurse job satisfaction. The majority of respondents or 116 (66.7%) with a good perception of patient care management were satisfied with their job. Furthermore, the statistical test obtained a p-value = 0.004, meaning that there is a relationship between patient care management and nurse job satisfaction. Based on the OR = 2.031, the relationship is 2 times better compared to the control. This indicates the better the implementation of patient care management, the greater the job satisfaction.

DISCUSSION

Nurse Job Satisfaction

The results show that 180 or 59.4% had good job satisfaction. This indicates that most of nurses at the Pidie Regional Hospital have high job satisfaction.

Table 2: Frequency Distribution of Patient Care Management and Nurse Job Satisfaction

No	Variable	Frequency	Percentage
Patient Care Management			
1	Good	174	57,4
2	Poor	129	42,6
Total		303	100,0
Nurse Job Satisfaction			
1	Satisfied	180	59,4
2	Dissatisfied	123	40,6
Total		303	100,0

This result is in line with Aji et al., (2020), where most nurses or 84.3% stated that they were satisfied at work. Job satisfaction is the level of calm that an individual feels during work, and these feelings tend to affect their performance.[13] Meanwhile, according to Ima Pangulimang, Karel Pandelaki, (2019) among 42 people, 34 or 81% were satisfied with their work, while 8 or 19% were dissatisfied. Job satisfaction depends on the way the individual perceives the suitability or conflict between desires and results[7].

The Relationship between Patient Care Management and Nurse Job Satisfaction

The results showed that 116 or 66.7% of the respondents with good patient care management were satisfied with their job. Statistical test obtained a p-value = 0.004, meaning that there is a relationship between patient care management and nurse job satisfaction. Based on the OR = 2.031, the relationship is 2 times better than the control. This implies the better the implementation of patient care management, the higher the nurses' job satisfaction.

According to Hudon et al. (2018), the overall perception of stakeholders towards the implementation of case management program was positive, they also stated that better accessibility will give patients a sense of comfort and help manage their health in a better direction, as well as reduce anxiety levels.

Similarly, Luh et al., (2021) stated that 205 or 51% of nurses have positive perceptions about

Table 3: Relationship between Patient Care Management and Nurse Job Satisfaction

| Patient Care Management | Nurse Job Satisfaction | | | p | OR | 95% CI | |
	Satisfied	Dissatisfied	Total			Lower	Upper
Good	116 (66,7%)	58 (33,3%)	174 (100,0%)	0,004	2.031	1,273	3,242
Poor	64 (49,6%)	65 (50,4%)	129 (100,0%)				
Total	180 (59,4%)	123 (40,6%)	303 (100,0%)				

the role of case managers, after analyzing their function in the initial screening, planning, facilitation and advocacy, coordination of services, evaluation, as well as post-discharge follow-up.

The integrated service management supports the synergistic care which is determined by the presence of a case or patient care manager at the hospital.[18] Globally, the implementation of case managers is still experiencing some problems. The scope of practice is unclear, along with the variety and complexity of the activities, due to inadequate training, and poor collaboration with other health care providers.[10] Case managers also have ambiguous positions[15], this is supported by data which showed that they only allocate time for care coordination at 22% and outcome evaluation 8%, while the largest time is for routine case management activities at 70%.[19]

Job satisfaction is also associated with nurses' perceptions of the case manager roles. It was reflected in the positive attitude of respondents towards their work and everything in the environment[6]. Moreover, Luh et al., (2021) found a significant relationship with a value of $OR = 1.67$, $p = 0.013$, where nurses in the satisfied category tend to have more positive perceptions about the role of case managers compared to those who were dissatisfied.

Based on the results, it was concluded that job satisfaction is very important for nurses to increase work commitment, provide a feeling of enjoyment during work, and improve patient care services by involving PPA interprofessional collaboration with case managers. This will have an impact on improving the quality of hospital services as well as patient and family satisfaction with the services provided.

CONCLUSIONS AND SUGGESTIONS

There is a relationship between patient care management and nurse job satisfaction at Pidie Regional Hospital. It is expected that the management provides full support to nurses in increasing job satisfaction and infrastructure.

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Clinical Reasoning Process of Novice and Expert using Consensual Qualitative Research in Observational Situations of Postpartum mothers and Newborns

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ABSTRACT

Purpose: The purpose of this study is to describe the process of clinical reasoning in novice level nursing students and expert level midwives using the Dreyfus model in the setting of an observational situations of subjects (postpartum mothers and newborns) as nursing practice.

Methods: Consensual Qualitative Research used for qualitative research. The study used the Vignettes Method to compare the behaviors of novices and experts in the same situation, setting up an observation scene of a postpartum woman on the third day and a newborn on the third day after birth. The novices in the study were two fourth-year nursing students at the A university, and the experts were two midwives with more than 10 years of experience.

Results: Eighteen core ideas were identified as clinical reasoning processes in the two domains of 'pre-information gathering' and 'participants' observation situations' for novices and experts.

Conclusions: Novices functioned mainly on analytic reasoning only and were likely to make errors in definitive diagnosis, while the experts used empirical knowledge intuitively and combined narrative reasoning to ensure the accuracy of their clinical reasoning.

Keywords: Dreyfus model, Novice level, Expert level, Clinical reasoning, Observation situations

INTRODUCTION

In Japan, medical safety measures are promoted with the aim of ensuring safety and improving the quality of medical care. The Model Core Curriculum for Nursing Education in Japan (2017) listed 'management of quality and safety of care' as a basic quality/ability expected of nursing personnel. Safety management was also listed as an educational goal in basic nursing education. However, 4082 medical accidents were reported to the Japan Council for Quality Health Care[1] in 2020, and this number is increasing every year. The risk of medical accidents is significantly high as the nursing work environment involves many unstable factors—numerous duties, multiple patients, and several time-sensitive nursing tasks. As per the aforementioned annual report,[1] nurses (2713 cases) were majorly responsible for medical accidents in 2020. In clinical practice, it is necessary to accurately judge the situation and act accordingly. In the United States of

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America,[2] the need for education focusing on clinical judgment skills has increased; it is evident that appropriate clinical judgment achieves patient safety and desired outcomes In Japan, the ability to make accurate clinical judgments in nursing practice is gradually being recognized as a necessary basic ability. A report on basic nursing education[3] stated that the number of credits—related to anatomy, physiology, pharmacology, and so on—was increased to strengthen the foundation of clinical judgment skills; in the revision of the designated regulations targeted at schools for public health nurses, midwives, and nurses, it is necessary to enhance clinical judgment skills in basic nursing education. Tanner,[4] a researcher who focused on clinical judgement skills, presented a four-step clinical judgement model, which highlighted the following steps: 'noticing, interpreting, responding, and reflecting'; these steps reflect the process employed by, and the factors most relevant to, bedside nurses' clinical judgement. For this study[4], under 'interpreting', we showed that there are three patterns of reasoning used by nurses: analytical reasoning, intuitive reasoning, and narrative reasoning. The participants reported that skilled nurse practice and reflect on these three patterns of reasoning to further improve the accuracy of their clinical judgments.[4] The ability to make clinical judgments requires the ability to use these three patterns of clinical reasoning judiciously and sensibly.

Clinical reasoning is a cognitive process by which physicians diagnose and treat patients.[5] Clinical reasoning patterns are essential for making appropriate clinical judgments. The ability to perform clinical reasoning must be continuously honed, starting from the bachelor's course to the post-graduate programme, throughout the duration of nursing education.[6] Thus, the ability to make clinical judgments in nursing practice should be integrated into the curriculum of basic nursing education. It is necessary to teach clinical reasoning patterns and continuously improve the accuracy of clinical judgments. An enhancement in clinical judgment ability will ensure medical safety and improved nursing quality.

It has been reported that skilled nurses use the three patterns of reasoning[4], but how they use these patterns to make clinical judgments has not been clarified. The role of experience in nurses' clinical judgment and reasoning is not yet understood. Researchers are extensively exploring educational methods to improve clinical judgment. In Japan, Okada[7] explained how the cognitive process necessary for nursing students to make clinical judgments is acquired. Furthermore, the type of clinical reasoning pattern used by nursing students has not yet been determined. Aoki[8] compared the perceptual patterns of eye movement between nurses and novices, but the differences between the clinical reasoning patterns used by the nurses and novices in the same situation were not clear. Therefore, the process of training students in Tanner's clinical reasoning patterns to improve clinical judgment is still unclear.

Benner[9] identified the characteristics of nursing performance at various levels of education and experience, from novices to experts. This study used the Dreyfus model of Skill Acquisition, which focuses on the use of proficient attitudes and knowledge in certain clinical situations. The Dreyfus model[10] shows the process of skill acquisition at five levels. The Dreyfus model is also useful in the acquisition of medical skills and has been extensively applied in nursing education.[9] However, the characteristics of each level of clinical reasoning patterns have not yet been clarified in Japan. Thus, in this study, we focused on the two crucial subjects in this context: the novices and the experts.

In order to examine educational methods in basic nursing education, it is important to clarify the differences in clinical reasoning patterns used by novices and experts in the same situation.

In this study, observation scenes of postpartum mothers and newborns were set as the subjects; the scenes were filmed and interviews were conducted. The researcher was a maternal nurse and midwifery teacher with experience as a midwife. The observation scenes

of the postpartum mothers and new-born babies were chosen because these scenes reflected an ideal example of a basic nursing situation in the nursing of newborns and new mothers.

OBJECTIVE

The present study clarifies, using the Dreyfus model, some aspects of the clinical reasoning of novice and expert subjects in the observation scenes of postpartum mothers and newborns. This study aims to provide basic data for research on clinical reasoning in novices and experts.

Definition of Terms

Clinical reasoning

The process of formulating a solution (response or intervention) to the subject's problem is termed as clinical reasoning.

Definitive Diagnosis

The diagnosis of a problem in order to determine the most appropriate solution (response or intervention) to the subject's problem is termed as a definitive diagnosis.

Novices

The acquisition of skills is generally considered to be in the novice stage during the first year of clinical education for nursing students.[11] Fourth-year nursing students at University A were considered novices.

Expert

Referring to Benner[11], midwives with more than 10 years of clinical experience, who could intuitively grasp the situation when observing postpartum mothers and newborns, were considered experts.

METHODS

Research design

Qualitative research

Research Method

Consensual qualitative research (CQR) is a qualitative analysis method developed by Hill[12] that combines phenomenological elements, grounded theory, and comprehensive process analysis. The co-researchers were divided into two groups: the main members and the auditing members. The consultation process consisted of (1) individual work, (2) consultation with the main members, and (3) consultation with the auditing members. The advantages of qualitative research using a consultative process include increased efficiency, addressing bias, utilising individuality, and ensuring quality. In this study, nursing students were included as the main members, and CQR was used as a research method to ensure quality. This paper describes, through the interview and video of the observation scene, the cognitive process employed by nurses from the stages of information collection to care implementation.

Selection of the participants

The selection criteria for novice participants were as follows: the study's purpose was explained to 71 fourth-year nursing students at University A. Those who provided consent were requested to individually contact the co-researchers via e-mail. A letter explaining the study's purpose was sent to the office of the B Prefecture Midwives Association.

Hill[12] recommended a sample size of eight to 15 participants for the CQR. Franklin[13] used the CQR to analyse 90 minutes of the video footage of their five participants. Contrarily in this study, we collected the video footage of the observation scenes in addition to participants' interview content. This is so that we had a total of four participants: two novices and two experts.

Survey Method

Vignettes Method

The Vignettes Method is based on Finch's (1987) definition of Vignettes as 'a method in which a short story about a hypothetical character in a particular situation is presented and the interviewer responds to the situation'.[14] We were interviewed in the same

Table 1: Clinical reasoning process in pre-information gathering

	Core ideas
Novice level	Collecting information on the general condition of the participant until the previous day
	Matching knowledge from the textbook based on the characteristics of the information
	Anticipating problems in the target audience
Expert level	Collecting information on the general condition of the participant until the previous day
	Matching knowledge from the textbook based on the characteristics of the information
	Anticipating problems in the target audience
	Gathering basic information
	Developing a plan for a focused problem

situation, and their behaviour was compared with those of novices and experts.

The entire room of each mother and her newborn baby was filmed. The observation scenes by the research participants and the questionnaires' responses were used as data.

Analysis

The CQR is a scale that divides the collaborators into two groups: 1) the core members, who are primarily responsible for collecting and analysing the data, and 2) the auditors, who are responsible for confirming the core members' findings through consultation. First, the contents of the interviews were recorded verbatim. We collected data in an open-ended manner, via the CQR. Then, the CQR categorised the data into a broad range of domains and generated a core idea, which was the main point. Finally, the process of clinical reasoning between novices and experts in observational situations of postpartum mothers and newborns was illustrated.

Ethical considerations

This study was approved by the ethical review committee of University A to which the author belongs No. (322).

RESULTS

All the study participants were female, and two were novices in their 20s, one expert was in her 40s, and the other was in her 50s.

We generated 18 core ideas from novices and experts in the process of clinical reasoning in the two domains of 'pre-information gathering' and 'the participants' observation', and illustrated the relationships among the core ideas (table 1, 2).

Clinical reasoning process in pre-information gathering

For novice level, three core ideas were generated during 'pre-information gathering'. The novices collected information on the participant from 'the progress of the previous day, the value of [the] vital signs' (novice A, B). Thus, they generated "Collecting information on the general condition of the participant until the previous day". In the information interpretation, the information was categorised into elements such as 'progressive and regressive changes that have been passed normally from the information (novice A)' and the analytical reasoning functioned in comparison with the knowledge of the textbook and was generated by "Matching knowledge from the textbook based on the characteristics of the information".

For expert level, the 'pre-information gathering' generated five core ideas, two in addition to the three core ideas of the novices. The experts gathered not only the information on the participant's general condition but also the information on the participant's social background. They named it "Gathering basic information". The information obtained was used to predict the participants' challenges via analytical and intuitive reasoning. The participants' specific plans were developed by using their previous experiences with

similar situations. These are, such as 'there is a need to see how well the person can comprehend (expert D)', which was generated as "Developing a plan for a focused problem".

Clinical reasoning process in the participants' observation situations

For Novice level, four core ideas were generated during the 'participants' observation situations'. The novices made an analytical inference based on the observed information. In the participants' observation scenes there were no receptive responses to give them a sense of security. In the conversation during the observation, the responses were 'It's all right because it's a normal process (novice A)'. This was generated as a "Routine response".

At the expert level, in the 'participants' observation situations', 11 core ideas were generated. In their interactions with each participant, the experts made effective use of their empirical knowledge by talking to them, observing them. They also made the participant feel safe, elicited important information from them, and used narrative reasoning to create an "Accepting response". The experts understood each participant

holistically through their observation and conversations with them. They interpreted each participant's condition by using their empirical knowledge. These led to the naming of the project as "Can envisage options based on empirical knowledge". The experts said that an accurate and definitive diagnosis will lead to the implementation of appropriate care by "Checking the scientific evidence to support the results of the analysis (diagnosis)". However, the scientific basis of empirical knowledge is unclear from observations such as '[babies] are born with a lunch box and a water bottle (expert D)'. It is named "Based on experience alone and without reviewing the scientific evidence". Finally, it may lead to a "Possible misdiagnosis", which would lead to inappropriate care being provided.

DISCUSSION

Comparison of the clinical reasoning process between novices and experts

In the preliminary information collection, the novices generated three core ideas, and the experts generated five core ideas. The information collected by the novices was regarding the participants' general condition

Table 2: Clinical reasoning process in the participants' observation situations

	Core ideas
Novice level	Matching knowledge from the textbook based on the characteristics of observed phenomena was generated
	Routine response
	Narrative reasoning does not work
	Possible misdiagnosis
Expert level	Matching knowledge from the textbook based on the characteristics of observed phenomena was generated
	Accepting response
	The term capturing the present from the participant's past
	Recognised each participant's value
	Can envisage options based on empirical knowledge
	Developed a plan to eliminate the assumptions
	Deriving of the analytical results (diagnosis): definitive diagnosis
	Developing a plan to solve the problem
	Checking the scientific evidence to support the results of the analysis (diagnosis)
	Based on experience alone and without reviewing the scientific evidence
	Possible misdiagnosis

up until the previous day. However, the experts used their empirical knowledge to systematically cover the participants' history and to collect information. In addition, it was thought that the experts analytically reasoned about the participants' state of being, predicted the problem, and even devised the plan for solution. This was based on the information gathered at the time of preliminary information collection. Benner[11] stated that even before knowing the patient, nurses have predictions about their clinical situation. However, these are open expectations that may be modified or confirmed after meeting the patient. It is inferred that the experts anticipate the participants' situations during the preliminary information-gathering phase. When experts are new to a patient's care, they should take time to gather information to gain a certain understanding of the patient's personality, the patient's pattern of reactions, and their needs and concerns. This includes a clinical assessment of the situation and considering the immediate past, present, and likely future course of the event.[11]

Before meeting a patient for the first time, the experts are likely to collect information to understand the patient and to predict the past, present, and future of the patient's situation. It was inferred that experts used analytical and intuitive reasoning to understand the participants and to plan their observations after considering each participant's past and present in-depth situation and future predictions.

The novices generated four core ideas, and the experts generated 11 core ideas in the target observation. The novices extracted the necessary observation items from the content of the prior information collection based on the basic observation items in the textbook. They compared their observation results with the standard values in the textbook. Aoki[8] reported that in response to epileptiform movements in infants, expert nurses focused their attention on the area around the eyes, where the central nervous system problems were expressed. Conversely, novices focused their attention on other areas in addition to the area around the eyes. It was thought that the novices made unfocused observations. In addition, the novices concentrated on observing the items that they had thought of beforehand, and it was difficult for them to modify or add observation items according to the situation while interacting with the participants. The novices were unable to read each participant's responses and respond flexibly in the observation situations' conversations. They instead adopted a formulaic response strategy. Therefore, narrative reasoning was unsuccessful, and they could not obtain the determinant of each participant's problem. This may have led to an erroneous definitive diagnosis and inappropriate care.

Conversely, the experts used their experiential knowledge and encouraged them to become more acquainted through receptive response. In the video of the observation scene of the experts, the expert's first words and actions were to ask each participant about their condition, and thereafter to respond to them by narrative reasoning with a receptive response. The conversations and observations were smooth and uninterrupted. We believe that this smoothness provides a sense of security for each participant. The practice of the experts is characterised by practical argumentation while engaging with the participants.[11] It is also dependent on an understanding based on the accumulation of mature practice and a perceptual grasp of the differences and commonalities in a particular situation. While interacting with the participants, the experts intuitively applied their empirical knowledge, and adopted strategies to obtain the determinants of the participants' challenges. Finally, they arrived at an analytical result (diagnosis) through narrative reasoning. Additionally, scientific evidence was used to support the analyses' results (diagnosis), which led to the implementation of appropriate care. Expert nurses are characterised by professional caring practices and full humanistic care.[11] This level of expertise is not immediately attainable by novices. The professional caring practice is a skill that is acquired through accumulated experience.

However, even if the experts derive an analytical result (diagnosis) via narrative reasoning or intuitive reasoning, without confirming the scientific evidence to support the result, there is a possibility that the definitive diagnosis could be wrong. This may lead to the implementation of inappropriate care. Akiyama[15] reported that proficient level nurses have developed practical skills based on their experiential knowledge, but that their experiential knowledge leads them to provide erroneous answers by considering complex scenarios. Intuitive reasoning based on empirical knowledge alone does not lead to an accurate definitive diagnosis. Even experts must always review the scientific evidence and draw conclusions via analytical reasoning.

Education to train the clinical reasoning patterns of novices

In the participants' observation, novices could make analytical inferences based on knowledge gained from textbooks. However, this did not apply to narrative or intuitive inferences. The novice level of skill acquisition is the stage where nursing students are trained to compare and match textbook cases with clinical cases, and to rely on typical predictions in textbooks.[11] The novices have learned basic knowledge in nursing and have acquired the basic ability to judge the participants' normal or abnormal conditions. The novices' clinical experience was limited to nursing practice. In this nursing practice, it was difficult to repeatedly conduct the same experience. Therefore, simulation education has been introduced in recent years. Simulation education allows students to experientially learn new content without harming patients.[16] It has also been reported that simulation education helps students develop clinical decision-making skills in nursing care for participants, for which there are few clinical facilities.[17] Simulation allows the same situation to be repeated many times, and debriefing allows students to reflect on the situation. Odajima[18] reported that several work and simulation interventions that incorporate a variety of cases are useful for improving clinical reasoning. We believe that simulation education may lead to the development of clinical reasoning patterns. We believe that when novices accumulate experiences of similar situations through simulations, they accumulate empirical knowledge and may function with intuitive reasoning. In addition, the novice's narrative reasoning did not function because the novice's responses to the participants were formulaic. Therefore, we believe that the simulation of the participants' interactions with the novices may change the response to a receptive response that allows novices to care for the participants in a humane way. Novices may improve the accuracy of definitive diagnoses if they can summarise important events in a story by being able to interact with them. Benner[11] stated that in basic nursing education, education aims to improve the dialogue fostered by the concerns of the good inherent in the practice. Since young people are vulnerable to the formation of interpersonal relationships, it is necessary to use simulation not only for them to acquire nursing skills but also to learn how to interact with various participants and to develop ethical attitudes. In the future, we believe that more effective simulation methods in nursing will lead to the education of novices to train their clinical reasoning patterns.

CONCLUSION

As a result of analysing the observation scenes using CQR, 18 core ideas as clinical reasoning processes were generated from the novices and the experts in two domains: 'pre-information gathering' and 'participants' observation situations'. The novices generated three core ideas in the 'pre-information gathering' and four in the 'participants' observation situations'. The experts generated five core ideas in 'pre-information gathering' and 11 in 'participants' observation situations'.

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Assessment of the Knowledge and Perceptions of Midwives and Nurses About Newborn Feeding Ability and the Early Initiation of Breastfeeding

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ABSTRACT

Background: Early initiation of breastfeeding (EIBF) is one of the measures to reduce newborn mortality. Nurses and midwives are crucial healthcare workers to achieving EIBF.

Objective: To explore the knowledge and perceptions of nurses and midwives towards breastmilk and breastfeeding, EIBF and the perceived barriers to EIBF.

Methods: A cross-sectional quantitative study using an adapted standardized questionnaire which tested 4 domains of: knowledge about breastmilk and breastfeeding; the ability of the newborn to feed immediately after birth; the practice of skin-to-skin contact (SSC) for the newborn; and the practice of EIBF. The knowledge and perception of the respondents were categorized as good or poor if the total scores from the question-domains were ≥ 70% or < 70% respectively.

Results: The general knowledge and perception about breastmilk and breastfeeding initiation was good with 64.6% and 62.6 % of respondents respectively having scores ≥ 70. The perception of the newborn feeding ability and the role of SSC were poor with scores of 27.1% and 31.3% respectively. The leading perceived barrier to EIBF was the mother being on nil-per-oris after C/S (81.3%). Binary logistic regression applied to the predictors of good practice in EIBF showed that the participants' length of stay in their current ward posting (p = 0.002), knowledge about breastmilk and breastfeeding (p = 0.04) and perception of SSC (p = 0.003) were the most significant.

Conclusion: Knowledge dissemination should prioritize the importance of EIBF and its perceived barriers.

Keywords: Breastfeeding, midwives, Early initiation, Nurses, Nigeria.

INTRODUCTION

Early Initiation of Breastfeeding (EIBF), the practice of putting the newborn baby to the mothers' breast to feed within one hour of delivery protects the newborn from acquiring infection and reduces newborn mortality.[1]

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It facilitates emotional bonding of the mother and the baby and has a positive impact on duration of exclusive breastfeeding. As part of the Essential Newborn Care, the World Health Organization (WHO) recommended that newborns be breastfed within the first hour of life termed the golden hour.[2] This is part of an overall effort to achieve the target of Sustainable Development Goal 4; to reduce newborn mortality to as low as 12 per 1000 live births by the year 2030. In addition to reducing newborn mortality, early initiation of breastfeeding helps to strengthen the Baby Friendly Hospital Initiative (BFHI), part of which is the "Ten Steps to successful breastfeeding". Current evidence also indicates that early initiation of breastfeeding also increases the length of exclusive breastfeeding.[3] Not breastfeeding the newborn infant within an hour but before 24 h of birth increases the risk of mortality by 40%, while delaying it till after 24 h increases it by 80%.[4] Despite these documented benefits, the practice rate of EIBF with only 57.6 % of the babies delivered worldwide receiving EIBF; with a wide country to country variation of 17.7% to 98%.[1,5,6] In Nigeria, despite having an almost universal breastfeeding rate of about 98%, only one-third (34%) of mothers practice EIBF (34.7%). As in the guidelines to successful breastfeeding, every health worker must be conversant with techniques and practice of EIBF but nurses and midwives working in labour wards, obstetric theatres and postnatal wards are the most strategically placed health workers to achieve this laudable goal of feeding a newborn in the 1st hour of life. The importance of prioritizing the promotion of EIBF to the health workers who assist, and support mothers has been highlighted because despite the WHO guidelines for newborn care, EIBF is not a universal practice and only half of newborn babies in the world are being breastfed in the first hour of life.[4] It is therefore important to evaluate the knowledge and perceptions of these key persons about the newborn's feeding ability as well as the concept of early initiation of breastfeeding. It is also imperative to identify the constraints if any in achieving the early initiation of breastfeeding. It can be

postulated that, although, there is extensive scientific basis for the impact of EIBF on post-neonatal mortality, the knowledge and perceptions of midwives and nurses are modifiable variables that can be addressed to improve breastfeeding practices. Validated tools[7] to assess the knowledge of midwives and nurses about the newborn feeding ability do not exist in most of Africa, Nigeria inclusive. Based on the passive observation that newborns delivered in our facilities rarely get breastfed in the 1st hour of life, we aimed to investigate the knowledge and perceptions of early breastfeeding among professional nurses in the tertiary hospitals who typically provide, or influence, the care of parturient women. We also aimed to identify the possible barriers to successful initiation of early initiation of breastfeeding among them.

METHODOLOGY

This was a cross-sectional quantitative study that was carried out in two tertiary hospitals in an urban community in Southwest Nigeria providing Obstetric and Paediatric services to the state and environs and with about 1500 births per year between them. The Study participants were Nurses and Midwives in the labour wards, labour ward theatre, postnatal wards of Federal Teaching Hospital, Ido-Ekiti (FETHI) and Ekiti State University Teaching Hospital, Ado-Ekiti (EKSUTH). Ethical approval was sought and obtained from the Research and Ethics Committee of the two institutions.

Tool of assessment

We adapted 2 previously validated questionnaire tools: the Newborn Feeding Ability (NFA) questionnaire and the Breastfeeding Initiation Practice tool[7,8] from developed countries for accessing the newborn feeding ability and early initiation of breastfeeding to our low resource setting by using terms connoting familiar work environment and using names of patients in hypothetical case scenarios. The questions were divided into 4 domains namely:

i.   Knowledge about breastmilk and breast-feeding

ii.   The ability of the newborn to feed immediately after birth

iii.   The practice of skin-to-skin contact for the newborn

iv.   The practice of EIBF as earlier defined

Demographic data obtained from the participants included educational qualifications, wards of practice (neonatal ward, postnatal ward, labour ward, labour ward theatre) and the duration of years spent in their present posting. The questionnaire took about 15 to 30 minutes to complete. The study was carried out in August 2019.

Data analysis

Data was analyzed using descriptive and inferential statistics with IBM SPSS (Version 23). The knowledge and perception of the respondents was categorized as good if the total scores from the question domains were ≥70% or as poor if the total scores from the question domains were <70%. Bivariate and multivariate logistic regressions were performed to identify the presence and strength of association of the predictors of good knowledge of breastmilk and good practice of breastfeeding initiation. Odds ratios with 95% confidence interval were computed to determine the level of significance. Statistical significance (p) was set at <0.05.

RESULTS

55 questionnaires were given out in both hospitals. There were 3 non-respondents, and 4 questionnaires were incompletely filled. Overall, 48 registered nurses and midwives completed the questionnaires giving a response rate of 87.4%. The age of the nurses ranged from 20 to 59 with the mean (SD) being 38.5 (7.9). There were 46 females and 2 males giving a male to female ratio of 0.04:1. The majority (58.3%) of the nurses had qualifications (RN, RM) while 22.9% of the nurses had postgraduate qualifications.

Assessment of respondent's level of knowledge and perception about breastmilk and breastfeeding initiation

Overall, the general knowledge and perception about breastmilk and breastfeeding initiation was good with 64.6% and 62.6 % of respondents respectively having scores ≥ 70. Their perception about the newborn feeding ability and the role of skin-to-skin care in initiation were however generally poor with scores of 27.1% and 31.3% respectively.

Perceived barriers to EIBF after vaginal or Caesarean deliveries

Nurses and midwives perceived several barriers to EIBF after vaginal or Caesarean deliveries. Thirty-nine (81.3%) respondents reported the barrier of the mother being on nil per oris after C/S while 31 (64.6%) reported the barrier of the mother not being able to sit up yet after epidural anaesthesia for C/S (64.6%) and a further 23 (47.9%) reported that routine procedures during recovery interfere with skin-to-skin position (47.9%). Other perceived barriers included nurse staffing shortages, a lack of parental awareness and knowledge of breast feeding, variations in practice among nurses, different levels of nurse education and knowledge about breastfeeding, cultural differences, and maternal fatigue. The details of the respondent's knowledge about breastmilk, EIBF as well as their perceived barriers to EIBF are detailed in Table 1.

Table 2 shows the relationships between demographic characteristics of the respondents and their practice on breastfeeding initiation. Of all the factors evaluated, there was a significant (p = 0.002) relationship between the duration of their current posting and whether their practice of breastfeeding initiation was good or poor. When nurses and midwives had spent ≥ 3 years in their current posting, their practice was significantly better than if they had spent <3 years. The age, gender, present posting, and qualification of the respondents did not significantly impact on their practice of EIBF.

Table 3 shows the relationship between the practice of the respondents on EIBF and their

Table 1: Knowledge about breastmilk and Perceived barriers to EIBF

Variable	Frequency N = 48	Percentage (%)
General knowledge about breastmilk		
Good	31	64.6
Poor	17	35.4
Perception of newborn feeding ability		
Good	13	27.1
Poor	35	72.9
Perception of skin-to-skin contact on EIBF		
Good	15	31.3
Poor	33	68.8
Level of Practice of EIBF		
Good	30	62.5
Poor	18	37.5
Perceived barriers to EIBF after vaginal or Caesarean deliveries		
Mother still on NPO after C/S and not lactating yet	39	81.3
Mother had spinal anaesthesia for C/S delivery and not able sit up yet	31	64.6
Routine required procedures during recovery that interfere with skin to skin position	23	47.9
Lack of parental awareness and knowledge of breastfeeding	20	41.7
Maternal knowledge on breast milk and breast feeding	18	37.5
Shortage of staff	18	37.5
Culture	15	31.3
Mother needs rest after delivery	14	29.2
Different levels of nurse education and knowledge about breastfeeding	11	22.9
Visitors	6	12.5

Table 2: Relationships between demographic characteristics and practice of EIBF

Variable	Practice Good n (%)	Poor n (%)	Chi square	p-value
Age in years				
20 – 29	2 (40.0)	3 (60.0)	1.686	0.640
30 – 39	15 (65.2)	8 (34.8)		
40 – 49	11 (68.8)	5 (31.3)		
50 – 59	2 (50.0)	2 (50.0)		
Gender				
Female	28 (60.9)	18 (39.1)	1.252	0.263
Male	2 (100.0)	0 (0.0)		
Highest qualification				
RN	2 (33.3)	4 (66.7)	3.990	0.263
RM	2 (66.7)	1 (33.3)		
RN, RM	17 (60.7)	11 (39.3)		
Postgraduate	9 (81.8)	2 (18.2)		
Present posting				
Labour ward	14 (70.0)	6 (30.0)	2.667	0.264

	Practice			
Variable	Good n (%)	Poor n (%)	Chi square	p-value
Labour ward theatre	3 (37.5)	5 (62.5)		
Postnatal ward	13 (65.0)	7 (35.0)		
Duration of current posting				
1 – 2 years	8 (38.1)	13 (61.9)	9.487	0.002
≥ 3 years	22 (81.5)	5 (18.5)		

Table 3: Relationships between respondents' knowledge, perception and practice towards breast milk and breastfeeding initiation

	Practice of EIBF			
Variable	Good n (%)	Poor n (%)	Chi square	p-value
General knowledge about breastmilk				
Good	24 (77.4)	7 (22.6)	8.313	0.004
Poor	6 (35.3)	7 (22.6)		
Perception of newborn feeding ability				
Good	10 (76.9)	3 (23.1)	1.582	0.208
Poor	20 (57.1)	15 (42.9)		
Perception of skin-to-skin contact on EIBF				
Good	14 (93.3)	1 (6.7)	8.850	0.003
Poor	16 (48.5)	17 (51.5)		

knowledge and perception about breastmilk, the newborn feeding ability and skin-to-skin care. The knowledge about breastmilk (p= 0.04) and their perception of skin to skin care (p = 0.003) were statistically significant factors in their practice of EIBF.

Binary logistic regression was applied to the predictors of good practice in EIBF. A duration of current ward posting of the respondents of greater than or equal to 3 years was found to be a significant predictor of good practice of EIBF compared to a duration of 1 – 2 years (AOR: 1.0 -15.50; 95%CI 1.71- 140.51; p = 0.015). The respondents' knowledge of breastmilk their knowledge of breastmilk (AOR:1.0 – 16.63, 95%CI 1.79 – 154.54, p = 0.013) and their perception of the role of SSC in the EIBF (AOR: 1.00 – 6.80, 95%CI: 1.70 – 66.89, p = 0.028) were also found to be significant predictors of good EIBF practice.

DISCUSSION

According to Infant and Young Child Feeding Guidelines 2016, breastfeeding should be promoted as the gold standard feeding option and should be initiated as soon as possible after birth, preferably within 1 hour. This has been proven to be an effective strategy to reduce newborn mortality.[9] There is considerable evidence that newborn babies possess innate reflexes that enable them to find the nipple, attach correctly and breastfeed effectively, provided they are given the opportunity to remain in naked body contact (skin-to-skin) with their mother for a sufficient length of time[10] The perception of nurses and midwives in this study about the newborn feeding ability and the role of SSC in EIBF was however generally poor. The respondents generally thought that C/S accounted for delay in initiation of breastfeeding. This perception that caesarean section was a persistent barrier to EIBF was also reported among nurses in developed nations. Similarly, there was a perception that not being able to sit up after spinal anaesthesia for C/S was a hindrance to breastfeeding.[11] The findings from our study are also collaborated by those from a recent systematic review[12] which highlighted caregiver related issues as the most frequent cause of delayed initiation of breastfeeding.

The caregivers' issues were mostly related to knowledge and attitude of breastfeeding initiation.[12] Our findings can also be related with the results of a population-based survey on the determinants of EIBF that vaginal delivery was significantly associated with EIBF.[1] A large sample of 76,934 infants from a 2019 Demographic and Health Survey dataset in the ECOWAS sub-region over a 9-year period also affirmed our finding that CS delivery was likely to delay initiation of breastfeeding beyond one hour after birth (13). Training on BFHI may improve this perception as reports from a study in Sudan showed that more than half the mothers who gave birth by CS practiced early initiation of breastfeeding after the BFHI training.[14]

Previous studies have shown that establishing EIBF in facilities is multi-factorial in nature and involves factors such as mother's age, education, place of residence and health service utilization such as antenatal care (ANC) visits and place of delivery. Our study also highlighted other important barriers such as the shortage of staff, the perceived need of the mother needing rest and culture which have also been highlighted in previous studies.[15-18]

While our study found that work experience in the present unit of less than 3 years negatively impacted the practice of EIBF, in a similar study from Ethiopia, the researchers' found that work duration less than 5 years negatively impacted the practice of EIBF.[19] From our study, this work experience of the respondents in addition to their general knowledge of breastmilk and breastfeeding and their perception of the role of skin to skin contact were the most significant predictors of good practice of EIBF. Implementing early skin-to-skin contact between mothers and their babies immediately after birth has been found to be an important strategy to promote breastfeeding as well as EIBF[20-21] and this study collaborated the importance of this knowledge for healthcare workers involved in newborn care. Through an enhanced understanding of the newborn's instinctive behaviour following SSC; practical, evidence-informed suggestions can be made to overcome barriers and facilitate knowledge translation into practice.[10]

Strengths and Limitations of the study

The strengths of this study include its purposive sampling to include several cadres of nurses and midwives from the 2 study sites. The study also assessed not only knowledge and practice but also assessed for associated predictors of good practice of breastfeeding initiation. Our study was however limited by its convenience sampling method.

CONCLUSION

This study shows the need for recurrent training of new nurses and midwives on the practice of EIBF as length of current ward posting of less than 3 years was one of the factors associated with poor practice of EIBF. Purposeful training targeted at the core health workers working in labour wards, theatre and postnatal ward may go a long way in improving the abysmally low current rate of EIBF in Nigeria. Although the perceptions, and knowledge of breastfeeding among nurses and midwives cannot be deemed the sole cause for the low rates of EIBF, this study has highlighted key areas of perceived barriers to EIBF. We therefore encourage other institutions to replicate and build on this work to explore factors surrounding low rates of early initiation of breastfeeding.

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