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The Implementation of Patient Safety Culture in Hospital: A Qualitative Research

Aklima Armi[1], Teuku Tahlil[2*], Fithria[3]

[1]Postgraduate Student, Faculty of Nursing, Universitas Syiah Kuala, Banda Aceh, [2]Associate Professor, Department of Community Health Nursing, Faculty of Nursing, Universitas Syiah Kuala, Banda Aceh, [3]Senior Lecturer, Department of Family Health Nursing, Faculty of Nursing, Universitas Syiah Kuala, Banda Aceh

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ABSTRACT

This study explores the implementation of patient safety culture in one of General Hospitals in the central part of Aceh Province, Indonesia. The research used a qualitative method with a phenomenological design, collected data using in-depth interviews with eight participants in inpatient and outpatient rooms. The Collaizi method was used to analyze the data and produced three themes, namely: (1) conditions needed to improve the directing function, (2) leaders' response and concern, and (3) team support and coordination in implementing patient safety. The results of this study indicate that the problem of implementing a patient safety culture needs to be considered by hospital management to improve patient safety. It is recommended that service leaders at the hospital improve the directing function to improve the implementation of patient safety culture and the quality of hospital services.

Keywords: Patient safety, leadership, communication, teamwork.

INTRODUCTION

As a place of healing (curative) and rehabilitative health services, the hospital has an important role in improving health status. In hospitals, there are hundreds of drugs, tests and procedures, technological tools, and various types of professional and non-professional staff. It provides safe, effective, quality, anti-discriminatory health services that prioritize patient safety and provide patient services continuously for 24 hours. If this diversity of services is not managed properly, it can result in patient safety incidents.[1]

Patient safety culture (PSC) is a broad, complex, and multi-dimensional conceptual framework, making it possible to assess individual and organizational behavior based on shared beliefs and values. The goal is to reduce injuries and improve patient safety. High safety standards mean small errors occur. These errors can be reported immediately for follow-up.[2]

The patient safety program refers to the Nine Saving Safety Solution from WHO Patient Safety 2007, which is used by the Hospital Patient Safety Committee (KPPRS), and from Joint Commission International (JCI), which is the first world body accredited by International Quality Standards (IQS) which makes Patient safety goals are one of

Corresponding author: Teuku Tahlil, Associate Professor, Department of Community Health Nursing, Faculty of Nursing, Universitas Syiah Kuala, Banda Aceh

Email: ttahlil@unsyiah.ac.id

the benchmarks in accreditation. However, patient safety problems still occur, including in Indonesia.[3,4]

The Joint Commission International (JCI) received reports of sentinel events with varying numbers, namely the number of incidents that started in 2014 had a total of 763 incidents and increased in 2015 with a total of 934 incidents, then decreased in 2016 with a total of 824 incidents and finally in 2017 with a total of 805 incidents. There were six sentinel events reported to The Joint Commission in 2017, namely five incidents of transfusion errors, 66 incidents of delay in treatment, 32 incidents of medication errors, 95 incidents of wrong patients, wrong positions, and wrong procedures, 19 incidents of surgical/postoperative complications, and 114 incidents of falls.[5]

Although this data already exists in general in Indonesia, it is also proven by Kusumawati[6], which states that there has been a decrease in the incidence of adverse events, namely a decrease in side effects from 5.0% to 3.7% in patients with acute myocardial infarction and a decrease in the proportion of patients who had one or more side effects from 26.0% to 19.4%. However, incident reporting records related to patient safety culture in hospitals have not been developed thoroughly by all hospitals, especially in Indonesia. Therefore, the record of reporting patient safety incidents is still very limited, and incidents in patient safety that are detected are generally adverse events that are found incidentally. Others tend to go unreported, not recorded, or even escape our attention.[6.7.8.9]

Results of interviews with heads of inpatient and outpatient rooms in one of general hospital in the central region of Aceh Province, Indonesia, indicated that the implementation of safety culture in terms of leadership, communication, and teamwork in implementing patient safety culture still requires special attention. Based on the explanation from the heads of the rooms, the application of patient safety culture needs to be explored further so that its implementation can be understood. This is important to do to improve the quality of hospital services.

METHODS

This research employed a qualitative method with a phenomenological design. This research was conducted at one General Hospital in Gayo Lues, Aceh. Sampling criteria include: (1) Heads of the rooms who work in inpatient and outpatient rooms, (2) Have at least one year of working experience, (3) Willing to share their experience directly, (4) Not currently on annual leave/maternity leave/study leave. The interviews lasted between 10-25 minutes and were recorded and transcribed word for word. After data saturation was reached, data collection was stopped.

Colaizzi's phenomenological approach was used to examine the data in this study: (1) recorded interviews are listened to with great attention; (2) critical statements are organized to provide highly relevant data; (3) the three themes are made by grouping and categorizing; (4) the study themes of phenomena are utilized to organize a comprehensive overview further; and (5) participants are allowed to view the data that has been analyzed.[10]

RESULTS

This research was conducted in June 2022 by interviewing eight key participants. The themes that emerged from the data included: The conditions needed to improve the directing function, response and concern from the leaders, team support, and coordination in implementing patient safety.

Conditions necessary to improve the directing function

This theme explains that awarding has never been done to improve patient safety programs. Strict and written sanctions are needed regarding implementing patient safety and developing nurse capacity building related to patient safety. The following are participant statements:

"So far, our leaders have never given appreciation to employees who perform well in improving patient safety programs" (P1)

"At least they were given routine warnings. There have never been strict sanctions. So, that's what makes the implementation of patient safety in this hospital not optimal" (P5)

"Training has been carried out but not about patient safety" (P8)

Leaders' response and concern

This theme explains that there has been no follow-up when reporting patient safety incidents, and staffs still have limitations in expressing opinions regarding the implementation of patient safety. The following are participant statements:

We have reported it to the leaders, but there has been no follow-up from them; for example, the facilities must be replaced because they are no longer suitable for use and can cause patients to have accidents" (P3)

"Sometimes there are limitationswhen we provide policy proposals" (P2)

Team support and coordination in the implementation of patient safety

This theme explains that team support, discussion, and joint coordination in improving the implementation of patient safety culture have been carried out well. In general, participants expressed their experiences as follows:

"I always support patient safety programs to increase patient satisfaction further so that unwanted incidents do not occur to patients" (P5)

"We, together with the director and deputy director, always discuss and coordinate how to improve patient safety programs" (P8)

DISCUSSION

In this study, the results showed that there was no reward (appreciation), no strict and written sanctions, and no nurse capacity-building activities related to implementing patient safety culture. Rewards given to heads of rooms who have implemented a patient safety culture can be a solution to increasing and maintaining staff motivation in implementing patient safety culture. Reward is an appreciation given in both material (financial) and non-material (commendation) forms. A word of thanks can be used as a reward andhas extraordinary power.[11] Work that is motivated by gratitude from a superior to a subordinate can be a source of inspiration for time discipline to complete the work.[12]

The absence of strict and written sanctions against staff makes staff less disciplined in carrying out their work. Punishment is needed to improve discipline and educate staff to comply with hospital regulations. With justice and firmness, the target of giving punishment will be achieved. Regulations without being accompanied by strict punishment for violators will make staff undisciplined.[11]

The leaders should give a warning to staff, not just a warning but by giving a warning letter so that it can be a deterrent effect for staff who make mistakes. Reprimands/ sanctions are notifications to people about mistakes that have been made so that they know the rules that should be obeyed.[13]

Capacity building for nurses related to the implementation of patient safety culture can be in the form of training. This is related to how the hospital develops nurse knowledgeto increase the knowledge of the heads of the rooms. The application of a patient safety culture is supported by previous studies that show a relationship between nurse knowledge and efforts to implement patient safety in hospitals.[14.15]

Training can add new knowledge and improve individual and system performance.[16] The results of interviews about patient safety training for employees and the service director concluded that training by leaders to increase staff knowledge could reduce the incidence of patient accidents.

Staff development programs through training and education are effective programs

to increase nurse productivity.[20] Adequate support in the form of professional training and knowledge development is one of the efforts to create a positive work environment for nurses so that safe care can be provided. Based on this, the leaders need to implement the directing function in implementing patient safety culture so that the entire team and existing resources can work to achieve common goals.

Based on the experience of the heads of the rooms, the leaders were less responsive and concerned about giving a response or feedback after they reported incidents of implementing patient safety. Given the importance of patient safety, a fast response from the leaders is expected to improve the implementation of a patient safety culture.[18]

Judging from the results of achieving the goal of implementing patient safety culture, the researcher seeks to link King's nursing theory with the goal achievement model as the hospital's responsibility for implementing patient safety culture.[19] Based on the experience of the heads of the rooms, it was found that the leaders needed to follow up on incidents reported from the room and provide opportunities for staff who wished to express opinions regarding the implementation of a patient safety culture.

Based on the results of interviews with participants in this study, the obstacles and complaints they experience regarding the implementation of patient safety culture need to be followed up by the leaders so that the implementation of patient safety culture can be carried out properly.

The hospital is a health service facility that is labor-intensive, capital-intensive, and technology-intensive and has a role in implementing complete health services. This is done by prioritizing healing and recovery efforts that are carried out in harmony and integrated with improvement and prevention, as well as carrying out referrals and organizing education and research.[20] Faridah states that in carrying out their duties, the hospital has the function of medical services, medical support services, nursing services, rehabilitation and prevention services, and health promotion.[15]

Concerning services at the hospital, the system and its parts are units that must function properly. This function allows for unity that is integration andharmony between units, between officials and between organizations. For the hospital to achieve its goals, the coordination function plays an important role in creating optimal quality of service for patients.[7]

Things that need to be assessed on hospital staff include knowledge about work, productivity, ability to complete tasks, behavior at work, ability to make decisions and cooperation with others.[20] Thus, coordination between units and between professions and forms of interaction and cooperation between one unit and the existing units in the organization becomes important. Health service performance, as a measure of employee performance in providing health services, and satisfaction is one of the goals of providing health services.[16]

Based on the interviews with informants, it can be concluded that they support the hospital in improving patient safety programs. They always carry out joint discussions and coordination in improving better patient safety programs because the implementation of patient safety culture in the hospital is still not optimal.

CONCLUSION

The results of this study show that the problem of implementing a patient safety culture needs to be considered by hospital management to improve patient safety. It is recommended that service leaders at the hospital improve the directing function to improve the implementation of patient safety culture and the quality of hospital services.

RESEARCH LIMITATIONS

Data was limited, only collected from the heads of nursing rooms. The involvement of other elements of hospital leadership to

provide more comprehensive views need to be considered for further research.

ETHICAL CONSIDERATIONS

The Study was approved by the Nursing Research Ethics Committee of the Nursing Faculty of Universitas Syiah Kuala, Banda Aceh, with registered No: 112008180322.

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CONFLICT OF INTEREST

No conflict of interest to be disclosed.

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The Correlation between the Implementation of Patient-Centered Care (PCC) and the Fulfillment of Patient Rights at Regional General Hospital of Bireuen Regency

Amalia Risca[1], Hajjul Kamil[2*], Irwan Saputra[3]

[1]*Student Master Program of Nursing Science, Faculty of Nursing, Universitas Syiah Kuala,* [2]*Asscociate Professor, Department of Nursing Management, Faculty of Nursing, Universitas Syiah Kuala,* [3]*Assistant Professor, Department of Public Health, Faculty of Medicine,Universitas Syiah Kuala, Banda Aceh, Indonesia*

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ABSTRACT

Introduction: Patient-Centered Care is an innovative healthcare model in which planning, implementation, and evaluation combine healthcare providers, patients, and families to provide better services. This study aimed to examine the relationship between implementing Patient-Centered Care and fulfilling patient rights in hospitals.

Methods: This study used a cross-sectional research design. Data analysis was performed using the Chi-square test and Logistic Regression. The number of samples was as many as 104 people selected by proportional sampling.

Results: All dimensions of Patient-Centered Care correlated with the fulfillment of patient rights ($p<0.05$). In addition, the logistic regression test showed that emotional support was the dimension with the highest correlation value ($p = 0.012$) with an odds ratio of 7.947. This indicates that patients with the correct dimensions of emotional support are 7.947 times more likely to have their rights fulfilled than patients who do not receive emotional support.

Conclusion: The results of this study conclude that to fulfill the rights of patients in hospitals, a targeted and structured implementation is needed in providing patient-centered services to improve the quality of health services. Health care workers are urged to encourage patients and their families to participate in the care process actively.

Keywords: Patient-Centered Care, Patient Rights, and Hospital.

INTRODUCTION

According to the Australian Commission on Safety and Quality in Health Care (ACSQHC), Patient-Centered Care (PCC) is an innovative approach to the planning, delivering, and evaluating of health services based on mutually beneficial partnerships between health care providers, patients, and families. PCC can be applied to patients of all ages and practiced in every service form.[1] The dimensions of the PCC are divided into 8, which is; (1) Patient Preference, (2) Coordination and Integration of Care, (3) Information and Education, (4) Physical Comfort, (5) Emotional Support,

Corresponding author: Hajjul Kamil, Asscociate Professor, Department of Nursing Management, Faculty of Nursing, Universitas Syiah Kuala, Banda Aceh, Indonesia

E-mail: hajjul.kamil@unsyiah.ac.id

(6) Involvement of family and friends, (7) Continuity and Transition care, (8) Care Access.[2]

The PCC concept is one part of patient care management that is the primary goal of every hospital in implementing the idea, especially in Indonesia, because it is one of the Hospital Accreditation Standards.[3] The main focus of the PCC concept is decentralization, promotion of efficiency and quality, and cost control. In implementing PCC, it is also necessary to pay attention to optimizing patient rights, such as providing education to patients and families in fulfilling their rights and obligations in receiving health services. The application of PCC covers various contexts, including primary care, acute care, disability care, mental health care, and chronic illness,[4]

Staff involvement also plays a role in obtaining the information needed to provide values of trust to patients.[3] Collaboration among professionals is required to promote and improve patient-centered health care, reduce competition between professions and improve teamwork.[20] PCC implementation has also provided positive patient experiences and better outcomes, such as improved adherence to care and medication. Not only beneficial for patients, but the implementation of PCC is also beneficial for Health organizations in reducing the cost of extended hospitalization and increasing return visits.[5]

METHOD

The research design used a cross-sectional study method. Data collection was carried out in July 2022 at the Bireuen Regional General Hospital, Aceh, Indonesia. The number of samples was as many as 104 patients in the adult ward, sampling using proportional sampling. The data collection tool in the form of a PCC questionnaire was adopted from the Picker; Patient Care Experience (after obtaining permission), consisting of 31 statement items with three alternative answers, namely no, sometimes, and always (this questionnaire does not provide questions for the dimension of access to care, which is not included in the study). The patient rights questionnaire developed by the researcher and tested for content and construct validity consists of 26 question items with two alternative answer choices, Yes and No. Data analysis used descriptive statistical tests, chi-square, and logistic regression.

RESULT

Based on Table 1, the demographic data of the most dominant respondents from the number of respondents 104 obtained 28 (26.92%) at the age of 36-45 years, 53 (50.96%) in the male

Table 1: Data Characteristic on correspondent demographic (n=104)

Demographic Variables	*f*	*%*
Age (years old):		
17-25	20	19,23
26-35	14	13,46
36-45	28	26,92
46-55	16	15,38
56-65	12	11,54
over 65	14	13,46
Sex:		
Male	53	50,96
Female	51	49,04
Level of Education:		
Elementary School	10	9,62
Junior High School	16	15,38
Senior High School	66	63,46
Diploma-III	5	4,81
Bachelor	7	6,73
Occupation:		
Not Working	37	35,58
Student	7	6,73
Contract workers	9	8,65
Civil Servants	3 48	2,88
Private		46,15
Duration of Treatment:		
3-5 days	96	92,31
5-8 days	6	5,77
> 8 days	2	1,92

gender, 66 (63.46%) in senior high school education, 48 (46.15%) in private employment, and 96 (92.31%) in in the duration of treatment of 3-5 days.

Based on Table 2, it can be seen that the dominant category of each PCC dimension, starting from respecting patient preferences, is in the implemented category as much as 86.6%, coordination and integration of care are carried out partially as much as 70.2%, information and education 55.8% is carried out, physical comfort was implemented as much as 79.8%, emotional support 89.4% carried out, involvement of family and friends was carried out as much as 61.5%, continuity, and care transitions were not implemented as much as 41.3%. And the variable of Patient Rights has been fulfilled by 64.4%

Table 2: PCC Implementation and Patient Rights Fulfillment (n=104)

PCC Implementation	*f*	*%*
Respect patient preferences		
Partially Implemented	14	13,5
Implemented	90	86,6
Coordination and Integration of Care		
Partially Implemented	31	29,8
Implemented	73	70,2
Information of Education		
Partially Implemented	46	44,2
Implemented	58	55,8
Physical Comfort		
Partially Implemented	21	20,2
Implemented	83	79,8
Emotional Support		
Partially Implemented	11	10,6
Implemented	93	89,4
Involvement of family and friends		
Partially Implemented	40	38,5
Implemented	64	61,5
Continuity and Transition care		
Not Implemented	43	41,3
Partially Implemented	36	34,6
Implemented	25	24,0
Fulfillment of Patient Rights		
Yes	37	35,6
No	67	64,4

Table 3 shows that the seven dimensions of PCC are related to the fulfillment of patient rights (all measurements have p-values < 0.05).

Based on the results in table 4, it can be seen that three of the seven dimensions of PCC have a significant relationship with the fulfillment of patient rights. Based on the three dimensions that have a relationship, the dimension of Emotional Support is most related to the value (p = 0.012) with an OR of 7.947, which means that the implementation of PCC with the dimensions of emotional support that is carried out well has an eight chance to fulfill the patient's rights compared to the dimensions of emotional support that are implemented not good.

DISCUSSION

a. Respect patient preferences

This study's results indicate a relationship between the dimensions of respecting patient preferences and the fulfillment of patient

Table 3: The Correlation between PCC Implementation and Fulfillment of Patient Rights

PCC Dimension	p-value
Respect patient preferences	0,032
Coordination and Integration of care	0,045
Information of Education	0,003
Physical Comfort	0,010
Emotional Support	0,015
Involvement of family and friends	0,027
Continuity and Transition	0.003

Table 4 Logistic Regression Test

PCC Dimensio*n*	*p-value*	*OR/Exp (B)*
Respect patient preferences	0,017	4,976
Physical Comfort	0,018	3,936
Emotional Support	0,012	7,947

rights, with a value of p = 0.032 (p <0.05). PCC is also a service provider who respects each other, is responsive to the needs and values of individual patients, and ensures that these values are included in all clinical decision-making.[6] This is in line with the researchers' results that respecting patient preferences has been implemented by 86.6%.

Based on research conducted by Fauzan and Widodo, there is a relationship between the application of PCC and the client's experience in the hospital with a value of p = 0.000 (p <0.05)[7], patients always respect their choices and needs; nurses always appreciate what the client chooses for the treatment process and other requirements. Health professionals value the diversity of individuals that influence the value, preferences, and specific choices of patients and families in recovering their health. In line with research by Riskiyah, Haryati, and Juhariah, inpatients get a pleasant experience from the friendliness and courtesy of health workers.[8] In carrying out PCC, health workers assess the characteristics, needs, and preferences of patients as a plan in the decision-making process by discussing them with the patient for the desired end goal.[9]

Researchers assume that in providing health services that involve patients, the friendliness of health workers must interact and an adequate consultation time so that patients can better know their health conditions and make the right decisions for their treatment. This is supported by the theory of shared decision-making in the practice of palliative care which states that the threshold for a person to talk about his disease must be specific, where each patient has different choice goals for making decisions about their treatment condition.[10]

b. Coordination and Integration of Care

This study's results indicate a relationship between coordination of care and the fulfillment of patient rights, with a value of p = 0.045 (p <0.05).

Coordination and integration of care can help reduce anxiety, feelings of fear, and vulnerability. Coordination of care can reduce feelings of exposure such as coordination of clinical care, support services, and coordination of care for patients with special needs.[11]

According to Rosa, PCC monitoring and evaluation is related to integrated medical record documents involving several health workers such as doctors, nurses, pharmacists, nutritionists, and physiotherapists. This integration's benefits can prioritize patients' interests collaboratively and comprehensively as a medium of information, control tools, drug and food analysis, and patient screening.[9]

In line with the research conducted by Rahmi, the monitoring and evaluation factors have a 17.642 chance of implementing good PCC in hospitals with a p-value of 0.001. The researcher assumes that monitoring and evaluation are part of implementing PCC as a support for treatment planning that provides complete patient medical data documents that can be used by a professional team of care providers (PPA).[17] This is supported by research conducted in Australia that participation and involvement in handovers increase the safety and satisfaction of patients and nursing staff. More than 44% of nurses felt improved patient safety as a result of good handover.[11]

c. Information and Education

This study's results indicate a correlation between information and education on patient rights, with a value of p=0.003 (p <0.05)..

Communication is a complex process that occurs through exchanging information, thoughts, and feelings between individuals. This process consists of several stages: sender, receiver, context, media, message, and feedback. Research conducted by Altin and Stok showed that the application of patient-centered communication significan-tly affects patient satisfaction in consulting doctors (p <0.05) [12]

Communication is a complex process that occurs through exchanging information, thoughts, and feelings between individuals. This process consists of several stages: sender, receiver, context, media, message, and feedback. Research conducted by Altin

and Stok showed that the application of patient-centered communication significantly affects patient satisfaction in consulting doctors (p <0.05).[13] Providing information about the health status of patients and their families is the right of patients to obtain information about the service process, medical information, treatment plans, and other services while in the hospital. Research conducted by Tabassum et al. [14] educated patients to know their rights during illness, with a p-value of 0.000. This is different from the research undertaken by Ernawati and Lusiana. The theme results obtained a lack of health information received by patients during treatment. The researchers assume that communication is essential to getting adequate information; if communication is not given correctly, it will affect the information exchange process in nursing care.

d. Physical Comfort

This study's results indicate a correlation between physical comfort and patient rights, with a value of p = 0.010 (p <0.05). According to Kolcaba, comfort is the fulfillment of individual and holistic basic human needs that can create a feeling of well-being in the individual.[19]

Research conducted by Idris and Prawesti obtained the results of a correlation between the level of comfort and the quality of life of heart patients, nurses who provide nursing care must be able to provide comfort physically, socially, psychospiritually, and environmentally, with an increase in these four elements, it is hoped that it can encourage patients to feel support and improve quality of life.[18]

e. Emotional Support

This study's results indicate a correlation between emotional support and patient rights, with a value of p=0.015 (p<0.05). In the multivariate results, the largest Odds Ratio (OR) value is 7,947, which means that the implementation of PCC in terms of emotional support that is carried out well has a 7,947 times chance of fulfilling the patient's rights. Fauzan et al.[7] researched the implementation of PCC with client experience (93.5%) had a good experience. Some clients are satisfied because nurses always ask how they are and give positive sentences that can strengthen the client's mind.

Research conducted by Tang showed that there was a positive influence of patient anxiety on the dimensions of panic, dimensions of mental dysentery, dimensions of anxiety, dimensions of urinary frequency, dimensions of sweating, and dimensions of blushing on hospital choice behavior with a p-value <0.05 hospital choice behavior as a decision-making behavior for patients and is a cognitive function that depends on the control process and anxiety stimulus.[15]

f. Involvement of Family and Friends

The results of this study indicate that there is a correlation between the involvement of family and friends with the fulfillment of patient rights, with a value of p = 0.027 (p <0.05)

In the PCC concept of providing care that involves patients, the involvement of family members is also needed. These can be understood as close friends and other people who influence patients and can provide necessary support and information during the treatment process.[9]

However, this concept differs from the research conducted by Rahmi, with a p-value of 0.332> 0.05 that the involvement of patients and families does not correlate with the implementation of PCC. Family support is the family's attitude, action, and acceptance toward sick sufferers.[17]

g. Continuity and Transition of Care

This study's results indicate a correlation between continuity and transition, with a value of p=0.003 (p<0.05).

According to KARS, there is a regulation on the discharge of patients accompanied by criteria for the discharge of patients with a complex discharge plan (discharge planning)

for continuity of care to health conditions and patient service needs.[3]

Research conducted by Rachma and Kamil[16] on the implementation of PCC at the Aceh Regional General Hospital, the results shows that continuity and transition have not been carried out by 67% of patients not getting good information at the time of discharge, in the form of treatment, actions that need to be considered at home, and the referral process for further treatment. The research is almost the same as this study's results, which found that the continuity and transition processes were only partially implemented by 56.7%. The researchers assume that in the process of providing information, the role of the family becomes a critical aspect in the continuity and transition process where in this process, the patient and family play a role in obtaining information and education about drugs, the recovery process, and others that support the patient's recovery.

CONCLUSION

The conclusion that can be drawn from the application of PCC is that the dimension of emotional support is most related to the fulfillment of patient rights in hospitals. This shows that patients with the correct dimensions of emotional support will have their rights fulfilled compared to patients who do not get emotional support. Hospital nursing managers are expected to be able to strengthen the PCC dimension in the overall implementation so that patient rights can be guaranteed while in hospital care.

Conflict of Interest: The authors declare no conflicts of interest.

Source of Funding: Nil

Ethical clearance: This study has passed the ethical test that has been carried out on the ethics committee of the Faculty of Nursing, Universitas Syiah Kuala, Banda Aceh, Indonesia, with the study code 112014230522

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The Facilitating Factors and Barriers for Nurses, to Utilize the Screening Services for Cervical Cancer in Tertiary Hospital of South India

Annie Rosita[1*], Priyalatha Muthu [2], Charles R Dawson [3]

[1]Lecturer, Clinical coordinator, Fatima College of Health Sciences, Abu Dhabi, United Arab Emirates, [2]Assistant Professor, Director of masters program,RAK college of nursing, RAK Medical and health sciences University- Ras Al khaima, 3 Controls Engineer, M.Tech, Abu Dhabi, United Arab Emirates

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ABSTRACT

Background: Cervical cancer screening needs to be considered as an integral part of maintaining women's health including the healthcare providers.

Objective: The objective of the study was to assess the barriers and facilitators, women health professionals face, when accessing the cervical cancer screening services.

Research Method: This is a descriptive, cross-sectional , mixed method study. The participants of the study were female nurses from selected tertiary level hospital from Tamilnadu, India. For quantitative method, standardized validated tool was used with author's permission. The participants participated were 125 in number. Qualitative interviews were conducted.

Results: The result showed that the common perception about the pap- smear procedure was being uncomfortable, anxiety provoking and painful as expressed by (35.2%, 33.6 and 33.6%) respectively. This overall poor attitude and carelessness of the female nurses may greatly hamper the screening program. Major barriers for cervical cancer screening among the nurses were found to be as follows: 31.2% said Taking off Clothes for the screening procedure is considered as a barrier, 20% said they do not prefer the presence of male staff during the procedure and 20% said its time consuming.

Conclusion: To conclude, if health care providers lack health awareness, they cannot motivate their patients to do the same. Thus, the initial step in breast and cervical cancer screening is health care providers should focus of their own health.

Keywords: cervical cancer, pap smear, screening, nurses.

INTRODUCTION

Cancer of the cervix is a preventable disease. In spite of its preventable nature, both cancer cervix and breast poses a serious burden on the reproductive health of women globally. Statistics from WHO's International agency for research on cancer reveals that there were 604 000 new cases in 2020 . of the estimated 342,000 deaths from cervical cancer in 2020 (WHO, 2020)[1]. WHO launched a new tool kit to guide the countries in the collection and use of standardized data on cervical cancer and support the countries in tackling the cancer cervix threat to women's health. Every year cervical cancer kills over 300 thousand women out of which 85% of the death are due

Corresponding author: Annie Rosita, Lecturer, Clinical coordinator, Fatima College of Health Sciences, Abu Dhabi, United Arab Emirates

E-mail: annie.raj@fchs.ac.ae

to cancer cervix occurring in less developed regions of the world. It is one of the most preventable and treatable form of Cancer if it is identified early and managed effectively.

a. Background: Persistent infection with one or more of the high risks on oncogenic type of HPV is one of the reasons for acquiring cancer cervix. In an immune potent woman, the progression of the disease is low, which is from healthy to precancer, then to invasive cancer which is potentially fatal. The progression from pre cancer to cancer has 20 year lag which serves as an ample opportunity to screen, detect and treat precancer and stop its progression to cancer. Also, if HPV vaccines if given before they are sexually active can prevent cancer cervix to a larger extent.

The cervical cancer screening aims at identifying and treating the cases thereby reducing the incidence of morbidity and mortality. In spite of steps taken towards the screening and combating the disease, it is still increasing in incidence, due to poor uptake of the cervical cancer screening. This is influenced by the degree of knowledge of the disease, screening services and also the perceived barriers to utilize the same[2]. Cervical cancer is the reason for high mortality rates than any other cancer and in comparison to any other country[3].

Cervical cancer is the commonest cancer among women. Cancers are of public health awareness relevance since screening services can yield a better outcome than the treatment outcomes, in other words detection at an early stage can improve the mortality rates. It is mentioned that one woman is dying of cervical cancer every 8 minutes in India. This study was undertaken to explore the facilitating factors and barriers for female health professionals, the nurses, to utilize the screening services for cervical cancer . The result of the study is intended to recommend strategies and interventions to improve uptake of screening services Ca.Cervix.

b. Objectives: The objectives of the study is to assess the barriers and facilitators women health professionals face when accessing the screening services. To understand the extent of importance perceived for barriers and facilitators for the health professionals while accessing the screening services and to explore the recommendations of interventions and strategies to increase the uptake of cervical cancer screening among women health professionals.

MATERIALS AND METHODS

In this study, the concept or the phenomenon that is identified to be studied is about the barriers and facilitators regarding the uptake of cervical cancer screening. This will ultimately inform the researcher about the strategies or intervention that can enhance the cervical cancer screening practices among the female health professionals of the hospital (Nurses) are being focused in this study. [4]The result that is expected plays an important role in selecting the most appropriate and suitable research approach and not only that, the focus of the study, is another vital factor that informs the researcher either qualitative, quantitative or the mixed method is to be adopted[5].

a. Design: This study followed mixed method. The qualitative method not only precedes the quantitative one, in the next phase of the study, the qualitative method is again employed, and therefore this project would be identified as multiphasic mixed method. The convergent parallel mixed method design, also called as concurrent mixed methods design is when both quantitative and qualitative data are collected at the same time, to address the research problem[5].

This type of mixed methods is also referred as triangulation design, which will add credibility of the study. Also, as a constructivist researcher, the author will be relying on combination of both qualitative and quantitative methods. [5]The mixed method is defined as a "procedure for collecting, analyzing and "mixing" both quantitative and qualitative methods in a single study or a series of studies to understand a problem". Author would utilize the Quantitative data in a way, it can support or expands upon

qualitative data and effectively deepen the description.

b. Setting: The study was carried out in selected hospitals of Tamil Nadu, India. The hospitals are situated in Chennai which is the capital city of Tamil Nadu. The bed capacity of the Institutions ranges from 300 to 500 beds. The hospitals were chosen as the target site of the study based on the convenience of the researcher. The hospitals also provides state of the art facilities in many departments with general Medical, Surgical, Gynecology, antenatal postnatal ENT oncology diabetic unit. The hospital is managed by Board of trustees and is privately owned. The female health professionals constitute of around 60% of the total workforce in the hospital.

c. Demography: A total of 125 female nurses participated in the data collection for the study. As shown in Table 1, out of 125, majority of the participants are within the age group of 20 -24 years (76.8%) and 12.8 % of the nurses were 25-30 years,. 81.6% were unmarried. 8% were staying with parents, 7.2% with the spouse, 10.4% with spouse and his family and most of the participants were residing in the hostel 93 (74.4 %).

Educational Qualification varied, as 10.4% were Diploma holders, 87.2% were B .Sc graduates and 2.4% were masters qualified. Participants' work experience varied from less than 2 Years were (63.2%)2 to 5 years (26.4%), 10 Years (3.2%), 10 to 15 Years (0.8%) and 15 Years and Above were (6.4%).

RESULTS AND DISCUSSION

It has been shown that health care provider recommendations are strong predictors of cervical cancer screening for the general population. These health professionals, who had not tested for themselves, may not initiate, and recommend others for screening. The main factor reported for not getting screened was carelessness. The overall poor attitude and carelessness of these female nurses may greatly hamper the screening program.

a. Pap Smear Test Reflections

The diagnosis of cervical cancer invokes a deep emotional factor among any person. The Figure 1 depicts the responses of nurses on their reflection related to pap test. The procedure being uncomfortable, anxiety provoking and painful (35.2, 33.6 and 33.6%) respectively is the common perception about the pap- smear among the nurses in a tertiary hospital. The other reflections mentioned are comfortable, reassuring and painless which are expressed by 3.2%, 6.4 % and 6.4% of them respectively.

b. Encouraging Factors

While exploring the factors that might facilitate the cervical screening, As shown in Figure 2, it was found that 47.2% of the nurses mentioned that the supportive colleagues and health professionals are one of the most important facilitating factors that encourages them to utilize the cervical screening services. 32% mentioned that encouragement from

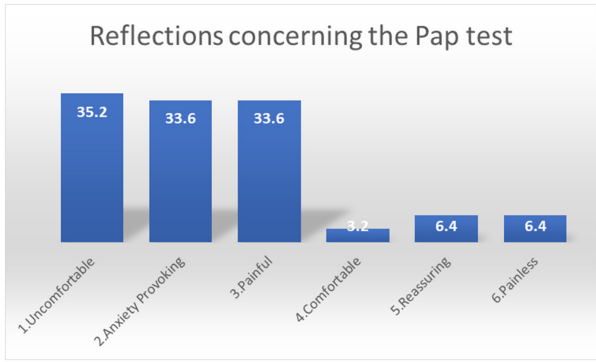

Fig. 1: Distribution of Responses of nurses on their reflection concerning Pap Test

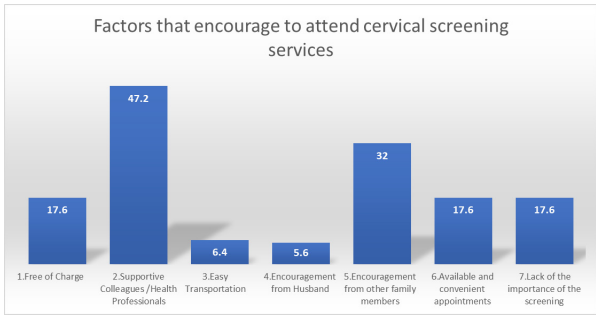

Figure 2: Distribution of Responses of nurses on factors that would facilitate cervical cancer screening

other members of the family is an important facilitating factor.

The other factors that plays an important part is that the screening services are available free of cost, the appointments are available in a convenient time for them and also their perception of the importance of getting the screening done which accounted for 17.6% related to all of the three factors. About 5.6% of them also mentioned that they would be encouraged if they are encouraged by their husband specifically to go for it. This was also expressed by the participants during the interview.

c. Barrier Factors

The responses of nurses on factors that are barrier for cervical cancer screening is shown in Figure 3. 31.2% said Taking off Clothes for the screening procedure is considered by them as a barrier to avail the screening service. It is found that the lack of access to the Services were an important factor for In Malaysia[7]. The female medical students were involved in focus group discussions to explore their perceptions regarding Pap smear test. They expressed that barriers to such screening were: lack of awareness, shyness, and the cost of the test[8]. Most of these women agreed that physician's gender would affect the women's decisions to uptake the test.

The findings of this study suggest that it is important to provide information about the

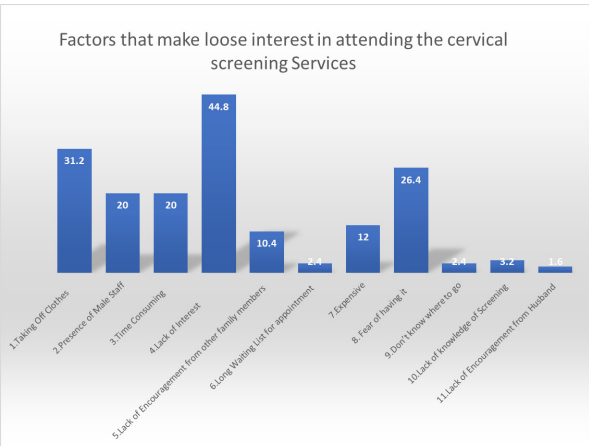

Fig. 3: Distribution of Responses of nurses on factors that would be a barrier for cervical cancer screening

value of cervical smear test to the women who are not taking screening tests for both cancer cervix and cancer breast. 20% said presence of male staff, 20% said its time consuming 44.8% mentioned lack of interest, 10.4% said lack of Encouragement from other family members.

Good practice involves attention to structural and practical challenges, and an understanding of the role of relationships in shaping screening intentions. Experienced practitioners adapt procedures to increase sensitivity, and balance time invested in problem solving against the benefits of reaching practice targets for attendance[9]. This indicates that social support has a positive effect on the regular practice of self-care. 2.4% chose Long Waiting List for appointment, 12% said its expensive, 26.4% said fear of having it, 2.4% said Don't know where to go, 3.2% indicated Lack of knowledge of Screening and 1.6% said lack of Encouragement from Husband. Among the deaths of the world due to cervical cancer, 88% of the deaths occurs in developing countries. Developed countries have significantly able to reduce the cervical cancer incidence and the deaths due to cervical cancer by extensively improving the cervical cancer screening programs (CCSP)[10].

d. Improvement Strategies

The responses of nurses regarding suggestions to improve cervical cancer screening is given in figure 4. 28% mentioned Staff Attitudes as one of the points of suggestion to improve cervical cancer screening. 46.4% mentioned the presence of female staff can facilitate the tests carried out. 29.6% nurses chose attending Educational Program such as seminars and events can improve the situation.

5.6% said Screening done by doctor, whom I am not familiar with. 6.4% said Screening done by doctor, whom I am familiar with, 16% mentioned permission time granted during duty hours screening made mandatory (compulsory) by working institution and 14.4% which matches with the statements mentioned during the interview with the participants.

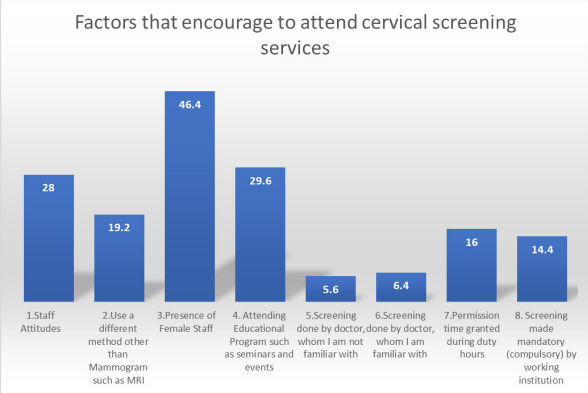

Figure 4 : Distribution of Responses of nurses as suggestions to improve cervical cancer screening, which are encouraging to utilize the screening services.

CONCLUSION

This study highlights several noteworthy implications. The results show the importance for women's preventive health care, not just with regards to education but also in practice. The study also highlights the need for educational programs to create awareness regarding regular breast cancer screening behavior and pap testing as per recommendations. The study showed that despite knowledge of the gravity of cervical cancer and prevention by screening using a Pap smear, attitudes, and practices among nurses towards cervical cancer screening were negative; especially uptake of Pap smear test is abnormally poor.

The study revealed that the major reasons for the low screening uptake was fear of the test, unavailability of the test, financial constraints and not feeling at risk. In addition, limited accessibility to well-equipped facilities was cited as a challenge to cervical cancer screening. Cervical cancer is a major public health concern in India and in the developing countries due to its prevalence, morbidity and mortality. If the fight against the disease is to be won, concerted efforts should be made to educate nurses who are involved in health education of the general population on the dangers posed by the disease and reassurance to overcome all possible barriers towards acceptance of the screening test.

a. Limitations

The sample of the study population includes female health professionals; hence the results of the study cannot be generalized to a larger population in India. The sample size is relatively small and may not be representative of all females of that age group;. Thus, it is recommended to conduct further studies using larger samples at various institutions in India. Those who were 40 years or older were found to be more conscious about their health. Yet, overall majority of female health care professionals did not take proper measures for their own health. If health care providers lack health awareness, they cannot motivate their patients to do the same. Thus, the initial step in cervical cancer screening must focus on health care providers being aware of their own health. "Be the change that you wish to see in the world, you must be first to change."

b. Implications to Healthcare Providers

The results of the study informs the health care providers to focus on their health and avail the cervical screening services. The study also insists that the female health care providers to improve the knowledge regarding cervical screening.

c. Implications to Institutions and Government

The institutions are informed about the barriers and the facilitators the female health workers face to utilize the cervical cancer screening services. The results calls for the institution to take appropriate interventions to support them with their barriers and facilitate the screening service utilization.

d. Implications to Family

The study informs the society that the support and encouragement is very important to the female member of the family and especially the health care professional who is expected to encourage their patients and families and be a role model.

Conflict of Interest: nil

Source of Funding: Self

Ethical Clearance: Ethical approval was obtained from the hospitals' ethical committee where the data collection was done.

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Myths & Facts Regarding Diet in Pregnancy-A Survey Review

Dipankar Maiti[1], Victoria Sarvand[2]

[1]Nursing Tutor, Sushrutha College of Nursing, Rajiv Gandhi University of Health Sciences, Karnataka, India, [2]Professor & HOD, Department of Obstetrics &Gynecological Nursing, Adichunchanagiri College of Nursing, Adichunchanagiri University, B.G.Nagara, Mandya, Karnataka, India

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ABSTRACT

At the current scenario due to more and more civilization pregnancy diet related myths are self-explanatory as well as confusing due to misleading by the social media. Especially in the rural areas of India including the underdeveloped and developing countries this problem is a social drawback in this 21st century.Pregnancy can be equally an incredibly exciting and nerve-racking time. And as the logistical authenticity of pregnancy sets in, women who are expecting often swiftly come to understand all the ways they may not be able to eat exactly as they did before—principally when it comes to the safety of many foods and beverages as well as their timings and frequency. This article offers a comprehensive review of Myths & Facts Regarding Diet in Pregnancy including the factual explanation. The survey conducted from 1st September to 15 October.

Keywords: Myths, Dairy products, Maternal nutrition, Obstetricians, Gynaecology, Human chorionic gonadotropin, oestrogen

INTRODUCTION

There are manifold myths around what foods to eat and evade during pregnancy. Henceforth, we spoke to a nutritionist about the precise pregnancy diet. Pregnancy is a very distinct phase in a woman's life, a beautiful journey. As exciting as it is, it likewise brings with it anxiety and nervousness. We know that people around us have unlimited advice so it becomes tough with integrating and digesting information and putting it to good use. To gain significant insights into the importance of nutritious food for hopeful mothers and to bust some myths around the foods they can eat or avoid, we spoke to Dr. Rajeshwari, a Nutrition expert with Adichunchanagiri Institute of Medical Sciences & Research Centre.

Significance of maternal nutrition

Dr. Rajeshwari conveyed to us that nutrition ensues to be a key factor in ensuring the good health of both the mother and the child. She said, "Pregnancy revenues a toll on the body and therefore, good nutrition is compulsory due to augmented maternal metabolism and to offerfoetal nutrition."

Busting myths around food for pregnant women

We, however, cannot contradict that there are multiple myths about what mothers should and should not eat. This can generate confusion and lead to nervousness in expectant mothers. Hence, it is imperative to combat misinformation and myths.

Corresponding author: Dipankar Maiti, Nursing Tutor, Sushrutha College of Nursing, Rajiv Gandhi University of Health Sciences, Karnataka, India.

E-mail: dipankarmaiti2015@gmail.com

Dr. Rajeshwari busted numerous myths about food for pregnant women. Pregnancy can be both an amazingly exciting and nerve-racking time.In this article, we rounded up and demystify some of the most common myths neighboring nutrition and food safety during pregnancy so that the gravid mothers can feel more self-assured about her food choices and eating patterns over the next 9 months.

METHODOLOGY

This detailed review includes open data about Myths & Facts Regarding Diet in Pregnancy. This information collected from the different search engines like 'Cinahl', 'Google Scholar', 'Cochrane' etc. from plentiful review as well as research articles along with a number of renowned articles. The search borne almost 60 papers, including reviews, case reports, case series, and small clinical studies. After excluding the 20 non-English reports without an English abstract, we encompassed the remaining 40, notwithstanding of publication date.

MYTHS VS FACTS

MYTH 1: Eating peanuts and dairy products can make the baby ALLERGIC

TRUTH: It's perfectly safe to eat these foods unless the mother herself is allergic to them, or if the doctor advises the pregnant mother not to. There is no proof that cutting out some foods will prevent the baby from being allergic to them, but limitation in diet can be harmful to the baby as the mother might not get all the nutrition needed.

There are some nutriments that it's best to circumvent during pregnancy due to the risks in certain harmful microbes. They comprise some soft cheeses, patés, raw meat or fish, uncooked or partially cooked eggs, and soft-serve ice cream.

MYTH 2: The mother should eat DOUBLE during pregnancy

TRUTH: There is no proof or evidence to show that the motherneeds to eat for 2 when during pregnancy. How much extra the motherneeds to eat depends on her weight and height, how active the mother is anddepends on the months of pregnancy. But, in over-all, most women must only eat about 350 to 450 additional calories each day while they are pregnant. That's a twosome of extra healthy nibbles like fruit, a hard-boiled egg or a berry smoothie.

MYTH 3: Cream can assist toevadeSTRETCH MARKS

TRUTH: There is no proof that creams or oils can remove or prevent stretch marks, which often weaken in time.[1]

MYTH 4: Give up the SPICES

Myth also proposes that spicy foods eaten during pregnancy can burn the baby's eyes, consequential in blindness. Spicy diets also have been answerable for miscarriages and the induction of labour. While those connotations might sound plausible to some people, they aren't real. Spicy foods can upsurge a pregnant woman's risk of heartburn, though. Recurrent heartburn during pregnancy may mean that the baby will be born with a head full of hair, if we are to believe another old wives' tale.[2]

TRUTH: There no relevance in between the use of spices (within limit) and pregnancy complications.

MYTH 5: Pregnant People should avoidSWEETS.

TRUTH: Pregnant people should be aware of what they eat; however, ostracism an entire food group isn't essential—unless the doctor says so. What's more, some sweets provide health benefits, i.e., eating chocolate every day can be good for the pregnant mother. According to an August 2010 study, consumption the sugary substance can decrease the risk for preeclampsia and gestational hypertension.

MYTH 6: Say goodbye to SEAFOOD.

Eating fish high in omega-3 fatty acids and low in mercury throughout pregnancy may

produce cleverer kids. Children whose parents ate at least twelve ounces of seafood a week during pregnancy had higher verbal IQ, better social and communication skills, and superior motor skills, according as per an October 2019 study. Another study proves that the children also had a better metabolic profile, thanks—in large part—to seafood.

TRUTH: There is no direct connection in between seafoods and pregnancy until contraindication confirmed by the physician.

MYTH 7:The pregnant mother shouldn't have CAFFEINE.

In the past, pregnant people were counselled to avoid caffeine—in soda, coffee, tea, and chocolate.

TRUTH: Current studies show that modest amounts are safe. Conferring to the ACOG, pregnant people can safely devour up to 200 milligrams of caffeine a day, or one 12-ounce cup of coffee.

MYTH 8: Eating PEPPERONI PIZZA During Pregnancy Can Maltreatment the Foetus.

According to the American Pregnancy Association, deli and luncheon meats should be dodged during pregnancy. This is due to conceivable contamination and their high nitrate concentration.

TRUTH:However, these foods can be consumed—in moderation—if they are properly prepared, i.e., deli meats can be eaten if they are heated to 165 degrees F or higher. This means pepperoni pizza, for example, is a safe bet.[3]

MYTH 9: It's Okay to Have an Occasional GLASS OF WINE

The pregnant mother should never drink any alcohol while pregnant. There is no safe quantity or type of alcohol during pregnancy, and even moderate consumption can lead to lifelong problems for theoffspring. These problems can be less noticeable than those caused by heavy drinking and can comprise coordination, attention, and learning issues.

TRUTH:Alcohol-related congenital disabilities are entirely preventable. The OB-GYN can offer instruction on avoiding alcohol while pregnant.[4]

MYTH 10: Pregnant women should avoid CHOCOLATE

Although chocolate does contain caffeine in small volumes, as with coffee and other caffeinated beverages, it's faultlessly fine in moderation.

TRUTH: Chocolate is not contraindicated during pregnancy if the physician confirms about any allergies.

MYTH 11: It's not safe to eat FISH while pregnant

TRUTH: Fish contains more nutrients and proteins. So, fish is very healthy food during pregnancy. But if any women is having allergy about any particular species of fish then that should be avoided.[5]

MYTH 12: The pregnant women need more CALORIES during all stages of pregnancy.

TRUTH: For the first trimester, the mother can eat about the same amount as she did before she was pregnant. Formerly, in the second trimester, the mother calorie needs will surge by about 340 calories per day—about the quantity in two tablespoons of hummus, one pita bread and raw veggies or about 5 ounces of yogurt, one fourth cup granola and 1 cup berries. In the third trimester, the mother should aim for about 500 extra calories per day. Note that these calorie needs may differ depending on the women's pre-pregnancy weight, activity level and if she is carrying multiples, and it's best to speak with her healthcare provider about your specific needs. If counting calories makes the head spin, try focusing on tuning into her hunger and fullness cues. The pregnant woman's body is smart, and it's especially helpful to listen to its signals as sheundergoes the many physical changes of pregnancy.

MYTH 13: CHEESE is off-limits.

TRUTH:Most cheeses items,particularly hard and pasteurized cheeses like Cheddar, Parmesan and Romano are safe to eat during pregnancy. Nevertheless, the pregnant woman should evade unpasteurized cheeses (as well as unpasteurized milk and other dairy foodstuffs) and soft full-grown cheeses, including brie, gorgonzola, and camembert. Unpasteurized cheeses along with soft ripened cheeses (as well as delicatessen meats and undercooked poultry) have a complex risk of containing potentially harmful bacteria that could lead to listeriosis, and because pregnant women have a higher risk of foodborne illnesses, they should take safeguards with cheeses that are more prone to bacterial growth.

MYTH 14: MORNING SICKNESS only happens in the morning.

Morning sickness is theoretically a misnomer, because the nausea and vomiting that characterize it can occur at any time during the day (even though it does tend to be more Spartan in the morning for many women). While the cause of nausea and vomiting in pregnancy is not entirely understood, it's thought to be related to low blood sugar and/or the rise in pregnancy hormones, including HCG or oestrogen. If the pregnant mother find herself struggling to eat due to nausea, here are a few strategies she can try:

- Plan for five to six slighter meals throughout the day, in its place of three larger ones
- Line up protein in the meals and snacks
- Should take prenatal vitamins with a snack
- Make tea with ginger or lemon
- Get sufficiently rest
- Drink profusely of fluids throughout the day
- Eat a few crackers as soon as wake up to curb the hunger may feel first thing in the morning
- Take a walk in the fresh air[6]

CONCLUSION

Though the concept clearance regarding this topic is tough to handle but still we tried to keep the real facts against the wrong concepts of the society simultaneously we tried to cover the related information regarding thefacts behind the formation of those myths. We hope that the readers have received all the information and mythical concept clearance regarding diet pattern during pregnancy.

LIST OF ABBREVIATIONS

- ACOG-American College of Obstetricians and Gynaecologists
- HCG-Human chorionic gonadotropin

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Effectiveness of Structured Teaching Programme on Knowledge Regarding Universal Precautions and the Prevention of Blood Borne Infections among The Final Year B.Sc. Nursing Students of Selected Nursing Colleges

Gopi D[1*] Savitha G.R[2]

Gopi D. M.Sc.(N), Ph.D., Principal, Abhishek Nursing and Paramedical Institute, Ward No.5, Lokmanya Tilak, Chandauli, Uttar Pradesh. 232104, [2]Savitha G.R. M.Sc.(N), Associate Professor, Abhishek Nursing and Paramedical Institute, Ward No.5, Lokmanya Tilak, Chandauli, Uttar Pradesh - 232104

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ABSTRACT

A Quasi experimental approach was used for this study. Objectives are to assess the level of knowledge regarding universal precautions & the prevention of blood borne infections, effectiveness of structured teaching programme, association between the pretest level of knowledge among final year B.Sc.Nursing students with selected demographic variables. The study was carried out Rajeev College of Nursing, Hassan. The samples comprised of 60 final year B.Sc.Nursing students. Sample was selected by using random sampling techniques. A total of 60 final year B.Sc.Nursing students selected for the study by using structured knowledge questionnaire, the selected samples were given pre test questionnaire followed by Structured teaching programme was given to all students for 45 minutes. Post test was conducted by using knowledge questionnaire after 15 days of Structured Teaching programme for same students. The result of study shows that the post test mean score 20.94 (SD=8.17) was more than the pre test mean score 15.42 (SD=3.35), the obtained mean difference between pre and post test score is 5.52 (SD=4.82), the obtained 't' value is 13.3. So it is significant at the level of 0.05. It was inferred that final year B.Sc.Nursing students knowledge was increased regarding universal precautions and prevention of blood borne infections after structured teaching programme increase in post test score. Therefore structured teaching programme is effective in improving knowledge regarding universal precautions and prevention of blood borne infections among final years B.Sc.Nursing students, also there was significant in income and occupation of parents with the level of knowledge and selected demographic variables.

Keywords: Final year B.Sc.Nursing students, structured teaching programme, Universal precautions, preventions of blood borne infections.

INTRODUCTION

"Prevention is better than cure"

Health is a state of dynamic equilibrium between man and his environment. It is not something that one possesses as a commodity, but rather a way of functioning within one's environment. When this equilibrium is disturbed, it results in illness.[1] Illness can affect many systems of our body and one

Corresponding author: Gopi D. M.Sc.(N), Ph.D., Principal, Abhishek Nursing and Paramedical Institute, Ward No.5, Lokmanya Tilak, Chandauli, Uttar Pradesh. 232104.

E-mail: kavigo1980@gmail.com, savithagr1986@gmail.com

among this is the immune system. It provides protection from invasion of pathogenic agents. Any disturbance to the immune results in infection. It is a painful fact of life and the chief cause to death.[2]

Infection is one of the most important problems in health care services worldwide. It constitutes an important cause of morbidity and mortality associated with clinical, diagnostic and therapeutic procedures. Health care workers are at a high risk of needle stick injuries and blood – borne infections as they perform their clinical activities in the hospital.[3]

Blood – borne infections are the infections that are transmitted through contact with blood and other body fluids. Among these blood – borne infections, Hepatitis B, Hepatitis C and Acquired Immune Deficiency Syndrome are the most important. Transmission of these infections can occur through occupational exposure due to percutaneous injury (needle stick or other sharp injury), mucocutaneous exposure (splash of blood or other body fluids into the eye, mouth and nose), or blood contact with non-intact skin.[4] Individuals at special risk for these infections include intravenous injection drug users, sexually active people with multiple partners, frequent blood transfusions, health care personnel and perinatal transmission during pregnancy, delivery or through breast feeding. These blood borne infections can be prevented by different ways. Among these, universal precautions are regarded as an effective method.[5]

Universal precautions are a set of guidelines that aim to protect Health Care Workers from blood – borne infections.[6] In 1987, the Centre for Disease Control and Prevention proposed the concept of "universal precautions". These precautions apply to all body fluids including blood, secretions, and excretions (except sweat) regardless of whether or not they contain visible blood.[7] They are designed to prevent health care workers from being exposed to potentially infected blood and body fluids through hand washing, utilization of appropriate protective barriers such as gloves, mask, gown, eye wear and safe injection practices.[8]

Worldwide, about three million health care workers receive percutaneous exposure to blood-borne pathogens each year. Further, about 40% of HBV and HCV infections and 2.5% of HIV infections in health care workers are attributable to occupational sharps exposures, which are mainly preventable.[9]

Statement of the problem

"A study to assess the effectiveness of structured teaching programme on knowledge regarding universal precautions and the prevention of blood borne infections among the final year B.Sc. Nursing students of selected nursing colleges at Hassan, Karnataka."

Objectives

1. To assess the level of knowledge regarding universal precautions and the prevention of blood borne infections among the final year B.Sc. Nursing students before and after structured teaching programme.
2. To develop and administer structured teaching programme on the knowledge regarding universal precautions and the prevention of blood borne infections among the final year B.Sc. Nursing students.
3. To evaluate the effectiveness of structured teaching programme on the knowledge regarding universal precautions and the prevention of blood borne infections by comparing pre and post test knowledge scores.
4. To find out the association between pre test level of knowledge with selected socio-demographic variables.

Hypotheses

H_1: There will be a significant difference between the mean pre-test and post-test level of knowledge regarding universal precautions and the prevention of blood borne infections among the final year B.Sc. Nursing students.

H_2: There will be a significant association between the pre-test knowledge scores of the final year B.Sc. Nursing students with their selected socio-demographic variables.

MATERIALS AND METHODS:

(a) Research approach: Experimental approach.

(b) Research design: One group pretest-posttest.

(c) Sample size: 60 samples

(d) Sampling technique: Simple random sampling technique

(e) Tools: Demographic variables, knowledge questionnaire, structured teaching programme

Inclusion criteria

1. Students who are studying in final year B.Sc. Nursing.
2. Students who are present at the time of data collection.
3. Students who are willing to participate in the study.

Exclusion criteria

1. Students who are absent at the time of data collection.
2. Students not willing to participate.

FINDINGS

Table 1 shows that the level of knowledge regarding universal precaution and blood borne infections among final year B.Sc. Nursing students in pretest frequency percentage no one was adequate knowledge, 95% were having moderate knowledge and 5% were having inadequate knowledge, whereas posttest frequency percentage no one was inadequate knowledge, 48.33% were having adequate knowledge and 51.67% were having adequate knowledge regarding universal precautions and blood borne infections.

Table 2 shows that the knowledge scores on universal precautions and the prevention of blood borne infections before and after structured teaching programme. In all aspects the final year B.Sc. Nursing students had improved after intervention. The difference between pre test and post test knowledge score is large and it is significant.

Table 3 shows that the level of knowledge scores on universal precautions and the prevention of blood borne infections among final year B.Sc. Nursing students mean in pre test was 15.42 whereas in posttest was 20.94 and mean difference was 5.52. with standard deviation of 3.35 in pretest, 8.17 in post test, and obtained 't' value was 13.3 it is significant at the level of 0.05 The difference between pre

Table 1: Frequency and Percentage Distribution of Samples according to pre test & Post-Test level of knowledge (n = 60)

Sl. No	*Level of Knowledge*	*Pretest Frequency percentage*	*Posttest frequency Percentage (%)*
1	Inadequate (0 -10)	5.00	0.00
2	Moderate (11 -20)	95.00	48.33
3	Adequate (21 – 30)	00	51.67

Table 2: Comparison of pre test and post test knowledge scores of final year B.Sc. Nursing students in area wise regarding universal precautions and the prevention of blood borne infections. (n=60)

Sl.No	*Knowledge aspects*	*Pre test*		*Post test*		*Mean difference*	*Student 't' test*
		Mean	*SD*	*Mean*	*SD*		
1.	Blood borne infections	5.12	1.43	8.37	2.86	3.25	8.870*
2.	Universal precautions	10.3	1.92	12.57	5.31	2.27	4.432*

*Significant at the level of 0.05

Table 3: Comparison of pre test and post test knowledge scores of final year B.Sc. Nursing students regarding universal precautions and the prevention of blood borne infections. (n = 60)

Test	*Mean*	*Mean Difference*	*Standard Deviation*	*'t' - value*
Pre - Test	15.42	5.52	3.35	13.3*
Post - Test	20.94		8.17	

*Significant at the level of 0.05

test and post test knowledge score is large and it is significant. So it indicates that structured teaching programme is effective in final year B.Sc.Nursing students.

CONCLUSION

The final year B.Sc. Nursing students had gained knowledge about universal precautions and the prevention of blood borne infections. In this study the investigator selected 60 samples according to the inclusion and exclusion criteria and gave structured teaching program on universal precaution and prevention of blood borne infections. They gave free and frank responses regarding universal precautions and the prevention of blood borne infections. From the data analysis and findings of the present study is concluded that there was significant differences between the pre test and post test knowledge scores.

Conflicts of Interest:

Nil

Source of funding:

Self

Ethical clearance:

Study was approved by N.D.R.K. College of Nursing research committee and ethical committee. Permission sought from the concern authorities of the nursing colleges before conducting the research.

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The Relationship of Nurse Prevention, Rescue Capabilities with Emergency Response Efforts to Coronavirus Disease 2019 (COVID-19) at Aceh Regional General Hospital : A Cross-Sectional Study

Khairul Fahmi[1], Marlina Marlina[2*], Hilman Syarif[3]

[1]Master Program of Nursing Science, Faculty of Nursing, University of Syiah Kuala, Banda Aceh Indonesia, [2,3]Faculty of Nursing, University of Syiah Kuala, Banda Aceh-Indonesia

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ABSTRACT

Emergency response is a series of activities that must be carried out immediately to reduce the adverse impacts caused including basic needs, rescue activities and evacuation of victims. Nurses' emergency response efforts to COVID-19 are divided into four, namely prevention capabilities, psychological readiness, infection control and emergency rescue capabilities. The purpose of this study was to analyzing factors influencing nurses' emergency response with coronavirus disease (COVID-19) at the Aceh Regional General Hospital. This type of research is quantitative with a cross-sectional study design. The research sample based on the inclusion and exclusion criteria was 89 respondents. Data analysis used univariate (descriptive statistics), bivariate (chi square) and multivariate (logistic regression) methods. The results of the bivariate analysis showed that the variable preventive ability (P-value 0.000) and emergency rescue capability (P-value 0.000) that were related to emergency response efforts against COVID-19. The results of the multivariate analysis found that emergency rescue capabilities were the most related factor to emergency response efforts (OR: 14,072). Based on the results of the study, the most significant determinant of nurses' emergency response efforts to COVID-19 is the ability to rescue in the form of nurses' attitudes and actions in providing nursing care. Emergency rescue capabilities can break the chain of transmission of the COVID-19 virus and provide nursing care to patients who are confirmed positive for COVID-19.

Keywords: Prevention skills, emergency rescue.

INTRODUCTION

Emergency response is a series of activities carried out immediately at the time of a disaster to deal with the negative impacts that have arisen including rescue activities, evacuation of victims, property, basic needs, protection, refugee management, rescue and restoration of infrastructure and facilities[1]. Disaster management, especially emergency response, must be carried out appropriately, so that nurses play an important role in disaster management in the emergency response phase[2]. Emergency response efforts are intended to respond to all emergency conditions quickly and accurately to save lives, prevent disability, and ensure health programs run to minimum standard of health care[3].

Corresponding author: Marlina Marlina, Faculty of Nursing, University of Syiah Kuala, Banda Aceh-Indonesia

E-mail: nersmarlina@unsyiah.ac.id

Nurses are those who have the expertise and authority to provide nursing care based on the knowledge learned through nursing education. During the coronavirus disease 2019 (COVID-19) pandemic, various roles used by nurses to provide nursing services, such as screening services providing health education such as infection prevention, signs and symptoms of infection and screening services that have a higher risk[4].

Emergency competence represents a nurse's ability to provide a comprehensive and rapid response to an unexpected illness with knowledge, skills and experience. They significantly influence the prevention and control of emerging infectious diseases. The International Council of Nurses defines nurse competence as a discretionary assessment of personal and family safety, and clinical competence appropriate to the situation[5]. Supervision and prevention of nosocomial infections such as nurses screening suspected cases when providing nursing services such as hand hygiene, respiratory protection, injection safety protection, training and educating patients to prevent infection, triage management according to the signs and symptoms experienced by patients[6].

COVID-19 is a disease caused by SARS-CoV-2 (Severe Acute Respiratory Syndrome Coronavirus-2). The first COVID-19 occurred in the Chinese city of Wuhan and the spread occurred so quickly that it caused a pandemic throughout the world. On March 11, 2020, the Director General of the World Health Organization (WHO), Tedros Ahanom Ghebreyesus declared that COVID-19 became a global pandemic. August 30, 2021, cases of COVID-19 in the world reached 204,222 million with a death toll of 4,274.

The level of emergency response of nurses to COVID-19 in 26 hospitals with 557 respondents, the cross sectional study method showed (37.5%) reported working with fear of being infected, (28.2%) reported increased workload, the ratio of nurse patients who high, and irregular shift schedules, responsibility when managing patients with COVID-19 (23.9%), lack of communication with management (21.2%), inability to provide psychosocial care to patients, emotional exhaustion (53, 5%), and difficulties in expressing emotions (44.9%)[7].

Analyzing the emergency rescue capabilities of nurses to treat COVID-19 patients. The study was conducted using a cross-sectional survey with 2,570 nurses, revealing that nurses had good knowledge of COVID-19, but they lacked experience in isolation ward work and emergency training. Age, title, leaving for work, total working time, history of disaster rescue, emergency training and communicable disease training are associated with emergency response competencies[8].

Positive cases of COVID-19 in Indonesia on 07 November 2022 reached 6,525,120, recovered 6,328,763 in treatment 37,486 and died 158,695 Number of positive cases in Aceh 44505, 111 under treatment, 42148 recovered, and 158,871 died. One of the policy methods carried out in Indonesia during the COVID-19 pandemic emergency was social distancing. This is a method to break the chain of distribution of COVID-19. One thing that must be adhered to in this method is that people are given socialization not to make direct contact with other people. others, avoiding crowds, learning is done online and worship is carried out at home only[9]. From some of the problems above the author wants to do research again about the relationship between the prevention abilities of nurses, rescue and emergency response efforts for the coronavirus disease 2019 (COVID-19) at the Aceh Regional General Hospital.

MATERIALS AND METHODS

Design

This quantitative research uses a correlation design with a cross sectional approach. This research was conducted at the Aceh Regional General Hospital. The total sample in this study was 89 nurses who were members of the COVID-19 team, taking samples using inclusion and exclusion criteria.

Data collection used three questionnaires, namely a questionnaire on respondent demographic data, a questionnaire on prevention abilities and emergency rescue capabilities and a questionnaire on nurses' emergency response efforts to COVID-19. The questionnaire in this study has been tested for validity and reliability. The prevention ability questionnaire with cronbach alpha 0.912, the emergency rescue ability questionnaire with Cronbach alpha 0.862, and the emergency response effort questionnaire with cronbach alpha 0.672.

Questionnaires were distributed and answered directly by respondents when the respondents were on duty. the data that has been collected is then checked for completeness, processed and analyzed using univariate, bivariate, and multivariate analysis. The involvement of respondents is voluntary. All respondents involved were explained about the research including the pros and cons of their involvement and were asked to provide written consent for their involvement in the research.

RESULTS

Univariate Analysis Result

Table 1 shows that out of 89 early adult nurses, 64 people (71.9%). Working period 1-5 years 57 people (64.0%), Gender female 52 people (58.4%). Associate's degree 62 people (69.7). Marital status is married 62 people (69.7%). The position in the nurse practisioner is 61 people (68.5%).

Table 1: Characteristics of nurses (n=89)

No	*Characteristics*	*Frequency*	*Percentage*
1.	Age		
	21-30	7	7,9
	31-40	64	71.9
	41-50	16	18.0
	Early seniors	2	2,2
2.	Years of service		
	<1 year	4	4,5
	1-5 years	57	64.0
	6-10 years	12	13.5
	<10 years	16	18.0
3.	Gender		
	Man	37	41.6
	Woman	52	58,4
4.	last education		
	Associate's degree	62	69,7
	Nurse Profession	27	30,3
5.	Marital status		
	Marry	27	30,3
	Single	62	69,7
6.	Room position		
	Nurse practisioner	61	68.5
	Team leader of nurse	19	21,3
	Head of nurse	9	10,1

Based on the results of the study in table 2, it is known that 67 nurses (75.3%) are ready to respond to the COVID-19 emergency.

Table 2. Nurse emergency response efforts (n=89)

No	*Emergency response*	*Frequency*	*Percentage*
1.	Ready	67	75.3%
2.	Not ready	22	24.7%

Based on the results of the study in table 3, it is known that the nurses' ability to prevent COVID-19 is ready for 68 people (76.4%).

Table 3: Nurse's Prevention Ability (n=89)

No	*Emergency response*	*Frequency*	*Percentage*
1	Well	68	76.4%
2	Not good	21	23.6%

Table 4: Nurse's Emergency Rescue Capabilities (n=89)

No	*Emergency response*	*Frequency*	*Percentage*
1	Ready	66	74,2
2	Not ready	23	25,8

Based on the results of the study in table 4, it is known that the nurse's emergency rescue capability for COVID-19 is ready for 66 people (74.2%).

Bivariate Analysis Results

Relationship between Nurse's Prevention Ability

Based on the results of the study in table 5 out of 89 respondents with prevention abilities in the good category, there were 60 nurses (88.2%) with p-value = 0.000 so that it can be concluded that Ha is accepted, which means there is a relationship between prevention ability and nurses' emergency response efforts against COVID-19.

Relationship between Emergency Rescue Capabilities and Nurses' Emergency Response Efforts

Based on the results of the study in table 6, out of 89 respondents with emergency rescue skills in the ready category, there were 60 nurses (90.9%) with p-values= 0.000 so it can be concluded that Ha is accepted, which means that there is a relationship between emergency rescue capabilities and nurses' emergency response efforts to COVID-19.

/Multivariate Analysis

Based on multivariate analysis with logistic regression test, emergency rescue ability is the most dominant predictor related to nurses' emergency response efforts to COVID-19 (OR:14.072).

DISCUSSION

Based on the results of research from 89 nurses regarding the ability to prevent with responsiveness, 68 nurses (76.4%) have the ability to prevent COVID-19. This is in line with the practice of preventing nurses at the Crusades Mental Hospital, Jal Eddib, Lebanon using complete PPE which has an effect on efforts to control the COVID-19 pandemic. WHO says when providing services that generate aerosols for wearing glasses and respirators (N95 masks).

Factors that influence prevention abilities are age, nurses with early adulthood are 64 people (71.9%) this is in line with previous research, one's prevention efforts are often associated with age, so the longer a person's age, the better the ability to practice co-19 prevention. Associate's degree 62 people (69.7%)[10]. Effective education and training of nurses can enhance prevention capabilities in providing safe care[11].

Length of work 1-5 years 57 people (64.0%) this is in line with previous research, one of the factors that affect the ability to prevent COVID-19 is due to the longer working time, the more experience in caring for patients so

Table 5: Relationship between Nurse's Prevention Ability

Prevention Ability	*Emergency Response Efforts*		*Total*	*p-values*
	Not ready	*Ready*		
Well	8 (11,8)	60 (88.2)	68 (100.00)	
Not good	14 (66.7)	7(33,3)	21 (100.00)	0.000
Total	22 (24.7)	67 (75.3)	89 (100.00)	

Table 6: Relationship between Emergency Rescue Capabilities and Nurses' Emergency Response Efforts

Emergency Rescue Capabilities	*Emergency Response Efforts*		*Total*	*p-values*
	Not ready	*Ready*		
Ready	6 (9,1)	60 (90.9)	66 (100.0)	0.000
Not ready	16 (69.6)	7 (30.4)	23(100,0)	
Total	22 (24.7)	67 (75.3)	89 (100.0)	

that it affects the ability of nurses in efforts to prevent COVID-19[10].

Nurses have positive perceptions and self-confidence in efforts to prevent COVID-19[12]. Positive perceptions influence efforts to prevent covid-19[13]. Limited provision of PPE, lack of intake of vitamins and nutrients during a pandemic is a challenge for nurses in providing services[14].

Nurses who work in operating rooms are trained and equipped with PPE so that they have good preventive abilities. Operating room nurses often receive training or seminars on applying the latest guidelines and references to provide care to patients before, during and after surgery. Nurses must have infection prevention skills such as patient risk assessment, environmental cleaning, disinfection, instrumentation sterilization, patient antibiotic prophylaxis, and drug use[12].

Limited PPE, training, ineffective communication and acceptance of new colleagues affect the level of self-protection of nurses against COVID-19[14]. Efforts are being made for preventive measures such as quarantine, supervision, carrying out activities at home, suppressing the spread of infection, training and health promotion. Nurses who work in hospitals and have direct contact with patients are at risk of infection and transmitting it to friends, family and relatives[12].

The results of the research on prevention abilities relate to nurses' emergency response efforts. The head of the room educates nurses to always implement the COVID-19 prevention protocol before and after contact with patients such as washing hands with soap or handsrub, keeping a distance and using PPE when providing services.

Based on the results of a study of 89 nurses regarding emergency rescue capabilities with emergency response efforts, 66 nurses (74.2%) had emergency rescue capabilities. This is in line with previous research studies, in managing mechanically ventilated patients, nurses need training in mechanical ventilation, experience in treating patients with infectious diseases, and experience in caring for mechanically ventilated COVID-19 patients[15].

Factors that influence emergency rescue skills are 1-5 years of service for 57 people (64.0%). This is in line with previous research, nurse performance has a relationship with work experience. Experience is one of the factors that influence rescue abilities because the longer you work, the more experience you get. Associates degree 62 people (69.7%)[16], Nurses who care for patients infected with COVID-19 and use ventilators explained that higher levels of education and experience as well as nursing training have an effect on increasing knowledge, skills, self-efficacy, which makes nurses more confident, positive, and interested in implementing caring behavior[17].

Nurses must be equipped with essential knowledge and skills in managing crises involving clinical care, decontamination, isolation, communication, triage, psychological support and palliative care when needed. Ability to handle emergency and disaster situations, outlining possible risks from a pandemic and making plans to modify these risks[17].

The ability to care for and emergency rescue skills is a challenge for nurses, thus affecting nurse careers and threatening the quality of care by influencing nurses' intentions to care for COVID-19 patients[18]. The workload of nurses has increased due to the increase in the number of patients with COVID-19 and the need for patients to provide nursing care. Nurses provide not only therapeutic care but also primary health and psychological care to COVID-19 patients[19].

Critical care is required to manage patients who are dependent on organ and system support such as mechanical ventilation, continuous renal replacement therapy and extracorporeal membrane oxygenation[20]. The willingness of nurses to provide long-term care services to patients must also be increased to overcome the problem of the

COVID-19 pandemic. Professional training in clinical care is needed to improve the quality of care in clinical settings. Nurses who have the competence to provide quality care are related to patient time, end of life care, and prevention[15].

The results of the study show that there is a relationship between emergency rescue capabilities and nurses' emergency response efforts. There has been a triage nurse set up for an emergency department and placing nurses who have experience with pandemic outbreaks to work caring for COVID-19 patients.

CONCLUSION

As the front line in dealing with COVID-19 cases, nurses are very vulnerable to contracting the COVID-19 virus. Realizing this problem, nurses need knowledge about management of emergency response efforts. Efforts to prevent the spread of the COVID-19 virus are needed by nurses in providing nursing services such as using PPE and training related to preventing virus transmission, besides that nurses must also have emergency rescue skills to be able to provide appropriate and optimal nursing care and break the chain of transmission of covid-19.

Ethical Considerations

The Ethical Clearance was obtained from the Research Ethics Committee of the Faculty of Nursing, Syiah Kuala University, with research code 112012070322.

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Conflict of interest

There is no competing interest carried out by the author.

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The Effects of A Community-based Health Program on Adolescents' Smoking Prevention – A Quasi-Experimental Study

Mardhiah[1], Teuku Tahlil[2*], Darmawati[3]

[1]Postgraduate Student, Faculty of Nursing, Universitas Syiah Kuala, Banda Aceh , [2]Associate Professor, Department of Community Health Nursing, Faculty of Nursing, Universitas Syiah Kuala, Banda Aceh, [3]Associate Professor, Department of Maternity Nursing, Faculty of Nursing, Universitas Syiah Kuala, Banda Aceh

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ABSTRACT

Background: Tobacco Smoking is considerably high among adolescents in Indonesia, indicating the potential proportion of tobacco smoking effects experienced by young Indonesians in the future and the need of program interventions to halt the tendency. This study aims to investigate effects of a community-based health promotion intervention on smoking prevention among Indonesians' adolescents.

Methods: The quasi-experimental study with a pre-and-posttest control group design involved 104 adolescents aged between 12 to 14 years. The adolescents were convieniently assigned into one intervention (55 adolescents) or a control group group (49 adolescents), with participants in the intervention group received four health promotion sessions using smoking prevention videos for one month. Effects of the intervention were measured by a questionnaire at one week before and after the intervention completed and then analyzed by an approprite data analysis technique.

Results: After the intervention completion, there was a significant positive effect of the community-based health promotion intervenstion program in improving adolescents tobacco smoking knowledge, attitude, intention and behavior ($p = <0.001$).

Conclusion: Community-based health promotion program provides positive impact on adolescents smoking prevention and therefore should be considered as one of stretegies for tobacco smoking prevention program.

Keyword: Health Promotion, Community, Smoking Prevention, Aceh, Knowledge, Attitudes, Intentions, Smoking Behavior.

INTRODUCTION

Smoking is part of life for some people in many societies, both adults and children. Smoking is a global problem and one of the preventable causes of death.[1] Adolescents in Indonesia tend to smoke and perceive smoking is not contrary to the norms in society. Adolescents smoking behavior is influenced by their religius view on smoking status, peer pressure, parental smoking status, masculinity, and curiosity[2]. Socio-economic factors and low education levels also influence smoking behavior[3].

The proportion of smokers is relatively high among teenagers in Indonesia. The 2018 Basic Health Research showed that 0.7% of Indonesian students smoked clove cigarettes at 5 to 9 years old, 53.6% aged 10 to 14 years, and 57.2% aged 15 to 19 years[4]. Other report

Corresponding author: Teuku Tahlil, Associate Professor, Department of Community Health Nursing, Faculty of Nursing, Universitas Syiah Kuala, Banda Aceh

E-mail: ttahlil@unsyiah.ac.id; Telp/Fax: +62 651 7555249

suggests that 13.4 % of smokers in Indonesia were younger than 19 years in 2018[5]. In Aceh Province, the proportion of smokers aged 15 years or over was 31.8% by 2018, reduced to 28.7% in 2019, 28.1% in 2020, and 28.3% in 2021.[6]

Smoking increases morbidity and mortality rates[7]. Deaths due to smoking in Indonesia occur at the age of 35-69 years. Globally tobacco kills 5.4 million people annually, and estimated around 8 million deaths annually by 2030[8]. Smoking is also responsible for several non-communicable diseases (NCDs).[9] The NCDs are the highest cause of death in Indonesia, namely coronary heart disease, cancer, diabetes mellitus with complications, tuberculosis and chronic obstructive pulmonary disease (COPD). The NCDs can occur in the productive age, thus the impact of smoking in the future must be considered.[10]

Health promotion can be an effective strategy for smoking prevention. Health promotion strategy can increase knowledge about the dangers of smoking and reducing smoking intentions and increasing quitting intentions among users.[11]

Many smoking prevention studies have been conducted in school settings and shown to be effective in improving students' smoking prevention knowledge, attitudes and behavior[12,13]. The use of participatory videos has been reported effective in reducing smoking intentions and empowering youth as advocates for non-smoking communities[14,15]. Various strategies can be carried out at the individual, community, and policies to prevent and reduce smoking among teenagers[16]. The smoking prevention program in this study uses the Health Promotion Model framework, which is rooted in Social Cognitive Theory. Pender states the importance of cognitive processes as behavior change[17].

Preventing adolescent of tobacco use is an important public health priority. However, there is little research on smoking prevention in community setting. More research is needed to reduce adolescent smoking rates. Efforts to prevent tobacco smoking in adolescents are a challenge because these populations are difficult to reach, difficult to maintain involvement, and low levels of health knowledge and resources.[14] Based on the above evidence, the current research is designed to assess the effects of community based health promotion methods with video media on adolescents smoking prevention.

METHODS

This quasi-experimental study used a pretest and posttest control group design. The sample were recruited by non-probability sampling with inclusion criteria included adolescents aged 12 to 14 years, willing to be a respondent, living in the working area of the selected publich health centers, having good communication and low socio-economic family incomes.

Health promotion interventions were carried out using video media, consisting of a combination of moving text, pictures, animation, and youth-friendly music. Overall, the intervention consisted of four sessions, lasting 4 weeks with duration of 45 minutes. Each session consists of a 5-minute video presentation and 40-minute question and answer sessions. Intervention focuses on the phenomenon of smoking, incidence and prevalence of smoking, the concept of smoking, youth as a target for cigarette marketing, factors that encourage youth to smoke, and how to avoid the effects of smoking, the impact of smoking on health, and the Islamic religion concept. The intervention was only provided to the intervention group, facilitated by health promotion nurses who had been previously trained by researchers. Program providers were two health promotion nurses. A training was provided to the nurses before the program was carried out.

Data collection was carried out using a paper-based questionnaire, assessing students' demographic data, smoking knowledge, attitudes, intentions, and behavior. Questionnaire for smoking knowledge was

adopted from previous reseach, consisted of 13 questions with four answer choices and a value of 1 for the correct answer and 0 for an incorrect answer. The Scores range from 0 to 13, the higher the score, the higher the knowledge related to smoking[12]. The Cronbach's Alpha reliability test for the questionnaire was 0.99[18]. Questionnaire for smoking attitude was adopted from previous research, comprised 13 questions in a five-point Likert scale format with responses ranging from 0 (strongly disagree) to 4 (strongly agree) for positive items, and 0 (strongly agree) to 4 (strongly disagree) for negative. The scores range from 0 to 52, with a higher score indicates that the individual is more likely to smoke[12]. The Cronbach's Alpha reliability test for the smoking attitude questionnaire was 0.94.[18]

Questionnaire for smoking intention was adopted from previous studies[12,13], included three items with 4 point responses (sure don't smoke =0, probably don't smoke = 1, probably smoke/maybe/Not sure = 2, probably smoke = 3, sure smoke = 4). A higher score indicates a higher intention of participants to smoke. The Cronbach's Alpha reliability test for the smoking intention questionnaire was 0.84[12].

Questionnaire for smoking was adopted from previous studies[12,13], comprised three questions. Scores ranged between 0 to 8, with the higher the score indicate the higher smoking behavior. The Cronbach's Alpha reliability test for the smoking behavior instrument was 0.88[12].

Research ethics approval was obtained from the Research Ethics Committee of the Nursing Faculty, Universitas Syiah Kuala, Banda Aceh, with registered No. 112016150922. Written consent was requested from respondents and their parents or guardians. Respondents' participation were voluntary, respondents were allowed to withdraw from the study at any time, if needed.

RESULTS

Characteristics of respondents

Characteristics of respondents are persented in the Table 1..

Table 1: Characteristics of Respondents

Characteristics	*Interventios Group (n=55)*		*Control Group (n=49)*	
	f	*%*	*f*	*%*
Age				
12 years old	29	52.7	32	65.3
13 years old	-	-	7	14.3
14 years old	26	47.3	10	20.4
Parent or guardian education				
No School	-	-	2	4.1
Elementary School	17	30.9	17	34.7
Yunior High School	15	27.3	14	28.6
Senior High School	21	38.2	11	22.4
Brachelor	2	3.6	5	10.2
Parent or guardian work				
Fisherman	4	7.3	4	8.2
Farmer	43	78.2	42	85.7
Private employees	-		3	6.1
Self-employed	8	14.5	-	-
Parent or guardian income				
500 thousand – 1 million	19	34.5	17	34.7
1 million – 1.5 million	36	65.5	32	65.3
Over 2 million	-	-	-	-
Parent or guardian smoking status				
Smoke	32	58.2	33	67.3
Do not smoke	23	41.8	16	32.7

Table 1 shows that the majority of respondents in both the intervention and control groups aged 12 years (52.7% for intervention group, 65,3% for control group). The majority of respondents' parents or guardians in the intervention group were identified as senior high school (38.2%), farmers 78.2%, had income between IDR 1 to 1,5 million/month (65,5%) and reported as smokers (58,2%). In the control group, the majority of resposdents' parents or guardians were elementary school (34.7%), farmers (85.7%), had income IDR 1 to 1,5 million/ month (65,3%) and smokers (67.3%).

The Students' smoking knowledge, attitude, intention and behavior before the intervention

The students' knowledge, attitude, intention, and behavior before the intervention started are desribed in the Table 2.:

Table 2 shows that the mean scores for smoking knowledge (8.84 ± 2.40), Attitude (18.51 ± 8.45), Intention (3.06 ± 2.70), and behavior (5.61 ± 4.27) of the respondents in the intervention group at pre-test were almost similar with the knowledge (8.82 ± 2.44), Attitude (18.55 ± 6.90), and behavior (5.78 ± 4.22) of those in the control group except for the Intention to smoke (2.86 ± 2.170).

Effects of the Community-based Health Promotion Intervention on Adolescents' Smoking Prevention

The Effects of the intervention can be seen in the Table 3.

Table 3 shows that there were significant differences between participants in the intervention and control groups in their scores of smoking knowledge (p=0.0001), attitude toward smoking (p=.0001), intention to smoke (p=0.03), and smoking behavior

Table 2. The Mean scores of smoking knowledge, attitudes, intentions, and smoking behavior in the Intervention and Control Group at Pretest

Variable	*Intervention Group*	*Control Group*
Knowledge (Mean ± SD)	8.84 ± 2.40	8.82 ± 2.44
Attitude (Mean ± SD)	18.51 ± 8.45	18.55 ± 6.90
Intention (Mean ± SD)	3.06 ± 2.70	2.86 ± 2.17
Behavior (Mean ± SD)	5.61 ± 4.27	5.78 ± 4.22

Table 3. The Mean score differences in smoking knowledge, attitude, intention, and behaviors between respondents in the Intervention and the Control Groups

	Intervention Group		*Control Group*		*Mann-Whitney*	
Variable	*Mean Rank*	*Sum of Rank*	*Mean Rank*	*Sum of Rank*	*Test*	*P-value*
Knowledge						
Pre Test	50.48	2574.50	50.52	2475.50	-0.007	0.99
Post Test	64.33	3281.00	36.10	1769.00	-4.937	0.0001
Attitude						
Pre Test	51.82	2643.00	49.12	2407.00	-446	0.64
Post Test	39.33	2006.00	62.12	3044.00	-3.933	0.0001
Smoking Intention						
Pre Test	50.72	2586.50	50.28	24.63	-0.077	0.94
Post Test	44.56	2272.50	56.68	2777.50	-2.120	0.03
Smoking Behavior						
Pre Test	50.09	2554.50	50.93	2495.50	-146	0.88
Post Test	41.85	2134.50	59.50	2915.50	-3.108	0.002

(p=0.02). Scores of smoking knowledge were higher in the intervention group compared to the control group, scores of attitude toward smoking, intention to smoke, and smoking behavior were lower in the intervention group compared to the control group following the program intervention completion.

DISCUSSIONS

This study investigates the effect of smoking prevention using a community health based promotion intervention program on adolescents' smokin knowledge, attitudes, intentions, and behavior. The findings of the study indicate that a community health promotion intervention program can provide positive impact on adolescents smoking prevention endeavours. The scores of knowledge about smoking had increased among adolescents after their participation in the intervention. The results of this study finding are in line with previous studies that shows positive impact of smoking prevention program on participants health smoking knowledge[12]. Videogame intervention had a highly effective on improving participants' beliefs and knowledge about tobacco products, including e-cigarettes and vaping, and was well received by adolescents[19].

Attitudes towards smoking of participants in the intervention group improved significantly after the intervention. This finding is consistent with previous research on smoking prevention programs in other countries. It has been reported that smoking prevention program prevent adolescents from having negative attitudes towards smoking[20]. Attitudes towards smoking in adolescents improved significantly after both health and Islamic-based interventions programs[2,12].

Adolescents' smoking intentions decreased significantly after the health promotion interventions were carried out. Previous research using digital anti-smoking video media produced by adolescents as an educational method also reports positive changes to the participants' intention to smoke where they tend not to start smoking after joining the program[16]. Adolescents who have good knowledge about smoking will have low intentions towards smoking. After received a health promotion intervention, the respondents' smoking intention decreased at all ages.

Other findings of the current study suggests that after being given a health promotion intervention with video media, smoking behaviors among adolesecnts in the intervention group were lower compared to adolesecents in the control group. A previous research using digital anti-smoking video media produced by adolescents as a health education method was also effective in preventing adolescent smoking behavior[14]. Playing serious game can be benefits for smoking prevention, cessation, or behavior program. It has a positive effect on smoking-related outcomes, particularly smoking cessation[23].

CONCLUSSION

Community-based health promotion program can provides positive impact on smoking prevention program for adolescents; increasing adolescents smoking knowledge, improving smoking attitude, and reducing semoking intention and behaviors.

STUDY LIMITATIONS

The research was conducted in a community setting with a relatively short time, no screening was conducted to identify smoking behavior among the youth. Smoking material based on Islamic perspective was also limited, especially concerning skills in smoking prevention endeavours.

SOURCES OF FUNDING

All costs for this research were supported by the researchers.

CONFLICT OF INTEREST

There is no conflict of interest to be disclosed.

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The Relationship Cholesterol Level, Diet and Physical Activities with Recurrent Incidence Stroke in Hospital of Aceh, Indonesia: A Cross Sectional Study

Maulida Sari[1*], Cut Husna[2], Marlina[2]

[1]Master Program of Nursing Science, Syiah Kuala University, Banda Aceh, Indonesia, 23111, [2]Faculty of Nursing, Universitas Syiah Kuala, Banda Aceh, Indonesia, 23111

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ABSTRACT

Recurrent strokes could increase morbidity and mortality rates and cause neurological deficits with severe complications, so it is necessary to prevent the risk factors for recurrent strokes. The purpose of the study to determine the relationship between cholesterol level, diet, and physical activities in post-stroke patients in Hospital of Aceh, Indonesia. The correlation study with a cross-sectional study design was used in this study. The population was post-stroke patients who are treated at the Polyclinic of the Aceh Hospital, Indonesia. The sampling method used *purposive sampling* with a total sample of 154 respondents. The instruments in this study used a *Physical Activity Level* (PAL) questionnaire consisted of 15 items, and patients' clinical condition questionnaire. Data collection techniques by means of health checks of clinical conditions and guided interviews. Data analysis used Chi-square test and logistic regression. The results of the study showed relationship between cholesterol level, diet, and physical activities with the incidence of recurrent stroke in post-stroke patients ($p<0.05$). The most dominating factor was diet (OR: 2.574; 95%CI: 0.936 -7.075). The results of the study need for the nurses to provide health education to patients regarding the risk of recurrent strokes, by controlling cholesterol levels and regulate healthy lifestyles and diets.

Keywords: Recurrent stroke, cholesterol, diet, physical activities

INTRODUCTION

Stroke is the number two cause of death and the number three cause of disability. Currently, based on 2021 data, there are more than 12.2 million new strokes every year. Globally, one in four people over the age of 25 will experience stoke. There are 6.5 million people dying from stroke each year and more than 143 million people losing their health each year due to stroke-related deaths and disabilities. The burden from stroke increased substantially, namely an increase of 70.0% in stroke incidence, 43.0% of stroke deaths, 102.0% of prevalent strokes and 143.0% *of Disability-Adjusted Life-Years Lost* (DALYs) and most of the stroke burdens were in low- and lower-middle-income countries. Death cases due to stroke in Indonesia reached 252,473 cases or 14.83% of the total number of deaths due to disease. Indonesia is ranked seventh in the world for deaths from stroke [1].

The risk factors of recurrent stroke into *modifiable* risk factors and *non-modifiable risk* factors. The risk factors that can be modified

Corresponding author: **Cut Husna,** Department of Medical and Surgical Nursing, Universitas Syiah Kuala, Banda Aceh, Indonesia, 23111

E-mail: cuthusna@unsyiah.ac.id

are hypertension, smoking, diabetes mellitus, diet, lack of physical activity, obesity, high blood cholesterol, carotid artery disease, artery peripheral disease, atrial fibrillation (AFib) and other heart diseases. Meanwhile, risk factors that cannot be modified include age, gender, race, hereditary and history of stroke [2].

MATERIALS AND METHODS

Design

The quantitative study with a cross-sectional design was used in this study to identify the relationship between cholesterol level, diet and physical activities in Pasien post-stroke at Hospital of Aceh, Indonesia.

Participants

This study was conducted at the Hospital of Aceh, Indonesia. A total of 154 stroke patients who were outpatient at the Neurological Disease Polyclinic participated in this study. The inclusion criteria of respondents are as follows: (1) Patients who had Ischemic stroke more than once, (2) >25 years old, (3) Compos mentis (fully) awareness, (4) No have aphasia, Wernicke and broca, (5) willing to be involved in this study by signing written informed consent.

Data Collections

Data collection was carried out from 03-12 August 2022. The instruments used were questionnaires of respondents' characteristics, namely Cholesterol value, diet (food commonly consumed) and *Physical Activity Level* (PAL) with categories PAL 1.4-1.69 (light physical activity) PAL 1.7-1.99 (moderate physical activity) and PAL ≤2.0-2.40 (heavy physical activity) [3].

This instrument has also been tested for Content Validity by 2 (two) expert experts, namely Doctor of Neuroscience Specialist and Doctor of Nursing.

Data Analysis

The data analysis using univariate, bivariate and multivariate analysis. Univariate analysis in this study was carried out to obtain the results of the frequency distribution of each independent variable, namely cholesterol level, diet and physical activities, as well as to identify the frequency distribution of dependent variables, namely the incidence of recurrent strokes. Bivariate analysis using the Chi-square test to examine the relationship of independent variables and dependent variables. Then, multivariate test used a logistic regression to examine the cholesterol level, diet and physical activities that were dominant factors with recurrence stroke events.

RESULT

The results of the study are shown in table 1:

Table 1:Characteristics of the Respondents (n=154)

No	*Characteristics of Respondents*	*Frequency*	*Percentage*
1	Age (year)		
	Early adulthood (18-40)	10	6.5
	Intermediate adult (41-60)	90	58.4
	Late adult (>61)	54	35.1
2	Gender		
	Male	65	42.2
	Female	89	57.8
3	Work		
	Not Working	39	25.3
	Retired	4	2.6
	Farmer	26	16.9
	Employed	16	10.4
	Self employed	69	44.8

No	Characteristics of Respondents	Frequency	Percentage
4	Education		
	Low	105	68.2
	Intermediate	13	8.4
	High	36	23.4
5	Marital status		
	No married	2	1.3
	Married	128	83.1
	Divorce	24	15.6
6	Cholesterol		
	Normal	39	25.3
	Abnormal	115	74.7
7	Long suffering from cholesterol		
	≤2 Years	6	15.4
	>2 Years	33	84.6
8	Diet		
	No fat	60	39.0
	Fatty	94	61.0

Table 1 shows that of the 154 respondents, it was found that as many as 90 (58.4%) respondents were young adults, as many as 89 (57.8%) respondents were female, as many as 69 (44.8%) respondents worked as self-employed, as many as 105 (68.2%) respondents were educated, as many as 128 (83.1%) respondents were married.

Based on the risk factor, it was found that as many as 115 (74.7%) suffered from cholesterol, long suffering from cholesterol ≤2 years as many as 121 (78.6%), as many as 94 (61%) respondents had a fatty diet.

Table 2 shows that as many as 122 (79.2%) of respondent had strenuous physical activity and as many as 9 (5.8%) respondents had light physical activity.

Table 3 found that as many as 125 (81.2%) respondents had repeated strokes ≤2 times, and as many as 29 (18.8%) respondents had repeated

Table 4 shows that of the 115 post-stroke patients with abnormal cholesterol, 86 (74.8%) patients had repeated strokes 2 times and of the 39 post-stroke patients with normal cholesterol, all 39 (100%) had repeated strokes 2 times. The results of the analysis found a value of p = 0.001 which means that there is

Table 2. Physical Activities of the Respondents (n = 154)

No	Physical activities	Frequency	Percentage
1	Light	9	5.8
2	Keep	23	14.9
3	Heavy	122	79.2

Table 3. Recurrent Stroke Events in Post-Stroke Patients (n = 154)

No	Recurrent strokes	Frequency	Percentage
1	≤2 times	125	81.2
2	>2 times	29	18.8

a relationship between cholesterol and the incidence of recurrent strokes and of the 60 post-stroke patients who consumed non-fatty foods as many as 54 (90%) patients had repeated strokes 2 times and of the 94 Post-stroke patients who consumed fatty foods as many as 71 (75.5%) patients had repeated strokes 2 times. The results of the analysis test showed that p= 0.043 was found, which means that there is a relationship between diet and the incidence of recurrent strokes and then the table shows that of the 9 post-stroke patients who had light physical activity, all 9 (100%) had repeated strokes 2 times and of the 23 patients who had moderate physical

Table 4. Cholesterol, Diet and Physical Activity in Post-stroke Patients (n = 154)

No	Variable	Recurrent strokes						a	p-value
		≤2 times		>2 times		Total			
		f	%	f	%	f	%		
1	Cholesterol level								
	Normal	86	74.8	29	25.2	115	100	0.05	0.001
	Abnormal	39	100	0	0	39	100		
2	Diet								
	No Fatty	54	90,0	6	10,0	60	100	0.05	0,043
	Fatty	71	75.5	23	24.5	94	100		
3	Physical activity								
	Light	9	100	0	0	9	100	0.05	0.009
	Keep	23	100	0	0	23	100		
	Heavy	93	76.2	29	23.8	122	100		

activity, a total of 23 (100%) patients had repeated strokes 2 times, followed by 122 post-stroke patients who had strenuous physical activity, as many as 93 (76.2%) patients had repeated strokes 2 times as well. The results of the analysis test showed a value of p = 0.009 which means that it shows that there is a relationship between physical activity and the incidence of recurrent strokes.

Based on a multivariate analysis with logistic regression tests, it was found that diet was the most dominant predictor associated with the incidence of recurrent strokes with an odds ratio (OR: 2.574).

DISCUSSION

Relationship of Cholesterol Levels With Recurrent Stroke Events in Post-Stroke Patients

Based on the results of the study, it was found that as many as 115 (74.7%) stroke patients with post-stroke had cholesterol while as many as 39 (25.3%) respondents did not experience cholesterol. The results of the study found that out of 115 respondents, as many as 86 (74.8%) had cholesterol and had repeated strokes ≤2 times, as many as 29 (25.2%) respondents had strokes >2 times of the 39 respondents, it was found that all 39 (100%) of respondents experienced repeated strokes ≤2 times. The results of the analysis found p = 0.001 which showed that there was a relationship between cholesterol and the incidence of recurrent strokes.

The results of this study are in line with the research conducted found that primary and secondary prevention in patients with ischemic stroke and hemorrhagic cerebral can be done by changing lifestyle and diet, treatment of diseases such as Hypertension, Diabetes Mellitus and problems of fat or cholesterol in the blood that cannot be controlled [4]. The previous study found that patients who were concerned with Cholesterol and heart disease had a greater risk of recurrent strokes compared to patients who had no cholesterol and heart disease [5]myocardial infarction, and cardiovascular death. For more than a decade, the main pharmacological option to prevent stroke and myocardial infarction through LDL-cholesterol lowering was the use of statins. During the recent years, two novel classes of drugs have proven their efficacy and safety to reduce LDL-cholesterol and prevent cardiovascular events in large, well-conducted randomized controlled trials: ezetimibe and proprotein convertase subtilisin/kexin type 9 (PCSK9.

A further [6] studies found that there was a significant association of dyslipidemia with

recurrent ischemic stroke in outpatients and inpatients. Different researchers found by [730.6% female] found that there was no significant association between cholesterol and the incidence of recurrent strokes in post-stroke patients.

[8] States that there are three factors related to coping mechanism and the formation of healthy and unhealthy behaviors in patients, one of which is the presence of focal stimulation, where this stimulus has a direct impact on patients who experience disease, cholesterol is a condition of natural blood fat that is needed in the body, but excess fat in the blood can cause its own diseases for sufferers, one of which is stroke, high levels of fats in the blood or hyperlipidemia cause blockages in blood vessels and cause rupture of blood vessels, especially in the brain so that patients can have a stroke, but related to the incidence of diabetes mellitus, further examination is needed to determine how far diabetes has a risk of recurrent stroke in patients.

The Relationship of Diet with Recurrent Stroke Events in Post-Stroke Patients

Eating a balanced and nutritious diet can reduce the risk of heart disease and stroke [9].

Based on the results of the study, it was found that out of 154 respondents, as many as 94 (61.0%) respondents consumed fatty foods and as many as 60 (39.0%) respondents consumed non-fatty foods. The results of the study found that, out of 94 respondents, as many as 71 (75.5%) respondents experienced repeated ≤2 times and as many as 23 (24.5%) repeated respondents as many as >2 times of the 60 respondents, it was found that as many as 54 (90%) respondents who consumed fatty foods had a recurrent stroke ≤2 times and as many as 6 (10%) respondents repeated >2 times. The results of the statistical *continuity correction* test were found p= 0.043 which means that it shows that there is a relationship between diet and the incidence of recurrent strokes.

The results of this study are in line with the research conducted [10] found that using intervention methods in his research the provision of a diet of avocado fat (vegetable fat) in ischemic stroke patients. Avocados contain serum lipids that can prevent the occurrence of recurrent ischemic strokes in post-stroke patients compared to other fat content that is harmful to post-stroke patients. Patients who are 45 years old have one history of risk factors.

The previous study showed that *low-fat diets* in general can lower diseases related to cardiovascular problems such as stroke. Patients who did not consume fat and consumed fruit had a risk of injury of 0.58 times when compared to patients who did not consume fruit [11].

People with hemorrhagic stroke who are 65 years old or consume sugary, salty, fatty foods and drinks and foods that contain high cholesterol more often than people with ischemic stroke [12]. Furthermore, study [13] found that the incidence of stroke with new cases in 1000 people per year of which 6.7 were new cases of stroke (ischemic 5.5 and hemorrhagic 1.2) and cases of recurrent stroke 22.7 (ischemic 18.8 and Hemorrhagic 3.8).

Diets are categorized in contextual stimuli because diets can affect focal stimulus but can still be clearly measured how diet can cause some diseases that are in focal stimulation, diet is a factor that dominates the occurrence of recurrent strokes related to the content of the diet consumed by stroke sufferers, a good diet can prevent the occurrence of recurrent strokes in patients with a risk of stroke, so the diet is very important to be taken care of by patients and families so that recurrent strokes do not occur [8].

Relationship of Physical Activities with Recurrent Stroke Events in Post-stroke Patients

The terms physical activity and exercise are often mentioned interchangeably. The two terms have different definitions. Physical activity refers to any body movement that burns calories, whether it's for work or play, daily tasks, or daily commutes. Exercise is one

of the subcategories of physical activity, which refers to planned, structured, and repetitive activities aimed at improving physical fitness and health 14.

Based on the results of the study, it was found that out of 154 respondents, as many as 122 (79.2%) respondents had strenuous physical activity, as many as 23 (14.9%) respondents had moderate physical activity and as many as 9 (5.8%) respondents had light physical activity. Furthermore, table 4.9 found that out of 154 respondents, as many as 122 respondents who did strenuous physical activity experienced repeated strokes ≤2 times as many as 93 (76.2%) and those who had strokes >2 times as many as 29 (23.8%), the results of the chi-square statistical test found *p*= 0.009 which means that there is a relationship between physical activity and the incidence of recurrent strokes.

The risk factors for recurrent stroke in post-stroke patients were diet, physical activity and smoking habits [3]. The previous study found relationship between *physical activity* where respondents with high activity were 26.2%, as much as 18.9% moderate activity and 54.9% low activity in post-stroke patients [15]. Many factors because recurrent strokes in post-stroke patients such as physical activity in post-stroke [16]to encourage physical activity after stroke, it is important to know what motivates the patients. We aimed to explore possible motivators and barriers for physical activity in patients discharged after minor stroke or transient ischemic attack (TIA.

The results of the correlation analysis test also found that there was a significant relationship between physical activity and repeated strokes. Generally, the so-called physical activity is synonymous with strenuous activities such as sports, walking, jogging, swimming, aerobic gymnastics and riding a bicycle that aims to live a healthier and higher quality life.

The results of a different study mentioned that there was no association of physical activity to the incidence of recurrent strokes in post-stroke patients. Lack of physical activity, namely lack of exercise and sitting too long, is the fourth leading cause of death in the world.[17]

The residual stimulus is an additional stimulus and sometimes it is not realized by the sufferer that it can increase the incidence of stroke or the occurrence of recurrent strokes in patients, patient physical activity is an activity that is commonly done by them every day but excessive or strenuous activities can aggravate the patient's condition and even repeated strokes can occur, patients with a history of recurrent strokes generally mention that the more mobile the healthier it is but this can be a threat to patients with chronic diseases.[8].

RESEARCH LIMITATIONS

The study was limited to patients with recurrent strokes.

CONCLUSION

The study found a significant association between cholesterol level, diet and physical activities with the incidence of recurrent stroke in post-stroke patients. The diet of the patients is the dominant factors related to the recurrence incident strokes.

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None

Conflict of interest

There is no conflict of interest declared by all authors.

Ethical Considerations

The ethical test for this study has been approved by the Research Ethics Committee of the Faculty of Nursing, Universitas Syiah Kuala Banda Aceh, Indonesia with the number 112018140722.

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Cervical Pap Smear Abnormalities among Women with Diabetics Versus Non Diabetics Women at Omdurman Military Hospital, Sudan

Mona Omar Adam[1*], Abd El monim Bashir Yagoub[2], Aisha Mohamed Adam[3] and Hammad Ali Fadlalmola[4]

[1]Lecture at Alnahda College, Khartoum, Sudan, [2]Associate professor, Faculty of Medicine, Alneelain University, Khartoum, Sudan, [3]Assistant professor, Faculty of Nursing, Alneelain University, Khartoum, Sudan, [4]Associate professor, Nursing college, Taibah University, Medina, Saudi Arabia.

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ABSTRACT

Background: Cervical cancer is a common cancer in the world, Pap smear and human papilloma virus test are used for early detection and follow up of cervical cellular changes and cervical cancer, but here in Sudan they are still poorly used. Diabetes and cancer share some risk factors and they have both been found to happen in the same patients. The aim of this study is to evaluate abnormal pap smears from diabetics and non-diabetics.

Methods: this is a case-control hospital base study, (109) cases and (109) controls, the patients who requested pap smear during study period and who matched the characteristics of the study. Controls are diabetes-free, but they have another complains because of which the pap smear is requested like genital infection complaints or gynecological complaints, cases have diabetes plus the infection or gynecological complaints because of which the pap smear is requested.

Results:(74.3%) of the cases showed abnormal results (positive), (47.6%) of them Atypical Squamous Cells of Undetermined Significance and Atypical Glandular Cells of Undetermined Significance, (26.7%) of them inflammation and infection. (22.9%) of the controls showed positive results (4.6%) of them Atypical Squamous Cells of Undetermined Significance and Atypical Glandular cells of Undetermined Significance, (18.3%) of them signs of inflammation and infection signs. (25.7%) of the cases have had negative pap results for intraepithelial lesion, malignancy, or infections while (77.1%) of control.

Conclusions: there is association between diabetes mellitus and abnormal finding of pap smear test and controlling of diabetes mellitus is important issue affecting pap smear findings. also, diabetes increases liability of diabetic women to get infections and cervical cellular changes.

Keywords: pap smear, cervical cancer, diabetes, HbA1C, Sudan

INTRODUCTION

Cervical cancer is a common cancer through the world, and it is the highest one in Europe. Pap smear and HPV test (human papilloma virus) are using for early detection and follow-up of cervical cellular changes and cervical cancer, especially a lot of patients are still diagnosed in the end stages, here in Sudan cervical smear still poorly used, [1-3] diabetes is considered main factor that

Corresponding author: Mona Omar Adam Mohamed, Alnahda College, Khartoum, Sudan, 2022

E-mail: Monaomat907@gmail.com, Mobile: 00249919822331 – 00249124737407

increases the tendency to get genital infections specially when not controlled, it affects both occurrence and reoccurrence of the infection. Hyperglycemia affects immune system of patients negatively as well as it enhances the yeast multiplication and adhesion, infections are one of the main causes of precancerous cellular changes, So, first important element of preventing happening of this is to get diabetes controlled. [4]

Ddiabetes and cancers have mutual risk factors and they both been noticed to happen in the same patients which is unlikely to be by chance and doctors reported for more than 50 years backward that diabetes occur synchronizing with cancer, and some malignancy occur more frequent with diabetes also diabetic patients at higher risk for developing cancers , some studies noticed that some antihyperglycemic (metformin and Thiazolidinediones) agents have a relation with cancers, gynecologic cancers have several common mechanisms with type two diabetes mellitus, including increased insulin and insulin like growth factor (IGF) signaling and chronic inflammation. [5-7] diabetes mellitus is studied a lot as a cause of many cancers, but it rolls in developing cervical cancer still un studied. [8]

Generally, diabetes increases occurrence of malignancy of anus and genital area especially cervical cancer which increases in patients with type two diabetes than in non-diabetic patients, as well as diabetes increase risk of getting HPV which is the main leading cause to cervical cancer also some studies confirm relation between cervical cancer and type one diabetes. [9,10]

The aim of this study is to evaluate cervical pap smear abnormalities among diabetic versus non diabetics women at Omdurman Military Hospital.

METHODS

This is case control, Hospital based study was carried out in Omdurman military hospital - Oncology clinic which is a section in obstetric and gynecological hospital inside Omdurman military hospital, it provides diagnostic (such as pap smear), therapeutic and follow up services for military covered oncology patients, also it receives the referred patients from another hospital and even from outside Khartoum state and serves them even if they are not military covered. Target populations Composed of women who have requested for pap smear in Omdurman Military Hospital's oncology clinic at the time of the study, including diabetic and non-diabetic participants. Structured questionnaire formulated by the researchers based on the literature, it is composed of three parts, first part is demographic data, second part is answering the variables of specific objectives, third part for conclusion of pap smear results, questionnaire was filled by the researchers during waiting time of participants. A single questionnaire filling time took about five to seven minutes from each participant time. Face-to-face interview method for the participants who were met life and telephone interview method for the participants who were been taken from the records at the time of the study, Convenience selection of sample is used, the sample size was estimated using this equation. Certain factors that may be confounding and may affect results of pap smear were used to match controls to cases, those factors include (HPV, Sexual history, Smoking history , Weakened immune system, Long term contraception use, Age at first pregnancy, Fruit and vegetables consumption, DES, Family history of cervical cancer, Chlamydia infection, weight, age and parity). Controls are diabetes-free, but they have other complaints because of which pap smear requested like genital infection complains (vaginal discharge, itchy, lower back pain, suprapubic pain, dyspareunia, ectropion, intrauterine device infection complain) and another gynecological problem complains (secondary infertility, post coital bleeding, postmenopausal bleeding, menstrual cycle disturbance, fibroid , polyp , inclusion cyst, prolapsed), cases have diabetes plus the infection or gynecological complains because

of which the pap smear has been requested. After data collected it cleaned, coded, and tabulated then entered SPSS software version 19 for analysis using Pearson Correlation and Chi Square test. The research was respected the rights of participants, Consent was obtained from all participants after explanation.

RESULTS

The test is significant, there is relation between diabetes mellitus and abnormal results of pap smear, P value = 0.000.

Odd ratio = 113, that is, there is association between diabetes and abnormal pap smear test.

Linear Regression Coefficients = 13.483 which means as the diabetes occurrence increases the mean of the abnormal pap smear also increases.

Pearson correlation coefficient (Pearson's r) = - .242 which means there is negative association.

Table 1: Demographic Data

Variables	*Percentages (%)*			
Age	(52.8%) young adulthood (18-35) y	(44%^) middle age (36-55) y	(3.2%) adulthood (56) y and above	--------
Parity	(1.8 %) Null parity	(83 %) Multi parity	(15.1%) Grand multipara	--------
Gravidity	(0%) Pregnant	(100%) Not Pregnant	--------	--------
Education	(2.8%) Post graduate	(47.2%) Graduate	(38.1%) Secondary	(11.9%) Elementary \ illiterate
Occupation	(2.3%) free worker	(36.2 %) Employee	(61.5%) House wife	--------
Residence	(22.5%) Khartoum	(20.2%) Bahri	(45.4%) Omdurman	(11.9%) Outside Khartoum
Body mass index	(11.9%) Under weight (16-18.5)	(56%) Normal weight (18.5-25)	(24.8%) Over weight (25-30)	(7.8%) Obese (30 and above)

Table 2: Showed results of pap smear

Results	*Case*	*Control*	*Total*
NILM (Negative for intraepithelial lesion or malignancy)	(25.7%)	(77.1%)	(51.5%)
Inflammation and infection signs	(26.7%)	(18.3%)	(45%)
Infection manifestation with ASCUS\AGUS	(47.6%)	(4.6%)	(52.2%)
Total	109 (100%)	109 (100%)	218 (100%)

Table 3: Level of HbA1C

Level of HbA1C	*Case*	*Control*	*Total*
Not diabetic	0(0%)	109(50%)	109(50%)
Normal (below 5.7%)	49(22.5%)	Not requested	49(22.5%)
Abnormal (5.7%-6.4%)	35(16.1%)	Not requested	35(16.1%)
Abnormal above (6.5%)	25(11.5%)	Not requested	25(11.5%)
Total	109 (50%)	109 (50%)	218(100%)

Table): Showed Chi-square tests for relation between diabetes mellitus and abnormal results of pap smear

	Value	*df*	*Asymptotic significance (2-sided)*
Pearson chi-square likelihood ratio N of Cases	90.673a	23	.000
Pearson correlation coefficient (Pearson's r)	113.013 12.750 218 - .242	23 1	.000

DISCUSSION

Considering factors like gravidity, HPV infection, number of sexual partner, smoking condition, long use of oral contraception, age at first pregnancy, fruits and vegetables consumption, exposure to DES, history of ca cervix, history of Chlamydia infection in this study all participants were not pregnant, do not know whether they get HPV infection or not , have one sexual partner, are not smoking, have no long use of oral contraception, get first pregnancy older that (20) years old, have poor fruits and vegetables consumption, do not know whether they exposed to DES or not, have no history of ca cervix, do not know whether they had Chlamydia infection or not. those are the risk factors as mentioned by the American Cancer Society. [11]

In this study, half (51%) of participants is in young adulthood (18-35) years, people in this age group are expected to be sexually active so easily to get infections. This explained that they have been requested for a pap test due to their complains. In fact, the pap smear performed on our participants is not routine; it is diagnostic. This result is supported by literature that says that women usually start a routine pap smear test late in their reproductive life. [12] Most of participants (45.4 %) are living in Omdurman; the reason could be because the hospital located in Omdurman closed to them. In spite of that most of our respondent had secondary education; the majority (56%) of them (diabetic and nun diabetic) are within normal weight, this may be related to their awareness or may be the cause is the deterioration of general economic status of the country, this is differed than the result of a study performed in (2017) in which (64.4%) of diabetic women were overweight and obese. [13]

Only (45%) of our study cases group have controlled diabetes with HbA1C below (5.7), the rest (55%) have not controlled diabetes; this explain the increased percentage of abnormal pap test results and infections among them, this finding supported by study revealed that patients with borderline and elevated hemoglobin A1C are likely to get Bacterial Vaginosis, Trichomoniasis, and Trichomonas vaginalis. [14]

The general results of the pap test of our participants (case and control) revealed that (74.3%) of the cases have abnormal results (positive results) in accordance with to study done on diabetic patients attending the tertiary care center which have (70%) abnormal results, including infection, inflammation, and malignancies, also similar to meta-analyses result that says diabetic sufferers are in increased danger of growing infections and malignancies. [15]

In this study Candida infection in the diabetic group (7.3%) exceeds that of the nondiabetic group (.9%), supported by a retrospective case-control study of Pap smear which revealed that Candida is greater in diabetic ladies in comparison to non-diabetic. [16] as well as another study in Maringa, Brazil, studied host elements that would predispose ladies to increase recurrent vulvovaginal candidiasis (RVVC), one of them glycemia, and told that Diabetes mellitus and insulin

resistance had been extra related to positive culture groups than the passive ones. [17]

The results of diabetic group in this study showed no malignant changes agreed to a prospective observe in cytomorphological abnormalities and microorganisms in Pap smear in Type II Diabetes Mellitus that showed no malignancies also there was increased Candidacies as well as this study. [18] This result is supported by a study done in Korea that elevated said that diabetes glucose level are risk factors for uterine cervical cancer that revealed that the connection between cervical cancers and type 2 diabetes stays doubtful. [19]

(47.6%) of the cases have acquired atypical squamous cells of Undetermined Significance while just (4.6%) of control have obtained it, the marked deference indicates that diabetes increase liability of diabetic women to obtain cellular changes (ASCUS\AGUS), if ASCUS left without follow-up or untreated (.25%) developed carcinoma, [20] and (20%-50%) of AGUS when more investigated it was found to have cervical intraepithelial neoplasia and adenocarcinoma in situ. [21] Also, study performed for linking non-insulin dependent diabetes and gynecological cancer emphasize that this type of diabetes is risk factor of developing cervical carcinoma. [22]

(74.3%) of the cases showed abnormal results (positive), (47.6%) of them atypical squamous cells of Undetermined Significance, which represent more than half of the abnormalities this supported by the study revealed that ASCUS and cervical intraepithelial neoplasia (CIN) are increased in patients with diabetes than in patients without diabetes. [23]

P value = .000, So the test is significant, there is relation between diabetes mellitus and abnormal results of pap smear. Odd ratio = 113, that is mean there is association between diabetes and abnormal pap smear test. Linear Regression Coefficients = 13.483 which means as the diabetes occurrence increases the mean of the abnormal pap smear also increases. Pearson correlation coefficient (Pearson's r) =.242 which means there is negative association, this can be explained by that those participants were been requested for pap smear because they were suffering from some things, so maybe there is confounding factors affected the Pearson's r.

CONCLUSIONS

The result of this study showed that there is an association between diabetes mellitus and abnormal pap smear test, also the study told that controlling of diabetes mellitus is important issue affecting pap smear findings. Also, diabetes increases the liability of diabetic women to get cervical cellular changes (ASCUSAGUS).

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FUNDING

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Conflict of interest

The authors did not have a conflict of interest to disclose.

Ethical clearance

The ethical committee and scientific research board of Omdurman Military Hospital provided the approval for the study to be carried out. The hospital directors were consulted for initial approval. A verbal description of the study's objectives was given to each participant.

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A Study to Assess the Effectiveness of Planned Teaching Programme on Knowledge of Self-Care Measures on Pulmonary Functions Among Petrol Pump Workers at Selected Petrol Pumps, Muzaffarnagar, Uttar Pradesh

K. Nalini Devi[1], C. Susila[2]

[1]Professor cum Vice Principal, Muzaffarnagar Nursing Institute, Muzaffarnagar, Uttar Pradesh, India [2]Principal, Billroth College of Nursing, Chennai, Tamil Nādu, India.

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ABSTRACT

Background: Petrol pumps in India instead of being self-serviced, employ workers, increasing the opportunity for ex-posture. Petrol pump may be a place where workers are exposed to both petroleum vapours and therefore the vehicular exhaust. Petrol pump employees are constantly exposed to petroleum vapours and vehicular exhaust. This causes various health problems, particularly within lungs.

Objectives:

1. To determine the level on knowledge of self-care measures among petrol pump workers at selected petrol pumps, Muzaffarnagar.
2. To determine the effectiveness of planned teaching programme on knowledge of self-care measures on pulmonary functions among petrol pump workers selected petrol pumps, Muzaffarnagar.
3. To find the association on knowledge of self-care measures with their selected demographic variables among petrol pump workers at selected petrol pumps, Muzaffarnagar.

Research Design: Quasi experimental one group pre-test post-test design was used.

Participation: 60 petrol pump workers were selected using non-Probability convenient sampling techniques in Muzaffarnagar.

Tool: Structured knowledge questionnaire was used to assess the knowledge of self-care measures among petrol pump workers.

Results: The data in table 2 reveals that, during pre-test, the mean score of level of knowledge was 5.4 and the standard deviation was 2.52. During the post test, the mean score of level of knowledge was 11.35 and the standard deviation was 3.80. The obtained 't' value for level of knowledge was 14.87 which is significant at $p<0.05$ level.

Conclusion: The planned teaching programme on knowledge of self-care measures on pulmonary functions was effective among petrol pump workers.

Keywords: Knowledge, Petrol pump workers, Self-care measures, Pulmonary functions

Corresponding author: Nalini Devi, Professor cum Vice Principal, Muzaffarnagar Nursing Institute, Muzaffarnagar, Uttar Pradesh, India

E-mail: mahathiraja2008@gmail.com, Phone no: 8171468126

INTRODUCTION

Petrol may be a complex combination of hydrocarbons, which on emission generates particles with a diameter of 0.02 nm. These particles thanks to their large area, can carry various toxic compounds that are likely to stay in atmosphere air for an extended period can deposit them within the small airways on inhalation.[2] Continuous exposures to such particles can cause chronic respiratory impairment which incorporates lung parenchyma and little airways. [1]

Rapid industrial growth, globalization, and poor environmental conditions at work places have created tons of health-related issues. There is a high prevalence of occupational diseases among workers working in several industrial environments in India. Animal study has demonstrated that exposure to particulate combined with exposure to an irritant gas like NO_2 leads to greater damage to the lungs.[3]

The gaseous pollutants can also alter the properties and concentration of surfactant and contribute to early closure of small airways.[4] Long term exposure to petrol vapour has shown to affect the various physiological systems within the body, with the very best impact on the respiratory system. [5]

Petrol pumps in India instead of being self-serviced, employ workers, increasing the opportunity for ex-posture. Petrol pump may be a place where workers are exposed to both petroleum vapours and therefore the vehicular exhaust. Petrol pump employees are constantly exposed to petroleum vapours and vehicular exhaust. This causes various health problems, particularly within lungs.[5]

Review of literature revealed that lung function is decreased among petrol pump workers and have lack of knowledge on self-care measures to prevent respiratory problems due to occupational exposure to petrol. As a member of the health care team, it is our task as nurses to inform pump workers about ways to take better care of their lungs and avoid respiratory issues.

OBJECTIVES

1. To determine the level on knowledge of self-care measures among petrol pump workers at selected petrol pumps, Muzaffarnagar.
2. To determine the effectiveness of planned teaching programme on knowledge of self-care measures on pulmonary functions among petrol pump workers selected petrol pumps, Muzaffarnagar.
3. To find the association on knowledge of self-care measures with their selected demographic variables among petrol pump workers at selected petrol pumps, Muzaffarnagar.

HYPOTHESES

1. **H1** - There will be a significant difference between pre-test and post-test score of the knowledge on self-care measures among petrol pump workers at selected petrol pumps, Muzaffarnagar.
2. **H2** - There will be a significant association between selected demographic variables and the knowledge on self-care measures of petrol pump workers at selected petrol pumps, Muzaffarnagar.

MATERIALS AND METHODS

Research Approach

Quantitative Research Approach

Research design

One group ,pre test and post test,
pre-experimental design

Setting

The setting of the study is selected petrol pumps at Muzaffarnagar District.

Population

The population of the study is Petrol pumps workers.

Sample and Sample size

Sample

Petrol pumps workers who fulfil the sampling criteria are the samples.

Sample size: 60

Sampling technique

Convenient sampling

Inclusion criteria

- Petrol pumps workers who are available and willing to participate in study.
- Petrol pumps workers who know to read, speak, understand Hindi.

Exclusion criteria

- Petrol pumps workers who are not available and not willing to participate in this study.
- History of cardiac, pulmonary and abdominal surgery

Development of the tool

Tool for study were developed by personal and experts' opinions. A structured questionnaire was selected to assess the knowledge of self-care measures among petrol pump workers.

DESCRIPTION OF THE TOOL

The item consisted of section-A and section-B

Section A: Demographic Data

This section includes demographic variable such as age, gender, education, marital status, Duration of work in years, Duty hours and Using of Personal Protective Equipment.

Section B: Structured Knowledge Questionnaire

This section includes items to assess the knowledge of self-care measures among petrol pump workers.

It consisted of the total 20 questions which covers anatomy of lungs, diaphragmatic breathing exercise and using of face mask.

Knowledge	*Scores*
Very Poor	0-4
Poor	5-8
Average	9-12
Good	13-16
Very good	17- 20

Validity of tool

The tool was validated after obtaining the valuable opinions and suggestions from the five experts in the field of nursing.

Data Collection Procedure

Non probability convenient sampling was used to select 60 petrol pump workers. The participants of research study were explained about the purpose of research and objectives of the study. Written consent was taken from them for their participation in the study. Pretest was done on 1st day to assess the knowledge of self-care measures among petrol pump workers. The posttest was done on 7th day after giving intervention of planned teaching on knowledge of self-care measures. The collected data was then organized for analysis.

Ethical Considerations

- A written letter seeking permission to conduct the study was obtained from manager of petrol bank, Muzaffarnagar, Uttar Pradesh.
- A written informed consent was taken from participants for their participations in the study.
- Confidentiality was maintained.

DATA ANALYSIS AND INTERPRETATION

Table I showed that, in pre-test, 23(38%) had very poor knowledge,31(52%) had poor level of knowledge and 6(10%) had average level of knowledge on self-care measures on pulmonary functions and in post-test, 1(1%) had very poor knowledge,13(22%) had poor level of knowledge and 24(40%) had average level of knowledge, 16(27%) had good knowledge and 6(10%) had very good level of knowledge on self-care measures on pulmonary functions.

The data in table II reveals that, during pre-test, the mean score of level of knowledge was 5.4 and the standard deviation was 2.52. During the post test, the mean score of level

Table 1: Frequency and percentage distribution of level of knowledge of petrol pump workers regarding self-care measures

	Pre-Test		*Post Test*	
Knowledge Score	*Frequency*	*Percentage*	*Frequency*	*Percentage*
Very Poor	23	38%	1	1%
Poor	31	52%	13	22%
Average	6	10%	24	40%
Good	-	-	16	27%
Very Good	-	-	6	10%

Table 2: Effectiveness of pre-test and post-test knowledge score of planned teaching programme

Test	*Mean*	*Mean Difference*	*SD*	*Paired t value*
Pre test	5.4	5.95	2.52	14.87
Post test	11.35		3.80	

Table 3: Association between pre-test knowledge score and selected socio demographic variables

S. No.	*Demographic Variable*	*Level Of Knowledge (Pre-Test)*					*Total*	*Chi-square (Table value), df*	*Chi-square value*	*Level of Significant*
		0-4	*5-8*	*9-12*	*13-16*	*17-20*				
1.	Age:									
	a) 18-27years	11	15	2	0	0	28			
	b) 28-37years	8	10	0	0	0	18	12.59, 6	30.684	S
	c) 38-47years	4	5	0	0	0	9			
	d) 48years or above	0	1	4	0	0	5			
2.	Gender:									
	a) Male	22	30	6	0	0	58	5.99, 2	0.281	NS
	b) Female	1	1	0	0	0	2			
3.	Education:									
	a) No Formal Education	1	7	0	0	0	8			
	b) High School	11	11	2	0	0	24	12.59, 6	18.261	S
	c) Intermediate	11	10	1	0	0	22			
	d) Undergraduate	0	3	3	0	0	6			
4.	Marital status:									
	a) Married	16	27	4	0	0	47			
	b) Unmarried	5	4	2	0	0	11	9.49,4	5.232	NS
	c) Others	2	0	0	0	0	2			
5.	Duration of Working in Years:									
	a) Less than 5 years	4	3	0	0	0	7			
	b) 6-10 years	11	19	2	0	0	32	12.59, 6	4.457	NS
	c) 11-15 years	2	2	1	0	0	5			
	d) More than 16 years.	6	7	3	0	0	16			

S. No.	Demographic Variable	Level Of Knowledge (Pre-Test) 0-4	5-8	9-12	13-16	17-20	Total	Chi-square (Table value), df	Chi-square value	Level of Significant
6.	Duty Hours:									
	a) Less than 8 hours	6	11	2	0	0	19			
	b) 8-10 hours	9	9	2	0	0	20			
	c) 11-12 hours	5	6	2	0	0	13	12.59,6	2.215	NS
	a) More than 12 hours	3	5	0	0	0	8			
7.	Using of Personal Protective Measures									
	Yes	22	31	6	0	0	59	5.99,2	1.636	NS
	No	1	0	0	0	0	1			

of knowledge was 11.35 and the standard deviation was 3.80. The obtained 't' value for level of knowledge was 14.87 which is significant at $p<0.05$ level. Hence it accepts research hypothesis(H_1). This indicates that the planned teaching programme on knowledge of self-care measures on pulmonary functions was effective among petrol pump workers.

Table III reveals that, the computed chi-square values were found to be significant for variables such as age and educational status at 0.05 level of significance and therefore, the findings partially support the research hypothesis (H_2).

RECOMMENDATIONS

- The study can be conducted in a larger sample where the findings can be generalized.
- Similar study can be replicated with a control group.
- Similar study can be undertaken to assess the effectiveness of other educational strategies to improve their knowledge regarding self-care measures on pulmonary functions.

CONCLUSION

From the findings of the present study, it is concluded that planned teaching programme on knowledge of self-care measures on pulmonary functions was effective to improve the knowledge of petrol pump workers. Petrol pump workers can improve the lung function by following self-café measures.

Source of funding – Self

Conflict of Interest -Nil

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Efficacy of Cardiopulmonary Resuscitation Training Program on Knowledge and Practice of Nursing Students

Neelanjana*[1], Minu Pargaien[2], Sandeep Kumar Dudi[2]

[1]Senior Clinical Instructor, Medanta – The Medicity, Gurgaon, Haryana, [2]Assistant Professor, Pal College of Nursing and Medical Sciences, Haldwani, Nainital

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ABSTRACT

Background: Cardiopulmonary Resuscitation (CPR) is a technique of providing BLS to restore the circulation and breathing of an individual in cardiac arrest. Effective CPR in first few minutes can improve the chance of survival of arrest victims. Best results of cardiopulmonary skills can be achieved when resuscitation education prepares students to perform it effectively. The aim of the study was to assess the effectiveness of CPR training program on nursing students and to find correlation between the knowledge and practice of nursing students regarding CPR.

Methods: This study used a quantitative approach with one group pre-test post-test research design. Study was conducted in a selected college, total 60 subjects were selected through random stratified sampling. Data collection was done by knowledge questionnaire and observation checklist.

Conclusion: Majority of the participants, 93.2% (55) were females and 6.8% (4) were males. Average mean knowledge score difference from pretest to posttest was 12.9 and average mean practice score was 9.2. There was a weak positive correlation between the knowledge and practice scores of nursing students. It was concluded that knowledge and practice of nursing students were significantly better after the training program.

Keywords: Cardiopulmonary Resuscitation, Effectiveness of training program, nursing students

INTRODUCTION

Human life is precious; therefore, man strives to live healthy as health is an asset that man is blessed with. According to WHO census (2009) in India 4,280 per one lakh people die each year from sudden cardiac arrest. It is a silent epidemic and 7-10 percent survival chances reduce with every passing minute.[1] Cardio means "of the heart" and pulmonary means "of the lungs". Resuscitation is a medical word that means "revive" or bring back to life. Cardiac arrest occurs when blood supply to the brain ceases and it leads to depression of breathing. The combination of these two activities, that is no breathing and no circulation, causes myocardial ischemia which provides only 10-minute window period time. Therefore, any rescue procedure has to be done within this frame of time only. According to American Heart Association, CPR should be started within 10 seconds of recognition of cardiac arrest.[2]

Early cardiopulmonary resuscitation (CPR) implementation can increase the survival rate of those suffering cardiac arrest by two to three times.[3] Chest compressions have saved lives of many people, the rate of survival can even be three times higher when

Corresponding author: Neelanjana, Senior Clinical Instructor, Medanta – The Medicity, Gurgaon, Haryana

E-mail: neelanjana1992@gmail.com

cardiac arrests are attended by persons who are able to provide immediate resuscitation.[4] Life-threatening emergencies can occur anytime, anywhere, and to anyone. It is necessary for all medical, nursing and paramedical staff to learn about BLS as they come across life-threatening emergencies in their routine life.

According to AHA (2019) one to two lakhs lives could be saved every year if CPR is performed immediately after cardiac arrest, 4% - 16% patients who immediately received CPR were eventually discharged from the hospital.[5, 6] As nurses are the first responders in many of the cardiac arrest situation he or she should know how to resuscitate and be familiar with resuscitation equipment, drugs, and procedures. Nursing staff as well as nursing students should be very competent in this field of work. In this study, Cardiopulmonary Resuscitation training was given to nursing students and the objective of the study was to assess the effectiveness of CPR training program on knowledge and practice of nursing students and to find correlation between the knowledge and practice of nursing students regarding CPR.

MATERIAL AND METHODS

Design and setting: This study was conducted in a selected nursing college, Haldwani from May 2019 to June 2019. Quasi-experimental one group Pretest - Posttest design was used in the study.

Participants: 60 subjects were taken from Basic B.Sc. nursing 4th year, 3rd year, GNM 3rd year and 2nd year using stratified random sampling technique (fifteen from each class by lottery method). Before the closure of study, there was a dropout of one subject therefore analysis was done on 59 subjects.

Tool: Data collection was done using Knowledge Questionnaire to check the knowledge of nursing students on CPR and Observation Checklist was used to check skills of nursing students.

Data collection Process: It was done in multiple phases. In Phase I, pretest was taken on day one followed by Training Program on next day in Phase II. Data collection was completed with Phase III in which Posttest was taken after 14 days of training program.

Scoring: With each correct response in knowledge questionnaire and with each correct step in practice checklist, one mark was awarded while no negative marking was done.

Reliability & Validity: For validity of content of tool and lesson plan it was given to nine validators for their opinion and suggestion regarding the appropriateness and relevance to ensure the content validity. The reliability of knowledge questionnaire was calculated by Split Half Method (r = 0.89) and reliability of observation checklist was calculated using Inter Rater Reliability. (r = 0.926).

Ethical Considerations: Formal administration written permission and ethical consideration was obtained before conducting study from the ethical committee. Written informed consent was obtained from each study participant after explaining the purpose of study.

Statistical Analysis of data: The data was analysed on the basis of objectives of the study using inferential and descriptive analysis by SPSS 22.0.

RESULT AND DISCUSSION

The data findings were organized, finalized and presented under the following sections:

Section I: Socio- demographic characteristics of study participants

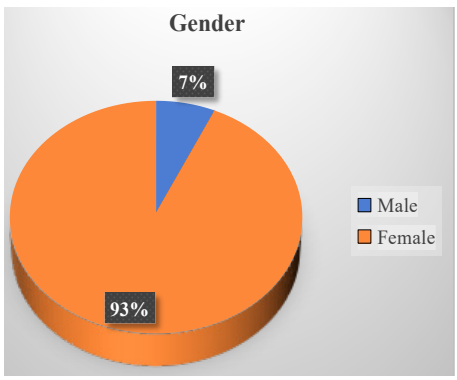

Fig. 1: Gender classification of subjects

Table 1: CPR Training status of subjects

Sl No.	*Characteristics*	*Response*	*Frequency*	*Percentage (%)*
1.	CPR Training Received	Yes	59	100
		No	00	0.0
2.	Performed CPR	Yes	00	0.0
		No	59	100

Sample characteristics concluded that majority of the participants were female *(Fig. 1)*. Similar participation was seen in the study conducted by Reddy CHB, Jaiswal S, Bhardwaj G (2018) where equal strength of students was taken from GNM and B.Sc. Nursing.[7]

Findings of this study concluded that all the participants, received CPR Training earlier and none of the participants had ever performed CPR in real life situation *(Table 1)*. Study conducted by Deepa PD (2017) presented the similar findings about the CPR training and performance of the participants.[8]

Section 2: Effectiveness of the CPR Training program

Study revealed that mean knowledge score increased from 20.59 to 33.54 (mean difference was 12.9). While practice scores mean difference was 9.20 *(Fig. 2)*.

Effectiveness of the training program was also shown by the significance of 't' value

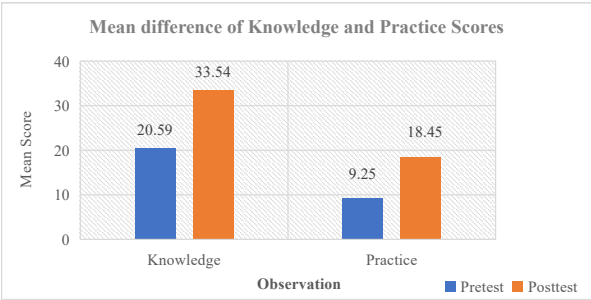

Fig. 2: Mean Difference of Knowledge and Practice Scores

Table 2: Mean, SD, df and t-value of Pre-test and Post-test Knowledge and Practice Scores

Observations	*Mean ± SD*	*t- value*	*df*	*Sig.*
Knowledge	12.94 ± 4.48	22.17	58	.00
Practice	9.20 ± 3.15	22.40		

't' (58) = 2.00 *The result is significant at p < 0.05

at 0.05. Thus, accepting the research hypothesis *(Table 2)*. Study findings were similar to the study conducted by Priyanka Chaudhary (2018), results revealed that the mean knowledge score increased from 17.13 to 27.03 and mean difference obtained was 9.9, thus, showing the effectiveness of study.[9]

Findings from another study conducted by Ajjappa AK, Babu CPS, Gowda SS, Shashikala P (2015) were consistent with this study, their result revealed that the mean pretest score was 75.09% which increased to 92.70% after training program with a mean difference of 17.6%.[10]

Data presented below *(Fig. 3)* shows areas of knowledge of nursing students in all the observations. Minimum score obtained by subjects was 23.7% and maximum score

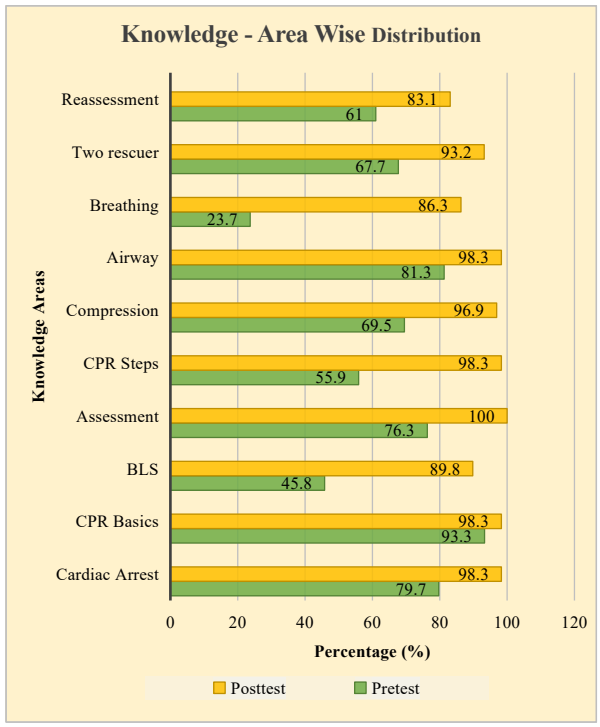

Fig. 3: Area wise distribution of Knowledge Scores

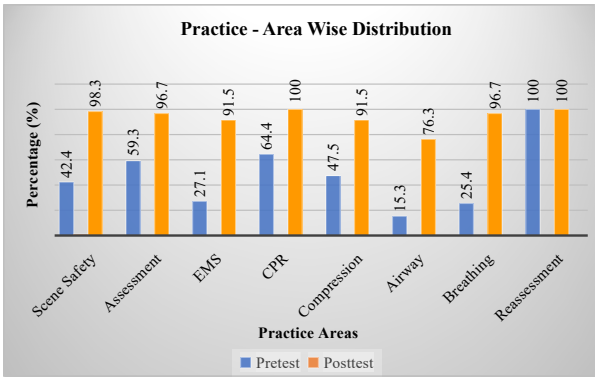

Fig. 4: Area wise distribution of Practice Scores

was 100%. As CPR is an important life saving measure, it was decided to give equal importance in teaching all the areas, irrespective of specific area knowledge inadequacy.

Finding shown above *(Fig. 4)* represents the areas of CPR skills where practice of students was assessed. Minimum score in pre-test was found 15.3% and maximum score was 100%.

Section 3: Correlation between the knowledge and practice of nursing students regarding CPR

Statistical analysis showed that in pretest, there was a weak positive correlation (0.41) between knowledge and practice of nursing student. While correlation between knowledge and practice in posttest (0.26) was found to be significant at 0.05 level, the values were 0.09, 0.26 and 0.30 respectively *(Table 3)*.

These study findings were congruent with the study conducted by Eman AM (2017) where the study shows that there was positive correlation between score of knowledge and score of practices in pre-test as well as post-test.[11]

Table 3: Correlation between Knowledge and Practice of Nursing Students

	r Value	*p Value*
Pre-test Knowledge and Practice	0.41	0.00*
Post-test Knowledge and Practice	0.26	0.04*

*The result is significant at $p < 0.05$

CONCLUSION

Cardiopulmonary Resuscitation is a life-saving technique. It increases survival rate of victims in fatal conditions like cardiac arrest, respiratory arrest and other life endangering conditions. Thus, it is essential for student nurses to be efficient in CPR skills. It was concluded from the study that knowledge and practice of nursing students were significantly good after the training program. The training program was effective and it not only improved the level of knowledge and skills but gave confidence to student nurses to perform the procedure as they will be competent in their skills.

Conflict of Interest: There was no conflict of interest for conducting this study

Source of Funding: This research study was self-funded

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Role Experience of Muslim Adolescent Mothers Living in Remote Rural Areas in Indonesia: A Qualitative Case Study

Nur Mahabbah[1], Asniar Asniar[1], and Said Usman[2]

[1]Master Program of Nursing Science, Faculty of Nursing, Universitas Syiah Kuala, Banda Aceh, Indonesia, [2]Master Program of Public Health, Faculty of Medicine, Universitas Syiah Kuala, Banda Aceh, Indonesia.

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ABSTRACT

Background: Adolescents as mothers have limitations in carrying out their roles as mothers. This is due to adolescents' lack of knowledge and experience when performing as mothers.

Methods: This type of research is qualitative research with a case study approach and data collection methods with in-depth interviews. The participants in this study were adolescent mothers living in remote rural areas in Indonesia obtained by purposive sampling technique. Data were analyzed using the Miles and Huberman technique.

Results: Adolescent mothers experience several obstacles while performing their role as mothers, including lack of experience and knowledge related to motherhood, lack of maturity in dealing with problems during their role as mothers, lack of support from their partners. Adolescent mothers also mentioned that the factor of family and social support is one of the essential points in carrying out their role as a mother.

Conclusion: This study concludes that adolescent mothers need physical and mental preparation for motherhood before having children.This encourages community nurses to provide counseling and consultation services to prepare adolescent mothers to carry out their roles as mothers.

Keywords:Adolescents, Mothers, Motherhood.

INTRODUCTION

[1]The World Health Organization (WHO) in 2020 states that approximately 12 million women aged between 15-19 years give birth and become mothers in their teens every year. Most of the adolescent mothers were raised by single mothers who also had children in their teens, and the education level of the adolescent mothers averaged high school graduation or the equivalent [2].

The results of other studies explain that adolescent mothers have a variety of stress that affect mental health due to a lack of physical and psychological readiness in the role of mothers and the lack of social support received by mothers who are adolescents[3]. Another consequence of being a mother at a young age is that adolescents lose their rights, care and experience difficulties transitioning to becoming a mother[4].

[5]Data from the Population and Family Planning Agency (2020) identified 60 adolescent mothers in remote rural areas in the southern part of the province.

Corresponding author: Asniar Asniar, Master Program of Nursing Science, Faculty of Nursing, Universitas Syiah Kuala, Banda Aceh, Indonesia.

Email: asniar@unsyiah.ac.id.

[6]Data from the Maternal and Child Health Section at the South Aceh Health Office explained that among 427 pregnant women who had a high risk of pregnancy, 25 of them were adolescents.

MATERIALS AND METHODS

Design

This study applied a qualitative design with a case study approach that focuses on the experience of adolescent mothers.

Participant

Participants in this study were mothers who had children in their teens who were selected using a purposive sampling technique with a total of 8 participants.

Setting

This research was conducted in a remote rural area in the southern part of Aceh, the province reinforcing Sharia law that condemns pre-marital sexual relationships.

Data Collection

From April 10 to May 9, 2020, the data collection process in this study used an in-depth interview technique.The interviews lasted 35-90 minutes for each participant. The principal researcher interviewed each participant two times.

Data Analysis

Data analysis was carried out by reading the interview transcripts, then coding the data, determining the theme of the data obtained and explaining specifically related to the themes that emerged. Data analysis in this study used the Miles and Huberman method,consisting of four stages: data collection, data reduction, data presentation, and conclusion drawing or data verification.

Validity of Research Data (Trustworthiness)

The research data was recorded using a voice recorder to ensure the credibility of the data obtained; the researcher also checked the data obtained repeatedly to validate the data. As a qualitative research nurse expert, the researcher also asked an external reviewer to see the theme's suitability with the data obtained.

RESULTS

Characteristics of participants

There were 8 participants involved in this study. Characteristics of the participants are women who have children in their teens with an age range of 17 to 19 years when they first have children. The last education of junior and senior high school participants with the nuclear family and extended family types and current marital status consists of married and divorced (Table 1).

Table 1: *Demographic characteristics of participants (N= 8)*

Participant code	*Current age (years)*	*Age when becoming a mother (years)*	*Education*	*Family type*	*Marital Status*
P1	22	18	Senior High School	Extended Family	Married
P2	22	19	Senior High School	Extended Family	Married
P3	25	18	Junior High School	Nuclear Family	Married
P4	21	17	Junior High School	Extended Family	Divorced
P5	34	17	Junior High School	Nuclear family	Married

Participant code	*Current age (years)*	*Age when becoming a mother (years)*	*Education*	*Family type*	*Marital Status*
P6	32	18	Senior High School	Nuclear Family	Divorced
P7	23	19	Senior High School	Nuclear Family	Married
P8	24	18	Senior High School	Nuclear Family	Divorced

Descriptions of Categories

The research results are grouped based on four role acquisitions proposed by Mercer. It Consists of anticipatory role acquisition, formal role acquisition, informal role acquisition, and personal role acquisition.

Anticipatory role acquisition

Adapting to changes during pregnancy.

This theme is explained based on threesub-themes which are defined as follows:

Adapting to Body Changes during Pregnancy. This sub-theme describes the physical changes that occur to the mother during pregnancy, consisting of a decrease in the physical condition and unusual consumption habits during pregnancy. Participants' statements are as follows:

> "*My condition was not very good when pregnancy, I'm also tired, and I don't want to eat*" (P7).

Adapting To Changes of Habits During Pregnancy. Participants experienced changes in practices during pregnancy marked by changes in their way of thinking, attitudes, and behavior, and this can be seen from the statements said by the participants as follows:

> *"It's difficult to become a mother.I was still young, I was a little scared, , but I have a responsibility as wife and mother*" (P5).

> *"it's a difficulty as a young mother, i have unstable emotion"*(P4).

Adapting to the Absence of Husband's Support.This sub-theme describes the support received during pregnancy.This can be seen from the following statements:

> *" my husband hasn't accompanied me since I was three months pregnant; he only came home when I was eight months pregnant,I felt so sad about that" (P8).*

> *"I live with my parents until Iwas eight months pregnant without a husband and when a child is born, it doesn't feel like the child has a father and my husband left my child and me. (participant's eyes filled with tears when she told the story).*" (P1).

Family Support During Pregnancy. This sub-theme explains that participants get support from their families which is described as follows:

> *" my family always supports me even without my husband. Thank God, my family took care of everything from the first month of pregnancy." (P1).*

> *" the family supports and takes care of me when I was sick."*(P5).

Social Support During Pregnancy. The support received can be seen from the statements from the fifth participant said, "my neighbor supports me with everything. During delivery, the neighbors do the laundry, thank God," and the fourth participant said,"my neighbors always take care of me during pregnancy and delivery, they also give me encouragement."

Formal Role Acquisition

Wanting a complete family life

This theme explains the participants' desire to have a harmonious, complete, and happy family. The cause of the participants not having a whole family is due to the absence

of support from their husbands during motherhood. The first participant said, " my husband left me during pregnancy and delivery; I just want a harmonious family" and the fourth participant said" "I am proud of myself because I can take care of my child eventhough without my husband."

Adapting to the role of a single parent

This theme describes the participant's role as a single parent due to her husband's absence. The statement from the first participant said,"I did everything without a living and support from my husband. I can support my children sothat I can raise my children." and the fifth participant said, "I'm happy, really proud because I can survive taking care of children even without a father".

Adapting to changes during motherhood

This theme explains the constraints of parenting.This can be seen from the statements below:

> *"Being a mother is not easy. It is difficult to respond to a child who is quite fussy and lazy, all because i dont have experience as a mom" (P1).*
>
> *"Well, taking care of children is bit difficult because you don't understand how to be a mother, but you get used to it"* (P6).

Support during motherhood

Family Support. Family helps partisipants to take care of children and give some advice as a mother . Participants' statements are as follows:

> *"I don't have much experience because it's my mom who takes on all the roles, it's more of my mom who takes care of everythin,." (P2).*
>
> *"If there is a problem, usually find a solution with the parents" (P4).*
>
> *"During childbirth it is more to the mother-in-law who takes care of the child"* (P6).

Husband's Support. the third participant said, "my husband give encouragement during motherhood."

Social Support. Participants' statements can be seen as follows: Eight participants said, " my friends gave me many suggestions,"the fifth participant said "my neighbors always support me, even they will come to take care of my child, especially when my baby is still newborn, they also help me doing housework," and the first participant said, " they gave good advice on how to be a mother."

Informal Role Acquisition

This category describes the achievement of maternal roles that begins when mothers create unique ways of dealing with unspoken parts of the social system. This category has one central theme, which consists of three sub-themes. The explanation is as follows:

Modifying the mother's role toward the children

This theme explains how participants modify their roles when dealing with children and the tips they use to create good relationships between participants and children. This theme consists of two sub-themes which are explained as follows:

How To Communicate With Children. This sub-theme explains how participants communicate with children; this can be seen from the statements:the first participant said," my child always listens to me when I give her advice; she is a perfect daughter.

Establishing Good Relationships With Children. This sub-theme explains how participants build good relationships with children and spend time with children. This can be seen from the statement:the third participant said,"i always encourage them to learn new things, talk to them" and the seventh participant said, "Teach them to recognize letters, colors."

Personal Role Acquisition

This category describes the stages of maternal attainment related to the stage of role identity that occurs as women internalize their roles. This category has two themes which are explained as follows:

Applying Rationalized Coping in Solving Problems

This theme explains the way participants solve problems in their families. This theme describes how to resolve rationally to avoid conflicts that can affect relationships with children. This can be seen inthe first participant's statement, "first, if I have a problem with my husband, I don't want to make a fuss; I want to solve the problem because I think of my child, and over time, the child will need her father."

Applying maladaptive coping in solving problems

The theme explains how participants deal with problems in their families by using maladaptive coping.

" *I have concern that I can not support my child in the future*" (P1).

"Sometimes it's embarrassing; it's hard to be a mother at such a young age because I am still young, , I also feel uncomfortable,and I feel so inferior" (P3).

DISCUSSION

This study describes the experience of the role of adolescent mothers related to the stages of role acquisition proposed by Mercer.The explanations can be seen as follows:

Anticipatory role acquisition

In the anticipatory role, there are two themes, namely:

Adapting to changes during pregnancy

This theme is divided into three sub-themes based on the changes during pregnancy. Participants revealed that several changes occurred during pregnancy. These changes consist of changes in the body, and emotions during pregnancy.

Body Changes During Pregnancy.Body changes during pregnancy are marked by changes in conditions that occur to participants, such as the health conditions of these participants. Participants adapt to these changes as the gestation period increases.

Emotional Changes during Pregnancy. Participants mentioned emotional problems during pregnancy, the transition of significant changes in feelings. One of the reasons for emotional problems during pregnancy is a conflict with a partner and anxiety that occurs during pregnancy.This study is in line with a survey conducted by [7] which explains changes in adolescent mothers, such as physical and emotional changes.Social factors influence emotional changesin participants, such as family, partners, and close people.

Adapting to changes in support during pregnancy

Husband Support.The support from the husband received by the participants was emotional support.Some participants admitted that they did not get support from their husbands during pregnancy because they worked outside the region. Another reason that participants did not get support from their husbands was the conflict between the participants and their husbands.

Family support.Participants explained that family support was the direct support they received during pregnancy. The support is provided in physical assistance and emotional support during pregnancy.

Social support.The support received is emotional and physical support, such as assistance in doing household chores.

Formal Role Acquisition

There are four themes in the acquisition of formal roles, including the following:

The desire to have a complete family

Participants support their children without help from their husbands, The conflict between the participant and the husband, which affects the family harmony of the participant. The presence of a husband to meet physical and psychological needs, especially for adolescent mothers, is very important because adolescent mothers do not understand and do not have experience compared to adult mothers[8].

Adapting to changing motherhood

The barriers experienced by participants when raising children were dealing with diverse child behavior,lack of knowledge and understanding regarding motherhood, and lack of experience possessed by participants. Adolescent mothers share conflicting feelings about their role as mothers; on the one hand, adolescent mothers feel happy because they have children, but on the other hand, they have difficulty playing the role of mothers because of their lack of knowledge and experience [4].

The support you get during your role as a mother

Family support is one of the critical factors for adolescent mothers in carrying out their roles as mothers; family support also increases the confidence of adolescent mothers to carry out their roles as mothers[9]. Family support is usually emotional support, instrumental in caring for children, and informational support related to carrying out their role as mothers[10].

Informal Role Acquisition

Modifying the mother's role toward the children

This research states that there are variations in attitudes shown by adolescent mothers in responding to pregnancy and childbirth; still, on average, adolescent mothers show positive attitudes towards their children.[11].

Personal Role Acquisition

Applying rationalization coping in solving problems

This coping is applied by thinking in advance about the actions to be taken when dealing with issues, especially issues related to their husbands because participants do not want these problems to affect their household harmony, which can impact their children in the future.

Application of maladaptive coping in solving problems

The application of maladaptive coping carried out by participants is how participants solve problems by using incorrect adaptations to the problem, such as silence, anger, crying, and avoiding facing the problem. The cause of this coping arises because the participants' expectations of marriage are different from the reality that occurs. Research shows that adolescent mothers are more susceptible to depression and stress than adult mothers[12].

RESEARCH LIMITATIONS

The results of this qualitative study cannot be generalized as a general condition that occurs in the province of Aceh related to the experience of motherhood in adolescence, so further research is needed regarding this research.

CONCLUSION AND RECOMENDATION

The problems that arise in adolescent mothers are caused by several things, the lack of experience and knowledge of mothers in carrying out their roles, lack of maturity in dealing with problems during motherhood, and lack of husband support during their role as mothers. Community nurses, especially maternal and child care unit nurses, can further increase their attention to adolescent mothers by providing preparatory counseling before becoming mothers.

Acknowledgment

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Ethical Considerations

This study received ethical approval from the ethics committee of the Faculty of Nursing, Universitas Syiah Kuala, with number 112002170321. Before conducting the study, the researcher first explained the procedures and objectives of the research and asked for informed consent from the participants.

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Postpartum Depression: Neglected Issue in Maternal Health

Ola Mousa*[1,2], Sarah Yahya Al Sabati[3], Fatemah Al Khars[4]

[1] Assistant Professor, Faculty of Nursing, Minia University, Egypt, [2] College of Applied Medical Sciences, King Faisal University, KSA, [3] Nursing Director, Maternity and Children Hospital in Al Ahsaa, Ministry of Health, KSA, [4] Nursing Specialist, College of Applied Medical Sciences, King Faisal University, KSA.

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ABSTRACT

Mental health challenges can develop during the prenatal and postpartum periods when women face physical, mental, and social adjustments. The major public health concern is postpartum depression, which poses a serious threat to mothering and has serious consequences for families. The number of women who experience depression during pregnancy or within the first 12 months after giving birth ranges from 10 to 20 percent. The clinics primarily use questionnaires to diagnose patients. Treatment options include psychotherapy and antidepressant medications. Postpartum depression and the factors associated with postpartum depression among women of childbearing age are the focus of this review.

Keywords: Maternal Health; Mental Health; Postpartum Depression.

INTRODUCTION

Childbearing is challenging and exhausting, and a female undergoes hormonal, physical, emotional, and psychological changes throughout pregnancy.[1] Postpartum depression (PPD) is a critical well-being issue that can affect about 15% of the female population after giving birth, and it often conveys significant adverse consequences to the offspring.[2] Another study reported that approximately 10 to 20 percent of women experience depression either during pregnancy or in the first 12 months postpartum.[3]

Postpartum depression (PPD) is one form of depression that impacts some women after giving birth. The symptoms include bad temper, anxiety, sadness, fluctuations in sleeping and eating patterns, and low energy. The rate of PPD varies widely in different regions and populations [(4)]. Postpartum depression most commonly occurs within six weeks after childbirth, and it occurs in about 6.5% to 20% of women. It occurs more usually in adolescents, mothers who deliver premature infants, and women living in urban areas. African American and Hispanic mothers reported symptoms within two weeks of delivery, unlike white mothers, who reported the onset later.[5]

Women at the possibility of suffering from postpartum depression (PPD) is rarely known, although it is a well-known clinical phenomenon [(6)]. Ordinary risk factors of PPD are poor economic status, pregnancy-associated complications, low education, unplanned pregnancy, housewife, inadequate social support from family members, and feeding by formula. The common risk factors that subsidize the development of PPD are

Corresponding author: Ola Mousa, Assistant Professor, Faculty of Nursing, Minia University, Egypt

Email: olaessam1977@yahoo.com

young age, unplanned pregnancy, pregnancy-associated complications, low level of education, domestic responsibilities, poverty, lack of relationship with family, inadequate social support from family members, type of delivery, gender of baby, the baby feeding method, health of baby, care of baby, and lack of access to effective postpartum care [7]. Dennis and McQueen reported that women with depressive symptoms at the early stage of the postpartum period were associated with an increased risk for negative infant feeding outcomes [8]. A Saudi study showed that more than a quarter of women likely to have PPD needed intensive observing, assistance, teaching, diagnostic assessment, and possible treatment by primary healthcare physicians or specialists [9].

In addition to causing bonding problems with the baby, peripartum depression can affect sleep and feeding patterns. In the longer term, children of mothers with peripartum depression are at greater risk for cognitive, emotional, developmental, and verbal deficits and impaired social skills [10,11].

How does postpartum depression manifest?

Postpartum mood disorders can be divided into three types:

Between 50% and 75% of women experience the baby blues after giving birth. Symptoms of baby blues include frequent, prolonged crying without apparent reason, sadness, and anxiety. After delivery, the condition usually begins within a week (one to four days). Without treatment, the condition usually subsides within two weeks. Getting support and asking for help from friends, family, and partners is the best thing the mother can do.[12, 13]

Postpartum depression

About one in seven new parents experience postpartum depression, a far more serious condition than the baby blues. With each pregnancy, the risk of postpartum depression increases to 30% if the mother has already suffered from it. The mother may experience alternating highs and lows, frequent crying, irritability, fatigue, feelings of guilt, anxiety, and inability to care for the baby. Mild to severe symptoms may appear within a week of delivery or gradually over a year later. Despite the fact that symptoms can last several months, psychotherapy or antidepressants are very effective in treating depression.[12,14]

Postpartum psychosis

In the case of postpartum psychosis, emergency medical attention is required. It affects only one in 1,000 people after delivery. Symptoms usually appear shortly after delivery and last for a few weeks to several months. Anxiety, confusion, feelings of hopelessness and shame, insomnia, paranoia, delusions, rapid speech, and mania are some of the symptoms. Due to the increased risk of suicide and harm to the baby, postpartum psychosis requires immediate medical attention. A combination of hospitalization, psychotherapy, and medication is usually used in the treatment.[12]

The etiology

In any trimester of pregnancy, depression and anxiety can lead to PPD.[5]

Risk Factors

Undiagnosed depression during pregnancy is the leading cause of postpartum depression. There is evidence that many risk factors are associated with maternal depression, and women experiencing these risk factors should be observed by providers and screened regularly during pregnancy and postpartum.

Psychological: Anxiety and depression, premenstrual syndrome (PMS), negative attitudes toward the baby, and a reluctance to reveal the baby's gender are perpetual factors contributing to postpartum depression.

Obstetric risk factors include emergency cesarean sections and hospitalizations during pregnancy. In addition to meconium passage, umbilical cord prolapse, preterm birth, and low hemoglobin, PPD is associated with low birth weight.

Social factors: Postpartum depression can be caused by a lack of social support. Violence against the spouse, including sexual abuse, physical abuse, and verbal abuse, can also contribute to the development of the disease. PPD is associated with smoking during pregnancy.

Lifestyle factors such as eating habits, sleep patterns, and physical activities may affect postpartum depression. Vitamin B6 is known to play a role in postpartum depression via its conversion to tryptophan, affecting mood. Postpartum depression is associated with decreased sleep, one of the factors influencing depression risk. Exercise and physical activity tend to reduce depressive symptoms. As a result of exercise, endogenous endorphins and opioids are released, which improves mental health. This also improves self-confidence, increases problem-solving capacity, and helps them focus on their surrounding environment.[15]

Pathophysiology

Postpartum depression's pathogenesis is unknown. Genetics, hormonal and psychological factors, and social stressors have been implicated in developing PPD.[16,17]

Following delivery, women susceptible to stress can experience rapid changes in reproductive hormones such as estradiol and progesterone. Depressive symptoms can result from these changes. Prolactin and oxytocin also play an essential role in PPD pathogenesis [(18)].

SIGNS AND SYMPTOMS

- Everyone's warning signs are different, but they can include:
- Loss of interest or pleasure in former hobbies
- Overeating or undereating
- Anxiety or panic attacks all the time or most of the time
- The thoughts are racing, scary
- Sense of guilt or worthlessness - blaming oneself
- Anxiety, anger, or irritability-mood swings
- Crying uncontrollably for long periods of time due to sadness
- Having a fear of not being a good mother
- Anxiety about being left alone with the baby
- The misery
- A lack of sleep, excessive sleep, difficulty falling asleep or staying asleep.
- Family, friends, and the baby seem uninterested
- Making decisions, concentrating, or remembering details is difficult
- A desire to harm the baby or oneself.

The severity and frequency of these symptoms can vary from woman to woman due to peripartum depression. Women can feel ashamed, guilty, or isolated when they experience symptoms such as these. Within four weeks of delivery or during pregnancy, peripartum depression is diagnosed [(19,14)].

Diagnosis of PPD

There remains controversy regarding the criterion for the onset time of PPD [(20)]. In clinical practice and various studies in the literature, the onset time for PPD has been generalized to up to 1 year postpartum [(21)]. Peripartum depression is an actual illness that should be taken seriously, despite the fact that there is no specific diagnostic test for it [(19)]. The Edinburgh Postnatal Depression Scale (EPDS) is a set of 10 screening questions that can indicate whether a parent has symptoms common in women with depression and anxiety during pregnancy and the year following the birth of a child. The accuracy of the test was similar across all reference standards and subgroups, including pregnant and postpartum women [(22)].

Who Is at Risk?

Peripartum depression may be caused by rapid changes in sex hormones, stress hormones, and thyroid hormone levels during pregnancy

and after delivery. Physical changes during pregnancy, changes in relationships and at work, worries about parenting, and lack of sleep are also factors to consider. It is not uncommon for women who have recently given birth (or who are gestational carriers or surrogates) to suffer from symptoms of peripartum depression. Pregnant and labored women are more likely to experience depression or other mood disorders if they have been depressed before (or have a family history of depression), if they are experiencing particularly stressful life events in addition to pregnancy, or if they lack family and friend support.[19]

Fathers: Pregnancy/childbirth and depression

Symptoms of peripartum depression can also affect new fathers, such as fatigue and changes in eating and sleeping habits. In the first year after a child is born, approximately 4% of fathers experience depression. Depression is more likely to affect younger fathers, those with a history of depression, and fathers with financial difficulties.[23]

Can postpartum depression be prevented or avoided?

Postpartum depression cannot be prevented or avoided. It is recommended to screen for depression in the general adult population, including pregnant and postpartum women.[14]

Treatment

The struggles of many women during pregnancy and childbirth go unnoticed, dismissed as a normal part of the process. Treatment for depression during pregnancy is essential, and greater awareness and understanding can lead to better outcomes for women and their babies [(19)]. Postpartum depression is treated much like any other depression [(14)].

Psychological treatment usually happens through counseling (or psychotherapy), either one-on-one with a psychologist or in a group setting [(24)]. Therapeutic treatment for PPD contains antidepressants, along with Antidepressant medication is the most common treatment for PPD.[25]

Living with postpartum depression

Feeling depressed does not mean that a mother is the wrong person. It does not mean that the mother did something wrong or brought this on herself. It also does not mean that the mother does not love the baby. It should be remembered that many other women have had the same experience.[14]

Many studies have shown that during the screening of selected women, most healthcare facilities do not report this issue.[26,27]

The disturbances of PPD can range from two weeks of mild depression to the onset of psychosis, a life-threatening situation for the mother and baby [(28)].

CONCLUSIONS

During the postpartum period, postpartum depression affects new mothers and their children adversely. There are several risk factors for PPD, including biological, psychosocial, and environmental factors. Mothers who develop depression during pregnancy should be identified and closely monitored by their postpartum nurse or primary care provider. There is a need for education and support for these women regarding the available treatments.

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A Study to Assess the Occupational Stress among Staff Nurses Working in Narayana General Hospital, Nellore

Pavithramma Gangaram

Associate Professor, Aditya College of Nursing, Bangalore, Karnataka

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ABSTRACT

Background: Stress is intensified as a non specific response to an internal and external environmental changes or threat 1. Occupational stress is a harmful physical and emotional response that occurs when the requirement of the job do not match with the capabilities. Nurse is the one who spend with the patient for 24 hours. So it's necessary to understand the nurses occupational stress level.

"A study to assess the occupational stress among staff nurses working in Narayana general hospital, Nellore", was conducted in partial fulfillment of requirement for degree of Master of Science in Nursing at Narayana College of nursing, Dr. NTR University, Andhra Pradesh.

Objectives: To assess the level of occupational stress among staff nurses working in Narayana general hospital, Nellore.

To find the association between the level of occupational stress among staff nurses with selected socio demographic variables.

Method: Descriptive research design and convenient sampling technique was adopted among 200 samples of staff nurses in Narayana general hospital based on the inclusion and exclusion criteria. Data was collected by using tool which consist of socio demo graphic variables and work stress scale which consist of 30 questions. Data was analyzed and interpreted by using descriptive and inferential statistical methods.

Results: Results shows that the level of occupational stress, 140 (70%) of respondents had Mild occupational stress, 58(29%) of respondents had Moderate occupational stress and 2(1%) of respondents had severe occupational stress.

In association of the level of occupational stress with socio demographic variables, there is no significant association between the Age, Sex, Experience, Qualification, Area of working, Marital status, Religion with level of occupational stress but there is a significant association of Designation Area of living with occupational stress.

Conclusion: Overall finding showed that, 70% of respondents had Mild occupational stress, 29% had moderate occupational stress and 1% had severe occupational stress. So the null hypothesis is rejected. These findings influenced the need for formulating an information guide sheet to manage occupational stress among staff nurses working Narayana general hospital, Nellore.

Keywords: Assess, Occupational Stress, Staff nurse.

INTRODUCTION

Rapid changes in health care technology, diversity in the workplace, organizational restructuring, and changing work systems can place stress on an individual. In this context the relationship between stress and health care costs receives considerable attention. Stress adds to the cost of conducting business in many ways.

Corresponding author: Pavithramma Gangaram, 'Associate professor, Aditya College of Nursing, Bangalore, Karnataka.

Stress is a physical or emotional state of response always present in a person as a result of living. It is intensified as a nonspecific response to an internal and external environmental changes or threat. Occupational stress is a harmful physical and emotional response that occurs when the requirement of the job do not match with the capabilities. Stressful working condition will affect the work and efficiency consequently, it affects the health of the individual and that of the Organization.[2]

Nursing has been identified as a stressful profession. Staff nurses are often required to spend considerable time in caring for the patients with holistic needs of the patient which may be the physical, psychological, social, and spiritual. The patients often react in an unpredictable manner which consequently affects the staff nurse on their emotional state. Unable to stand and cope with the stress they feel at end of the day emotionally strained and exhausted.

Nursing involves activities and inter-personal relationships that are often stressful. Caring for clients who are experiencing high levels of anxiety can be stress provoking for nurses. Stress has large physical and psychological side effects.[3]It makes all the nurses irritable and inconsistent in their performance output. Outcomes of stress have adverse effect on general health and effects early retirement. The combination of stress at home and stress at work was more which could not be handled.

Chronic stress resulting from work related frustrations may decreases morale, lower productivity and lead to emotional withdrawal, reduced job satisfaction, poor delivery of health care, reduced quality of care, absenteeism, somatic complaints and mental health problems.[4]

In a recent health and safety executive, survey of around 3800 staff nurses almost 16% described their job as "extremely stressful". Occupational stress is the result of interaction between characteristics of individual persons, resources and stress factors. It is important to understand how work associated stress effects nurses and what factors in their working environment cause great burden. It is also of great importance to gain more knowledge of nurses working conditions, occupational stress and its management. Health care commission says that nurses are suffering from work related stress.[5] Stressful working condition will affect the work efficiency; consequently it affects the health of organization.

Statement of problem

"A study to assess the occupational stress among staff nurses working in Narayana general hospital, Nellore"

OBJECTIVES

1) To assess the level of occupational stress among staff nurses working in Narayana general hospital, Nellore.
2) To find the association between the level of occupational stress with selected socio demographic variables.

MATERIALS AND METHOD

Setting of the study

The study was conducted in Narayana general hospital which consists of 1250 beds with all the specialties. The study was conducted in wards such as female and male general wards, male and female surgical wards, Operation Theater, pediatric, psychiatric wards, emergency. HDU, ICU, in Narayana general hospital, Nellore.

Method of data collection

Work stress scale was used to collect the data.

Development and description of the tool:

The tool was developed with the help of related literature from various text books, journals and guidance from experts in the field of nursing and general medicine, psychiatry. The tool is divided into two parts.

Part 1: deals with socio demographic variables.

Part 2: Work stress scale (Chan ,et al 1990)

Part 1: Socio demographic variables

The questionnaire consist of 9 items seeking demographic variables such as Age, Sex, Experience, Qualification, Area of working , Marital status, Religion, Designation. It is a self administration questionnaire.

Part 2: Work stress scale (Chan ,et al 1990

The Work Stress Scale (Chan et al 1990) scale was developed by Chan, Lai, Ko, and Boey (1990) to study occupational stress. There were 30 items in this scale. A 5 points scale was applied to measure the stress from no stress (0) to extreme stress (4). The range of score is from 0- 120. High score indicate high work stress. The work stress levels are divided into three categories like if the total scores lie down between 1 -59 is considered a "Mild stress", similarly if the total score lie down between 60- 89 which is considered as "Moderate stress" and if the total score lie down between 90-120 which are considered as "Severe stress.

Interpretation of score

- Mild stress: 1-59
- Moderate stress: 60-89
- Severe stress: 90-120

RESULTS

Table 1: Description of sample characteristics

s.no	*Variables*	*Frequency (N)*	*Percentage (%)*
1.	*Age (years)*		
	20-25	177	88.5
	26-30	17	8.5
	More than 30	6	3
2.	*Sex*		
	Male	28	14
	Female	172	86
3.	*Experience*		
	1 day- 2 years	145	72.5
	2 years-4 years	37	18.5
	More than 4 years	18	9
4.	*Qualification*		
	Diploma in Nursing (RN)	88	44
	B.Sc in Nursing	112	56
5.	*Area of working*		
	Medical wards	90	45
	ICU&HDU	59	29.5
	Surgical wards	21	10.5
	OT& Emergency	30	15
6.	*Area of living*		
	Hostel	184	92
	With family members	16	8
7.	*Marital status*		
	Married	28	14
	Unmarried	172	86
8.	*Religion*		
	Hindu	114	57
	Muslim	5	2.5
	Christian	81	40.5
9.	*Designation*		
	Staff nurse	191	95.5
	Nurse incharge	4	2
	Nurse supervisor	5	2.5
	Total	200	100.0

N=200

Table 2: Distribution of Respondents by the level of occupational stress (N=200)

s.no	*Level of occupational stress*	*Number*	*Percentage*
1.	Mild occupational stress (1-59%)	140	70
2.	Moderate occupational stress (60-89%)	58	29
3.	Severe occupational stress (90-120%)	2	1
	Total	200	100

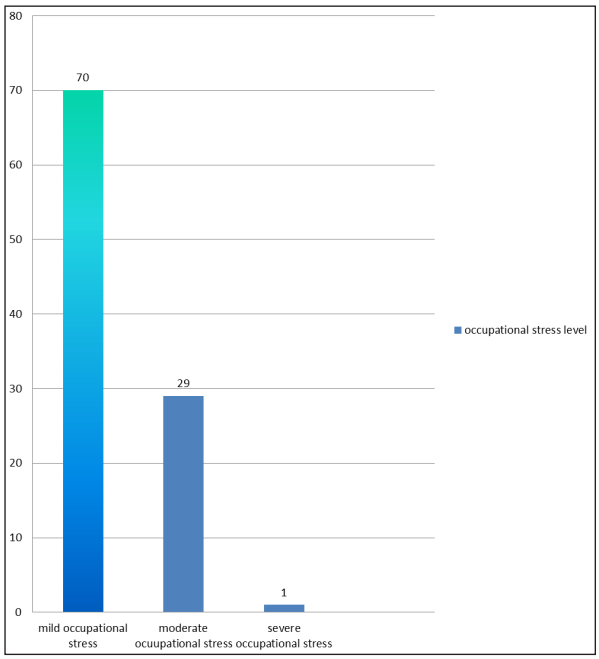

Fig. 1: Distribution of respondents by the level of occupational stress

CONCLUSION

The focus of this study is "to Assess the level of Occupational Stress among Staff Nurses in Narayana general hospital, Nellore.

The findings of the study–

- Majority177 (88.5%) of respondents were in the age group of 20-25 years
- Majority were females172 (86%).
- 145(72.5%) of respondents had 1 day – 2years experience.
- According to their Qualification majority 112(56%) had B.Sc in nursing.
- In Area of working 90 (45%) were working in Medical wards, 59 (29.5%) were working in ICU&HDU, 30(15%) were working in OT& Emergency and 21 (10.5%) of them working in surgical wards.
- With respect to Area of living, majority 184(92%) of respondents reside in hostel.
- In the marital status, 172(86%) of respondents were unmarried and 28(14%) of respondents were married.
- In the religion, 114 (57%) of respondents were Hindus followed by 81(40.5%) of them Christians.

- With respect to Designation, 191(95.5%) of respondents were staff nurses.
- In relation to level of stress 140 (70%) of respondents had Mild occupational stress, 58(29%) of respondents had Moderate occupational stress and 2(1%) of respondents had severe occupational stress.
- In association of the level of occupational stress with socio demographic variables , there is no significant association between the Age, Sex, Experience, Qualification, Area of working, Marital status, Religion with level of occupational stress but there is a significant association between the Designation and Area of living with occupational stress.

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Conflict of Interest: Nil

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Ethical clearance: The proposal of the study was presented before the institutional ethical committee for ethical clearance to conduct this study. All the necessary permissions were granted for pursuing this study.

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Relationship of Social Determinants and Physical Activity among Adolescents with Risk of Obesity in Rural Areas of Indonesia

Risqina Putri [1], Asniar [2*], Teuku Tahlil [3]

[1]Master Student Program of Nursing, Faculty of Nursing, Universitas Syiah Kuala, [2]Assistant Professor Department of Community Health Nursing, Faculty of Nursing, Universitas Syiah Kuala, [3]Assosicate Professor Department of Community Health Nursing, Faculty of Nursing, Universitas Syiah Kuala

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ABSTRACT

Physical inactivity in adolescents can increase the risk of obesity which has the potential of negative impacts on the physical and psychological health of adolescents. It can also increase the incidence of non-communicable diseases in adulthood. This study aimed to identify the relationship between social determinants and physical activity among adolescents with the risk of obesity in rural Indonesia. A cross-sectional study was conducted at two senior high schools in rural areas of Indonesia on 134 respondents that were selected by using a simple random sampling technique. Data were collected using a demographic data questionnaire and Physical Activity Questionnaire-Adolescents (PAQ-A). The results of analysis by using the Chi-square test showed a significant relationship between parental education and physical activity among adolescents with the risk of obesity (P = 0.002). Meanwhile, gender (P = 1.000), parental occupation (P = 0.474), and parental income (P = 0.317) showed that there was no significant relationship with physical activity among adolescents with the risk of obesity, respectively. It is suggested that the relevant senior high schools collaborate with public health centers to provide health education for parents of adolescents, especially those with low formal education, about the importance of physical activity for adolescents' health.

Keywords: Adolescents, Physical Activity, Risk of Obesity, Social Determinants

INTRODUCTION

Adolescence is a transition period in which attitudes and behaviors from childhood will be carried over to adulthood, including lifestyle aspects.[1] Nowadays, one health problem in adolescents is overweight or obese.[2] World Health Organization (WHO) (2021) reported that more than 340 million children and adolescents aged 5-19 years have been overweight and obese since 2016.[3] It could happen because more than 80% of the world's youth population has less physical activity. Globally, lack of physical activity is the fourth leading risk factor of death, which is 32.1 million premature deaths at young age per year.[4]

Indonesian Center for Health Data and Information reported that the prevalence of obesity with a Body Mass Index (BMI) of 25-27 and BMI of 27 in the population aged 15 years is 35.4%. This prevalence is higher in females (29.3%) than in males (14.5%).[5]

Corresponding author: Asniar, Ph.D, Assistant Professor Department of Community Health Nursing, Faculty of Nursing, Universitas Syiah Kuala.

Email: asniar@unsyiah.ac.id

One of the leading causes of the high prevalence of obesity in adolescents is lack of physical activity [6]. The recommended physical activity for adolescents is at least 60 minutes per day with moderate to severe intensity [7]. But, millions of adolescents in this modern era are less aware of the importance of physical activity and already have a *sedentary lifestyle*.[8] The highly sedentary lifestyle is worrying because it harms adolescents' health and even continues into adulthood.[2]

Adolescents with physically inactive lifestyles have the potential to experience cardiovascular disease and metabolic syndrome, such as diabetes, at a young age, thereby increasing the morbidity and mortality rates among adolescents. A sedentary lifestyle also causes negative psychological impacts, namely the risk of experiencing mental health disorders such as depression and anxiety.[9] It could occur because adolescents with a chance of obesity often experience social discrimination due to changes in body shape, become victims of bullying, impaired body image, and can experience low self-esteem.[10]

To prevent risk conditions of obesity in adolescents, nurses as health professionals need to be aware of the physical activity habits of adolescents, especially at school. Schools are the main target for increasing the prevention of obesity risk due to lack of physical activity in adolescents.[11,12]

Health Promotion Model developed by Pender in 1996 was applied as a conceptual framework in this study. One of the essential components to determine the behavior of physical activity among adolescents in the Pender Health Promotion Model is a personal factor, such as social factor [13]. The previous study found that the socio-demographics of adolescents, such as gender, parental education, parental occupation, and parental income, are related to the adolescents' physical activity, generally.[14-16]

Based on this description, the researchers want to determine the relationship between social determinants and physical activity among adolescents with the risk of obesity in rural areas of Indonesia.

METHODS

Study Design and Samples

A cross-sectional study was conducted on August 6th-24th, 2022. The nutritional status screening was carried out on July 2022, so we found 138 adolescents at two senior high schools in rural areas of Indonesia confirmed having risks of obesity.

The sample size was determined using Cohen's; then, we used a simple random sampling technique to determine the total number of respondents, so we must get one hundred and thirty-five respondents. Adolescents' risk of obesity with endocrine disease, musculoskeletal disease, neurologist disease, disability, and lack of parental permission were excluded from the study. Based on this criteria, one sample didn't have permission from the parent to participate in this study, so there were 134 adolescents' with the risk of obesity recruited in this study.

Data Collection

Informed consent sheets were distributed to all respondents before the researcher collected the data in the study fields. All respondents with parents' permission to participate in the study would get questionnaire forms.

Questionnaire forms include a socio-demographic questionnaire (respondent code, class, age, gender, and parental data such as parental education level, parental occupation, and parental income per month) and Physical Activity Questionnaire-Adolescents (PAQ-A) to collect the physical activity data of respondents. PAQ-A is a standard questionnaire tested for validity and reliability, with the Cronbach alpha coefficient between 0.79 - 0.89.[17-19]

Statistical Analysis

The data has been collected using univariate and bivariate computerized analysis. Socio-

demographic data and physical activity levels of adolescents with the risks of obesity were descriptively analyzed. The Chi-square test was used to determine the relationship between social determinants (gender, parental education, parental occupation, and parental income) and physical activity among adolescents' risk of obesity in rural areas of Indonesia.

Ethical Clearance

The Ethical Clearance was obtained from the Research Ethics Committee of the Faculty of Nursing, Syiah Kuala University, with research code 112015270622.

RESULT

The results of the data analysis in this study can be seen in the tables 1:

Table 1 shows that most participants were in early adolescence (82.8%) and were female (53.0%). Then, most of their parents have a low education level (91.8%), work as farmers (53.0%), had monthly income less than the public minimum salary (85.8%).

Table 2 shows that most adolescents with risks of obesity have a low physical activity level (94.0%).

Table 1: Demographic Characteristics of Respondents

Characteristics of Respondents	*Frequency (f)*	*Percentage (%)*
Age		
Early adolescence	111	82.8
Late adolescence	23	17.2
Gender		
Female	71	53.0
Male	63	47.0
Parental Education		
Low education level	123	91.8
High education level	11	8.2
Parental Occupation		
Agraris	71	53.0
Non agraris	63	47.0
Parental Income/ Month		
Less than the public minimum salary	115	85.8
More than the public minimum salary	19	14.2

Table 2: Physical Activity Level Among Adolescents with Risks of Obesity

Physical Activity	*f*	*%*
Low	126	94.0
High	8	6.0
Total	134	100

Table 3: Relationship of Social Determinants and Physical Activity Among Adolescents with the Risks of Obesity

Social Determinants	*Physical activity*						*p-value*
	Low		*High*		*Total*		
	f	*%*	*f*	*%*	*f*	*%*	
Gender							
Male	59	93.7	4	6.3	63	100	1.000
Female	67	94.4	4	6.3	71	100	
Parental Education							
Low education level	119	96.7	4	3.3	123	100	0.002
High education level	7	63.6	4	36.4	11	100	
Parental Occupation							
Agraris	68	95.8	3	4.2	71	100	0.474
Non Agraris	58	92.1	5	7.9	63	100	
Parental Income							
Less than the public minimum salary	109	94.8	6	5.2	115	100	0.317
More than the public minimum salary	17	89.5	2	10.5	19	100	

Table 3 shows a significant relationship between parental education and physical activity among adolescents with the risks of obesity (P = 0.002). Meanwhile, no significant associations were found between gender (P = 1.000), parental occupation (P = 0.474), and parental income (P = 0.317) with physical activity among adolescents with the risk of obesity, respectively.

DISCUSSION

This study found a significant relationship between parental education and physical activity among adolescents with the risks of obesity. The educational level of parents can affect the biological activity behavior of adolescents. This is because the education level reflects the parents' knowledge, including the importance of a healthy lifestyle, such as implementing the regular physical activity. Adolescents who have parents with low education levels will have low physical activity levels. Meanwhile, adolescents with parents with high education levels will have a high physical activity level of.[20]

The findings of this study are also supported by a previous study, which also found a significant relationship between parental education level and physical activity among adolescents,[21,22] especially in adolescents with obesity.[23] Falese et al. (2021) explained that high physical activity levels among adolescents who have parents with high education levels because parents with high education are more likely to support youth involvement in physical activity, like choosing schools that can promote physical activity for their adolescents.[21]

Galiano et al. (2020) explained that highly educated parents have better knowledge about the benefits of physical activity for health, so they will spend time doing physical activity with their adolescents. Then, even though highly educated parents provide opportunities for their teenagers to do screen time activities such as watching television and playing with gadgets, they can balance it, so adolescents' free time is also filled with physical activities. However, the balance between these two things is not found in parents with low education, who cannot take control in balancing between adolescents' screen time activity with regular physical activity. Parents with low education levels allow their adolescents to spend more time watching television and playing with gadgets without regular physical activity.[22]

Then, according to Ruedl et al. (2021), 60.4% of obese adolescents were found that they have at least one parent has formal education at the senior high school level or above, while 38.3% of obese adolescents were seen by both parents who have formal education at least at the Junior High School level or lower. They found that even though parents with high education levels have more busy lives, they still provide free time to accompany adolescents to do physical activities together and even teach their adolescents about specific sports. It might occur because they have excellent knowledge about the importance of physical activity in improving the physical fitness of adolescents in a growth transition. This interaction allows parents with higher education to establish regular physical activity habits in adolescents.[23]

Based on this study result, adolescents who have highly educated parents will also have high physical activity. Then, compared to adolescents with parents with low education, they will also have low physical activity. This is because parents with higher education have more excellent knowledge and awareness to control their adolescent's physical activity schedule. In contrast, parents with low education let their adolescents do high screen time activities without balancing physical activity support. This can be seen in the research findings that the researchers obtained that most adolescents with a risk of obesity had a low physical activity category (94.0%). It could happen because most of their parents have low education levels (91.8%). However, parental education is a social determinant that significantly correlates physical activity among adolescents with the risks of obesity.

Meanwhile, other social determinants, including gender, parental occupation, and parental income, showed no significant relationship with physical activity among adolescents with the risk of obesity ($P > 0.05$). The previous study also supports these findings. Mayo et al. (2020) also showed no significant relationship between gender and physical activity among adolescents. It can happen because both boys and girls have the same responsibility based on age; they are both required to spend half their daily time studying at school, doing school homework, and fulfilling other roles that are less active.[24]

The previous study also explained that physical activity behavior among adolescents is not only determined by gender but also by family socio-economic factors, where both genders are equally unable to have facilities for some sports because they come from a family with financial deficiencies. This evidence supports the findings of this study, where there was as many as 85.8% of adolescents with risk of obesity from both genders who participated have a parental monthly income less than the general minimum salary category, which indicates that weak finances have an impact on low physical activity level both boys and or girls, so that gender as biological factors which is not correlated with physical activity behavior.[24]

But, Sanchez et al. (2022) showed a different result from our study. They found a significant relationship between gender and adolescents' physical activity. According to that study, it could occur because all adolescents have prioritized their body image views, where the two sexes have the same perceptions and perspectives about physical activity. When they have a goal to achieve a proportional body, both will be physically active. Conversely, if they don't mind their body image, both will allow less physical activity behavior. So, it could be one of the reasons why gender is related to physical activity among adolescents in this previous study.[25]

Then, Sleskova and Orosova's (2015) study also found a different result, which shows a significant relationship between parental occupation and physical activity in obese adolescents. This is because parents who work non-permanently have moderate or high financial pressure, so adolescents do not have more intensive closeness, support, monitoring, and communication with their parents. At the same time, parents who work regularly have a fixed income to monitor adolescents' lifestyles and support adolescents to improve healthy behavior, including carrying out physical activities together.[26]

According to this study's findings, there was no significant relationship between parents' occupation and physical activity among adolescents' risk of obesity because both adolescents with parents as agrarian and non-agrarian alike did not provide more social support for increased physical activity in adolescents' risk of obesity. Then, most respondents' parents worked as agrarians (53.0%) with incomes almost less than the minimum public salary, so they could not provide personal sporting equipment facilities for their adolescents. But, non-agrarian parents with regular jobs, such as civil servants, also do not seem to provide free time to remind their adolescents of physical activity, provide facilities for adolescents to have high screen time, and allow adolescents to engage in highly sedentary behavior while at home.

The previous study by Heradstveit et al. (2020) found results that were inverse to this study's findings that there was a significant relationship between parental income and adolescent physical activity. This previous study showed that teenage boys from low-income families tend to be more physically inactive than boys from high-income families.[27]

The other study also explained that the physical activity of adolescents who have parents with income in the high category (>20 euros/week) (67.3%) is better than adolescents who have parents with incomes in the moderate category (6-20 euros/ week) (59.9%) and low category (0-5 euros/week) (53.6%). This could be because families

with insufficient financial resources find it challenging to access sports infrastructure, pay for sports membership fees, or need help to afford sports equipment which costs a lot of money. In addition, parents with low incomes tend to experience more significant stress and anxiety related to life necessities, which in turn neglects financial support to involve adolescents in various physical activities outside the home or in the school environment.[21]

According to this study, the researcher assumed that adolescents with a lower socioeconomic status than their parents would feel marginalized because their parents cannot provide private sports facilities, and their self-esteem decreases. So, they are reluctant to do physical activity or join and invite friends to do it together. Consequently, this leads to a sedentary lifestyle.

CONCLUSION

The study findings showed that parental education is a social determinant that has a significant relationship with physical activity among adolescents with the risks of obesity. However, other social determinants, such as gender, parental occupation, and parental income, were not significantly related to physical activity.

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Limitations: This study used subjective tools to measure physical activity level, a self-report questionnaire. So, it is suggested for further research to use objective tools like an accelerometer so that the results will be more accurate.

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The Related Factors to Nursing Documentation at General Hospital Dr. Zainoel Abidin Banda Aceh

Saumalina[1], Marlina[2], Said Usman[3]

[1]Master of Nursing Student, Universitas Syiah Kuala Banda Aceh-Indonesia, [2,3]Faculty of Nursing, Universitas Syiah Kuala Banda Aceh-Indonesia

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ABSTRACT

Nursing documentation is written information resulting from the nursing process to patients. Good documentation reflects accuracy in providing services. Inadequate supervision and motivation are some problems that affected to the nursing documentation. This study aimed to determine the factors related to nursing documentation at the General Hospital dr. Zainoel Abidin Banda Aceh. This study used a quantitative study; analytic survey with a cross-sectional approach. The sample sizes are 185 respondents on nurses and 185 medical records. Data collection tools are in the form of questionnaires to the nurses and observation sheets to the medical records. Data analysis was performed with chi-square and logistic regression tests. The results showed that the variables related to nursing documentation were supervision (p-value=0.00 0) and motivation (p-value=0.008). The factor most related to nursing documentation is supervision with an OR value of 6.0 52. Supervision has the most to do with nursing documentation. Periodic supervision and the presence of new technology in terms of documentation can improve the quality of nursing documentation.

Keywords: Documentation, Nursing, Motivation, Supervision

INTRODUCTION

Nurses are among the largest service providers in the health care system. Nurses play an important role in improving the quality of hospital services, especially in nursing documentation to make patient information clearly recorded and accountable as per established standards.[1,2] The Patient Care Standards outlined in the 1st edition of the National Standards for Hospital Accreditation outline that hospitals are required to provide care plans that are created and documented in medical records. This standard emphasizes the existence of good and accurate documentation of patient care and according to standards, especially in nursing documentation.[3]

Nursing documentation is in the form of written information from the nursing care process provided to patients. Some of the reasons nurses do documentation include as a form of communication between the nursing team and other caregiving professionals, especially individuals and groups involved in accreditation, credentials, laws, regulations, government interests, writing, and activities related to assessing the quality of nursing services. Good and appropriate documentation capable of providing an accurate reflection of nursing4 assessments, clinical changes and circumstances, treatments provided as well as related patient information to support a multidisciplinary team in providing good care.[2]

Corresponding author: Marlina, Faculty of Nursing, Universitas Syiah Kuala Banda Aceh-Indonesia

Email: nersmarlina@unsyiah.ac.id

Nursing Documentation in several hospitals abroad, including in one of Iran's emergency departments, the quality of good documentation is 42.2%. In the 5Intensive Cardiology Care Unit, when viewed from the aspect of structure, 98% of the documentation is declared complete in its filling but when viewed from the content aspect, only 49% is categorized as good. While in one of the elderly health care units in the Netherlands of the 197 medical records assessed, 52.8% were categorized as complete in terms of the structure of nursing planning, the quality of documentation in the initial assessment of nursing 61.4% was in a complete category and the quality of diagnosis documentation of 41.8% was in a complete category.[6,7]

The results of another study related to nursing documentation in three hospitals in Jamaica with 119 medical record samples assessed where 90% documented the physical assessment of patients 1x24 hours (focused 36.8%, systematic 23.2%), less than 5% filled in patient education, and 13.5% had documented complete discharge planning within 72 hours of admission [8]

The results of research related to documentation in Indonesia include the influence of behavior on the completeness of documentation in the inpatient room of one of the hospitals in Indonesia from 89 medical records that are considered to be obtained only 77.5% are categorized as complete.[9] Nursing documentation is stated to be complete but nurse knowledge is in the category of lacking. Meanwhile, in the hospital inpatient room in Mataram,[10] 71.6% were declared incomplete.[11]

Research related to nursing documentation found that the consistency between the activities carried out and the documentation was only 40%, especially in planning that was not based on a nursing diagnosis. In addition, there are findings that writing measuring results without writing the measuring instruments used, rarely fills in the assessment of decubitus risk, filling in wound characteristics, assessing mental abilities and, not specifically documentation and supporting reading results. But another thing that is most often encountered is subjectivity and poor quality characterized by documentation tools and the level of commitment of the nurse, thus the importance of the role of the leader in evaluating nursing documentation.[13]

One qualitative study of nursing documentation showed that there are several problems related to the documentation of process from the perspective of the head of the room and the implementing nurse. The problem is the lack of supervision of nurses related to documentation, competence, lack of confidence, and motivation of nurses in documentation. This research confirms that documentation is an important element of building a positive relationship between nurses and patients to create quality services and the need for support from management to follow up on problems obtained, especially related to supervision, competence, confidence, and motivation of nurses so that the quality of nursing documentation will be better in the future.[15]

Based on the results of interviews with three room heads in February 2022, it was found that overall the documentation techniques were good but must be improved again. It is still found that nursing documentation is incomplete, there is duplication of filling from previous shifts, loss of nursing diagnoses without information is resolved or has not been resolved, the emergence of diagnoses that are not accordance with the patient care plan, there are subjective and objective data that are still not in accordance with the patient's clinical condition.

In addition, other obstacles in documentation such as limited time, high service mobility, the existence of non-nursing duties during service, and limited discussions related to nursing documentation. Currently, there is a significant increase during the accreditation where documentation is more focused on the existence of Nursing Care Standards that have been set in all divisions including about care standards to Covid-19. In addition, there is verification before the medical record is submitted to the medical record installation.

Based on interviews with five implementing nurses in February 2022, nurses argued that the documentation was complete but not optimal. The obstacle is insufficient time for the mobilization of non-nursing services. In addition, often at the end of the shift bumps with patient problems like the patient's serious condition.

Based on the observation results on the integrated patient development record sheet documentation has been filled with a Subjective, Objective, Assessment and Planning (SOAP) format with clear writing of time and person in charge of the nurse, but some are found to be duplication between shifts, supporting objective data are not in sync, do not show measurement results that are in accordance with the 'patient care plan'. Surveys or audits of 5 medical records every month are still continuing to see the completeness in filling out the form. Another thing that has been done is the presentation of cases in each room 2 times a year and journal studies once a year for each room. This has stalled during the covid-19 pandemic but has restarted at the end of 2021. Some things that have not been completed include the percentage of room cases that are still limited. So it needs to be evaluated gradually, the availability of a system that facilitates filling, increasing the number of medical records that are audited every month, looking for obstacles in filling, periodic supervision, training, and re-socialization according to standard operating procedures.

Based on the background above, the researcher examined how the factors related to nursing documentation at General Hospital dr. Zainoel Abidin Banda Aceh so that the formation of quality care and ensuring patient safety.

METHODS

This study used a quantitative study; analytic survey with cross-sectional approach, sample determination by purposive sampling. The inclusions criteria consist of nurse who is willing to be a respondent, work period ≥ 1 year, not on duty/sick/study assignment) and medical records with treatment ≥ 3x24 hours. Data collection used questionnaires which consists of demographic data, factors related to documentation and observation sheets in the form of nursing process evaluation instruments and integrated patient development records and documentation form developed by the Hospital in the research area of nursing field that collaborated with the Nursing Faculty in Universitas Syiah Kuala.

Questionnaires are distributed and answered directly by respondents when the respondents are on duty. Meanwhile, observations are carried out by researcher on the medical records of the treated patients. When the data has been collected, then researcher checked for completeness, processed, and analyzed. Univariate analysis for each variable is categorized as good/high if x>75 % or less/low if x≤75% to the maximum value of the questionnaire and then calculated it in percentage form. Bivariate analysis used chi-square test and multivariate analysis used the logistic regression test.

RESULT

The results of the data analysis in this study can be determined in the tables below:

Univariate Analysis

Table 1 shows that most of the respondents were women (84.9%), the age of the most respondents were young adult (67%). Most of their education level were diploma III nurse (47%), with the most years of work of more than 5 years (56.2%) and status non-government employees (68.1%). When viewed from the level of clinical nurses, (45.9%) are at the level II.

Based on table 2, it can be concluded that nurse supervision related to nursing documentation is in the good category (84,3%).

Based on table 3 above, it can be concluded that the motivation of nurses in nursing documentation is in the high category (88,6%)

Based on table 4 above, it can be concluded that the nursing documentation is in the good category (90,3%)

Bivariate Analysis

Based on table 5, it was found that nurses received good supervision and documented nursing well, namely 147 respondents. Through statistical tests, p-value = 0.000 is obtained. Thus, the p-value <0.05 so the null hypothesis is rejected. This shows that there is a relationship between supervision and nursing documentation at General Hospital dr. Zainoel Abidin Banda Aceh.

Based on table 6, it was found that nurses were highly motivated and documented nursing well, namely 152 respondents. Through statistical tests, p-value = 0.008 is obtained. Thus, the p-value <0.05 so the null hypothesis is rejected. This shows that there is a relationship between nurse motivation and nursing documentation at General Hospital dr. Zainoel Abidin Banda Aceh.

Table 1: Demographic Characteristics of Respondents

Characteristics of Respondents	*Frequency (f)*	*Percentage (%)*
Gender		
Female	28	15,1
Male	157	84,9
Age		
Young Adult Older	124	67,0
Adult	61	33,0
Education		
Diploma III	87	47,0
Nursing Academic	3	1,6
Diploma IV	29	15,7
Nursing Academic	66	35,7
Bachelor of Nursing		
Ners (Nursing Profession)		
Work experience		
1-5 years	81	43,8
> 5 years	104	56,2
Employment status		
Goverment employees	59	31,9
Non goverment employees	126	68,1
Clinical Nurse Level		
Level I	60	32,4
Level II	85	45,9
Level III	40	21,6

Table 2: Supervision of Nurse in Nursing Documentation (n=185)

Supervision	*Frequency*	*Percentage (%)*
Good	156	84,3
Less	29	15,7
Total	185	100

Table 3: Distribution of Motivation in Nursing Documentation (n=185)

Motivation	*Frequency*	*Percentage (%)*
High	164	88.6
Low	21	11.4
Total	185	100

Table 4: Nursing Documentation (n=185)

Nursing documentation	*Frequency*	*Percentage (%)*
Good	167	90.3
Less	18	9.7
Total	185	100

Table 5. The Relationship between Supervision and Nursing Documentation at General Hospital dr. Zainoel Abidin Banda Aceh in 2022 (n=185)

Supervision	*Nursing documentation*				*Total*		*a*	*p- value*
	Good		*Less*					
	f	%	f	%	f	%	0,05	0,000
Good	147	94,2	9	5,8	156	100		
Less	20	68,9	9	31,1	29	100		
Total	167	90,3	18	9,7	185	100		

Table 6: The Relationship between Motivation and Nursing Documentation at General Hospital dr. Zainoel Abidin Banda Aceh in 2022 (n=185)

Motivation	*Nursing documentation*				*Total*		*a*	*p- value*
	Good		*Less*					
	f	%	f	%	f	%	0,05	0,008
Good	152	92,7	12	7,3	164	100		
Less	15	71,4	6	28,6	21	100		
Total	167	90,3	18	9,7	185	100		

Multivariate Analysis

Based on a multivariate analysis with logistic regression tests, the most factor related to nursing documentation is supervision (OR:6.052).

DISCUSSION

The relationship of supervision to nursing documentation

Based on table 2, it was found that nurse supervision related to nursing documentation was in the good category of 156 respondents. Based on table 5, it was found that nurses who received good supervision also documented nursing well, namely 147 respondents. Through statistical tests, p-value = 0.000 is obtained. Thus, the p-value <0.05 so the null hypothesis is rejected. This shows that there is a relationship between nurse supervision and nursing documentation at the General Hospital dr. Zainoel Abidin Banda Aceh.

The results of this study are supported by studies conducted by Tajabadi (2019) that good supervision has a significant relationship with nursing documentation in hospitals.[14] A good vision will provide good nursing documentation results as well.9 A qualitative study about nursing documentation also explained that through good supervision it will have a good impact on nurses in nursing documentation and will be illustrated by the quality of care services provided.[15]

Nursing supervision is the factor most related to the nursing documentation with an Odd Ratio value of 6,052. For this reason, the importance of the role of leaders in the room such as the head of the room / team leader in supervising nurses, especially related to nursing documentation. Good leadership will have a positive impact in nursing documentation. Good communication between nurses and leaders, especially the head of the room in providing assistance and monitoring in nursing documentation, also has a positive relationship with the quality of service.

The relationship of motivation to nursing documentation

Based on the univariate data in table 3, it was found that the motivation of nurses in nursing documentation was in the high category of 164 respondents. Based on the table 6, there were nurses who were highly motivated and documented nursing well, namely 152 respondents. Through statistical tests, the p-value = 0.008 was obtained. Thus, the p-value <0.05 so the null hypothesis is rejected. This shows that there is a relationship between nurse motivation and nursing documentation at General Hospital dr.Zainoel Abidin Banda Aceh.

Study showed that nurse motivation has a significant relationship with nurses' compliance in complementing the nursing documentation9. Motivation is an important factor in nursing documentation. The qualitative study explained that the motivation of the nurse may decrease due to the workload and other responsibilities that the nurse must perform during the duty shift.15

The authors assumed that nurses' motivation, which is already high in hospitals today, is a challenge for hospitals to be able to continue to maintain them. Motivation will generally be in line with the provision of appropriate rewards (material and non-material) to nurses so that the satisfaction

of staff will increase and the services to the patient become more quality.

CONCLUSION

Based on the results of this study, showed that the factors related to nursing documentation are supervision and motivation. Then the results of the regression test showed that the most related variable in nursing documentation was supervision (OR: 6,052).

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Limitations: The results of the documentation audit are basically in the form of percentages, but the authors categorize them in the form of ordinal measuring scales with percentages of both > 75% and less ≤ 75%, preferably the measuring scale used is the ratio or following the health regulation related to medical records that must be filled 100% for more accurate to the results in this study.

Ethical Clearance: Research ethics permit obtained from the Ethics Committee for health research of general hospital dr. Zainoel Abidin, Banda Aceh with the Registration Number: 056/ETIK-RSUDZA/2022.

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A Study to Assess the Effectiveness Of Structured Teaching Programme on Knowledge Regarding Hand Exercise in Prevention of AV Fistula Dysfunction among Hemodialysis Patient In Selected Hospital, Tumkur

Shilpa Rani R[1*], Eswarappa S[2], Dayanand C[3], Balaji M. S.[4], Geethanjali S[5]

[1]Asst professor and HOD of Psychiatric Nursing, Sri Ramanamaharshi college of Nursing, Tumkur, Karnataka, India., [2]Prof. & HOD, Medical surgical nursing, Shridevi College of Nursing, Tumkur, Karnataka, India, [3]Principal and HOD, Community Health Nursing, Sri Ramanamaharshi College of Nursing, Tumkur. Karnataka, India, [4]Assistant Professor, Department of Medical Surgical Nursing, Adichunchanagiri College of Nursing, Adichunchanagiri University, Karnataka, India, [5]Assistant Professor & HOD Department of Obstetrics & Gynecology, Sri Ramanamaharshi College of Nursing, , Tumkur. Karnataka, India.

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ABSTRACT

Health is wealth; this phrase is very popular because happiness lies in the health of man. Good health helps to develop charm, grace, and happy mind. Kidneys are a pair of bean shaped organs located either side of the lower back just below the rib cage. Renal failure is the severe impairment or total lack of kidney function. Chronic Renal Failure (CRF) develops insidiously overtime and necessitates the initiation for long term survival.1 Dialysis is used to remove fluid and uremic waste products from the body when the kidneys are not able to do so. It is the best method to use arteriovenous fistula (AVF) as a vascular access. Compared to other vascular access such as venous catheter and a synthetic graft, arteriovenous fistula is most used method as it has fewer complications. Complications can occur even if we are careful, but are much less common if you take a few precautions. Hand exercise is essential to perform in prevention of AV fistula dysfunction. The aim of the study was to assess the effectiveness of Structured Teaching Programme on knowledge regarding Hand exercise among Hemodialysis patients in selected hospital, Tumkur.

Methods: n evaluative approach with pre-experimental one group pre-test post-test design was used with purposive sampling technique to select the sample (N=50). A structured knowledge questionnaire was used to assess the Knowledge and STP was administered to find its effectiveness. The collected data was analyzed by using Descriptive statistics like mean, median and standard deviation, and inferential statistics like paired and independent't' test was included to test the hypothesis and Chi-square test was included to test the association of knowledge scores with demographic variables.

Results: The mean percentage of post-test knowledge score (79.09 %) was higher than the mean percentage of pre-test knowledge score (36.54%). The calculated' value [t (49) = 21.01] is greater than the table value (0.05, 49df) = 1.96. It showed a significant difference between mean pre- and post- test knowledge scores. Calculated x2 values are showed no significant association between any of the variables with their post-test knowledge scores. Therefore, no significant association was found between these other variables and post-test knowledge level of Hemodialysis patients.

Corresponding author: Shilpa Rani R, Assistant professor and HOD of Psychiatric Nursing, Sri Ramanamaharshi college of Nursing, Tumkur, Karnataka, India

Email: ranishilpa33@gmail.com

Interpretation & Conclusion: The findings of the study showed that there was a deficit in knowledge of Hemodialysis patients before administration of STP. The results indicated that the STP is effective in increasing the knowledge of Hemodialysis patients on Hand exercise.

Keywords: Effectiveness, STP, Knowledge, Hand exercise, Hemodialysis patients.

INTRODUCTION

Health is wealth; this phrase is very popular because happiness lies in the health of man. Good health helps to develop charm, grace and happy mind.

There is a pair of organs, which are always compared with "the mother of a family". They show the significance of sacrifice. Very precious, valued during and after life; not considered when intact but receives more concern when dysfunctional. So care when it is intact. They are nothing but the retroperitoneal "kidneys".

Kidneys are a pair of bean shaped organs located either side of the lower back just below the rib cage. Their job is to filter and remove organic wastes from the blood. Then they get rid of this waste along with excess salt and water through urine. The products they filter include toxic byproducts of cellular activity (free radicals), alcohol, drugs, excess proteins, minerals. Some of these are quite toxic and do damage. Just imagine if the toxins and waste products are not getting flushed out of our body, where do they go? They can stay there and can cause a kidney infection or kidney problems.[1] Proper functioning of urinary function is essential to life. Dysfunction of the kidney may occur at any age and with varying levels of severity. Renal failure is the severe impairment or total lack of kidney function. In renal failure there is an inability to excrete metabolic waste products and water as well as functional disturbances of all body systems.[2]

The global scenario of End Stage Renal Disease (ESRD) patients shows that the incidence is increasing by an average of 7.8% per year.[2]

Hemodialysis is the method for removing waste products from the blood when the kidneys are in failure. Hemodialysis is one of the three renal replacement therapies, the other two being renal transplant and peritoneal dialysis. Hemodialysis can be an outpaient or inpatient therapy. Routine hemodialysis is conducted in a dialysis outpatient facility.[3]

As for CRF patients, hemodialysis should be repeated three times a week for at least three to four hours per dialysis; it is the best method to use arteriovenous fistula (AVF) as a vascular access. Compared to other vascular access such as venous catheter and a synthetic graft, arteriovenous fistula is most used method as it has fewer complications.[4]

An AVF is the optimal vascular access for chronic hemodialysis. Fistulas have the best overall patency rates with the least number of complications such as thrombosis and infections. Successful AVF maturation involves arterial and venous dilation. As many studies have proven that the use of AVF is increasing day by day, the importance of care for it also has become unavoidable. Patients with AV fistula should do Hand-Arm exercises to strengthen and mature the fistula. It is important to take care of the vascular access to prevent complications.[5]

OBJECTIVES OF THE STUDY

1. To assess existing knowledge regarding hand exercise in prevention of AV fistula dysfunction among hemodialysis patients in selected hospital at Tumkur.
2. To evaluate the effectiveness of structured teaching programme on knowledge regarding hand exercise in prevention of AV fistula dysfunction among hemodialysis patient in selected hospital, Tumkur".
3. To find an association between the post-test knowledge scores regarding hand exercise in prevention of AV fistula

dysfunction among hemodialysis patient in selected hospital Tumkur.

HYPOTHESES

The following hypotheses were formulated for the study:

- **H1**: There will be significant difference between mean pre-test and post-test knowledge score among hemodialysis patients.
- **H2**: There will be significant association between post-test knowledge score of hemodialysis patient and their selected demographic variables.

RESULTS

Table 1 and Figure 1 depicts the pretest and posttest and enhanced mean percentage of Knowledge scores of respondents regarding Hand exercise . In pre-test, overall mean percentage of knowledge score was 36.54% and that of the post-test was 79.09% with the enhancement of 42.66%. The statistical paired 't' value 21.01 is greater than the table value 1.96 which implies that the difference between the pre-test and post-test knowledge scores found to be statistically significant at 5% level. Hence stated null hypothesis $\mathbf{H}_{01}$ is rejected in relation to all aspects of knowledge and research hypothesis $\mathbf{H}_{1}$ is accepted.

Table 1: Comparison Between Pre-Test and Post-Test Knowledge

Section I :	Comparison Between Pre-Test and Post-Test Knowledge Score of Respondents and Effectiveness of Stp
H1	There will be significant difference between mean pre-test and post-test knowledge score among hemodialysis patients

* Significant at 5% level,
t (0.05, 49df) = 2.02

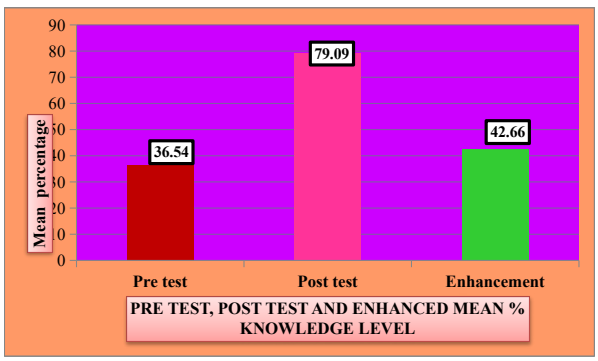

Fig. 1: Mean percentage of pretest and posttest and enhanced Knowledge scores of respondents regarding Hand exercise.

Table 2: Association Between Selected Demographic Variables and Post-Test Knowledge Scores

Section IiI :	Association Between Selected Demographic Variables and Post-Test Knowledge Scores.
H2 :	There will be significant association between post-test knowledge score of hemodialysis patient and their selected demographic variables.

IMPLICATIONS

The results obtained from the study helped the researcher to derive certain implication. The implications of this study are important in the areas of nursing education, nursing practice, nursing administration and nursing research.

Nursing Education

Nursing education in the public health care is more concerned about the prevention rather than the cure. Therefore, the content and practice elements of Renal failure, Dialysis and care of AV fistula and Exercise to prevent AV fistula dysfunction should be incorporated into the curricula of Diploma, Baccalaureate and Master's programs in Nursing.

Nursing Practice

The obligation of the nursing profession is the provision of care and service to the human beings. Most of Hemodialysis patients are not aware about hand exercise in prevention of AV fistula dysfunction, because of ignorance,

lack of knowledge and not utilization. Use of adaptive measures is very important in-home practice as they are very helpful for the prevention of AV fistula dysfunction and maintain the good health. They should regularly assess and nurse them in both physical and mental angles. Nurses should conduct training programs for Renal patients and Care givers.

Nursing Administration

Nurse Administrators should plan and organize continuing nursing education programs regarding Renal failure, Dialysis and care of AV fistula and Exercise to prevent AV fistula dysfunction for staff and students in educational institutions with the help of Medical surgical nursing departments.

Nursing Research

Nursing practice need to be based on scientific knowledge. Research should be focused on health promotion programs using various methods and techniques in evaluating their effectiveness.

Ethical clearance: This article is a purely a narrative review article hence it is not required an ethical clearance.

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Relationship of Characteristics and Motivation of Nurses with Caring Behavior in Regional Public Hospital Aceh

Sri Amalia[1], Marlina[2*], Fithria [3]

[1]Master Student Program of Nursing, Faculty of Nursing, Universitas Syiah Kuala, [2]Assistant Professor Department of Medical Surgical Nursing, Faculty of Nursing, Universitas Syiah Kuala. [3]Assistant Professor Department of Family Health Nursing, Faculty of Nursing, Universitas Syiah Kuala

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ABSTRACT

In general, caring is an ability to be dedicated to others, vigilant supervision, feelings of empathy for others and feelings of love or affection for others. Caring is central of nursing practice, because caring is a dynamic approach which are nurses can work to further enhance their care for clients or patients. This study aimed to identify the relationship between the characteristics and motivation of nurses with caring behavior in Regional Public Hospital Aceh. A cross-sectional study was conducted on 154 nurses in one of Regional Public Hospital Aceh that were selected by using purposive sampling technique. Data were collected by using a questionnaire. The results of this study by using Chi-square test showed that the nurses's age (P = 0.001), years of work (P = 0.009) and nurses's motivation (P = 0.001) had a significant relationship with caring behavior. Meanwhile, gender (P = 0.950) and nurses's education (P = 0.123) showed no significant relationship with caring behavior. Then, the result by using multiple logistic regression test showed the most variable that related to the caring behavior was nurses's age (P = 0,001; OR 6.834). It suggested for nurses to improve their caring behavior to the patient, because it could increase the comfort feels of the patients and psychological needs will be fulfilled by caring.

Keywords: Caring Behavior, Characteristics of Nurses, Motivation of Nurses

INTRODUCTION

Nurse's caring behavior is an attitude of caring, appreciating and respecting the patient's feelings by devoting more and more attention to patients while providing care in the hospital. Caring is an important component and the core of nursing practice, because it contains humanistic values, respects human freedom, increasing ability of emphasizes and independence, knowledge and respects each patient as an individual. So that nurses are required to have values and a caring soul.[1,2]

As one of the health workers who provide health services, nurses are a profession that is most often or always in contact with patients. The recovery rate and patient satisfaction are directly related to the services provided by nurses. In providing services, the nursing profession is different from the services provided by other health professions, because the philosophy of nursing is humanism, holistic and caring.[3]

As a nurse who is required to behave in a caring manner, besides that there are several

Corresponding author: NS. Marlina, Assistant Professor Department of Medical Surgical Nursing, Faculty of Nursing, Universitas Syiah Kuala

Email: nersmarlina@unsyiah.ac.id

factors that influence the caring behavior of nurse, one of which is the motivation on working. There are two dimensions of work motivation, namely internal and external motivation. Motivation can be interpreted as a psychological sequence in each individual to achieve certain goals. There are several things that affect motivation in a person, including the desire to be fulfilled, behavior, individual goals and expectations. As a nurse, work's motivation is needed, because high morale among nurses will affect by the quality of patient care.[4]

The previous study by Patiraki et al. (2014) explained that caring behavior also can be influenced by the motivation and personal characteristics of nurses, feelings, beliefs, philosophy, commitment, sense of responsibility and a sense of prioritizing the interests of others. All of these things contribute to the nurse's caring behavior that is perceived by the patient.[5]

The existence of the Regional Public Hospital under the management of the government is absolutely very useful in helping people who need to get health treatment quickly and accurately. In essence, organizing a hospital system will not be separated from human resources, including nurses. Quality of human resources can be seen from their work. The good performance of nurses will be seen from how a nurse is able to show the results of her work in providing health services that lead to achieving the goals of the hospital, one of that is to develop health services based on caring behavior.

Based on this description, the researchers want to determine the relationship between characteristics and motivation of nurses in Regional Public Hospital Aceh.

METHODS

A cross-sectional study was conducted in 2022 on 154 nurses from 13 inpatient ward at one of Regional Public Hospital of Aceh that selected by using purposive sampling technique. The dependent variable in this study was caring behavior, whereas the independent variables were nurses's age, gender, education, years of work and motivation of nurses. Nurses who were willing to sign an informed consent from researcher were recruited in this study. Data were collected by using questionnaire and analyzed by using chi-square test and multiple logistic regression test to determine the factors that most related to the nurses's caring behavior.

RESULT

The results of the data analysis in this study can be seen in the tables below:

Table 1 shows that most participants were in young adult (72.1%) and were female

Table 1: Demographic Characteristics of Respondents

Characteristics of Respondents	*Frequency (f)*	*Percentage (%)*
Age		
Young Adult	111	72.1
Older Adult	43	27.9
Gender		
Female	120	77.9
Male	34	22.1
Education		
Diploma-III Nurse	94	61.0
Bachelor Nurse	60	39.0
Years of Work		
1-5 years	108	70.1
≥ 6 years	46	29.9

Table 2: Motivation of Nurses in Regional Public Hospital Aceh

Motivation of Nurses	*f*	*%*
Low	79	51.3
High	75	48.7
Total	154	100

Table 3: Caring Behavior of Nurses in Regional Public Hospital Aceh

Caring Behavior	*f*	*%*
Caring	80	51.9
Not Caring	74	48.1
Total	154	100

(77.9%). Then, most of their education level were Diploma-III nurse (61.0%) with the most years of work were 1-5 years (70.1%).

Table 2 shows that most nurses in one of Regional Public Hospital Aceh have a low motivation (51.3%).

Table 3 shows that most nurses in one of Regional Public Hospital Aceh have practiced the caring behavior (51.9%).

Table 4 shows there are significant relationship between nurses's age (P = 0.001), years of work (P = 0.009) and motivation of nurses (P = 0.001) with caring behavior. Meanwhile, there are not significant relationship between gender (P = 0.950) and education of nurses (P = 0.123) with caring behavior.

Table 5 shows that based on multivariate analysis by using multiple logistic regression test, it was found that age was the most dominant variables that related to the nurses's caring behavior (P-0,001) with Odds Ratio (OR: 6,834).

DISCUSSION

The results of this study showed that nurses in the young adult category have higher caring behavior than older adult. The results of the hypothesis test obtained P = 0.001 which means there is a significant relationship between age and caring behavior in nurses.

Table 4: Relationship of Characteristics and Motivation of Nurses with Caring Behavior

Characteristics and Motivation of Nurses	*Caring behavior*						*p-value*
	Caring		*Not Caring*		*Total*		
	f	%	*f*	%	*f*	%	
Age							
Young adult	70	63.1	41	36.9	111	100	0.001
Older adult	10	23.3	33	76.7	43	100	
Gender							
Female	63	52.5	57	47.5	120	100	0.950
Male	17	50.0	17	50.0	34	100	
Education							
Diploma-III Nurse	54	57.4	40	42.6	94	100	0.123
Bachelor Nurse	26	43.3	34	56.7	60	100	
Years of Work							
1-5 years	64	59.3	44	40.7	108	100	0.009
≥ 6 years	16	34.8	30	65.2	46	100	
Motivation of Nurses							
High	75	100	0	0.0	75	100	0.001
Low	5	6.3	74	93.7	79	100	

Table 5: Multivariate Analysis of The Dominant Factors Related to Nurse's Caring Behavior

			95% CI	
Prediktor	*OR*	*p-value*	*Lower*	*Upper*
Pendidikan	1,581	0,201	,784	3,188
Masa Kerja	,721	0,561	,239	2,172
Usia	6,834	0,001	2,169	21,528
Constant	,066	0,001		

Age is closely related to the caring behavior in nurses. According to a study by Abdullah et al. (2013), the older adult is a person who more mature, as well as psychologically, they will show mental maturity. So that nurses who are more mature have a relationship with caring behavior.[6] Furthermore, the results of research conducted by Widarini (2014) show that nurses who are more mature have higher caring behavior in patients and families because they have a higher sense of responsibility. [7]

According to the researchers, in young adult, it was found that many of them were not married, so they would devote more of their whole body and soul to work, they were not yet in their working period so that many nurses cared more about their work than those who were in older adult age. Where nurses in older adult age are sometimes tired of the workload at home and have not been able to show themselves wholeheartedly in caring behavior for patients, as a result of their attention has been devoted to their families, children and husbands. However, not all adult nurses are like that.

The researchers can conclude that the older nurse is more affect with nurse's caring behavior, but age cannot guarantee that the nurse's caring will be high or low, because it depends on each individual. But basically, both young adult and older adult as a whole want to do good caring behavior towards patients, because an advanced age they have made them great sense of responsibility at work and a lot of experience gained at that age.

According to the study of Darmini et al. (2017) showed there were three factors that affect nurses's caring behavior, such as individual characteristics like age, gender, education, job, emotional maturity and spiritual and psychological factors, such as motivation and social personality. Then, organizational factors such as leadership models, human resources, work environment, rewards and clear work structures also contribute.[8] One of the goals of Watson's (2012) is to develop healthy individuals, mentally and psychologically, and increase knowledge in self-care.[9]

The results of this study showed that caring behavior is more dominated by female nurses than male. It can occur because for female, the behavior of providing services has become instinctive to them, because of the nature of women who are more painstaking in service than men. The results of the hypothesis test obtained P = 0.950 which means there is no significant relationship between gender and caring behavior in nurses.

This study is supported by Anggoro et al. (2018) which showed that good caring behavior was demonstrated by female nurses (P=0.002). This condition could happen because women use more psychological aspects, namely feelings in providing services to patients than men.[10]

The results of this study indicate that there is a significant relationship between years of service and caring behavior in nurses (P = 0.009). Where nurses with a working period of less than 6 years have higher caring behavior than nurses with a working period of more than 6 years.

The results of this study is supported by the study of Anggoro et al. (2018) that showed there was a relationship between years of work and caring behavior of nurses (P = 0.001). However, this study explains that the longer the nurse's work, the nurse's caring behavior will be better compared to the nurse whose working period is still new. This is different from the findings of this study that a nurses's who have short years of working is actually better than a nurses's who have longer in working.[10]

The other previous study also explained that the longer a nurse works, the skills and experience also increase. Experience is one reflection of the knowledge experienced by someone in an unspecified period of time. Psychologically, the experience by a person will shape and influence the appreciation of social stimulus. The response will be one of the bases for forming attitudes, so that more

experience will increase the nurses's caring behavior.[11]

The results of this study showed that there is no significant relationship between education and caring behavior in nurses (P = 0.123). Which caring behavior is more owned by nurses with Diploma-3 nurse degree education rather than bachelor nurse,

It is in contrast to the explanation showed by Siagian (2010), that the person knowledge gains in education is an experience that functions to develop the abilities and qualities of personality. The higher a person's education, the greater the desire to utilize knowledge and skills. Education affects the mindset that will affect a person's behavior [12].

According to the researchers' assumptions, the results of this study showed that nurses with Diploma-3 nurse degree education are better in terms of caring behavior, because they still view ethical behavior towards patients, even though they are still low-educated, nursing ethics is still closely adhered to them as a guideline in work. On the other hand, it can be seen that nurses with bachelor nurse education still show low caring behavior.

The results showed that there was a significant relationship between motivation and caring behavior in nurses (P = 0.000). Where the majority of nurses have shown high motivation at work. Most of nurses have been able to perform caring behavior.

Motivation can be interpreted as a psychological sequence in each individual to achieve certain goals. There are several things that will affect a person's motivation, namely the desires to be fulfilled, behavior, individual goals and expectations. As a nurse, caring behavior is one of the important points in nursing services. There are several factors that influence a nurse's caring behavior. One of them is nurses's motivation in working. There are two dimensions in a person's work motivation, namely external and internal motivation.[4]

The results of this study is supported by study of Puspita and Hidayah (2019) that showed there was a significant relationship based on the sperman rank test with P = 0.000 < 0.05, which means there was a significant relationship between nurses' work motivation and nurse caring behavior. This condition is due to the support from the hospital management which is very supportive to maintain good nurse motivation as extrinsic motivation. This cannot be separated from improving the quality of hospital services.[13]

The previous study also explained that there are several efforts can be made to increase the motivation of nurses to remain high and have an impact on high caring behavior as well, namely according to Maslow that basic human needs are physiological, this is closely related to the reward or salary received by nurses.[10]

Caring is a phenomenon that occurs universally that can affect a person in thinking and feeling a relationship with fellow human beings. In the theory of humanism, it is explained that within the nurse, there is caring which aims to provide psychological pleasure to the patient and provide patient rights which will have an impact on the patient's recovery.[9]

Based on this study results, there was only one predictor which was found to have the most dominant relationship with nurse caring behavior. It was found that age was the most dominant predictor related to the caring behavior in nurses with a value (OR: 6.834). It means that nurses aged 24-30 years have a chance of 6,834 or 7 times to be able to behave caringly in working. This is in accordance with the theory, that more mature a person's age, the better emotional intelligence associated with caring behavior. Even though the nurses are young, their age maturity is much better, so that many young nurses already have caring behavior.

CONCLUSION

The study findings showed that the nurses's age, years of work, and nurses's motivation had a significant relationship with caring behavior. Meanwhile, gender and nurses's

education showed no significant relationship with caring behavior. Then, the result by using multiple logistic regression test showed the most variable that related to the caring behavior was nurses's age (*P* 0,001; OR 6.834).

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Limitations: The researchers could not get a complete respondents according to total of nurses who were existing in inpatient ward. It could occur because there were sick or absence to work, attend a training, etc. However, representativeness of the respondents rate has been obtained in this study.

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Conflict of interest: The authors declare no conflict of interest.

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Therapeutic Communication Experience of Nurses With Chemotherapy Patients in a General Hospital

Yenni Harianthy[1], Asniar Asniar[2*], Marthoenis Marthoenis[3]

[1]Master Student Program of Nursing Science, Faculty of Nursing, Universitas Syiah Kuala, [2]Assistant Professor, Department of Community Health Nursing, Faculty of Nursing, Universitas Syiah Kuala, [3]Assistant Professor, Department of Psychiatric and Mental Health Nursing, Universitas, Syiah Kuala

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ABSTRACT

Cancer patients have special communication needs. Therapeutic communication can help patients, families, and care teams make decisions and improve patients' well-being and quality of life. This study aimed to understand the therapeutic communication experience of nurses with patients undergoing chemotherapy. This study employed a descriptive phenomenology design using in-depth interviews involving eight key participants and one associate participant. The key participants were nurse practitioners, and the associate participant was the vice head of the chemotherapy ward. The results of interviews and field notes were analyzed using Colaizzi's method of data analysis. Nine themes emerged from this study that is therapeutic communication is perceived as beneficial for patients, therapeutic communication is perceived as useful for nurses, patient conditions that hinder therapeutic communication, nurse conditions that interfere with therapeutic communication, personal therapeutic communication strategies, interpersonal therapeutic communication strategies, regular chemotherapy training, training for ongoing therapeutic communication, and chemotherapy-related information media to facilitate therapeutic communication. The study results suggest the need for chemotherapy training and continuous therapeutic communication for nurses in the chemotherapy ward of a general hospital.

Keywords: Therapeutic Communication, Chemotherapy Patient, Theory of Human Caring

INTRODUCTION

Communication between nurses, patients, and families is not just providing information.

Communication includes a wide range of discussions, including discussing various topics; sharing feelings and fears about illness, treatment, and prognosis; and helping patients and families find a sense of control and a way to find meaning and purpose in life. Nurses with good communication skills have shown a positive influence on the satisfaction of patients with cancer, improving the patient's well-being and experience.[1] The quality of communication between nurses and patients affects the quality of cancer care, enabling patients to survive cancer.[2,3]

Therapeutic communication between nurse and client is believed to be the key to successful treatment. Many benefits are obtained by implementing therapeutic communication, namely reducing/helping clients to clarify and reduce the burden of

Corresponding author: Asniar Asniar, Assistant Professor, Department of Community Health Nursing, Faculty of Nursing, Universitas Syiah Kuala

Email: asniar@unsyiah.ac.id

feelings and thoughts and being able to take action to change the existing situation if the clients believe in what is needed, reducing doubts, assisting in taking effective action and maintaining ego strength and affect other people, the physical environment, and themselves.

This study uses the conceptual framework of Watson's Human Caring theory.[4] The main core of this theory is transpersonal relationships and moments of human concern for humans. This research is focused on exploring the therapeutic communication experience of nurses with patients undergoing chemotherapy in public hospitals.

METHOD

This study used a descriptive phenomenological design with in-depth interviews. The study was conducted at a general hospital providing chemotherapy services in Banda Aceh, Aceh province, Indonesia.

The participant criteria were (1) they were nurse practitioners and the head of the chemotherapy ward or deputy head of the chemotherapy ward (2) they had a minimum working period of 1 year (3) they were not on annual leave or gave birth or were sick (4) they were willing to become participants.

The interview questions were prepared based on the research objectives and were open-ended. Interviews lasted 20-40 minutes and were recorded and converted into verbatim transcripts. Data saturation was obtained in the 8th participant.

Ethical Clearance: This research has obtained ethical approval from the Health Research Ethics Committee (KEPK) of the Faculty of Medicine, Universitas Syiah Kuala, Regional General Hospital dr. Zainoel Abidin Banda Aceh number 382/EA/FK-RSUDZA/2021 on 13 December 2021

RESULTS

The research took place from December 2021 to April 2022 with eight key participants and one associate participant. The data collected were analyzed thematically in accordance with the research objectives. The results capture nine themes that emerged from the research.

The nine themes are (1) therapeutic communication is perceived as beneficial to patients, (2) therapeutic communication is perceived as beneficial to nurses, (3) patient conditions that hinder therapeutic communication, (4) nurses' conditions that inhibit therapeutic communication, (5) personal therapeutic communication strategies, (6) interpersonal therapeutic communication strategy, (7) periodic chemotherapy training, (8) ongoing therapeutic communication training and (9) information media related to chemotherapy

Therapeutic Communication is perceived as beneficial to patients

This theme explains that nurses perceive therapeutic communication as psychologically beneficial for patients. Psychological benefits include making patients more confident, feeling valued, and having a more meaningful life.

> *"In my opinion, the advantage of doing therapeutic communication is that the patients are more confident, they don't have a low self-esteem with the way we communicate, so they feel appreciated"* (P1)

Therapeutic Communication is perceived as beneficial to nurses

This theme describes that therapeutic communication provides benefits to nurses, namely providing self-awareness and job satisfaction

> *"We who may not be too close to God learn to be closer to God"* (P2)

> *"We also have more to be grateful for. The point is that it is like self-introspection"* (P2)

Patient Conditions That Hinder Therapeutic Communication

This theme explains the obstacles related to the patient's condition. These obstacles

are different patient companions, patients' difficulty understanding (misperceptions), and the negative behavior of patients.

This is as stated by the participants

> *"They look down on nurses. Or maybe we can say that if it takes a bit long for us to provide care, the patient or family will be angry"* (P2)

Conditions of Nurses that Hamper Therapeutic Communication

This theme explains the barriers to therapeutic communication related to nurses, namely not completely listening to patients' complaints, limited knowledge of nurses about chemotherapy, short contact of nurses with patients, and limited information media.

The results of the interviews with the participants identified the main obstacle, namely the short contact time between nurses and patients.

> *"What is meant by the limited time of nurses here is that nurses should provide education and information starting from when patients enter and are treated until they can go home. However, we have a limited workforce and time. We could provide detailed education until the patient returns home, but we will not be able to accept up to 20 patients* (P3).

Personal Therapeutic Communication Strategies

This theme explains the things or ways of communication used by nurses so that therapeutic communication goes well, namely maintaining emotions and building a relationship of mutual trust.

> *"The important thing is that we also keep our emotions in check. Regardless of the condition, we should not be emotionally provoked to the point of being angry with the patient"* (P1)

The associate participant also expressed the same thing:

> "If, for example, a patient is angry, how will we react? What will we do? *We should not get emotional. We, as the room management, always remind them."*

Another communication strategy undertaken is to build a relationship of mutual trust. As stated by the following participants:

> *"We approach, build mutual trust, for example, with a mother...we hold or touch her shoulder." (P2)*

Interpersonal Therapeutic Communication Strategies

This theme explains things or communication techniques nurses use that involve other people so that therapeutic communication goes well. Three sub-themes emerge in this theme: involving patients, families, and colleagues.

> *"In communicating with patients, the first thing we have to involve is the patient and the family* (P1)

Increased knowledge about chemotherapy

This theme illustrates the need for nurses regarding the importance of chemotherapy training for those who have never attended it or those who have attended it.

> *"When we educate patients, we have clear sources. We are not confused about explaining the meaning of chemotherapy, what are dietary restrictions, and other things related to chemotherapy to patients"* (P5)

Ongoing therapeutic communication training

This theme explains that nurses need therapeutic communication training to improve communication skills, and there are still nurses who have never received therapeutic communication training. As stated by one of the participants:

> *"Because I'm new, I've never been involved in training on therapeutic communication" (P2)*

The associate participant confirmed that in the past three years, there had been no therapeutic communication training:

> *"In terms of training in 2022, 2021, and 2020 it looks like there was no training on therapeutic communication from the hospital. This may be*

due to the COVID pandemic, but previously Therapeutic communication training was always carried out regularly. "

Information media related to chemotherapy to facilitate communication

This theme describes the need for information media related to chemotherapy that can support therapeutic communication.

"At least the health promotion department should provide leaflets or maybe brochures because many patients also ask about diet. At least they should provide leaflets about the diet of cancer patients" (P1)

"There is a television in one room, so patients and their families while waiting can watch things related to chemotherapy" (P6)

DISCUSSION

This study identified that therapeutic communication is perceived as beneficial for both patients and nurses. This is in line with research on communication and quality of care in palliative care units, which concludes that therapeutic communication increases patient and family satisfaction and measures the quality-of-care provided[5].

The results of this study indicate that therapeutic communication carried out by nurses has a psychological impact on patients; namely, patients are more confident and feel that their lives are more meaningful. This is in accordance with one of the *carative* factors put forward by Watson, namely instilling faith-hope, where nurses are fully present in providing nursing care to foster patient trust and hope for health[4].

Communication barriers that emerged in this study consisted of patient conditions and nurse conditions that hindered therapeutic communication. The sub-themes that emerged were different patient companions, patients with misperceptions, and negative patient behavior. The companion who accompanies the patient has a very big role. All treatment information and actions for patients are usually with the knowledge of the companion. If the companion changes, it will make the nurse have to educate again and again. This study found that the role of the companion is very large in supporting the success of the treatment and care program for chemotherapy patients. Even one of the participants suggested that the companion is the same person and so on when accompanying patients undergoing chemotherapy. This is different from research that has been done which states that family involvement or intervention in palliative care can interfere with patient treatment processes and procedures. Family intervention reduces the quality of communication between nurses and patients.[6,7]

Furthermore, misperceptions from patients are obstacles encountered in conducting therapeutic communication. This is in line with previous research, which stated that misperceptions or misunderstandings could interfere with therapeutic communication, so it is not effective[8]. Similar findings were also found in patients facing the end of life with challenges in changing situations. These challenges are patients/families who are angry, patients/families who disrespect the nurses, patients/families who cannot accept the reality of the end of life and are very depressed, and families who struggle alone with their problems without wanting to open communication with nurses.[9]

This study found that the limited knowledge of nurses became an obstacle in conducting therapeutic communication. If the nurse's knowledge is insufficient, it will be difficult when explaining or educating patients. This is in line with previous research, which states that in providing information to patients, nurses need to prepare themselves beforehand both in their mental and knowledge.[10]

This study also identified the limited time nurses spend with patients and the high workload that causes the scarcity of time with patients to become a barrier to therapeutic communication. Similar findings also appeared in other studies, which stated that the lack of time to sit with patients made nurses unable to show empathy.[9]

Caring is a form of carrying out the nursing practice. Watson defines caring as an approach to how to behave, think and feel of an individual towards another individual. Caring aims to provide care physically and pay attention to the patient's emotions. Caring facilitates nurses to be able to identify patients, find patient problems, and find solutions. The study results show that limited knowledge, workforce/ time, and communication media can hinder nurses from performing therapeutic communication to care for patients.[4]

This study identified personal strategies of nurses in conducting therapeutic communication, namely by maintaining emotions and empathy and fostering a relationship of mutual trust.[11]

This study further finds interpersonal strategies nurses use in therapeutic communication: involving patients, families, and colleagues. As in the previous discussion, family involvement is very influential in the success of therapeutic communication in chemotherapy patients.

Furthermore, involving colleagues or interprofessional is also a strategy for implementing therapeutic communication. This is in line with a study that identified methods used by nurses to improve therapeutic communication skills, namely through direct learning with experts and more experienced nurses.[12]

This study identified the need for therapeutic communication, namely increasing knowledge about chemotherapy, therapeutic communication skills, and information media related to therapeutic communication. Based on the results of interviews with participants, it was found that nurses still need therapeutic communication training, both for those who have never participated in it and those who have to be able to do it regularly. This is in line with research that examined the effect of nursing laboratory simulations used to increase the self-efficacy of 32 nursing students on their ability to utilize communication skills. The study concluded that laboratory simulations are very helpful in increasing students' self-efficacy regarding their therapeutic communication skills.[13]

Furthermore, other studies suggest that nurses need training to show their empathy for patients, namely learning how to know the communication needs of patients and families. Nurses need to take part in communication skills training so that they can hone skills such as encouraging them to express feelings, admitting and overcoming problems when they don't know "what to say," practicing difficult and challenging communication skills when dealing with angry and frustrated patients or families and even those who do not respect nurses.[9]

Periodic repetition or refreshing is also required. Therapeutic communication education and training must be continued for nurses who have graduated to improve and update their knowledge of theory and practice. This also applies to nurses who have worked in an institution.[12]

Therapeutic communication training is also the institution's responsibility as a commitment to encourage and support therapeutic communication between nurses and patients that focuses on patient-centred care. This theme is in line with Watson's theory of transpersonal teaching and learning, where nurses who want to learn to improve their knowledge and skills are involved in teaching-learning experiences, follow sincerely, attend to the unity of existence and meaning, and try to stay within the set frame of reference.[4,14].

CONCLUSION

1. This study identified that nurses have a positive perception of therapeutic communication because it is beneficial for both patients and nurses. This is the reason that therapeutic communication skills must be continuously improved and studied by nurses to improve the quality of nursing care and increase patient and nurse satisfaction.
2. Communication between nurses and patients is an important part of every

health and nursing service. From this study, there were still obstacles originating from patients and nurses that hindered effective therapeutic communication. The authorities in the hospital must ensure that all obstacles can be removed or minimized.

3. This study describes several personal and interpersonal strategies nurses use in therapeutic communication. It is expected that nurses use various therapeutic communication strategies for the effective therapeutic communication.
4. Increasing the capacity of nurses, both in terms of knowledge and skills, is necessary to support therapeutic communication's success. Therefore, training and updating of knowledge must continue to be carried out.

LIMITATION

The limitations of this study were the prolonged engagement carried out by the researchers for only one day, considering the time the research was taking place was still in the conditions of the COVID-19 pandemic. Another limitation is that researchers have not used their time optimally to do in-depth and not triangulate sources, in this case, the Hospital Research and Development section.

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