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Indication of Smartphone Addiction in Adolescents in the City of Surabaya

Abdul Fauzi[1], Titis Eka Apriliyanti[1], Masmuhul Khoir[1], Antonia Helena Hamu[1], Zaenal Abidin[1]

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Abstract

Background: Smartphone addiction is a problem that often occurs in early adolescents. The purpose of this study was to find an overview of smartphone addiction indications in adolescents.

Method: The population in this study is junior high school students in Surabaya who have smartphones. Sampling was carried out using multistage random sampling in ten schools spread in each region in Surabaya and each region represented by a private school and one public school. The number of samples in the study was 400 students. Measurement using Smartphone addiction Scale (SAS).

Result: The sample in this study were 400 students with 30.5% male and 69.5% female. The sample was between 12-17 (mean, 14.03 + 0.813) years with a distribution of 13% class seven, 65.8% class eight and 21.2% class Nine. The four indicators showed the majority in the moderate category, namely life disturbance, positive anticipation, withdrawal and cyberspace oriented, while overuse and tolerance are mostly in the low category.

Conclusion: Cyberspace oriented is the most visible indication because smartphones are considered an important part of adolescents' lives. So even though the use of a long smartphone is not considered excessive in its use. Identification of the type of addiction and the time that smartphone usage needs to be added as additional data.

Keyword: *Indication, cyberspace oriented, smartphone, addiction, adolescent*

Introduction

Smartphone addiction is one of the more common problems in adolescents This is because it is unstable, easy to emotion, the urge to do fun activities [1,2]SD = 0.65. Some studies show the prevalence of smartphone addiction in adolescents is quite high, such as in Switzerland 16.9%, Brazil 35.6% and in South Korea 35% [3–5]its association with smartphone use, and its predictors have not yet been studied in a European sample. This study investigated indicators of smartphone use, smartphone addiction, and their associations with demographic and health behaviour-related variables in young people. METHODS A convenience sample of 1,519 students from 127 Swiss vocational school classes participated in a survey assessing demographic and health-related characteristics as well as indicators of smartphone use and addiction. Smartphone addiction was assessed using a short version of the Smartphone Addiction Scale for Adolescents (SAS-SV.). If left excessive use of smartphone can cause physical and mental health problems [6]that cell phone use during exercise reduces intensity, and that high frequency cell phone users are less fit than other users. Thus, cell phone use appears connected to health and fitness behaviors and should be better understood within this context. The present study investigated the sedentary nature of cell phone use, and examined the likelihood of cellphone use interfering with exercise behavior. Design A validated survey was administered to a random sample of students from a public US university (N = 226. Psychological problems that arise in the form of sleep disorders, anxiety, depression and emotional stress [7]. Samaha (2016) added that smartphone addiction in adolescents adversely affects adolescents' academic values and life satisfaction.

Indonesia is the second-largest country with a total of 124.3 million smartphone users [9]. Surabaya is the city with the second-largest number of smartphone users after Jakarta, which is 956 thousand people and as many as 113,584 teenagers who use smartphones [9]. Previous research conducted by princesses in 2018 has 60% smartphone addiction among adolescents in Surabaya [10].

The results of a preliminary study on December 20, 2018, on 10 junior high school students in Surabaya showed that 10% were 12 years old, 50% were 13 years old and 40% were 14 years old. As many as 50% of men and 50% of women. Adolescents agreed that smartphones are the most important part of their lives as much as 50% and 10% express strongly agreed that smartphones were the most important thing in life. adolescents didn't focus on when doing work because they played smartphones as much as 80%. adolescents always failed when reducing smartphone usage by 80% and 60% of adolescents had difficulty stopping using smartphones due to the challenge of playing games.

Smartphone addiction has several aspects that are similar to disorders in DSM-5 including four main factors such as compulsive behavior, impaired function, withdrawal, and tolerance [3]. This study uses the Smartphone Addiction Scale (SAS) questionnaire developed by Kwon which consists of several indicators that describe smartphone addiction [11]. The purpose of this study is to find indications of smartphone addiction in adolescents in Surabaya.

Method

This study used a crossectional design with a sample of adolescents in junior high school (SMP) in the city of Surabaya. The total sample in this study was 400 students who had smartphones spread across ten junior high schools in Surabaya. Sampling used a multistage random sampling in each region in Surabaya where each region was represented by one private junior high school and one public junior high school. The distribution of sampling for northern Surabaya was 87 students, West Surabaya 90 students, Surabaya South 81 students, Surabaya East 68 and Surabaya Center, 74 students.

Data retrieval used the smartphone addiction scale (SAS) questionnaire and had been translated into Indonesian (3,11). SAS consisted of 10 questions which described smartphone addiction in adolescents. Before using this questionnaire, the validity and reliability tests had been carried out to 33 adolescent junior high school students in Surabaya and the value of all questions above 0.344 and the alpha cronbach value of 0.857, which means that it was declared reliable.. Each measurement value uses a Likert scale that is strongly agreed, agree, disagree and strongly disagree. The analysis in this study uses SPSS 20.

Result

This research was conducted from May 8 to June 14, 2019, in ten junior high schools in Surabaya, which consisted of five private schools and five public schools. Respondents in the study consisted of 400 adolescents in junior high school (SMP), with 30.5% men and 69.5% women. Samples were aged between 12-17 (mean, 14.03+ 0.813) years with a distribution of 13% seventh grade, 65.8% eighth grade and 21.2% ninth grade. Four indicators show that most of them are in the medium category, namely life disturbance, positive anticipation, withdrawal and cyber oriented, while overuse and tolerance are mostly in the low category.

The results of the 6 smartphone addiction indicators are explained in the table below:

Table 1 Descriptive of indicator smartphone addiction

Smartphone Addiction		Total	
		n	%
life disturbance	Low	98	24.5
	Medium	210	52.5
	High	92	23
Total		400	100
Positive anticipation	Low	162	40.5
	Medium	203	50.8
	High	35	8.7
Total		400	100

Cont... **Table 1 Descriptive of indicator smartphone addiction**

withdrawal	Low Medium High	94 232 74	23.5 58 18.5
Total		400	100
overuse	Low Medium High	182 171 47	45.5 42.8 11.7
Total		400	100
cyberspace-oriented	Low Medium High	107 250 43	26.7 63.5 10.8
Total		400	100
tolerance	Low Medium High	204 153 43	51 38.2 10.8
Total		400	100

Table 1 illustrates the level of each indicator of smartphone addiction.

1. *Life disturbance*. The amount of life disturbance was 52.5% in the medium category. This means that the smartphone is quite disruptive to youth activities. Adolescents with smartphone addiction will experience psychological problems such as aggressive behavior, low self-esteem and communication disorders [6]that cell phone use during exercise reduces intensity, and that high frequency cell phone users are less fit than other users. Thus, cell phone use appears connected to health and fitness behaviors and should be better understood within this context. The present study investigated the sedentary nature of cell phone use, and examined the likelihood of cellphone use interfering with exercise behavior. Design A validated survey was administered to a random sample of students from a public US university (N = 226. If allowed to be addicted to a smartphone can harm all the activities of adolescents.

2. *Positive anticipation*. The findings indicated that positive anticipation is 50.8% in the medium category. Positive anticipation can be seen from physical symptoms that arise due to excessive use. Use of a smartphone for too long can cause pain in the neck, shoulders, hands and lead to poor lifestyle [12]. These signs are found in adolescents who spend too long using a smartphone.

3. *Withdrawal*. This finding showed that as many as 58% in the category is experiencing the withdrawal of smartphone addiction. Teenagers say they cannot live without a smartphone. This might be because smartphones are considered something important and is a necessity in the lives of adolescents [13].

4. *Overuse*. The amount of overuse mostly showed as much as 45% in the low category. This shows that the duration of smartphone use is considered not excessive. adolescents with smartphone addictions are usually characterized by long periods of use of smartphones [14]. Besides anxiety without a smartphone also occurs in adolescents with smartphone addiction [1]. This low overuse may be due to the use of the old which is considered normal.

5. *Cyberspace-oriented*. The number of cyberspace oriented was 63% in the medium category. The focus of adolescents would always be on smartphones even if they don't use them. So it is difficult for adolescents to focus on school and experience a decline in academic value [8]. This percentage is the highest compared to other indicators and is the most dominant indicator in describing the level of smartphone addiction.

6. *Tolerance*. Tolerance values in adolescents were mostly in the low category as much as 51%. This form of tolerance can be seen from using a smartphone longer than needed. The use of smartphones for a long time has become one of the signs of smartphone addiction both in playing games or social media [15]. The duration of smartphone use is not relevant to the main purpose

of smartphone use [16]including addiction, financial problems, dangerous use (i.e. whilst driving. The notion that a long time is considered normal is the reason why tolerance values are mostly in the low category.

Discussion

This study shows indications of smartphone addiction in early teens. These results indicate that life disturbance, positive anticipation, withdrawal and cyber oriented are mostly in the moderate category. These four indications are most felt by teenagers. Increased intensity of smartphone use is more visible as a sign of addiction [15]. In addition, a sign of addiction that arises is that adolescents will feel anxious when not holding a smartphone [1]. This is because smartphones are considered the most important and are one of the main needs that must be met [13].

Other results show that overuse and tolerance are mostly in the mild category. It means that smartphone usage time is not excessive for adolescents or does not exceed the planned time limit. Haug (2015) revealed that the symptoms of smartphone addiction will be seen with the use of a longer than usual. But the amount of time spent using a smartphone is considered normal [17]worldwide smartphone usage has greatly increased. Alongside this growth, research on the influence of smartphones on human behavior has also increased. However, a growing number of studies have shown that excessive use of smartphones can lead to detrimental consequences in a minority of individuals. This study examines the psychological aspects of smartphone use particularly in relation to problematic use, narcissism, anxiety, and personality factors. Methods A sample of 640 smartphone users ranging from 13 to 69 years of age (mean=24.89 years, SD=8.54. In addition, the presumption is not the assumption of people around the old smartphone usage. This is what causes the lack of feeling that he is using an excessive smartphone.

There are several limitations to this study. There is no amount of time and frequency to use a smartphone in one day. Applications that are often used are also not identified, so it is unknown what form of addiction often occurs in adolescents.

Conclusion

Four indications in adolescents showing smartphone addiction are among the most dominant, cyberspace-oriented. Smartphones become an inseparable part of adolescent life. But adolescents don't claim to use smartphones excessively. This is because spending a long time with a smartphone becomes a natural thing and is a fulfillment of needs.

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Level of Knowledge Regarding the use of AED Machine among Railway Employees

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Abstarct

Automated external defibrillator is a portable electronic device that delivers an electric shock to the heart muscles through the chest wall in order to resolve a normal heart rate. The AED will analyse the heart's electrical rhythm and if it detects a rhythm likely to respond to a shock, it will charge itself ready to deliver a shock.

Aim: To assess the level of knowledge regarding the use of AED machine among the railway employees in a selected railway station at Kannur districts.

Objectives: The objectives of the study are to,

- assess the level of knowledge regarding the use of AED among railway employees
- find the association between knowledge and selected demographic variables among railway employees.

Methodology: The study was conducted to assess the knowledge regarding use of AED among the railway employees in a selected railway station at Kannur district. Non experimental quantitative approach was used for this study. A total of 30 samples were selected using convenient sampling technique. Formal written permission was obtained from the authorities prior to the data collection process. The data was analyzed by using both descriptive and inferential statistics on the basis of the objectives and hypothesis of the study.

Result: The study showed that 6.66% of railway employees have good knowledge, 70% of employees have moderate knowledge, 23.33% railway employees have poor knowledge regarding the use of AED and there was no association between knowledge and selected demographic variables except year of experience of the employees.

Keywords: *Knowledge, AED, railway employees*

Background

Heart disease has become a major killed of mankind with vast change in the life of people. Cardiac problems are increasing day by day in our country also. An increasing no of Indians, even among the younger age group are prone to heart attack due to their health damaging lifestyle.[1]

In this life threatening situation, new interventions are made in the medical filed with a view to conserve life from cardiac problems such as sudden cardiac arrest on such device invented is AED. AED the American Heart Association promotes the use of AED for use by lay person and heath care providers responding to cardiac arrest emergencies.[2]

Improved life expectancy by almost 15-20 years in average and reduced infant mortality has been recorded due to unprecedented improvement in public heath in recent time. Advances in preventive measurement, medical diagnosis , superior treatment regimens , economic growth and better public policies have been a parts of the 21st century industrialation and urbanization process. The changes in lifestyle increase the risk for cardiac disease.[3]

Around 57 million deaths occurred worldwide in the year 2008 , of which 36 million deaths almost two third were because of non communicable diseases, involving mainly cardio-vascular disease , cancers , diabetes, and chronic lung disease. The leading NCDs risk factors globally in terms of attributable deaths are high blood pressure (13%), tobacco use (9%), diabetes (6%), lack of physical activities (6%) and obesity (5%). Nowadays lifestyle disorders are becoming more common, affecting younger population especially the young, urban population.[9]

An Automatic External defibrillator is a computerized defibrillator that analysis heart rhythm and tells the operator when to perform defibrillation AED have become common place in general public areas and are available for use in large volume of areas , such as airport ,amusement park and shopping malls and railway station. Public access defibrillation was designed to provide early defibrillation to victims of cardiac arrest while the AEDs are not typically used in the hospital. Any delay the delivery of the first shock, including delays related to waiting for the arrival of trained medical personnel and equipment can decrease chance of survival. The availability of an AED in public area can prevent unnecessary delays in treatment and improve survival in victims of sudden cardiac death.[12]

Operation of an AED is quite simple and can be performed by lay people. Instructions for use are printed on the machine and voice commands also guide operator in using the AED. The AED is the smart defibrillator thus can tanks to sophisticated computer chips analyse the patient's ECG rhythm and determine whether a fibrillating shock is needed. AEDs may be fully automatic or semi-automatic. The fully automatic versions assess the patient rhythm and the semi automatic AEDs identifies the rhythm and them instruct the rescuer what to do about it .[12]

New AEDs appear on the market, railway, airport etc. all the time and each model comes with its own operating manual.

Materials and Method

Research approach: Non experimental quantitative approach

Research design : Descriptive survey is used for this research study.

Variables

Dependent variables

In this study the dependent variable is knowledge regarding use of AED machine among railway employees under the study.

Setting of the Study

The present study was conducted in a selected railway station at Kannur district.

Population

- **Target population :** All the railway employees of Kannur railway station
- **Accessible population:** The railway employees in Kannur railway station who are meeting the inclusion exclusion criteria and are available at day of data collection.

Sample

The sample in this study consisted of permanent or temporary railway employees in a selected railway station at Kannur railway station who met the sample selection criteria.

Sampling Technique: Convenient sampling technique

Sample Size: 30 railway station employees

Criteria for the selection of Sample

Inclusion Criteria

- Railway employees working in all shift
- Working temporary and permanent bases.
- Willing to participate in the study.

Exclusion Criteria

- Person who are seriously ill; fatigued.
- Not able to follow the instructions.
- Person who are physically handicapped.

Data Collection Instruments

- Data collection tools are the procedures or instruments used by the researcher to observe or measure the key variable in the research problem

- Researcher developed Likert rating scale to assess the knowledge regarding the use of AED among railway employees.

Selection and Development of Tool

Selection of Tool

- Instrument is a written device that a researcher used to collect the data.

- The data collection tool for this study consisted of two parts

- Part 1 : Demographic data

- Part 2 : Knowledge questionnaire

Data Collection

Base Line Characteristics

The first part of the tool consisted of seven item related to the baseline characteristics of the railway employees that included age, gender, education, nature of employment, income, years of experience and nature of the duty.

Preparation of Knowledge questionnaire

- Investigators arbitrarily prepared the likert rating scale that consisted of 20 items.

- Likert scale is a 3 point scale ranging from strongly agree, agree and disagree. Each strongly agree statement consist of 3 mark . Agree 2 and disagree consist 1 mark.

Findings

Organization of the finding

The data were analyzed under the following headings:

Section 1: Description of social demographic characteristics of railway employees.

Section 2: Assess the knowledge regarding the use of AED among railway employees

Section 1: Description of socio demographic characteristics of railway employees

The sample was selected non probability convenience sampling from railway station at Kannur. This section deals with the base line characteristics of 30 railway employees in terms of frequency and percentage distribution and is presented in charts.

It was found that 36.7% sample belongs to age group between 36 – 51 years. About 16.7% sample belong to age group between 20-35 years and 14.7%7 belongs to 52-71 years. Regarding gender, 23.3% study sample are females and 76.6% are males. Majority of the employees (86.7%) belongs to Hindu religion, 36.7% railway employees belongs to Islam and equal proportion of 3.33% belongs to Christian and others .Related to educational status, 40% of railway employees are graduated, 20% employees are technical, 23% employees are school level and 16.7% employees are post graduates . In this study the majority of employees are worked in permanent bases (96.6%) and very small percentage (3.33%) employees are temporary bases. About 63.3% employees have greater than ten years of experience in this field, 23.3% employees have 0-5 yrs experience and 13.3% have 6-10 yrs experience. Majority of employees are general shift (56.6%) and 43.3% employees are shift work. In the case of residence 50% are urban and 50% are rural.63.3% employees are not attended medical related course. But 36.7% of employees are only attended medical related course.

Section 2 : Assess the knowledge regarding the use of AED among Employees

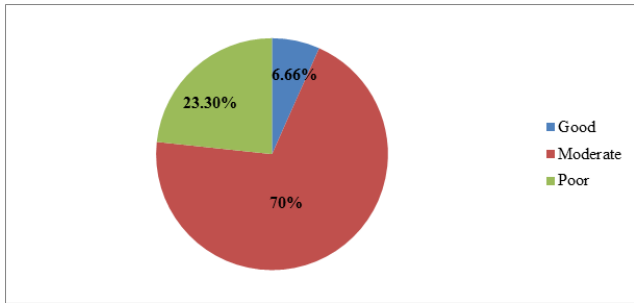


Fig 1: Knowledge regarding use of AED

The figure shows that 6.66% of railway employees are good knowledge, 70% of employees have moderate knowledge regarding the use of AED and 23.3% have poor knowledge.

Conclusion

This study was undertaken to assess the knowledge regarding the use of AED among railway employees in a selected railway station at Kannur district. In this study researcher developed likert rating scale is used for assess a knowledge of the railway employees among AED.

The following conclusions were drawn based on the findings of the study.

The result findings show that, the majority of the railway employees had moderate knowledge on use of AED.

- No other variables except years of experience were associated with the knowledge score.

Suggestions

- A series of education programmes can be conducted for the railway employees regarding the use of AED.
- Conduct a demonstration class among the operation of AED for the railway employees.
- Recommendations
- A seminar study can be replicated on large scale sample.
- A similar study can be conducted among large sample may yield more reliable results
- The effectiveness of video assisted demonstration of AED can be conducted

Implications of the study

The result obtained from the study helped the researcher to drive certain implications for nursing practices

Nursing Education

The present study emphasizes the need of health educations and awareness programme to improve the knowledge and practice regarding the use of AED among railway employees.

Nursing Administration

Nurse as an administration can play an important role in educating the railway employees regarding the knowledge and practices regarding AED and other basic life support.

Nursing research

The findings of the study also have scope in the field of research and based on the recommendations, further study can be conducted.

The study relieved that majority of the railway employees had moderate knowledge on use of AED.

Conflivt of Interest : Nil

Source of Funding : Self Funding

Ethical Clearance : Taken from Institutional Ethics Committee

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The Incidence and Factors Associated with Peripheral Intravenous Catheter Failure in a Tertiary Care Teaching Hospital

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Abstract

The insertion of peripheral intravenous catheter is a common practice in hospitals. The present study is aimed to assess the incidence and factors associated with peripheral intravenous catheter failure. The objective were the estimation of the incidence of peripheral intravenous catheter failure among patient admitted in tertiary care setting and to assess the factors associated with it. The design used for this study was prospective survey. The data were collected from 294 participant with a semi structured interview schedule and an observation checklist. The findings of the study revealed that the incidence of peripheral intravenous catheter failure were 50.3% and mean dwell time were 71.7 hours. The factors associated with PIVC failure was gender, type of ward, duration of hospital stay, purpose of PIVC insertion.

Keywords:- *peripheral intravenous catheter failure, incidence, dwell time.*

Background

Peripheral intravenous cannula (PIVC) insertion is most widely used procedure in a hospital or in a community setting. Peripheral venous devices were introduced more than 40 years ago.[1] Approximately 90% of all patients entering the hospital environment for care have some form of intravenous therapy during their hospital stay.[2]Peripheral intravenous cannulation is a technique in which cannula is placed inside a vein to provide venous access. This allows sampling of blood as well as administration of fluid, medication, total parenteral nutrition, chemotherapy and blood products.[3] A study conducted about the international prevalence of the use of peripheral intravenous catheters in Australia showed that the prevalence of PIVC and their management practices varies across different regions of the world. Among 479 patients screened for the presence of peripheral intravenous catheter they found 59% of patients had at least one peripheral intravenous catheter in place, and 16% had other types of vascular devices.[4]

There are so many risk factors and complications develop after peripheral intravenous catheter insertion. Due to different reasons premature removal of cannula occurs in hospital setting. Common factors associated with peripheral intravenous catheter failure include therapeutic removal, phlebitis, edema, pain, infiltration, blockage, improper securement, accidental dislodgement, type of medication and site of insertion.[5] Peripheral intravenous catheter failure is associated with a triad of definitions some which are not mutually exclusive; (i) infiltration, that is where the infusion inadvertently escapes the vein lumen and is infused into the subcutaneous tissues.[6] (ii) occlusion, also referred to as blocked, where flushing or aspirating from the PIVC is not possible[10] and (iii) phlebitis and/or thrombophlebitis leading to infection (either local or systemic), with systemic infection being particularly serious.

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Nursing care is the key factor in the outcome of hospitalized persons and nurses play key role in IV therapy.[7,8] Peripheral intravenous catheters are one of the most ubiquitous medical devices with many patients requiring the insertion for administration of medication or fluid. Peripheral intravenous catheter failure is common with accidental dislodgement, phlebitis and occlusion commonly causing the premature removal of the devices.[9] However the paucity of studies tertiary population to estimate the incidence of failureto identify factors associated with peripheral intravenous catheter failure. This study aimed to provide preliminary data on peripheral intravenous catheter dwell time and failure rates, identify the significant risk factor of peripheral intravenous catheter failure. By identifying the significant factors we can assess those factors and by taking necessary interventions to prevent such risk factors to reduce the peripheral intravenous catheter failure. Thereby we can reduce the patient discomfort due to repeated cannulation and interference that develop in treatment.

Material and Method

The design selected for the study was a prospective survey. The setting was the medical and surgical wards of a tertiary care teaching hospital. The Population consisted of patient above the age of 18 years admitted with PIVC in situ receiving intravenous drugs and intravenous infusion therapy. The data were collected from 294 patients and the exclusion criteria were edema, burns, impaired skin integrity, and patient receiving chemotherapy. The data collection tools were semi-structured interview schedule and observation checklist. After obtaining the permission from the Institutional Review Board, the investigators met the patients individually in the medical and surgical wards obtained written informed consent for participating in the study. The participants were observed on 24th, 48th and 72nd hours or until the removal of cannula. Peripheral intravenous catheter failure was operationally defined as the removal of catheter within 72 hours of insertion due to non-therapeutic indications like blockage of cannula, signs of phlebitis, dislodgement or leakage.

Findings

Among the 294 samples 66.3% were males and 33.7% were females. The study included patients from medical and surgical wards there percentages were 76.5% and 23.5% respectively. The median duration of hospital stay was 4 days and there were 68.7% patient's duration of hospital stay is less than 4 days and 31.3% were more than 4 days. The mean (SD) PIVC dwell time was 71.8 (24.47) hours. Table 1 below describe the PIVC related factors.

TABLE 1: PIVC characteristics of sample

Variable	Frequency	Percentage
PIVC insertion limb		
Right hand	159	54.1%
Left hand	135	45.9%
Site of PIVC insertion		
Ulnar	39	12.9%
Ante-cubital fossa	52	17.7%
Dorsum of palm	163	55.4%
Wrist	40	13.9%
Size of PIVC		
18G	13	4.4%
20G	52	17.7%
22G	180	61.2%
24G	49	16.7%
Purpose of PIVC insertion	100	66.6%
Medication administration	138	46.9%
IV infusion	24	8.2%
Medication & IV infusion	107	36.4%

Cont... **Table 1: PIVC characteristics of sample**

Others	25	8.5%
Type of adhesives	8	5.3%
Adhesive tape	164	55.8%
Top'O plast	8	2.7%
Other methods	122	41.5%
History of previous PIVC insertion		
Yes	136	46.3%
No	158	53.7%
PIVC Inserted by		
Staff nurse	290	98.6%
Student nurse	4	1.4%
Skin turgor		
Intact	176	59.9%
Wrinkled	118	40.1%

Peripheral intravenous catheter which is removed within 72 hours of insertion due to non-therapeutic indications like blockage of cannula, signs of phlebitis, dislodgement or leakage Among the 294 PIVCs inserted the failure rate was 50.3%.The major factors associate with PIVC failure is listed in the Table 2

Table 2: Factors associated with PIVC failure

Variables	**PIVC failure f (%)**	**PIVC success f (%)**	**Test statistics**	**p value**
Gender Male Female	 106 (71.6%) 42 (28.4%)	 89 (61%) 57 (39%)	 Chi-square (3.841)	0.043*
Age Mean(SD)	53.5 (16.38)	54.5 (17.74)	 t = .561	0.60
Ward Medical Surgical	 121 (81.8%) 27 (18.2%)	 104 (71.2%) 42 (28.8%)	 Chi-square (4.532)	0.03*
Hospital stay < 4 days > 4 days	 101 (68.2%) 47 (31.8%)	 101 (69.2%) 45 (30.8%)	 Chi-square (0.030)	0.86
PIVC insertion limb Right hand Left hand	 79 (53.4%) 69 (46.6%)	 80 (54.8%) 66 (45.2%)	 Chi-square (0.059)	0.808
PIVC insertion site Ulnar region Ante-cubital fossa Dorsum of palm Wrist	 19 (12.8%) 23 (15.5%) 83(56.1%) 23 (15.5%)	 19 (13%) 29 (19.9%) 80 (54.8%) 16 (11%)	 Chi-square (3.991)	0.407
Size of PIVC 18 G 20 G 22 G 24 G	 6 (4.1%) 30 (20.3%) 91 (61.2%) 21 (14.2%)	 7 (4.8%) 22 (15.1%) 89 (61%) 28 (19.2%)	 Chi-square (2.316)	0.509

Cont ... **Table 2: Factors associated with PIVC failure**

Variables	PIVC failure f (%)	PIVC success f (%)	Test statistics	p value
Purpose of PIVC insertion Medication IV infusion Both Others	 74 (52.9%) 12 (8.6%) 52 (37.1%) 2 (1.4%)	 64 (44.8%) 12 (8.4%0 55 (38.5%) 12 (8.4%)	 Chi-square (7.921)	0.048
Type of adhesive Adhesive tape Top O' plast Others	 82 (55.4%) 5 (3.4%) 61 (41.2%)	 82 (56.2%) 1 (0.7%) 63 (43.2%)	 Chi-square (2.685)	0.261
History of previous cannula insertion Yes No	 68 (45.9%) 80 (54.1%)	 68 (46.6%) 78 (53.4%)	 Chi-square (0.012)	0.914
PIVC inserted by Staff nurse Student nurse	 144 (97.3%) 4 (2.7%)	 146 (100%) 0 (0%)	 Chi-square (4.00)	0.045
Skin turgor Intact Wrinkled	 91 (61.5%) 57 (38.5%)	 85 (58.2%) 61 (41.8%)	 Chi-square (0.327)	0.568

Among the socio-demographic variables there were significant association between the gender and PIVC failure as evidenced by chi-square of 3.841 with a p of 0.043, males have more PIVC failure rate than females. The underlying condition such as admitted in medical or surgical ward is also significantly associated with PIVC failure rate chi-square of 4.532 with a P value of 0.03. There is association between purpose of PIVC insertion, Chi-square 7.92 and P value of 0.04, it is observed that the rate of medication administration was more in the PIVC failure group than the groups with intravenous fluid alone or in combination of intravenous fluids and medications.

Discussion

In the present study showed that the PIVC failure rate is 50.3% among patient with the history of PIVC insertion admitted in a tertiary care teaching hospital, i.e about half of the patient develop complaints regarding PIVC and they are removed due to the nontherapeutic reasons. Its far higher than a similar study conducted among pediatric acute care unit in Australia , which showed that PIVC failure is only 24.8%. A prospective observational study on 'Removal of PIVC due to catheter failure among adult patients' conducted at University hospital Tokyo, Japan showed that the rate of a catheter removal as a result of catheter failure was 18.8% the reason for the removal were infiltration (41.3%) and pain(19.3%) pain was major reason for catheter failure and removal.[10]

The median dwell time in the study is 71.7 hours. As per different study PIVC can leave in place for more than 72 hours if not contraindicate. But the prolonged placement of catheter can cause complication. Durability and type of material used in PIVC and method of securement also play major role in their failure.A prospective study on 'Relationship between PIVC dwell time and development of phlebitis and infiltration' conducted in hospital of USA shows that to evaluate whether lengthening the dwell time of PIVC

from 72 to 144 hrs resulted in increased rate of phlebitis and infiltration and they concluded it as the lengthening the dwell time increases the risk of phlebitis and infiltrations.[11] The factors associated with PIVC failure is varied in different studies, it may be due the different measurements used for the assessment of various factors.

Conclusion

In the present study showed that 50.3% participants have PIVC failure. The mean dwell time was 71.8 (24.47) hours. The factors associated with PIVC failure was gender, type of ward, duration of hospital stay, purpose of PIVC insertion. The finding of the study can be utilized to improve the nursing care of patients with PIVC in the clinical setting or in community setting.

Conflict of Interest: No conflict of interest

Source of Funding

Self

Ethical Clearance:

- Institutional Review Board clearance
- Written informed consent obtained from participants

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Does Family's Knowledge Correlate with Departure Time Interval at Ischemic Stroke Patient to Emergency Department?

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Abstract

Ischemic Stroke is a symptom that binds with minimal time in this intervention. If an ischemic stroke patient has anextention the departure time interval, it can result in disability and death. Family knowledge is one of the factors affecting the departure time interval to emergency department. Nevertheless, the relationship between knowledge and the interval of departure time of ischemic stroke patients to emergency department is controversial. The aimed of this research is analyze the family knowledge relationship with the interval of the departure time of ischemic stroke patients do emergency department of Banyuwangi Blambangan General Hospital. The study used a prospective cross sectional approach on 100 respondents. Data retrieval is done to the family of ischemic stroke patients using the questionnaire and observation directly when the patient comes to emergency department after a Commuted Tomography scan examination. Data analysis is conducted to analyze the family knowledge relationship with The departure time interval of ischemic stroke patients. Bivariate analysis using Spearman test. The finding show that obtained 56% families do not know the minimum time to be achieved in order for ischemic stroke patients to receive effective reperfusion therapy. Spearman test results between the knowledge with the departure time interval obtained p value = 0.009 with a 0.005 which means there is a family knowledge relationship with the interval of departure time. Family knowledge relates to the departure time interval of ischemic stroke patients to emergency department as measured since the onset of symptoms.

Keywords: *departure time interval, family knowledge, minimum time.*

Introduction

Ischemic Stroke is a collection of symptoms that appear sudden, progressive, and rapid results from the blockage of the brain veins[9]. Stroke is the third cause of death in the world after cardiovascular disease and cancer [18]. Approximately 800,000 people who live in the United States are diagnosed with stroke disease [17]. Note the last 5 years at the Haukland University Hospital, Norway stroke patients are restarted and suffer death at very high risk [1]. In Korea the incidence of stroke was approximately 11.6 million in 2010, acute ischemic Stroke accounted for 10.4% of the cause of death [10]. The prevalence of stroke is increasing as people age, the older the person's age, the more risky stroke occurs. In Indonesia, stroke is the main cause of death among cardiovascular disease and cancer. The number of ischemic strokes in Indonesia in 2018 reaches 713,783 people per year [6].

Treatment of ischemic stroke patients, one of them with thrombolytic therapy, but this therapy is effectively administered when the patient comes to IGD maximum 3 hours after the onset of attack [5,15]. Because thrombolytic therapy is very sensitive to the time of the patient's arrival to IGD. If ischemic stroke patients have slowdown intervals of departure time, they can result in disability and death [3,8]. In the United States since the last 10 years shows that less than 25% of ischemic stroke patients come to emergency services within 3 hours [19]. This shows the low number of patients who are eligible for thrombolytic therapy in emergency services.

The resulting increase in death is an extension of the time interval between the onset of symptoms until the patient departs to the hospital. This is due to low knowledge of the minimum time required of an ischemic stroke patient to arrive at IGD 3 hours after the onset of symptoms [4]. Previous studies have shown that knowledge of stroke risk factors affects the delay of

the patient arriving at the hospital[12]. Knowledge does not relate directly to the arrival time of the patient to IGD [16]. It is also supported by Reeves [13] which conveys that the level of knowledge has no effect on the arrival time of the patient to the emergency installation. Because not everyone who has a good knowledge, will make the correct decision making when discovering the symptoms of stroke.

Based on this, researchers want to reexamine there is a the relationship with the interval of departure time of ischemic stroke patients to IGD hospital Blambangan Banyuwangi.

Material and Method

The research design used is observational analytic with cross sectional approach. The research samples are some of the core families that come bring ischemic stroke patients to IGD RSUD Blambangan Banyuwangi. Number of samples as much as 100 respondents. Data retrieval is done using questionnaire and observation. The sampling technique used is purposive sampling. 3 criteria of inclusion in this study include 1) patients who came to IGD with ischemic stroke, 2) patients brought directly by the 3 core families) patients who were brought in private vehicles. Exclusion criteria of ischemic stroke patients by reference, ischemic stroke patients who died before taking the data. Data obtained from the questionnaire which was filled by the respondent and saw the observation sheet. The study was conducted for 60 days from 16 June 2018 until 16 August 2018. Grouped then processed and carried out test of normality Kolmogorov-Smirnov to know the data is normal distribution or not. Bivariate data analysis is conducted using Spearman test to assess the knowledge relationship with the time interval of ischemic stroke patients to IGD.

Findings

Based on the results of the study received characteristic data respondents:

Table 1. The average age characteristic of respondents

Variable	n	Mean ± SD	95% CI
Age	100	53.16 ±6.980	51.77 – 54.55

Based on table 1 The average age of respondents (patient families) is at the age range of 53 years.

Table 2. Characteristics of the respondent by gender

Variable	Category	n	Percentage
Gender	Laki-laki	53	53%
	Perempuan	47	47%

According to table 2 men's responsibilities are more than women 53%.

Table 3. Characteristics of respondents based on last education

Variable	category	n	percentage
Last education	low	2	2%
	medium	54	54%
	high	44	44%

According to the last 3 education table respondents at the intermediate level of 54 respondents (54%).

Table 4. Average departure time interval of ischemic stroke patients to IGD

Variable	n	Mean ±SD	95% CI
Departure time interval	100	189.79±46.535	180.56 – 199.02

Based on the table 4 the average departure time interval to IGD 190 minutes.

Table 5. Family knowledge relationship with the departure time interval

Variable	n	p	r
Knowledge	100	0.009	- 0.261

Based on table 5 of the test Spearman obtained the value of P value 0.009 (0.05) indicates that there is a relationship between knowledge with the interval of departure time. Value R =-0261 whose correlate strength is weak and negative. That means the lower the family knowledge the longer the departure time intervals to IGD.

Discussion

According to Notoatmodjo[11], knowledge or cognitive is a factor that plays a vital role in forming an individual reaction (overt behavior). But knowledge will result in proper action when followed by a good understanding of information. Knowledge becomes important because the creation of knowledge then becomes an understanding of the actions or decisions that families will take when finding one member suffers from an ischemic stroke.

Based on the study acquired families who know the minimum time of therapy in ischemic stroke as much as 44%. This shows still low knowledge of minimal time so that patients with ischemic strokes arrive at the hospital before 3 hours. Lack of knowledge about the minimal time will cause the patient to arrive at IGD to be late. When reperfusion therapy is administered more than 3 hours, the effectiveness will be reduced [4]. The average departure time interval in 100 patients with ischemic stroke is 190 minutes. The departure time Interval is the time span from the appearance of symptoms until the patient will depart to the hospital. Although observing the time 190 with 180 minutes is only a 10 minute difference but due to the treatment of ischemic stroke is sensitive to minimal time. If that little time is neglected it will reduce the impact of administering reperfusion therapy[4].

The knowledge of signs and symptoms of stroke for society is crucial in the initial introduction and decision-making efforts to bring patients to the hospital. This factor is so important considering the windows period for 3 hours positive therapy of the attack. The patient's understanding should be assured, and the family and society are valid and free from unrighteous understandings[7].

Based on the results of statistic analysis obtained P value 0.009 (0.05) indicates that there is a relationship between family knowledge with the interval of time of ischemic stroke patients to IGD. This means that family knowledge of minimal time is also important in addition to stroke risk factors. Families with an understanding of stroke risk factors will immediately detect when one of their family members suffers an ischemic stroke. The research similarly Sundseth et al[14] stating that knowledge of stroke symptoms and stroke risk factors may increase the alertness of stroke and increase the number of patients who can receive thrombolysis. In addition the family will take the patient to the hospital immediately after the onset of the attack if it knows the minimum time in providing therapy to make an impact. Knowledge of symptoms and risk factors of ischemic stroke alone is not enough for families to get to the hospital immediately[2]. Often the symptoms of stroke are not easily recognizable, because the symptoms that arise vary according to the condition of the community. The explanation should be given to the general public, especially those who are of high risk, need to emphasize that the initial treatment is very important for his safety. In search of public information, usually share each other about facts that have been obtained. Ideas such as ensuring simple and valid information about early warning signs, signs and stroke handling in patients are a great way to general education[7]. Because it is also important to know

the minimum time for the patient to get effective therapy in IGD so that the goal of reperfusion and increase life expectancy can be achieved.

Conclusion

So it can be concluded that the family knowledge about the minimum period of reperfusion/thrombolytic therapy relates to the departure time interval of ischemic stroke patients.

Conflict of Interest: None

Source of Funding: Self

Ethical Clearance: This study was declared a laik of ethics from the Brawijaya University's ethics commission under the ethics number 151/EC/KEPK-S2/06/2018.

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Assess the Attitude on Breastfeeding among Fathers of Infants at Selected Hospital, Salem

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Abstract

United Nations Childrens' Emergency Fund (UNICEF) states that "every year, over one million infants die and millions of others are impaired, because they are not adequately/exclusively breastfed. A women's decision to initiate and continue breastfeeding is influenced by her attitude towards breastfeeding as well as the breastfeeding attitudes of significant referent people. The aim of this study was to assess the attitude of fathers on breast feeding which plays a significant role in its practice by the mothers. Quantitative approach with a descriptive research design was used. Sixty fathers of infants who were accompanying their wives/ children in the pediatric OPD of a tertiary hospital in Salem were selected through purposive sampling technique. Structured Interview schedule was used to collect the demographic variables & Five point likert scale was used to collect attitude of fathers. Data was calculated using descriptive & inferential statistics. Findings revealed that majority of fathers had positive attitude (98.4%) and only 1.6% had neutral attitude towards breast feeding.

Key words- *Attitude, Breast feeding, Likert scale*

Introduction

Breastfeeding provides a wide array of physical and psychological short-term and long-term health benefits for mothers, infants, and young children. There is strong evidence that infants receiving only breast milk with no other liquids or solids known as exclusive breastfeeding, have many health benefits to mothers, babies, the environment, and society[1]. United Nations Childrens' Emergency Fund (UNICEF) states that "every year, over one million infants die and millions of others are impaired, because they are not adequately/exclusively breastfed.

A women's decision to initiate and continue breastfeeding is influenced by her attitude towards breastfeeding as well as the breastfeeding attitudes of significant referent people (e.g. partner, family and friends), and society in general. If she perceives that her breast milk will adequately nourish her infant and that breastfeeding is convenient and better for the health of her infant, then she will have positive attitudes towards breastfeeding. However, her efforts to breastfeed may be undermined by the attitudes of those around her, particularly by the attitude of her partner. Fathers have been shown to participate in and influence the choice of infant feeding method by acting as key supports or deterrents to breastfeeding by the mother[2]. Fathers' positive attitude, involvement and support greatly influenced breastfeeding decision and commitment among mothers and was associated with increased breastfeeding rates and duration[3].The views of fathers have been shown to be important determinants of infant feeding decisions. A growing body of literature suggests "Fathers play a vital role in their partners" breastfeeding decisions and behaviour through their involvement process. Thus the interventions targeting fathers' involvement in breastfeeding process may provide a tangible and effective conduit though which breastfeeding initiation and duration may be impacted.

Statement of the Problem:

A Study to Assess the Attitude on Breastfeeding among Fathers of Infants at Selected Hospital, Salem.

Objectives

1. To assess the attitude of fathers of infants regarding breastfeeding.

2. To associate the level of attitude of fathers of infants with their demographic variables.

Hypothesis

H_1 : There is a significant association between the attitude of fathers on breast feeding and their demographic variables at P≤ 0.05 level.

Methodology

Quantitative research approach and Descriptive research design was adopted for this study. A total of 60 fathers of infants who were accompanying their wives/ children in the pediatric OPD of Sri Gokulam Hospital, Salem and who fulfilled the sample selection criteria were selected by using purposive sampling technique. Data was collected during a period of one month. Structured Interview schedule was used to collect the demographic variables & Five point likert scale was used to collect attitude of fathers. Data was analysed using descriptive statistics like percentage & mean, and inferential statistics like chisquare.

Results and Discussion

Percentage wise distribution of fathers of infant shows that most of the fathers (86.7%) were in the age group 25-30 years, highest percentage of the fathers of infant were graduates (56.7%), most of the fathers were Hindus (91.7%), majority were private employees(60%), most of their monthly family income was above Rs.10000(63.3%), 66.6% were from joint family, highest percentage (61.7%) had only one child,

Table No 1- Mean, standard deviation, mean score percentage of attitude of Fathers on breastfeeding.

N=60

S.No	Total Attitude	Mean	SD	Mean score percentage
1.	Over all attitude	79.5	5.14	79.5%

The above table on the mean and standard deviation of the fathers' attitude on breast feeding reveals that the mean score is 79.5+5.14 which is 79.5%. of the mean percentage. This depicts that the fathers had an overall favourable attitude on breast feeding.

Table No 2- Distribution of Fathers according to their attitude regarding breastfeeding.

N=60

S.No	Level of attitude	Frequency	Percentage
1.	Unfavourable(1-40)	-	-
2.	Neutral (40-60)	1	1.6%
3.	Favourable (60-100)	59	98.4%

The above table depicts that almost all fathers (98.4%) have a favourable attitude towards breast feeding and only 1 father (1.6%) has a neutral attitude towards breast feeding.

Table No.3 - Percentage distribution of Fathers according to their Item wise response on Breast feeding

S.No	Items	Disagree		Neutral		Agree	
		No.	%	No.	%	No.	%
1	Breast feeding promotes mother & baby bonding	-	-	1	1.66	59	98.33
2	Breast feeding should be initiated immediately after birth	-	-	10	16.66	50	83.4
3	First feed of the Newborn should be colostrum	5	8.33	7	11.66	48	80
4	Duration of exclusive breast feeding is 6 months	20	33.33	7	11.66	33	55
5	*Formula fed babies are healthier than breast fed babies	48	80	6	10	6	10
6	Breast milk is the ideal food for the infant	5	8.33	-	-	55	91.66
7	Breast milk is most easily digested than bottle feeding	3	5	4	6.66	52	86.66
8	Breast milk is less expensive than formula feed	10	16.66	3	5	47	78.33
9	*Breast fed child is less immune	46	76.66	1	1.66	13	21.66
10	Breast feeding decreases diarrhoea episodes in infants	5	8.33	11	18.33	44	73.33
11	Inadequate breast feeding affects the child's IQ	19	31.66	25	41.66	16	26.66
12	Breast milk is rich in iron content	2	3.33	8	13.33	50	83.4
13	Breast feeding should not be done public places	22	36.66	15	25	23	38.33
14	Mother should not breast feed the baby if she has flu	22	36.66	13	21.66	25	41.66
15	Nutritional benefits of breast milk last only until the baby is weaned from breast milk	12	20	13	21.66	35	58.33
16	Mother must be relaxed during breast feeding	8	13.33	8	13.33	44	73.33
17	Breast feeding is a good contraceptive method	15	25	27	45	18	30
18	*Breast feeding increases the risk of ovarian & breast cancer	48	80	7	11.66	5	8.33
19	Breast feeding is more convenient than formula feeding	15	25	18	30	27	45
20	Fathers support is essential for the mother during breast feeding	10	16.66	18	30	32	53.33

*Negative statements which are reverse scored.

The above table depicts that for majority of the items related to breast feeding highest percentage (>70%) of fathers have agreed to the positive items and disagreed to the negative items.

Table No-4 – Association of attitude of Fathers on Breast feeding with their Socio demographic variables

S.No	Demographic variables	df	$\chi 2$	Table value
1.	Age of the father	6	9.18	12.59
2.	Educational status	6	8.35	12.59
3.	Religion	6	50.68*	12.59
4.	Occupation	8	38.26*	15.51
5.	Family income per month	6	8.86	12.59
6.	Types of family	4	0.13	9.49
7.	Number of children	4	4.91	9.49
8.	Mode of delivery	2	0.02	5.99
9.	Previous source of information regarding breast feeding	6	20.04*	12.59

*Significance at0.05 level

There is no significant association between level of attitude of fathers of infant on breast feeding with their selected demographic variables such as age of fathers, educational status, family income per month, types of family, number of children and mode of delivery (p0.05)

There is significant association found between the attitude of fathers of infant on breastfeeding with their selected demographic variables such as religion, occupation and previous source of information regarding breastfeeding at (p

Discussion

The present study depicts that almost all fathers (98.4%) have a favourable attitude towards breast feeding and only 1 father (1.6%) has a neutral attitude towards breast feeding. A study conducted by
Llamas J & Regal A (2014) on breastfeeding knowledge and attitudes of fathers seen at the University of Santo Tomas Hospital reveal that 85% agreed that breast milk is the ideal food for babies, 79% believed that breastfed babies are healthier than formula fed and 55% of them do not believe that breast milk lacks iron. About 80% agreed that it is easily digested, 87% are aware of the economical value and 57% agreed of its convenience. Overall majority of the fathers appreciate breastfeeding and its benefits[4]. A study by García-Fragoso L, Jiménez D, Ortiz N, Quintero M(2013) on fathers attitudes and knowledge about breastfeeding also revealed that most fathers have positive attitudes towards breastfeeding[5].

In the present study 32(53.33%) fathers agree that their support is essential for breast feeding. These findings are consistent with a cross-sectional questionnaire-based study in Mumbai, India conducted by Karande S, Perkar S. on Fathers' attitudes to support breastfeeding which reveals that fathers attitude were favourable toward breastfeeding on 13 individual items which were related to its optimal nutritional value, convenience of administration, ease of digestibility, unique role in mother-infant bonding, acceptability of breastfeeding in public places, and long-term health benefits to babies.

Conclusion

A descriptive study was conducted to assess the attitude of breastfeeding among fathers of infant. It reveals that almost all the fathers had a favourable attitude to breast feeding. Breast feeding is a natural and God's gift for the child. Breastfeeding provides a wide array of physical and psychological short-term and long-term health benefits for mothers, infants, and young children and attitude of fathers plays a vital role in breast feeding.

Conflict of Interest : Nil

Source of Funding: Self funded

Ethical Clearance : Obtained from Institutitonal Ethical board

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Effectiveness of Incentive Spirometry on Respiratory Parameters among Patients with Chest Tube Drainage in Icus of a Tertiary Care Hospital, Ludhiana, Punjab

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Abstract

The respiratory system plays a crucial role in delivering oxygen to the cells of our body. The cells of our body require a continuous supply of oxygen, without this oxygen we would die within minutes. All of this breathing couldn't happen without help from the respiratory system. The aim of the study was to assess the effectiveness of Incentive Spirometry on respiratory parameters among patients with Chest Tube drainage. A pre-experimental one group pre-test and post-test design was carried out by using purposive sampling technique and it was conducted on 30 patients with chest tube drainage in ICUs of a tertiary care hospital, Ludhiana, Punjab. Data was collected by self-report for demographic variables, clinical profile sheet and assessed the respiratory parameters by using Respiratory Distress Observation Scale (DOS). The Mean±SD of heart rate in pre-test (O_1) was 1.43±0.50 which got decreased to 0.36±0.49 in post- test (O_4) with statistically significant at p = 0.000. In pre-test Mean±SD of respiratory rate was 1.30±0.46 and got decreased to 0.30 ± 0.46 during post- test. The Mean±SD of restlessness was 1.23±0.81 in pre-test whereas in post-test it was decreased to 0.23±0.43. The study conclude that Almost all subjects were having respiratory distress during pre-test but after using incentive spirometry in chest tube drainage patients, the parameters were improved daily gradually and during post-test only 26.6% patients were having respiratory distress. The results were highly significant at p<0.05. The incentive spirometry is effective for improving respiratory parameters among chest tube drainage patients.

Keywords: *Incentive spirometry, respiratory parameters, effectiveness, chest tube drainage.*

Introduction or Background

The respiratory system plays an important role in delivering oxygen to the cells of our body. The cells of our body require a continuous supply of oxygen, without this oxygen we would die within minutes. All of this breathing couldn't happen without help from the respiratory system. The conditions affecting the thoracic cavity range from acute problems to long term chronic disorders.[1]After any surgery, there are certain changes in the abdominal area, which induce modifications in pulmonary mechanics and respiratory function, resulting in post-operative pulmonary complications.[2] This lead to higher hospital costs, increased morbidity, mortality and extended hospital stay. The changes which lead to these complications include decreased mobility of diaphragm, depressed activity of central nervous system, changes in the ventilation-perfusion ratio, inefficient cough, increased respiratory rate and increased and reduced pulmonary volumes and capacities[3]. Patients who have undergone abdominal surgery, have shown a decline in inspiratory capacity, total inspiratory time, and ventilation at the lung bases, leading to a higher risk of developing PPCs.[4,5] Forces acting on the respiratory system help produce the thoracic and abdominal movements, especially the respiratory muscle strength that is compromised abdominal surgery.[6-8]Chest physiotherapy is commonly requested with the aim to avoid the development of

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pulmonary complications by reversing the pulmonary dysfunction after surgery.[9] Incentive spirometry (IS) is a form of respiratory training that underlines sustained maximum inspiration.[10,11] Incentive spirometry is used primarily to prevent alveolar collapse and atelectasis in post-operative patients. Despite the widespread use of IS for patients after surgery, the effectiveness of this technique alone or in addition to general deep breathing and coughing for the prevention of post-operative pulmonary complications is not clear.[12]Due to its low cost, incentive spirometers are widely used in hospitals. They are used for treating and preventive purposes regarding pulmonary complications. This device works with visual stimulation to deep inspiration and is largely used by patients in post-operative periods of abdominal and thoracic surgery. Despite its low cost, the routine use of IS in CABG will add to the cost of care. Studies evaluating the effectiveness of IS in patients who have had cardiac surgery, however, have been unable to demonstrate the superiority of IS over other techniques.[13]Promotion of exercises is found to be good conservative management for patients with surgery, because breathing exercises can improve lung function as well as can strengthen the respiratory muscles, even when the lungs are diseased. The proposed rational using incentive spirometry is to prolong exhalation and thereby improve pulmonary functions.[14]Trauma is the leading cause of death for individuals up to the age of 45 years. Chest trauma constitutes the major part of traumatic injuries and leads to serious consequences. The majority of chest trauma requires careful surveillance and no surgical intervention.[15]The indications for chest tube includes – pneumothorax, penetrating chest trauma, severe blunt trauma, hemothorax, pleural effusion, bronco-pleural fistula, post-operative use in thoracic / cardiac surgeries.[16]

Material and Method

Quantitative approach was used to assess the effectiveness of incentive spirometry on respiratory parameters among patients with chest tube drainage as there was collection and analysis of numeric information related to respiratory parameters. The findings of the study were based on empirical evidence (researcher's observation). Pre-experimental (one group pre-test/post-test design) was used to carry out the study to assess the effectiveness of incentive spirometry on respiratory parameters among patients with chest tube drainage. This study was conducted in ICUs of DMC & Hospital, Ludhiana, Punjab. The target population comprised of patients with chest tube drainage in ICUs. The size of the sample in this research is 30 patients with chest tube drainage. Purposive sampling technique was used for the present study to draw sample from the target population. An extensive literature review was done to select and develop tool(s) for data collection. It includes socio demographic profile of patient and Clinical profile of patient. It also includes a standardized Respiratory Distress Observation Scale to assess the respiratory parameters among patients with chest tube drainage in ICUs of DMC & Hospital, Ludhiana. Different tools were used to collect the data ie. **Part A:** Socio-Demographic profile: It includes age, gender, marital status, educational status, occupation, working status, habitat & dietary pattern. **Part B:** Clinical Profile Sheet: It includes diagnosis, duration of present illness, duration of treatment & any chronic illness. **Part C:** Respiratory parameters: It includes the heart rate, respiratory rate, restlessness, paradoxical breathing pattern, accessory muscles use, grunting- at end expiration, nasal flaring and look of fear in respiratory distress observation scale (RDOS). The tool to assess socio-demographic profile of patients, clinical profile of patients, Respiratory Distress Observation Scale of respiratory parameters were given to the experts from the Department of Critical care Medicine, Medical Surgical Nursing and Department of Physiotherapy for content validity of tool(s) was determined by expert's opinion. The tools were found to be valid for the study. The reliability of standardized Respiratory Distress Observation Scale is pre-determined by inter-rater method and tool was found to be reliable as $r = 0.64$.[47] data related to Socio-demographic profile of the patient and clinical profile sheet of patient was collected through subjects and records and reports. Respiratory Distress Observation Scale was used to collect the data regarding respiratory parameters. The observer went to the patients and took pretest on first day and then gave spirometry three times a day for three days and on fourth day posttest was taken.

Major Finding of the Study

Half of the patients i.e. (50%) were in the age group of 46-60 years. Majority i.e (70%) of the patients were male. Maximum subjects i.e. (93.3%) were married. Less than half of the patients i.e. (43.3%) were having educational status up to elementary. More than half of the patients i.e. (63.3%) were working. Majority of the patients i.e. (60%) were non-vegetarian. More than half of the patients i.e. (56.6%) were belongs to urban areas. Less than half of the patients i.e. (46.6%) were

diagnosed with RSA with BTC. Majority of the patients i.e. (80%) were having between 0-5 day duration illness and treatment. More than half of the patients i.e. (60%) were having history of chronic illness. During pre-test 100% subjects were having respiratory distress while during post-test only 26.6% subjects were having respiratory distress and it was found to be statistically highly significant at p = 0.000*. Mean score and standard deviation, in pre-test mean was 11.26,while in post-test it was 4.93and the standard deviation was 1.48 in pre-test then it was decreased to .944 after providing incentive spirometry, its 't' value was 22.87 which is significant at p value less than 0.05.

Discussion

In the present study, it was found that pre-interventional respiratory parameters were significantly high which specifies that patients with chest tube drainage need pulmonary intervention. Respiratory distress observation scale used in the study included heart rate per min. (Mean±SD=1.43±0.50), respiratory rate per min. (Mean±SD=1.30±0.46), restlessness (Mean±SD=1.13±1.00). Incentive spirometry was implemented to the patients with chest tube drainage for 3 days, 3 times/day and respiratory parameters outcomes were found improved. Post-interventional respiratory parameters among patients with chest tube drainage were improved. Respiratory distress observation scale used in the study included heart rate per min. (Mean±SD=0.36±0.49), respiratory rate per min. (Mean±SD=0.30±0.46), Restlessness (Mean±SD=0.23±0.43). The results showed that there is statistically significant difference between pre- and post-interventional respiratory parameters at p=0.000. the comparison of pre- and post-interventional respiratory parameters among patients with chest tube drainage, the results showed that difference between pre-and post-interventional level of respiratory parameters was significant with t=22.87 at p=0.000.

Conclusion

Almost all subjects were having respiratory distress during pre-test but after using incentive spirometry in chest tube drainage patients the parameters were improved daily gradually and during post-test only 26.6% patients were having respiratory distress. The results were highly significant at $p < 0.05$. The study concluded that the incentive spirometry is effective for improving respiratory parameters among chest tube drainage patients.

Conflict of Interest- None

Source of Funding- Self

Ethical Clearance: The Pre-experimental study was approved by research and ethical committee of DMC & Hospital, Ludhiana. The subjects were explained about the objectives and activities of research projects. Instructions were given to them and they were assured that their responses would be kept confidential by providing information sheets and informed consent was obtained from the patients.

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Efficacy of Uninterrupted Vs. Intermittent Naso Gastric Feeding on Patient Outcome among Critically Ill Patients Admitted in Intensive Care Units

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Abstract

Appropriate nutritional support is effective on achievement of expected outcomes in intensive care unit (ICU) patients. Although several studies have suggested different conclusions about the effectiveness of tube feeding methods, there is no specific program of nutritional support for patients who have been hospitalized. There is a possibility for complications due to an inadequate nutrition. A Quasi experimental study by using purposive sampling technique was conducted on 40 patients n_1 = 20, n_2= 20 who were admitted in ICUs of a tertiary care hospital, Ludhiana, Punjab. Data was collected by using a self-structured checklist to assess the efficacy of uninterrupted vs. intermittent naso gastric feeding among critically ill patients. Most of the patients were above 40years of age in both experimental and control groups. Out of 40 samples 25 were males. In addition, majority of patients were married. More than half 26 (65.00%) patients were from urban area. Moreover, majority of patients were from Sikh religion 24 (60%) and only 1 (2.5%) were Muslims. In addition 8 (20%) patients were graduate and 11 (27.5%) were in illiterate category. It is seen that 19 (47.5%) were working in both experimental and control group whereas, 21 (52.5%) were non-working in experimental and control groups. It is estimated that half 20 (50%) patients were known case of sepsis and majority, 25 (62.5%) had diabetes and only 12 (30%) had renal disease. Approximately 6 (30%) of the patients were having ventilator support in experimental group whereas, in control group 8 (40%) of patients were on ventilator support. It is evident that there were 5 (25.36%) patients in experimental group who had prior admission with the same pathological condition whereas 7 (37.43%) were in control group. It is revealed that some patients have multiple co-morbidities. Among co-morbidities majority 25 (62.5%) of the patients were known cases of diabetes mellitus in both groups. It is evident that diarrhoea was present in control group 13 (65%) as compared to experimental group it was only 3 (15%) and there was no presence of vomiting in any group. Whereas, constipation, abdominal distension and high gastric residual volume was higher in control group as compared to experimental group. It is concluded that uninterrupted naso gastric feeding is better than the intermittent naso gastric feeding in reference to patient outcome and gastrointestinal problems.

Key words: *Intensive care unit, uninterrupted naso gastric feeding, intermittent naso gastric feeding and Patient outcome.*

Introduction

In hospitalized patients, limitation of nutritional intake occurs because of traditional practices prior to the procedures requiring anesthesia as well as lack of emphasis on nutrition. For many patients admitted to the intensive care unit (ICU) it is not uncommon for nutritional intake to have been already compromised for certain reasons. Once the patients are in the intensive care unit, they are generally unable to ensure the adequacy of their own nutritional intake[1]. Therefore, in critically ill patients early and adequate nutritional status is considered crucially to promote the healing, to decrease physiological stress and to enhance immune-

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competency[2]. A patient in ICUs, who cannot take food orally, requires either enteral or parenteral nutritional support. Enteral nutrition can be administered by using various methods such as continuous, cyclic, intermittent and bolus techniques, either alone or in combination. A number of factors are taken into consideration when selecting enteral nutrition delivery modalities such as the medical condition of the patient, expected tolerance of the tube feeding, location of the feeding tube tip, type of formula used, nutritional requirements, mobility of the patient and cost. Enteral nutrition is generally preferred over parenteral nutrition because the former is associated the reduced cost, decreased length of hospital stay, lower incidence of infectious and non-infectious complications[3-6]. Moreover, enteral nutrition mimics the normal gastrointestinal response following the ingestion of a meal, with the exception of the oral phase[7]. Administration of enteral nutrition should be based on the patient's age, underlying disease, nutritional status, nutritional requirements, enteral access device and condition of gastrointestinal tract[9].There are different routes of providing enteral nutrition to the patients. These routes are through nose, oral cavity, trans-oesophageal feeding and percutaneous enteric route, such as, with the help of nasal route-naso gastric, naso duodenal. Naso jejunal feedings can be provided; through oral route-orogastric feeding is given to the patient furthermore, by means of gastrotomy and jejunostomy percutaneous enteric tube feeding can be provided to the patents[10].

Material and Method

Quantitative research approach was used to collect quantitative data. A quasi experimental post-test only research design was used to collect the required and necessary information. The study was conducted in intensive care units of Dayanand Medical College and Hospital (DMC & Hospital) Ludhiana. The population for the present study comprised of patients who were admitted in ICUs and were receiving enteral feeding. Purposive sampling technique was used for the present study to draw sample from the target population. Total of 40 patients were included as subjects. Different tools were prepared to collect data, PART A: Socio-demographic profile- The tool was prepared to interpret the socio-demographic profile of the patient. It includes age, gender, habitat, religion, educational status, marital status, occupation, family members and family monthly income. PART B: Clinical profile of the patient- It includes medical diagnosis, ventilator support, prior admission with the same illness, associated renal disease, diabetes mellitus, sepsis, type of feed received by the patient, acid suppressing drugs, laxatives, prokinetics, neuromuscular blocking agents and opioids that were prescribed to the patient at the time of interview. PART C: Observational checklist- used to have an account of events of problems associated with enteral feeding. It includes the assessment of gastrointestinal problems like diarrhoea, vomiting, constipation, abdominal distension, high gastric residual volume, which were evaluated at 12 hours after the first feeding followed by at 48 and 72 hours post-feeding in both the groups. The content validity has been checked by Consultation with Various experts from critical care medicine, surgery, anesthesia, nursing and research fields. The reliability of the tool, i.e. self-structured checklist was estimated by using inter-rater method for 10 patients. The research tool has been found to be highly reliable in assessing the gastrointestinal problems like (diarrhoea, vomiting, constipation, abdominal distension, high gastric residual volume) at the interval of 12,48 and 72 hours (r=0.9), which was estimated by inter-rater or inter-observer reliability.

Major Finding of the Study

A microscopic review of data delineated that maximum 12 (30%) patients were of 46-75 years, whereas few, 5 (12.50%) of them were from the age group between 18-31 years. Also it has been seen that slightly more than 2/3rd, 25 (62.50%) of the patients were male. In addition, most 28 (70.00%) of the patients were married. It was found that patients in the experimental group and control group had homogeneity in their socio-demographic characteristics i.e. habitat, religion, educational status and occupation. Furthermore, it was seen that more than half 26 (65%) patients were from the urban area. Moreover, more than half 24 (60%) were from Sikh religion and about one third 15 (37.50%) of the patients were Hindu. In addition one third 14 (35%) of the patients were having secondary education and only 8 (20%) of the patients were graduate and above. In addition 21 (52.50%) of the patients were non-working among experimental group and control group and nearly half 19 (47.50%) of the patients were working in both experimental group and control group. The percentage distribution of ventilator support among both experimental group and control group one third 8 (40%) of the patients were having ventilator support in experimental group whereas in control group 6 (30%) of the patients were on ventilator support. The major findings of the study revealed that the high gastric

residual volume was present only in control group i.e. 9 (30%) patients whereas it was absent among experimental group and it is highly significant as p=0.001. Therefore, it was concluded that the uninterrupted naso gastric feeding is better than intermittent naso gastric feeding in terms of gastrointestinal complications. The findings of the present study also revealed that gastrointestinal problems like diarrhoea, vomiting, constipation and abdominal distension was high in control group as compared to experimental group. This suggests that uninterrupted naso gastric feeding has less gastrointestinal complications as compared to intermittent naso gastric feeding. Therefore, efficacy of uninterrupted naso gastric feeding is higher as compared to intermittent naso gastric feeding among critically ill patients.

Discussion

Enteral nutrition is the preferred modality of support for seriously ill patients who have acceptable gastrointestinal functions but are unable to maintain oral diet. Inspite of the advantages i.e. enhancement of intestinal mucosal integrity, increased nutritional nutrient absorption, improvement of metabolic and immune response as well as reduction of cost, there are certain complications which present themselves clinically in the form of vomiting, constipation, diarrhoea, abdominal distension, high gastric residual volume and pulmonary aspiration of the gastric contents. Gastrointestinal complications associated with intermittent naso gastric feeding are very common. Moreover, many studies have shown that the uninterrupted naso gastric feeding is better as compared to intermittent naso gastric feeding while certain studies concluded that there was no statistically difference between these two feeding modes. There is lack of consensus over use of uninterrupted naso gastric feeding in comparison to intermittent naso gastric feeding.

Conclusion

The present study concluded that uninterrupted naso gastric feeding is better than the intermittent naso gastric feeding in reference to the gastrointestinal complications. Therefore, initially the uninterrupted naso gastric feeding can be started among critically ill patients as compared to the intermittent naso gastric feeding to control gastrointestinal problems.

Conflict of Interest- None

Source of Funding- Self

Ethical Clearance: The quasi experimental study was approved by research and ethical committee of DMC & Hospital, Ludhiana. Permission also has been sought from the head of department of critical care. An informed written consent from the patient/ legal guardian was also taken. Anonymity of patients and confidentiality of information was maintained. It was ensured that study did not affect the participants in any way. Furthermore, any complications experienced by the patient was dually recorded and reported to treating physicians and caring nurses. In addition, it was ensured that problem was adequately taken care.

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Effectiveness of Thirst Bundle on Thirst and Dry Mouth among Patients Admitted in Intensive Care Units

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Abstract

Thirst can be defined as a longing or desire to drink water, not necessarily generated by a physiological need, but also triggered by habit, taste, dry mouth or throat, the will to consume fluids that provide a sensation of heating or cooling.[1,2]Moderate to severe thirst was similarly reported by 70% of 100 ICU patients.20 Prevalence estimates for dry mouth may vary and are dependent on factors such as the nature of the sample (age, gender, health etc.)[3]. A quasi-experimental study by using purposive sampling technique was conducted on 40 patients admitted in ICUs of tertiary care hospital, Ludhiana, Punjab. Data was collected by using categorical thirst intensity scale and challecombe clinical oral dryness scale for thirst intensity and dry mouth. The findings of the study showed that Majority of the patients 14(70%) having very very thirsty level of thirst intensity among experimental group and 16(80%) of the patients having very thirsty level of thirst intensity among control group Pre-interventional. Most of the patients 13 (65%) among experimental group and Maximum of the patients 19 (95%) among control group were having Moderate dryness Pre-interventional. More than half of the patients 12(60%) having thirsty level of thirst intensity among experimental group and Majority of the patients 16(80%) having very thirsty level of thirst intensity among control group post interventional 20(100%) of the patients were having Mild clinical oral dryness among experimental group and Maximum of the patients 19(95%) were having Moderate dryness among control group Post-interventional. Majority of the patients having very very thirsty level of thirst intensity among the experimental group pre-interventional and post-interventional majority of the patients having thirsty level of thirst Intensity. Majority of the patients having moderate level of oral dryness, pre-interventional and all of the patients having mild level of oral dryness post-interventional. Comparison of Thirst intensity among experimental and control group patients found to be statistically significant. Comparison of oral dryness among experimental and control group patients found to be statistically significant.

Key Words: *Thirst bundle, thirst, dry mouth, patients, thirst intensity*

Introduction

Thirst can be defined as a longing or desire to drink water, not necessarily generated by a physiological need, but also triggered by habit, taste, dry mouth or throat, the will to consume fluids that provide a sensation of heating or cooling. Different factors can influence the presence and intensity of the thirst, including, age, comorbidity, nutrition and anxiety.[1,2] There is some confusion about the definition of dry mouth in the literature because the terms "xerostomia" and "salivary gland hypo function (SGH)" have been used interchangeably in relation to the subjective complaints and objective aspects of dry mouth. Xerostomia is the subjective symptom of dry mouth (this could be of a qualitative change in saliva).It is a sensation that is assessed only by directly questioning the individual.[2]According to its etiology, thirst can be osmotic or hypovolemic. Osmotic thirst derives from a slight increase of 1% to 2% in plasma osmolarity, which is able to stimulate the release of the antidiuretic hormone. When the compensatory mechanism provided by the osmotic changes is not effective, thirst is activated, prompting the body to seek water. In turn, hypovolemic thirst is associated with the need for hydric ingestion to restore plasma volume, and its regulatory mechanism depends both on the renin-angiotensin-aldosterone system and the adrenergic action.[1] Once thirst is present, the organism can be satiated in a pre- or post absorptive way[4]. In the pre-absorptive way, the

pressure and temperature receptors in the oropharynx monitor the impact of hydric ingestion even before the body absorbs the fluids, acting to regulate this act and interrupt the drinking[5]. In other words, the parts of the brain responsible for thirst satiety are activated without the need for a large volume of water. The post absorptive mechanism occurs when fluid is absorbed, balancing the blood osmolarity. The hospitalized patient experiences stress situations and deprivation of fluid ingestion, often for prolonged periods, which cause the symptom of "thirst".[6,7] Patients with chronic kidney disease on dialytic therapy have more intense thirst and xerostomia (dry mouth), and also need to maintain a diet with fluid restrictions to prevent hypertension, acute lung edema and congestive heart failure.[8,9] In intensive care units, patients face conditions that predispose them to develop the symptom "thirst", such as hydro electrolytic disturbances, dry mouth due to prolonged intubation and use of anticholinergic and opioid medications. In some cases, the difficulty communicating makes it impossible to report thirst, causing discomfort, stress, and irritability[10,11].The surgical patient is exposed to a confluence of factors that result in thirst, such as preoperative fasting, anxiety, surgical-anaesthetic drugs, intubation, intraoperative bleeding, and prolonged oxygen therapy[12]. Thirst is, therefore, a symptom that is present in clinical practice, but frequently undervalued, often unnoticed by the health team, although always recorded in the reports of individuals who experience it.[13]

Material and Method

The present study was based upon the quantitative research approach. A Quasi-experimental design was used to assess the effectiveness of thirst bundle on thirst and dry mouth among patients admitted in ICUs. The present study was conducted at selected ICUs of Dayanand Medical College & Hospital, Ludhiana, Punjab. the population for the present study comprised of critically ill patients with thirst and dry mouth. Purposive sampling technique was used for the present study to draw sample from the target population, Total of 40 critically ill patients (20 Experimental Group and 20 Control Group) were included as subjects. The study tool comprises of three parts. These were- PART A (I):- It includes Socio-demographic profile of critically ill patients admitted in ICUs. The profile has 09 components including Age, Gender, Educational Status, Occupation, Marital Status, Habitat, Religion, Type of family, Socio economic Status (as per Kuppuswamy's Scale 2018). PART A (II):- It includes Clinical profile of critically ill patients admitted in ICUs. The profile has 06 components including Diagnose, Type of illness, Duration of illness, Duration of ICUs stay, Type of medications and Type of feeding. PART (B):- It includes standardized Categorical thirst intensity scale to assess the thirst intensity among critically ill patients. It includes 7 points to assess the thirst intensity among critically ill patients admitted in ICUs. PART (C):- It includes standardized Challacombe scale of clinical oral dryness to assess the dry mouth among critically ill patients. The scale has 10 statements to assess the dry mouth among critically ill patients admitted in ICUs. Content validity of tools was determined by expert's opinion. The reliability of standardized Categorical thirst intensity scale is pre-determined by inter-rater method and tool was found to be reliable as r = 0.90 and the reliability of standardized Challacombe scale of clinical oral dryness is determined by inter-rater method and tool was found to be reliable as r = 0.84. Data was collected on the basis of inclusion and exclusion criteria the subjects were selected for the study by purposive sampling technique. Data related to Socio-demographic and clinical profile was collected from subjects through self-report by using interview schedule. Categorical Thirst Intensity Scale and Challacombe Scale of clinical oral dryness were used to collect the data regarding Thirst intensity and oral dryness severity by observation. Minimum of 30 minutes (3 sessions of 15 min each for 3 consecutive days) was spent for data collection on each patient. Information regarding Socio-demographic profile and clinical profile was obtained, Pre assessment of patients for thirst intensity (by using categorical thirst intensity scale) and dry mouth (by using Challecombe scale of clinical oral dryness), Intervention (Sterile cold water swab, Sterile ice cold water, Sterile Menthol Water Spray) for each patient for 10 minutes for 3 consecutive days (only in experimental group),Post assessment of patients for thirst intensity (by using categorical thirst intensity scale) and dry mouth (by using Challecombe scale of clinical oral dryness.

Major Finding of the Study

In Experimental Group- Half of patients10 (50%) were in the age group of 31 to 40 years. More than half of the patients 13 (65%) were working. Majority of the patients 16 (80%) were married. More than half of the patients 13 (65%) were from Nuclear family. More than half of the patients 13 (65%) were having acute type of illness. Majority of the patients 17 (85%) were having 06 – 15 days duration of ICUs stay.

Table No.1 Frequency Distribution of Patients as per their pre-interventional Thirst intensity among experimental and control group. **N=40**

Level of Thirst Intensity	Experimental Group (n1 = 20)		Control Group (n2 = 20)	
	f (%)	Mean±SD	f (%)	Mean±SD
Thirsty	00(00)	--	01(05)	04.00±00.00
Very Thirsty	06(30)	05.00±00.00	16(80)	05.00±00.00
Very Very Thirsty	14(70)	06.00±00.00	03(15)	06.00±00.00

Maximum Score = 06
Minimum Score = 00

All of the patients 20 (100%) were on I/V type of medication. Majority of the patients 17 (85%) were on I/V Fluids/TPN feeding. In Control Group- Majority of the patients 14 (70%) were males. Half of the patients 10 (50%) were working. Majority of the patients 18 (90%) were married. Majority of the patients 15 (75%) were from urban area. Majority of the patients 16 (80%) were having acute type of illness. Most of the patients 14 (70%) were having 06 – 15 days of duration of ICUs. stay. All of the patients 20 (100%) were on I/V type of medication. Some more important findings were, Majority of the patients 14 (70%) having very very thirsty level of thirst intensity pre-interventional among experimental group.

Table No.2 Frequency Distribution of Patients as per their Pre-interventional Severity of Dry Mouth among experimental and control group.

N=40

Types of Dryness Severity	Experimental Group (n1 = 20)		Control Group (n2 = 20)	
	f (%)	Mean±SD	f (%)	Mean±SD
Mild	00(00)	--	00(00)	--
Moderate	13(65)	05.07±00.75	19(95)	04.89±00.87
Severe	07(35)	07.14±00.37	01(05)	07.00±00.00

Maximum Score = 10

Minimum Score = 00

Majority of the patients 16 (80%) of the patients having very very thirsty level of thirst intensity pre-interventional among control group. Most of the patients 13 (65%) were having Moderate dryness pre interventional among experimental group. Maximum of the patients 19 (95%) were having moderate dryness pre-interventional among control group. More than half of the patients 12 (60%) having thirsty level of thirst intensity post-interventional among experimental group. Majority of the patients 16 (80%) having very thirsty level of thirst intensity post-interventional among control group.

Table No.3 Frequency Distribution of Patients as per their Post interventional Thirst intensity among experimental and control group.

N=40

Level of Thirst Intensity	*Experimental Group (n1 = 20)*		*Control Group (n2 = 20)*	
	f (%)	**Mean±SD**	**f (%)**	**Mean±SD**
Neutral	08(40)	00.30±00.00	00(00)	--
Thirsty	12(60)	00.40±00.00	04(20)	04.00±00.00
Very Thirsty	00(00)	--	16(80)	05.00±00.00

Maximum Score = 06

Minimum Score = 00

20 (100%) of the patients were having Mild clinical oral dryness post-interventional among experimental group. Maximum of the patients 19 (95%) were having Moderate dryness post-interventional among control group.

Table No. 4 Frequency Distribution of Patients as per their Post-interventional Dry Mouth among experimental and control group.

N=40

Types of Dryness Severity	*Experimental Group (n1 = 20)*		*Control Group (n2 = 20)*	
	f (%)	**Mean±SD**	**f (%)**	**Mean±SD**
Mild	20(100)	02.10±00.55	01(05)	03.00±00.00
Moderate	00(00)	--	19(95)	04.31±00.47
Severe	00(00)	--	00(00)	--

Maximum Score = 10
Minimum Score = 00

Thirst intensity within the group among experimental group and control group were found to be statistically significant at (p = 0.00*) and (p = 0.03*) and between the groups both in pre- test and post -test found to be statistically significant at (p = 0.00*) (p= 0.00*).

Table No.5 Comparison of Thirst Intensity of patients among experimental and control group in Pre-Test and Post-Test within the groups and between the groups **N=40**

Thirst Intensity Score	n	Pre-Test Mean±SD	Pre-Test Mean%	Post-Test Mean±SD	Post-Test Mean%	Paired t/p Value
Experimental Group	20	05.70±0.47	95.00	03.60±0.50	60.00	t = 11.91 p = 0.00*
Control Group	20	05.10±0.44	85.00	04.80±0.41	80.00	t = 02.34 p = 0.03*
Unpaired t/p Value		t = 4.13 p = 0.00*		t = -8.27 p = 0.00*		

(*significant p≤0.05) (NS Non-significant p≥0.05)

Severity of oral mouth within the group among experimental group and control group were found to be statistically significant at (p = 0.00*) and (p = 0.002*) and between the groups both in pre- test and post -test found to be statistically significant at (p = 0.02*) (p= 0.00*).

Table No.6 Comparison of Dry Mouth of patients among experimental and control group in Pre-Test and Post-Test within the Groups and between the groups

N=40

Dry Mouth Score	n	Pre-Test Mean±SD	Pre-Test Mean%	Post-Test Mean±SD	Post-Test Mean%	Paired t/p value
Experimental Group	20	05.80±1.19	58.00	02.10±0.55	21.00	t = 12.33 p = 0.00*
Control group	20	05.00±0.97	50.00	04.25±0.55	42.50	t = 3.88 p = 0.002*
Unpaired t/p Value		t = 2.32 p = 0.026*		t = -12.33 p = 0.00*		

(*significant p≤0.05) (NS Non-significant p≥0.05)

Discussion

The analysis of the present study revealed that 14 (70%) of the patients having very very thirsty level of thirst intensity followed by 06 (30%) of the patients having very thirsty level of thirst intensity. Most of the patients i.e. 13 (65%) were having Moderate level of type of dryness severity and 07 (35%) patients were having Severe type of dryness severity among experimental group. The present study showed that the investigator plan a thirst bundle for the patients who were having thirst and dry mouth and implement it on the patients to see the effectiveness of it on thirst and dry mouth. Findings of the present study showed that level of thirst intensity and level of oral dryness significantly fall (in experimental group) after applying thirst bundle among admitted patients in ICUs. Findings of the present Study showed that the level of thirst intensity and level of oral dryness found to statistically significantly within and between the groups.

Conclusion

Majority of the patients having Very Very Thirsty Level of Thirst Intensity among the experimental group pre-interventional and post-interventional majority of the patients having Thirsty Level of Thirst Intensity. Majority of the patients having moderate level of oral dryness pre-interventional and all the patients having mild level of oral dryness post-interventional. Comparison of Thirst intensity among experimental and control group patients found to be statistically significant. Comparison of Oral Dryness among experimental and control group patients found to be statistically significant.

Conflict of Interest- None

Source of Funding- Self

Ethical Clearance: The Quasi-experimental study was approved by research and ethical committee of DMC & Hospital, Ludhiana. The subjects were explained about the objectives and activities of research projects. Instructions were given to them and they were assured that their responses would be kept confidential by providing information sheets and informed consent was obtained from the patients.

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Relationship of Radiological Abnormalities and the Level of Pain in Patients with Knee Joint Osteoarthritis in Kendari City General Hospital

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Abstract

Background: The aims of this study determine the correlation between radiological abnormalities staging and pain level with osteoartritic of knee joint of Rumah Sakit Umum Daerah Kota Kendari. **Method:** This research is an observasional analytic study with cross-sectional approach. 37 sampels were acquired through total sampling. Data were analyzed using the Spearman correlation test (p value <0,05). **Result:** Result of the univariat analysis show that most patients have moderat radiological abnormality that was 12 (32.43%) and most of patient have severe pain level that was19 (51.35%). Based on bivariat statistical test, a positive correlation was obtained between radiological abnormalities staging and pain level with osteoartritic of knee joint with p=0,000 and r=0,831. **Conclusion**: There was a significant correlation between radiological abnormalities staging and pain level with osteoartritic of knee joint of Rumah Sakit Umum Daerah Kota Kendari.

Keywords: *Osteoarthritic, Radiological abnormalities staging, Pain level*

Introduction

Osteoarthritis (OA) is one of the 10 main causes of disorders of joint movement. Osteoarthritis may cause the quality of life OA sufferers to decrease[(1)]. It is estimated that OA will be the fourth highest in 2020 as a disease causing disability in the world[(2)]. Osteoarthritis is one of the most common forms of arthritis affecting 15% of the world's population, which usually affects the joints (knee joints)[(3].

OA sufferers generally complain of pain when doing daily activities, work related to loading on the affected joints[(4),(5)]. Severe pain can occur continuously, which greatly interferes with the patient's mobility.

According to the American College of Rheumatology, the diagnosis of OA refers to knee pain and osteophytes on X-ray images, as well as at least one of these signs and symptoms at more than 50 years of age, joint stiffness in the morning less than 30 minutes and the presence of crepitations during physical examination[(6)].

Joint pain is usually the main complaint of patients when visiting a doctor. OA radiographic classification according to Kellgren-Lawrence criteria shows Level 0 shows an abnormal radiographic picture. Level 1 is doubtful, osteophytes appear in small size. Level 2 is minimal, looks osteophyte, normal joint gap. Moderate is grade 3, clear osteophytes, narrowing of joint gaps. A level 4 is severe, narrowing of severe joint gap and the presence of sclerosis[(6)].

Geno osteoarthritis is a major cause of morbidity, impaired physical activity and reduced quality of life for osteoarthritis sufferers, especially at the age of 45 years and above. Osteoarthritis has a significant impact on social and economic life[(7)].

The prevalence of OA at 61 years old in Indonesia reaches 5%. The prevalence of joint disease in Indonesia is based on diagnosis by health professionals, which is 11.9% and based on symptoms of 24.7%. Female OA sufferers are the most (27.5%) compared to men (21.8%) [(8)].

Based on data at the Kendari City General Hospital in 2018, the estimated number of outpatients with osteoarthritis was 266 in 2017 and in 2018 January to August there were 211 patients[(9)].

Based on research conducted by[10] about the relationship of the level of pain with the level of radiologic abnormalities of osteoarthritis patients at Tugurejo Regional Hospital Semarang, the results show that there is a relationship between the level of pediatricita's radiological abnormalities and the level of pain in genuary osteoarthritis sufferers.

Therefore, osteoarthritis was chosen as the object of this study because of the increasing prevalence of osteoarthritis in Indonesia, including in Southeast Sulawesi. Researcher are interested to see the relationship between the level of radiological abnormalities and the level of pain in patients with osteoarthritis of the knee joint in the Kendari City General Hospital.

Material and Method

This type of research is observational analytic with cross sectional approach. The research was conducted in November to December 2018 at the Orthopedy Polytechnic of the Kendari City Regional General Hospital and at the homes of respondents. The sampling technique in this study was a total sampling of 37 respondents out of 37 respondents who were diagnosed with osteoarthritis in poly orthopedics in Kendari City Hospital.

Primary data collection is done by filling out research forms and pain assessment instruments to respondents. Data analysis was performed using the Spearman statistical test, with a p value <0.05 with the help of SPSS 16. This study was approved by the Health Research Ethics Commission of the Research Institute and Community Services at the University of Halu Oleo.

Findings

Characteristics of Research Samples

Table 1 in this study shows the frequency distribution of research components including gender, age, BMI, level of pain and level of radiologic abnormalities with the number of samples in this study were 37 respondents.

Of the total sample, samples with male gender are as many as 10 (27%) people and samples with female gender are as many as 27 (73%) people. Thus it is known that the majority of research samples are female. In the age group of the middle elderly (56-65 years). as many as 18 respondents (48.6%)

In measuring the level of pain, there were 6 (16.2%) people with mild pain, 12 (32.4%) moderate pain and 19 (51.4%) severe pain. Thus it is known that the majority of study samples experienced severe pain.

The results of the measurement of the level of radiological abnormalities of patients with osteoartitis of the knee joint were found in 10 (27.0%) samples of people with dubious radiological abnormalities (level 1), minimal radiological abnormalities (level 2) as many as 9 (24.3%) people, moderate level of abnormality radiologic (level 3) 12 (32.4%) people, and severity of radiologic abnormalities (level 4) 6 (16.2%) people. Thus, the majority of the study sample had moderate levels of radiologic abnormalities.

Table 1. Distribution of sample characteristics based on sex, age, BMI, level of pain and level of radiological abnormalities in Kendari City Hospital.

No.	Variabel	Frequency (n)	Percentage (%)
1.	Gender		
	Male	10	27%
	Female	27	73%
2.	Pain Level		
	Mild = NRS 1-3	6	16,2%
	Moderate = NRS 4-6	12	32,4%
	Severe = NRS 7-10	19	51,4%
3.	Level of Radiology abnormalities		
	Level 1= Doubting	10	27,0%
	Level 2= Minimal	9	24,3%
	Level 3=Average	12	32,4%
	Derajat 4=High	6	16,1%
Total		37	100%

Bivariate analysis

The relationship between the level of radiological abnormalities with the level of pain in patients with osteoarthritis of the knee joint in the City Hospital of

Kendari.

Based on Table 2, shows the samples that experienced doubtful levels of radiological abnormalities (grade 1) and the level of mild pain were as many as 5 (50%) people. Samples with dubious radiological abnormalities (grade 1) and moderate pain levels were present in 5 (50%) people. Samples that experienced minimal levels of radiological abnormalities (level 2) and mild pain levels were as many as 1 (11.1%) people. Samples that experienced minimal levels of radiologic abnormalities (level 2) and moderate pain levels were present in 6 (66.6%) people. Samples who experienced minimal levels of radiological abnormalities (level 2) and severe pain levels were as many as 2 (22.2%) people. Samples who experienced moderate levels of radiological abnormalities (grade 3) and moderate pain levels were present in 1 (8.3%) person. Samples who experienced level of radiological abnormalities (level 3) and level of severe pain were as many as 11 (91.6%) people. Samples who experienced severe levels of radiological abnormalities (level 4) and levels of severe pain were as many as 6 (100%) people.

Table 2. Analysis of the relationship between levels of radiological abnormalities with the levels of pain in patients with osteoarthritis of the knee joint in the Kendari City Hospital.

Bivariate analysis		**Level of Pain**						**amount**		**Spearman test**
	Mild		**Moderate**		**Severe**					
	n	**%**	**n**	**%**	**n**	**%**	**n**	**(%)**		
Level of Radiological abnormalities	Doubting (Level 1)	5	50	5	50	0	0	10	100	P=0,000 r=0,831
	Minimum (Level 2)	1	11,1	6	66,6	2	22,2	9	100	
	Average (Level 3)	0	0	1	8,3	11	91,6	12	100	
	High (Level 4)	0	0	0	0	6	100	6	100	
Total		6	16,2	12	32,4	19	51,3	37	100	

Based on the data in table 2, it can be stated there is a relationship between the level of radiological abnormalities with the level of pain in patients with osteoarthritis of the knee joint in the General Hospital of Kendari City with the Spearmen test showing the results in the form of significance values p = 0,000 and r = 0.831.

Discussion

This study shows that osteoarthritis of the knee joint is higher in women compared to men. The results of this study are in line with research conducted by[11] which states that OA patients are 68.3% more female than male OA patients with a percentage of 56.8%. From these figures it can be seen that the incidence of knee OA tends to be experienced by women. This is in line with the concept of the theory that as a whole at the age of 50 years, the frequency of OA is more common in women (after menopause) which shows hormonal factors that also play a role in the incidence of OA.

This study shows that the majority of knee joint OA patients experience severe pain with a percentage of 51.4%. The results of this study are in line with the study of Elen Mahmud Lakum (2011) who got results on knee OA patients with severe pain by 50.5% more than moderate pain which was 48.5%.

The most common level of radiological abnormalities in this study was at level 3 moderate (32.4%), followed by level 1 doubts (27%), minimal level 2 (24.4%), level 4 severe (16.2%). These results are in line with research conducted by[12] who obtained the highest level of radiological abnormalities at level 3 (moderate) with a percentage of 61.4%.

This study shows that there is a relationship between the level of radiologic abnormalities with the level of pain in patients with osteoarthritis of the knee joint which can be seen at a significance value of p = 0,000 (<0.05) with a correlation coefficient r = 0.831 which indicates a positive correlation. These results are in line with research conducted by[10] with the Chi-Square Test showing the value of p = 0,000 (<0.05) and research conducted by[13] with the results of the spearman test showing the correlation coefficient (r) equal to 0.58 with probability (p) = 0.001. It can also be interpreted that the higher the level of radiologic abnormalities, the higher the level of pain.

Pathophysiologically osteophytes cause the periosteal reaction and nerve suppression and directly cause pain and decrease the size of the femorotibia joint gap from normal size. Increased intramedullary pressure, subchondra fracture may also trigger pain[10].

Osteoarthritis is a degenerative joint disease with slow progressive development which has a characteristic pathological picture in the form of worsening of joint cartilage as a result of biochemical, metabolic, physiological and pathological changes[14].

Types of pain in osteoarthritis sufferers include non-neurogenic musculoskeletal pain, also known as altralgia, which is pathogenic pain in the joints. The mechanism of pain in OA occurs due to a pathological condition that affects cartilage and joints, where osteophyte formation occurs in joint cartilage and subchondaral tissue which causes a decrease in joint elasticity. In addition to the joint surface (joint cartilage), it also affects areas around the joint such as the subchondral bone, capsule ligament that encloses the joint and the muscles that are attached close to the joint. Changes that occur on the surface of the joints (hyalin cartilago) associated with biochemical changes below the surface of the cartilage that increases the synthesis of thymidine and glycine[15].

This initial lesion is followed by progressive destruction of the cartilage. As a result of the imbalance between regeneration and degeneration, there will be softening, splitting and peeling of the joint-prone layers that will be released as corpus libera which can cause locking when the joints move[15].

An increase in firbrinolytic activity in patients with OA causes a buildup of thrombus and lipid complexes in subcondra veins which causes ischemia and necrosis of subcondra tissue. The release of chemical mediators such as prostaglandin and inteleukin will cause bone angina through subcondra known to contain sensible nerve endings that can deliver pain because the tissue will release K + and intracellular protein[6].

Increased levels of K + in extracellular will cause depolarization of nociceptors and protein in some circumstances will infiltrate microorganisms causing inflammation. As a result, pain mediators are released such as leukotrin, prostaglandin E2, and histamine will stimulate the nociceptor, so that the transduction process occurs, the afferent nerve process translates the stimulus in the nociceptive impulse and then the transmission process is continued. Amplification of neural signals related to pain and perception processes occur in the brain[6].

In the subchondral bone the process of repair is in the form of sclerosis with increased bone activity and the formation of spurs on the edges of joints that can limit movement[16],[17]. The bones under the cartilage become hard and thick and there is a change in the shape and suitability of the joint surface. If the damage continues then the shape of the joint becomes irregular with the narrowing of the joint gap, osteophytes, instability and deformity[10].

With the formation of osteophytes it will irritate the synovial membrane where there are many pain receptors and this will cause hydrops[1]. Due to the exposure of polymodal nerve endings that are around the joints due to the formation of osteophytes that suppress the periosteum and nerve roots from the spinal cord, and the swelling and thickening of soft tissue around the joints and increased intamedullar pressure due to static intra-medullary veins due to the remodeling process in the trabeculae and subcondra, will cause tenderness and

motion pain[10].

Conclusion

Based on the results of this study, it can be concluded that the majority of sufferers of knee joint OA in Kendari City General Hospital experienced moderate level (level 3) radiological abnormalities (32.4%), severe pain level (NRS 7-10) of 51.4% and there is a significant relationship between the level of radiological abnormalities with the level of pain in patients with osteoarthritis of the knee joint in the Kendari City General Hospital with a significance value of p = 0,000 (<0.05) with a correlation strength of r = 0.831. Health services should provide counseling to patients to avoid risk factors for osteoarthritis and factors that can affect patient pain levels. For the people, they should always get used to a healthy life that is exercising regularly, losing weight if overweight, consuming healthy food and drinks to avoid all kinds of diseases, both infectious and non-communicable diseases. For future researchers, in order to be able to continue this research by adding other independent variables to look for other risk factors associated with the degree of pain in patients with osteoarthritis.

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Knowledge of Menstrual Hygiene among Adolescent Chepang School Girls in Makwanpur District Nepal

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Abstract

Background: Menstruation is a periodic discharge of blood, mucus lining of uterus through vagina which occurs monthly from menarche till menopause for reproductive age women. Menstrual hygiene is an important part of basic hygiene, sanitation and reproductive health. It is a vital aspect for health education for adolescent girls to prevent the risk of reproductive tract infections.

Objective: To assess the effectiveness of educational intervention on knowledge of menstrual hygiene among adolescent chepang school girls.

Methodology: Evaluative research approach with pre -experimental (one group pretest- posttest) research design was used for the study. The study population was adolescent Chepang girls of chepang school of Makwanpur district. Sample size of the study was 52. Non probability purposive sampling technique was used to select the schools of Chepang girls. For data collection firstly pretest knowledge was assessed using self-developed structured questionnaire and then structured teaching program was administered. After 7 days of teaching program, post test was conducted to assess the effectiveness of structured teaching program. Semi-structured Self-administered questionnaire was used for data collection. Data was analyzed via SPSS software version 16.

Result: During pretest 13.5% of girls had high knowledge on menstrual hygiene; 78.8% girls had medium knowledge and 7.7% had poor knowledge, whereas in posttest 96.2% had high knowledge and 3.8% of girls had medium knowledge. Mean score in pretest is 15.2308, whereas in posttest mean score is 23.2692.

Conclusion: Educational intervention on knowledge on menstrual hygiene was effective. So information and education programme should be planned in a regular basis in backward community targeting to school girls to improve knowledge on menstrual hygiene.

***Key words**: Knowledge, Menstrual hygiene, Adolescent Chepang girls.*

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Introduction

Menstrual hygiene is an important part of basic hygiene, sanitation and reproductive health services for which every woman and girl has a right. However, menstruation is often seen as taboo, with many negative cultural attitudes associated with it, including the idea that menstruating women and girls are contaminated, dirty and impure. Menstrual hygiene is a vital aspect for

health education for adolescent girls to prevent the risk of reproductive tract infections[1]. Unhygienic menstrual practices may affect the health resulting increase vulnerability to Reproductive Tract Infections (RTI's), Pelvic Inflammatory Diseases (PIDs) and many other complications[2].

Chepangs are the earliest known inhabitants of Nepal and one of the most backward indigenous nationalities of Nepal. Nepal Federation of Indigenous Nationalities (NEFIN) has categorized. Total population of Chepang is 68,399 out of which male population is 34,620 and that of female population is 33,779 (National Population and Housing Census, 2011) [3]. Chepangs "as the second most backward/marginalized community" from the bottom list from among the 59 marginalized Indigenous Communities Almost 90 percent of Chepangs are living under utter poverty earning around 6,000 Nepali rupees per capita annually. They have no land as their own, no citizenship and more over they struggle for food which is a very basic need Further while only 23 percent of them are literates, literacy rate among Chepang women is only 1 percent[4].As chepang community literacy rate suggest that illiteracy directly impact about knowledge on menstrual hygiene. So, educational intervention about menstrual hygiene is essential in this community.

About 82% of Nepali women living in rural area, the use of unhealthy, unhygienic and possibly dangerous menstrual hygiene management methods push Nepali women deeper into marginalization and reproductive health morbidity. Adolescent girls often lack knowledge on reproductive health including menstrual hygiene due to various socio-cultural barriers prevalent within the society they live.[5] In the context of Nepal menstruation is surrounded with various restrictions such as prohibition from religious activities, cooking, attending various functions. These taboos create ignorance on the physiology of menstruation and therefore the experience of menstruation creates a fear, shame and disgust among young girls. Due to these reasons girl's attitude and expectations about menstruation have become negative leading to poor menstrual hygiene which is associated with high prevalence of Reproductive Tract Infections.[6]

Menstrual hygiene is a great challenge faced by girls in low income countries and is receiving increasing attention as a public health issue. It is difficult for girls to hygienically and confidently take care of themselves during menstruation when they have poor access to adequate facilities, or they cannot access appropriate sanitary materials because of financial or supply issue in rural areas [7]. Adolescent girls often lack the knowledge regarding reproductive health including menstruation due to various prevailing socio-cultural barriers of the society. These knowledge gaps create various problems in the life of adolescents (Kamath, Ghosh, Lena, & Chandrasekaran, 2013).[5]

A study conducted on adolescent girls in 3 schools including students of 8, 9 and 10 class of Shivanagar and Patihani VDC of Chitwan district concluded with only 40.6% with overall knowledge on menstrual hygiene. So, the study concluded girls should be educated about the process of menstruation, use of proper pads or absorbents and its proper disposal (Adhikari, Kadel, Dhungel, & Mandal, 2007)[8]. Another study among the adolescent girls of Sunsari found that various traditional beliefs on menstruation still persist and menstrual hygiene was found to be unsatisfactory among adolescents. The need of interventions regarding awareness on menstrual hygiene was also highlighted. Further the study also concluded the menstrual hygiene as an issue that needs to be addressed at all levels[9]

A school-based intervention study was conducted among adolescent girls in Bangladesh revealed that in pretest the knowledge score was 51% which increased in 82.4% in posttest. This shows that there was an increase in knowledge score after an educational program [10].

Overall menstrual hygiene is an important aspect on a life of a girl to determine her reproductive health. With the beginning of the menstruation the knowledge and education intervention on menstrual hygiene is necessary. The chepang being economically deprived, backward and illiterate, so education intervention on knowledge on menstrual hygiene is necessary.

Methodology

Evaluative research approach with pre – experimental-one group pretest- posttest research design was used to assess the effectiveness of educational intervention on Knowledge on menstrual hygiene among Chepang girls studying in grade 6, 7 and 8 at Shree Praia Basic School which is the school of Chepang community. The Sample size was 52 and Non Probability purposive sampling technique was used. Data was collected by using structured Self-administered questionnaire. Validity of the research instrument was established by consulting with the subject experts and extensive review of literature. Reliability of the research instrument was

maintained by pretesting it with 10% of sample of Chepang girls and modification was done. Those girls were excluded in data collection.

Data collection was completed in 3 phases. In first phase educational package was prepared which includes introduction to menstruation, menarche, menopause, and hygiene during menstruation, materials usage/disposal, complications associated with poor hygiene, myths and misconception regarding menstruation. Structured questionnaire developed with 24 items to assess the knowledge of adolescent Chepang girls regarding menstrual hygiene. The questionnaire was divided into three parts: socio demographic information, Questions related to menstrual experience and questions related to knowledge on menstruation and menstrual hygiene.

Each question has 2 or 4 alternative responses. A score value of 1 was allotted to each correct response and 0 was given for wrong responses. Total score ranges from 0-24. The scoring was then divided as: <40% : poor knowledge 40-70% : medium knowledge >70%: high knowledge.[10] In second phase Pretest was done on 21 July 2017 with the structured knowledge questionnaire to assess the level of knowledge on menstrual hygiene. Consent was taken and explained the objectives of the educational intervention. It took 20-25 min for the completion of the questionnaire. Educational intervention was provided by using educational package after pretest. As per lesson plan intervention took almost 60 min. Educational intervention was provided with the help of different audio visual aids. In the last phase post-test was done after 7 days of the intervention on 28 July 2017 with the same questionnaire which was used for pretest. The data obtained from the study was analyzed using Statistical Package for Social Sciences (SPSS) version 20.Data was presented by using descriptive statistics that is percentage, frequency, and median and by inferential statistics, Wilcoxon Sign Rank test.

Results

Table 1: Frequency and percentage distribution of Knowledge on Menstruation

n=52

Variables	Pretest		Posttest	
	Correct response		Correct response	
	Frequency	Percentage	Frequency	Percentage
Definition of menstruation	49	94.2	52	100
Cause of menstruation	31	59.6	52	100
Bleeding organ during menstruation	37	71.2	52	100
Age of menarche	46	88.5	52	100
Normal duration of menstrual flow	45	86.5	52	100
Duration of menstrual cycle	38	73.1	49	94.2

Table 1 shows that majority of the respondents 94.2% know that the menstruation is a physiological process in pretest which increased to 100% in posttest. similarly 71.2% of respondents gave uterus to be the bleeding organ during menstruation which increases to 100% in posttest. Similarly 73.1% of respondents gave correct answer of 25-35 days as normal duration of menstrual cycle which increases to 94.2% on posttest.

Table 2: Frequency and percentage distribution of Knowledge on menstrual hygiene n=52

Variables	Pretest Correct response		Posttest Correct response	
	Frequency	Percentage	Frequency	Percentage
Definition of menstrual hygiene	39	75	52	100
Menstrual blood unhygienic	26	50	48	92.3
Poor menstrual hygiene lead infection	42	80.8	51	98.1
General measures for menstrual hygiene	28	53.8	50	96.2
Bathing during menstruation period	32	61.5	47	90.4
Cleaning of external genitalia during menstruation	33	63.5	52	100
Hand washing during menstruating period	41	78.8	52	100
Heavy bleeding lead to anemia	11	11.2	48	92.3
Food containing Iron	38	73.1	51	98.1
Complication of poor menstrual hygiene	19	36.5	49	94.2
Menstruating girls aren't foul smelling	31	59.6	48	92.3

Table 2 shows that about the menstrual hygiene 50% girls know that poor menstrual hygiene leads to infection and only 11% answered heavy bleeding lead to anemia which increased to 92 %,similarly 36.5% answered about complication of poor menstrual hygiene, after the intervention it increased to 94.2%

Table 3: Knowledge on materials used during menstrual n=52

Variables	Pretest		Posttest	
	Correct response		Correct response	
	Frequency	Percentage	Frequency	Percentage
Material used during menstruation period	14	26.9	51	98.1
Kind of pad used during menstruation	37	71.1	49	94.2
Frequency of changing pad	20	38.5	49	94.2
Washing of clothes pad	51	98.1	52	100
Drying of clothes pad	33	63.5	51	98.1
Time period for using same cloth as a pad	3	5.8	49	94.2
Disposal of pad	48	92.3	52	100

Table 3 shows that only 26.9% of respondents gave correct answer on the materials that can be used during menstruation in pretest which increases to 98.1% .Likewise 71.1% respondents gave correct answer on the type of cloth that can be used as a pad which increases to 94.2% in posttest. 38.5% of the respondents had correct answer on the frequency of changing pad in pretest which increases to 94.2% after the intervention.

Table 4: Overall knowledge scores on menstrual hygiene before and after educational intervention according to grade **n=52**

Grade	Knowledge level	Pretest		Posttest	
		Frequency	Percentage	Frequency	Percentage
	High knowledge	-	-	10	19.24
Six	Medium knowledge	8	15.38	2	3.84
	Poor knowledge	4	7.69	-	-
Seven	High knowledge	1	1.9	19	36.54
	Medium knowledge	18	34.62	-	-
	Poor knowledge	-	-	-	-
Eight	High knowledge	6	11.56	21	40.38
	Medium knowledge	15	28.85	-	-
	Poor knowledge	-	-	-	-

Table 4 shows knowledge score on menstrual hygiene is increased alone with the increment of grade in the pre-test and posttest. Overall knowledge increased after the educational intervention in all grade.

Table 5: Overall knowledge scores on menstrual hygiene before and after educational intervention

n=52

Knowledge level	Pre test		Post test	
	Frequency	Percentage	Frequency	Percentage
High knowledge	7	13.5	50	96.2
Medium knowledge	41	78.8	2	3.8
Poor knowledge	4	7.7	-	-

In pretest 7.7% had poor knowledge, 78.8% had medium knowledge and 13.5% had high knowledge regarding knowledge on menstrual hygiene while in posttest 3.8% had medium knowledge and 96.3% had high knowledge.

Table 6: Effectiveness of educational intervention regarding knowledge of menstrual hygiene n=52

Variables	Pre-test			Post-test			P value
	Median	SD	IQR	Median	SD	IQR	
Knowledge	16.00	3.70805	16(18-12)	24.00	1.4966	24(24-22)	.000

***Wilcoxon signed rank test**

The difference between respondents' pretest and posttest knowledge on menstrual hygiene was calculated by Wilcoxon signed rank test and the calculated p-value was highly significance ($p<0.05$). Hence, null hypothesis is rejected and alternative hypothesis is accepted, that is there is significant difference in knowledge on menstrual hygiene after educational intervention.

Discussion

The present study revealed that 94.2% respondents had knowledge on menstruation as a physiological process in pretest which increased to 100% in posttest. This result is supported by study conducted in Mumbai which reported increased in knowledge in posttest in comparison to pretest.[11] Likewise 59.6% respondents had the knowledge on cause of menstruation before intervention which increases to 100%. The finding of this study is supported by another study which reported 52.1% in pretest and 96% in posttest. This study shows that 73.1% respondents had correct knowledge on duration of menstrual cycle in pretest which increased to 94.2% in posttest. The finding is similar to the another study which reported 78.5% in pretest and 95% in posttest.[6]

Regarding the cleaning of external genitalia 63.5% had proper knowledge which increased to 100% in posttest. The finding of the study is congruent with the study which reported 43.33% knowledge on pretest which increased to 97.33% in posttest.[12]

Similarly present study revealed that 11.2% respondents had knowledge on heavy bleeding during menstruation leads to anemia before intervention which increased to 92.3% after intervention. The finding of this study is congruent with the another study which reported 12.91% respondents with the knowledge in pretest and 99.54% in posttest.[2]Present study revealed that only 38.5% respondent had correct knowledge on frequency of changing pad in pretest which increased to 94.2% in posttest.

Present study found that there was highly significance between pretest and posttest knowledge scores ($p<0.05$). after educational intervention which was calculated by Wilcoxon sign rank test. The finding of this study is supported by a study which concluded significance difference between pretest and posttest knowledge score.[13]

The study was conducted in small sample size of the respondents of only 52, so the results cannot be generalized in whole population.

Conclusion

Thus it can be concluded that educational intervention plays an important role in improving the knowledge on menstrual hygiene. Education program with effective teaching strategy motivates adolescent girls to follow healthy practices in day to day life and prevent morbidity and mortality related to lack of hygienic practices.

Recommendations

School curriculum can include menstrual hygiene management in the subject book to increase the knowledge on menstrual hygiene among adolescent school girls and awareness program can be lunched.

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Assessment of Knowledge Regarding Computer Related Health Problems among College Students

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Abstract

The Voluminous usage of computers is a necessity of academic area. The use of Personal Computer has grown tremendously to the extent that today millions of people around the world are using computers and extensive use of the computer creates drastic health hazards on the users. The paper is based on a study conducted to assess the knowledge regarding computer related health problems among college students" was based on the objectives, to assess the knowledge regarding computer related Health Problems among college students, to seek an association between the knowledge and some selected demographic variables. A quantitative (Non- Experimental) approach was applied and convenient sampling technique was used to select the sampling. The tool used for the study was validated and the reliability was also established. A total of 100 students were involved in the study of whom 62 % were male and 38% female aged between 22-25 years. Majority of the students 89% were from the middle class and 53% of the respondents belong to nuclear family whereas 66% of student's parents were educated. In regard to the level of education of maximum students involved in the study were from final and second year of course. The study has indicated that 29% of the respondents are having inadequate knowledge, 61% of them were found to be having moderate knowledge on the subject whereas rest of the sample were having adequate knowledge. So it was concluded that the majority of the respondent had moderate knowledge.

Key words: *computers, health problems*

Introduction

Computers play a vital role in human life. Computers are transformed every sector globally. This increases the crucial health issues among the users. The use of Personal Computer has grown tremendously to the extent that today millions of people around the world are using computer. Computers is an essence for the people but it causes lots of health issues, such as damaged eyesight, bad posture, arthritis in fingers and computer stress injuries that can be caused by sitting in one position for a long haul. The study has also brought into focus factors contributing to the occurrence of problems like

Ocular discomfort, musculo-skeletal and psycho-social disorders are key category of health problems found among constant computer users[1].

A rapid increase in the use of advanced machinery in the workplace has raised concern for the health and well-being of the computer users. Computers may predispose the users to health problems. Many individuals who work with computers reported high level of workplace complaints and symptoms such as ocular discomfort[2]

This is an important issue as computers become necessity of every edge of the world and the medical effects caused by them will elevate unless sufficient research is performed and time is devoted into eliminating and reducing these complications as much as possible. It is estimated that today at least 75% of all the employments involve in computer use. Increasing numbers of workers use computer for work day by day. While the survey was conducted significant relationship among psychosocial work factors, work stress and musculoskeletal discomfort, psychosocial work factors were found to be more important than others in both work stress and musculoskeletal discomfort[3].

India has been in the forefront in cyber world with IT industry developing into a major service provider. Computer-related headache and eyestrain are reported

during as many as 10 to 15% of routine eye testing, and some state that nearly 50% of VDT workers experience some eye discomfort[4]. A survey was conducted on prevalence of health disorders among computer professionals it was found that there was gradual increase in the visual and muscular skeleton complaints. The computer professional suffers from eye disorder as the human eye basically prefers to look at the objects greater than 6 m away, thus work done on computer demands a close- up view which strains eye muscles and thereby leads to eye disorder[5]. Computer related headache and eyestrain are reported during as many as 10 to 15 % of routine eye examinations. In India the major symptoms related to computer use reported by the ophthalmologist were eyestrain, headache, tiredness and burning sensation, watering and redness

Table 1: Distribution of the respondents regarding their socio-demographic characteristic

Demographic Variable		Frequency	Percentage (%)
Age	17-18	11	11
	19-20	12	12
	21-22	46	46
	23-24	31	31
Gender	Male	62	62
	Female.	38	38
Level of education	First Year	1	1
	Second Year	29	29
	Third Year	7	7
	Final Year	63	63
Socio-Economic Status.	Lower Class	3	3
	Middle Class	89	89
	Higher Class	8	8
Family Type	Nuclear	53	53
	Extended	47	47
Parent's Literacy	High secondary	66	66
	Graduate	26	26
	Post Graduate	8	8
Monthly Income	< 10,000	10	10
	11000-20,000	21	21
	21000-30,000	18	18
	>31,000	51	51

Results

The table No. 1 showed the distribution of the students regarding their demographic characteristics. The table indicated that majority (46%) of the respondents were within the age group of 21-24 years (11%) 17-18 year, and. The table also illustrated that the majority (62%) of the respondent were male and 38% were female. The finding of the study shows that 3% of the respondents are from the lower class family, 89% from the middle class and 8% from the higher class. It is also found that 53% of the respondents are from the nuclear family while 47% comes from an extended family respectively. Regarding the parents education the table shows that 66% of respondent's Parents were high secondary whereas 26 % were graduate and only 8% of the parents were postgraduate. Concerning the family income 51% of the respondent's family income was above 31,000/- per month, (21%) were between 11000-20,000 whereas family income of (18%) was 21,000-30,000 and only 10% of the respondent's family income is less than 10,000/- per month.

Knowledge Regarding Computer Related Health Problems

The pie chart depicted that the knowledge level of all the respondents regarding computer related Health problems on which 29% of the respondent's knowledge was inadequate, 61% were having the knowledge at moderate level while 10% of the respondents were having adequate knowledge. The majority of the respondents were having moderate knowledge regarding the health issues related to computer.

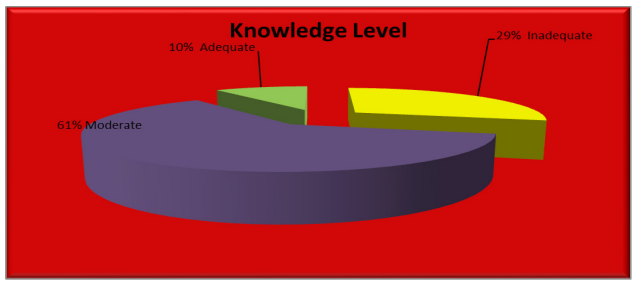


Figure No. I: Assessment of association between the levels of knowledge regarding readiness of toddlers for toilet training among mothers with their demographic variables.

This section dealt with association between the levels of knowledge of college students regarding computer health problems related to their demographic variables. The cross tabulation analysis was employed effectively and the results of chi square analysis were observed and shown in Table. It is noted from the table 11 that the 'p' value is greater than 0.05 for all the demographic variables and hence the results are not significant at 5% level except socio economic status and family income.

Discussion

The main contribution of the study was to provide descriptive data on knowledge of college students regarding computer health problems. The study was conducted on Knowledge regarding computer related health problems among college students. The data was collected from college students from management college of Moradabad Districs and 100 college students samples of the study were taken by convenient sampling technique. The data was analysed by descriptive statistics (mean, mean percentage, standard deviation) and inferential statistic (chi square test) was calculated for the significance of the respondent

The structured questionnaire was given to subject, consists of two sections such as Section 1 Demographic variables, (age , Gender , Level of education , Socio-Economic Status, type of family, Parent's Literacy, family income) and section II consisted of question related to knowledge regarding computer related health problems. A glance at the tables revealed the discussion on the findings in accordance with the objectives of the study. The first objective of the study was to assess the knowledge regarding computer related health problems. 61% students were having moderate knowledge, whereas 29% students had inadequate knowledge, and fewer 10% were having adequate knowledge. The second objective of the study was to find out the association between the knowledge with their selected demographic variables and it is found that there is the association between Socio-Economic Status and family income with knowledge score regarding computer related health problems was found to be significant at 0.05 level of significance whereas **rest of demographic** variables were not significant with knowledge score.

Conclusion

Based on the finding of the study, it has been found out that majority of the respondents have moderate knowledge on the subject matter and also there was no much significant association between the knowledge regarding computer related Health problems among college students with their demographic variables. This is crucial concern as computers become more important in every corner of the world. Health issues caused by electronic brains will be elevated unless sufficient research studies are performed and time is dedicated into eliminating and reducing these problems as much as possible. It is found from the different studies that today at least 75% of all the jobs involve computer use. It means that maximum of the workforce are being exposed to numerous health problems, the same can be said of students and educators who do not go through any day without use of the computer for academic work. It is an important that these problems are identified and resolved sooner rather than later in an effort to reduce if not eradicate these problems

Conflict of Interest – Nil

Source of Funding- self

Ethical Clearance – Taken from College of Management, TMU, Moradabad.

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Effectiveness of Structured Teaching Programme on Knowledge Regarding Fibroadenoma of Breasts and the Factors Leading to Fibroadenoma of Breasts among Female Degree Students in Selected Degree College, Bangalore

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Abstract

Introduction: - Fibroadenoma are one of the most common benign tumors of the breast in women under 30 years of age. In the adolescent population, the overall incidence of Fibroadenoma is 2.2%. They account for 68% of all breast masses and 44%–94% of biopsied breast lesions. Histologically, Fibroadenoma is a benign biphasic tumor with epithelial and stromal components. Furthermore, a palpable mass in the adolescent breast incurs anxiety for both the patient and family.

Objectives: - 1. To assess the pre-test level of knowledge regarding Fibroadenoma of breasts and the factors leading to Fibroadenoma of breasts among female degree students in selected degree college, Bengaluru.**2**.To evaluate the effectiveness of structured teaching programme on the knowledge regarding Fibroadenoma of breasts and the factors leading to Fibroadenoma of breasts among female degree students in selected degree college, Bengaluru.**3**.To assess the pre-test & post-test level of knowledge regarding Fibroadenoma of breasts and the factors leading to Fibroadenoma of breasts among female degree students in selected degree college, Bengaluru.**4**.To find out the association between pre-test regarding level of knowledge regarding Fibroadenoma of breasts and the factors leading to Fibroadenoma of breasts among female degree students in selected degree college, Bangalore with their selected demographic variables.

Design:-Pre-experimental design (one group pre-test post-test design) was used to study effectiveness of STP. 60 female degree students from TBSEIMS, Kumbalgodu, Bangalore were recruited by non-probability convenient sampling method. Necessary administrative permission was obtained from concerned authority. Structured interview schedule was used to elicit the baseline data and structured questionnaires were used to elicit the knowledge of female degree students.

Setting:-The study was conducted at TBSEIMS, Kumbalgodu, Bangalore, 60 samples were selected for the present study.

Result: - The study revealed that among 60 female degree students, 57 (95%) female degree students had adequate knowledge, 5(5%) female degree students had moderately adequate knowledge & there was no inadequate knowledge found in the post-test score. The mean pre-test knowledge score of female degree students was 9.4, whereas the mean post-test knowledge score was 25.35. The obtained 't" value was 34.22 which was found statistically significant 0.05 levels.

Conclusion :- The study concluded that the structured teaching programme on knowledge regarding Fibroadenoma of Breasts and the Factors Leading to Fibroadenoma of Breasts among Female Degree Students in Selected Degree College, Bangalore" carried out in the study was found to be effective in the improving knowledge of female degree students as evidenced by the significant change between pre-test and post-test knowledge score.

Keywords: - *Effectiveness, Knowledge, Structured Teaching Programme, female degree students, Fibroadenoma of breasts.*

Introduction

Breasts are the most important feature of female anatomy and an integral part of the reproductive system. They are symbols of fertility and womanhood. They serve very significant roles, especially function of lactation. The breast presents a plethora of benign pathological conditions**.** The benign conditions, however, are also associated with morbidity and are of great concern to the patient. Benign breast conditions are 4-5 times more common than breast cancer.[1]

The breast is the tissue overlying the chest (pectoral) muscles. Women's breasts are made of specialized tissue that produces milk (glandular tissue) as well as fatty tissue. The milk-producing part of the breast is organized into 15 to 20 sections, called lobes. Within each lobe are smaller structures, called lobules, where milk is produced. The milk travels through a network of tiny tubes called ducts. The ducts connect and come together into larger ducts, which eventually exit the skin in the nipple.[2]

An Adenoma is the general name for a tumor ('oma') which develops primarily from glandular tissue (adeno cells). Adenomas usually form from secretion cells, which are themselves, a part of a category of cells called 'epithelial cells'. It is thought that an adenoma forms when the non-secreting epithelial cells grow excessively. An adenoma is really a disorganized (dysplasia) collection of fat cells, fibrous cells, and glandular (adeno) cells, and depending upon which of these elements seems to be most dominant, the name of the lesion may vary accordingly. [3]

Fibroadenoma are benign breast lesions, usually formed during menarche (9- 17 years of age), that can exist as a solitary mass or multiple masses in the breasts of women. Fibroadenoma that measure 5 cm are commonly classified as giant Fibroadenoma. When these enlarged masses are found in young female patients, they are often called juvenile Fibroadenoma. The lesions are rare, accounting for only 0.5% of the total diagnosed Fibroadenoma, and can grow to large sizes and cause prominent asymmetry of the breasts.[4]

Fibroadenoma typically presents as a palpable mass and may occasionally be mistaken for inflammatory lesions due to pain and tenderness or for malignancy due to hardness, fixation to the surrounding tissue or bloody nipple discharge.[5] It may be felt as a breast lump or seen on a mammogram or on an ultrasound and can vary in size from a few millimeters to five or more centimeters in diameter. If it can be felt, it usually feels like a firm, smooth, oval or round lump that can move easily within the breast. It is usually painless but can be tender, especially before a period or during pregnancy. Occasionally there can be multiple fibroadenomas. Fibroadenoma occurs because of small hormonal changes in normal breast tissue, which cause an area to overgrow. It is more common in women aged 15–40 years but can be found in women of any age.[6]

Statement of Problem:-

"A study to assess the effectiveness of structured teaching programme on knowledge regarding Fibroadenoma of breasts and the factors leading to Fibroadenoma of breasts among female degree students in selected degree college, Bangalore."

Objectives:-

1. To assess the pre-test level of knowledge regarding Fibroadenoma of breasts and the factors leading to Fibroadenoma of breasts among female degree students in selected degree college, Bangalore.

2. To evaluate the effectiveness of structured teaching programme on the knowledge regarding Fibroadenoma of breasts and the factors leading to Fibroadenoma of breasts among female degree students in selected degree college, Bangalore.

3. To assess the pre-test & post-test level of knowledge regarding Fibroadenoma of breasts and the factors leading to Fibroadenoma of breasts among female degree students in selected degree college, Bangalore.

4. To find out the association between pre-test level of knowledge regarding Fibroadenoma of breasts and the factors leading to Fibroadenoma of breasts among female degree students in selected degree college, Bangalore with their selected demographic variables.

Hypothesis:

$\mathbf{H_1}$: There will be significant difference in pre-test and post-test knowledge level in Fibroadenoma of breasts among female degree students.

$\mathbf{H_2}$: There will be significant association between post-test score and selected demographic variables.

Materials & Method

The research design adopted for this study is Evaluative research approach. The research design used for this study is one group pre-test post-test design which belongs to the pre-experimental study.

The study was conducted in TBSEIMS, Kumbalgodu, Bangalore. The sample size of this study comprised of 60 female degree students from TBSEIMS, Kumbalgodu, Bangalore, who met the inclusive criteria were selected through the non-probability convenient sampling technique. Structured knowledge Questionnaire was used as a research tool. Since, it is considered to be the most appropriate instrument to elicit the response from subjects. The reliability of the tool was established by using split half method and Karl Spearson's formula. It was found 0.98 for structured knowledge questionnaire and tool was considered reliable for proceeding with main study.

A letter requesting permission was sent to the concerned authority of the TBSEIMS, Kumbalgodu, Bangalore, prior to the data collection during the month of January 2018, and permission was granted for the same. The data was collected in the month of March, 2018 at TBSEIMS, Kumbalgodu, Bangalore. The data was collected from 60 female degree students using non-probability convenient sampling. The purpose of questionnaire was explained to the samples with self -introduction. The questionnaire was distributed to the female degree students and they took 20-30 minutes to fill up the answers for the questions and they were very co-operative. After conducting the pre-test, they were given structured teaching programme and post-test was conducted within one week using the same tool used for the pre-test.

Findings

Description of pre-test and post-test knowledge of female degree students regarding Fibroadenoma of breasts and the factors leading to Fibroadenoma of breasts.

Table No. 1: Frequency, percentage, mean and standard deviation of pre-test and post-test knowledge score of female degree students N=60

Knowledge level	Category	Classification of female degree students			
		Pre-test		Post-test	
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Adequate	>75% Score	0	0	57	95
Moderately adequate	51-75% Score	1	1.67	3	5
Inadequate	< 50% Score	59	98.33	0	0
Total		60	100	60	100

The data presented in the table-1 shows that 59 (98.33%) female degree students had inadequate knowledge, 1 (1.67 %) female degree students had moderately adequate knowledge and no one had adequate knowledge in pre-test.

Whereas 57 (95%) female degree students had adequate knowledge, 3(5%) female degree students had moderately adequate knowledge and no one found inadequate knowledge in post-test.

Table No.2: Mean, Standard Deviation and paired 't' test to determine the effectiveness of structure teaching programme on Fibroadenoma of breasts and the factors leading to Fibroadenoma of breasts among female degree students. **N=60**

Max score	Mean	SD	Mean difference	paired "t' test	Significance
Pre-Test	9.4	3.8	15.95	34.22	0.05*
Post-Test	25.35	1.91			

The data presented in a table-2 shows that the obtained [t] value was 34.22, which was found with statistically significant at 0.05 levels.

Discussion

Structured teaching programme was found to be an affective educative method for improving the knowledge of female degree students regarding Fibroadenoma of breasts and the factors leading to Fibroadenoma of breasts. The findings were similar to other studies, which shown that female degree students having very less knowledge on Fibroadenoma of breasts and the factors leading to Fibroadenoma of breasts. In the present study results revealed that obtained [t] value was 34.22, which were found with statistically significant at 0.05 levels.

Conclusion

The study concluded that the structured teaching programme on knowledge regarding Fibroadenoma of breasts and the factors leading to Fibroadenoma of breasts among female degree students carried out was effective in improving the knowledge of female degree students as evidenced by the significant change between pre-test and post-test knowledge score.

Conflict of Interest: None.

Source of Funding: - This study was self financed.

Ethical Clearance:- Ethical permission was taken from TBSEIMS, authority Kumbalgodu, Bangalore. The study was conducted keeping all the ethical issues in mind. Consent was taken from all the samples of the study. The information provided by the sample was kept strictly confidential and were used for the purpose of research only.

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