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Clinical Profile and Outcome of Patients with Organophosphorus Poisoning Admitted at Pravara Rural Hospital, Loni (Bk): A Prospective Study

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Vinayak Raosaheb Gunjal¹, T. Sivabalan²

Abstract

Background: Organophosphorus poisoning is a significant health burden worldwide, developing countries and especially so in India. Management of organophosphorus poisoning needs multidisciplinary approach includes emergency medical care and support services for victims and care givers or family. The present study was planned to carry out with objective of assessing clinical profile and outcome of patients with organophosphorus poisoning. **Material and Methods:** A descriptive study with cross sectional survey approach was conducted among 30 patients with organophosphorus poisoning admitted at Pravara Rural Hospital, Loni (Bk). The patients who are 18 years or older were selected with purposive sampling method. A pre tested structured proforma was used to collect the data by observation method. The collected data was tabulated and analyzed using appropriate statistical methods wherever required. **Results:** The results revealed that majority of organophosphorus poisoning patients were males and source of poisoning was agriculture work related. A significant number of patients had wide range of health problems like respiratory distress, nausea, vomiting, increased salivation, abdominal pain, diarrhea, excessive sweating, altered level of consciousness, altered emotional status, altered in motor system and changes in reflexes etc wherein they were managed with comprehensive health care, and shown good recovery. **Conclusion:** This study demonstrated that the organophosphorus poisoning was common among young adults with male predominance, and patients had variety of physical and psychological health problems, and managed to have good recovery.

Keywords: Clinical Profile; Outcome; Patients with Organophosphorus Poison.

Introduction

Any substance that impairs health or destroys life when ingested, inhaled or absorbed by the body in relatively small or large in amounts is known as poisons [1]. Poisons are substances that cause disturbances to organisms due to chemical reaction, when a sufficient quantity is absorbed via epithelial lining such as skin or gut by an organism [2].

Organophosphorus compounds have been widely used for a few decades in agriculture for crop protection and pest control; more than hundred of them have been marketed for these purposes. Many deaths are due to consumption of organophosphorus pesticides and occur in the young and economically active age group [3]. World Health Organization

estimates acute pesticide poisonings at three million cases worldwide per year, out of which one million were accidental and two million were suicidal [4].

It was estimated in India the 5 to 6 persons per lakhs population die due to poisoning every year. The commonest cause of poisoning in India is organophosphorus compounds, and common reasons behind this are due to agricultural based economy, poverty and easy availability of highly toxic poisons, and occupational, accidental poisoning while in adults the reason was mainly suicidal. Mortality rate varies from place to place depending on the nature of poison, availability of facilities and treatment by qualified persons [5].

Organophosphorus poisoning is a medical emergency and if treated in the early hour's patient's condition can be reversed. When appropriate treatment is given within a couple of hours when the type of poisoning is notified patient life can be saved. Since the respiratory failure is a major reason for mortality, careful monitoring, appropriate management, early recognition of complication and comprehensive nursing care may decrease the mortality rate among organophosphorus poisoning patient [6].

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Organophosphorus poisoning patients usually presented with variety of health problems on various systems, which needs to be managed with the team of qualified health personnel. Nurses play an imperative role in recognizing the problem, followed by planning of care and carry out prescribed treatment and supportive care. For providing inclusive nursing care nurses needs better understanding on clinical picture, prognosis and outcome of organophosphorus poisoning patients, thus the present study was carried out to assess the clinical profile and outcome of patients with organophosphorus poisoning admitted at Pravara Rural Hospital, Loni (Bk), Maharashtra.

Material and Methods

A non experimental, descriptive cross sectional study was carried out on organophosphorus poisoning patients at Pravara Rural Hospital, Loni (Bk), Maharashtra. Thirty patients were selected using purposive sampling technique, based on criteria's of selection. Organophosphorus poisoning patients who were 18 years old or older and willing to participate were included, whereas the patients who brought in dead were excluded from study. An ethical approval was obtained from Institutional Ethics Committee (IEC) of Pravara Institute of Medical Sciences (Deemed to be University), Loni (Bk). The purpose of study was explained to patients/caregiver, and written informed consent was sought before enrolling them.

The tool used for data collection was structured proforma which consists of three sections such as: *Section A* - socio demographic characteristics like age, gender, marital status, education, occupation and religion; and clinical characteristics like number of days of hospital stay, source of organophosphorus poison, history of previous consumption, co morbid illness, type of organophosphorus poison, quantity of compound ingested, time gap between intake and first aid started or hospitalization, and mode of transportation *Section B* - Clinical profile of patients and *Section C* - outcome of patients with organophosphorus poisoning. After the collection of baseline data, patients were examined clinically and the information was recorded on the pre tested proforma on daily basis from the day of admission up to the day of discharge of patient, wherein the outcome was assessed on the day of discharge. The collected data was tabulated and analyzed using appropriate statistical methods wherever required.

Results

Results related to socio demographic data: More than one third (37%) of organophosphorus poisoning patients under study were 24 to 33 years of age, more than half (54%) of them were male and majority (87%) were married. Higher percent (40%) followed by (30%) had primary and secondary education respectively. Significant proportion i.e. (30%) of patients were farmers and among females (33%) were home makers.

Results related to clinical characteristics: Majority (60%) of organophosphorus poisoning patients had source of poisoning via agricultural based followed by one third (33%) had suicidal attempt, highest percent (57%) had 'Dimethioat' compound of organophosphorus poisoning. Significant

Table 1: Clinical profile and outcome of organophosphorus poisoning patients

N=30			
A	Clinical profile	Frequency	Percent
1	Vomiting	30	100%
2	Pupils constricted, not reacting to light	23	77%
3	Increased salivation	20	67%
4	Confusion to coma	20	67%
5	Fasciculation	20	67%
6	Hostility	18	60%
7	Excessive sweating	16	53%
8	Hypotension	13	43%
9	Respiratory distress	08	27%
10	Diminished swallowing reflex	07	23%
B	Investigative profile		
1	Low serum cholinesterase	23	77%
2	Low packed cell volume (PCV)	18	60%
3	Leucocytosis	13	43%
4	Thrombocytopenia	06	20%
C	Management		
1	Gastric Lavage	30	100%
2	Atropine	30	100%
3	Protopam (PAM)	30	100%
4	Antibiotics	30	100%
5	Antacids	30	100%
6	Antiemetic	30	100%
7	Hydration therapy (RL, DNS, D5%, NS0.9%)	30	100%
8	Ryle's tube feeding	28	97%
9	Chemical restraints	15	50%
10	Physical restraints	14	47%
11	Ventilator support	07	23%
D	Outcome		
1	Good recovery	28	93%
2	Death	02	07%

proportion (40%) had ingested 40 – 80 ml of contents followed by (30%) ingested 80 – 100 ml, and importantly (40%) of patients had brought to hospital within 2 hours of ingestion. Majority (57%) had received first aid services, higher percent (43%) of patients brought to hospital from home while (27%) of them referred from private hospitals. Greater part (60%) of patients was brought with help of ambulance and remaining had brought through two wheelers. Considerable percent (43%) of them were had hospital stay more than 10 days while (37%) had 7 – 9 days hospital stay.

Results related to clinical profile and outcome of organophosphorus poisoning patients: All the organophosphorus poisoning patients under study had vomiting, followed by majority of them had changes in pupil reaction, increased salivation, confusion to coma state, fasciculation, hostility, excessive sweating etc. In relation to investigative profile majority had low serum cholinesterase it might be due to anti cholinesterase effect of organophosphorus poisoning followed by significant proportion had low PCV and increased WBC's. Further the organophosphorus poisoning patients were treated with gastric lavage, antidotes, hydration therapy, antibiotics, antacids, antiemetics, RT feeding and significant number of patients had mechanical ventilator support and restraints. Irrespective of age, gender majority of patients had good recovery and only two patients were died.

Discussion

It was noticed from study findings that adults were commonly affected with organophosphorus poisoning. This finding was consistent with study conducted by Chintale KN who also noted that maximum patients (66%) of organophosphorus poisoning are seen in the age group of 21 to 40 years [7]. Similarly more than half of patients under study were male; it was congruence with results of Raddi D, Anikethana GV that organophosphorus poisoning observed more in male as compared to female [8]. One third of patients under study were home makers, and (30%) of them were had agriculture as a prime occupation. This was in resemblance with results of Selvaraj T, Sudharson S that occupation was recorded to be agricultural among study participants [9].

Majority of patients had source of poisoning was agricultural related followed by significant percent consumed organophosphorus poison for suicidal attempt reason. It was consistent with the study conducted by Shah UK, Jain HK, Singh A who noted

that most patient's mode of exposure was suicidal ingestion (93%) and accidental inhalation (7%) [10]. In our study significant proportion of patients ingested more than 50 ml of organophosphorus poisoning compounds. It was comparable with the findings of Shakuntala and Yogesh G study that half of patients had consumed 50 to 100 ml of poisonous compounds [11].

It was evident that noteworthy number of patients had been received treatment within two hours of ingestion of organophosphorus poison. Poisoning is a medical emergency where the emergency medical service is mandatory within the golden hours, wherein it was reliable with the study results of Chintale KN, Patne SV, Chavan SS that most of patients under study who received treatment within 1 to 4 hours of consumption of poisonous substance [12]. Interestingly majority of patients were given first aid by trained persons with sodium chloride wash. It was coincidental with the study performed by Kapila P, Sekhon HS, Mishra VK who noted that most of patients were admitted to hospital could get first aid treatment [13].

It is notable that significant number of patients with organophosphorus poisoning had respiratory distress, vomiting, increased salivation, pupil changes, excessive sweating, changes in emotional status, level of consciousness, and low serum cholinesterase. These observations were also similarly noticed in studies conducted by Peter JV, Sudarsan TI and Moran JL [14]; Shah NM, Mundhra SH [15]; Singh B, Unnikrishnan M [16]; and Somasundaram KV, Ashok Patil E, Shuklas K [17] and it was well supported.

All (100%) organophosphorus poisoning patients had gastric lavage, use of antidotes antibiotics, antacids, antiemetics, analgesics and intravenous fluids (use of mechanical ventilation in severe cases) as a line of treatment, and had good recovery. It was well documented from the studies of Osinaike BB, Oranusi IO, Akinyemi OA, Sanusi AA [18] and Shakuntala, Yogesh G [19] who also observed a similar kind of line of treatment strategy and treatment outcomes.

Conclusion

The findings of study have shown that organophosphorus poisoning were common among young adult with male predominance. The agriculture related source and Dimethioat was the common type of poisoning. The considerable number of patients had respiratory distress,

vomiting, increased salivation, excessive sweating, altered in level of consciousness, altered emotional state, and changes in the reflexes. It was evident from the results that most of patients under study had good recovery as the patients were treated with comprehensive medical and nursing interventions. This study envisages the complete spectrum of organophosphorus poisoning patients.

Acknowledgement

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Effectiveness of Simulated Demonstration on Knowledge and Skill Regarding Cardiac Defibrillation among Nursing Professionals

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Hrishikesh Dilip Gore¹, Rajendra Lamkhede², T. Sivabalan³

Abstract

Background: Cardiac emergencies including cardiac arrest proceed with warning signs which should be identified early to enable timely treatment for improvement and survival. The cardiac arrest is a common medical emergency where the nurse play significant role in reducing the magnitude of problems and longevity of life. The aim of present study was to determine effectiveness of simulated demonstration on knowledge and skill regarding cardiac defibrillation among nursing personnel's. **Material and Methods:** A quasi experimental study, pre and post test design was undertaken among nurses of Pravara Rural Hospital, Loni (Bk). A total of 30 nurses were selected by simple random sampling technique who fulfills the inclusion criteria's. Pre tested structured questionnaire [for knowledge] and observation check list [for skill] was used to collect data. Study was approved by IEC/IRC and informed consent was obtained from all the participants. After pre testing simulated demonstration was implemented in group and post test was conducted after fifteen days of intervention. The descriptive and inferential statistics were applied wherever was required. **Results:** The result highlights that simulated demonstration was effective in improving the knowledge as well as enhancing skill on cardiac defibrillation and the difference was found statistically significant. It was noted that knowledge and skill had positive correlation; wherein knowledge had significant association with demographic variable like age ($\chi^2 = 4.02$), and skill had associated with previous source of information ($\chi^2 = 4.65$) at $p < 0.05$ level. **Conclusion:** Study outcome revealed that simulated demonstration was found effective, and played significant role in improving knowledge and skill on cardiac defibrillation among nursing professionals. Regular the interactive session with simulation better the updates, confidence and aptitude on cardiac defibrillation procedure.

Keywords: Effectiveness; Simulated Demonstration; Knowledge; Skill; Nursing Professionals.

Introduction

The cardiac disorders including the cardiac emergencies accounted for significant proportion of burden on individual and family. The common cardiac disorders are coronary artery disease, ischemic heart disease, heart rhythm disorder, rheumatic heart disease, pulmonary heart disease, valvular heart disease, congenital heart disease, and conductive system disorders [1].

The cardiac emergencies like pulseless ventricular tachycardia, ventricular fibrillation,

and cardiac arrest requires cardiac defibrillation of as per advance life support [2]. Defibrillation (delivery of therapeutic dose of electrical energy to heart) is a regular treatment for life threatening cardiac dysrhythmias, and needs to be performed immediately after identifying the cardiac emergencies [3].

American Heart Association envisages that the chance of survival decreases from 7% to 10% for every minute that passes without defibrillation when a shockable rhythm is present. When shock is delivered within 3–5 minutes, the survival rate of sudden cardiac arrest secondary to ventricular fibrillation can range from 48–74%. The facts depicts that the initial survival rates of nearly 100% when a shock for ventricular fibrillation was delivered within 1–2 minutes after cardiac arrest in an inpatient setting [4,5].

The nurses play key role in managing cardiac emergencies, and studies have shown that nursing professionals have inadequate knowledge, and

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competence in handling emergencies including the cardiac defibrillation [6]. Similarly numerous scientific studies have exhibited that the planned educational program does have significant impact in enhancing the awareness and skill in capability of handling the defibrillators [7].

Nurses are becoming witnesses of cardiac emergencies commonly in the health care settings. Their demanding role expects from them to be well trained, qualified, competent and confident in order to overcome such emergencies. The trainee nurses practicing in the emergency care environment should possess adequate knowledge and skill regarding mechanism and handling of defibrillators and other supportive cardiac devices [8]. Further it was evident that the simulated training led to a change in awareness and skill in handling the emergency situations with devices/equipments etc among nurses. Thus the present communication was undertaken to examine the effectiveness of simulated demonstration on knowledge and skill regarding cardiac defibrillation among nursing professionals.

Material and Methods

A quantitative research, quasi experimental study where pre and post test design was undertaken among nursing professionals working at Pravara Rural Hospital, Loni (Bk), Maharashtra. The variables explored under study were knowledge and skill on defibrillation among study participants. A total of 30 nurses above 21 years of age of both gender; and willing to participate were selected by using simple random sampling (table method) technique. The nurses who were absent due to sickness or otherwise were excluded from study. Pre tested and reliable structured questionnaire (25 items) and observation check list (21 items) was used to gather data. The responses for all items of tool was categorized as correct response (score 1) and wrong response (score 0) respectively. The scoring procedure for knowledge was 'average, good and very good'; and for skill it was separated as 'not adoptive, partially adoptive and completely adoptive'.

The study was approved by Institutional Ethics Committee/Institutional Research Committee (IEC/IRC) and written informed consent was obtained from all the participants. The simulated demonstration consist a total of three sessions including theory (1 hour) and demonstration (2 hour sessions). It was implemented by researchers

with help of lecture and computed simulation along with educative materials such as leaflet and pamphlets were supplemented for reinforcement of knowledge, after the pre testing of knowledge, simulated demonstration was administered followed by post test was conducted after fifteen days of post intervention. The collected data was coded, tabulated and analyzed as per objectives by using descriptive (mean, SD) and inferential statistics (t test, chi square test and coefficient of correlation) wherever required, and $p < 0.05$ was considered as statistically significant.

Results

Results related to socio demographic data: Maximum (87%) of nurses was in the age group of 21–30 years, majority (80%) were female, higher percent (70%) of them educated up to General Nursing and Midwifery (GNM) and more than half (60%) have work experience between 2–4 years. Significant percent (43%) of nurses working at medical and surgical units and (17%) were placed at critical care areas, only one fourth (24%) have attended CNE's and other training programs wherein most (90%) of them under study were Hindu's.

Results related to knowledge and skill on defibrillation: Study outcome revealed that during pre test staff nurses had mean score (10.1 ± 3.48) followed by during post test the mean knowledge score was (19.3 ± 3.51) indicates that staff nurses have enhanced level of knowledge from 'average' to 'good level of knowledge' on various aspects of cardiac defibrillation and found statistically significant at $p < 0.05$ level (Table 1). Correlation of post test knowledge with demographic variables depicts that nurses of 21–30 years of age, those worked at critical care areas had more knowledge than other categories. Similarly in relation to skill it was evident that nurses had mean skill score of (15.93 ± 1.98) indicates 'completely adaptive skills' on various steps of cardiac defibrillation procedure (Table 2 and 3).

The knowledge had statistically significant association with socio demographic variable such as age ($\chi^2 = 4.02$); whereas skill had association with previous source of information ($\chi^2 = 4.65$) at $p < 0.05$ level. The coefficient of correlation test showed a moderately positive correlation found ($r = 0.56$) between knowledge and skill on cardiac defibrillation.

Table 1: Mean score of pre and post test knowledge on cardiac defibrillation among nurses

SN	Areas	Max. score	Pre test		Post test		't' value
			Mean	SD	Mean	SD	
1	Structure of heart	6	2.62	1.35	4.13	1.19	6.2*
2	Cardiac arrest	6	2.41	1.25	4.53	1.39	9.1*
3	Cardiac defibrillation	9	3.16	1.41	7.26	1.25	9.7*
4	Legal Aspects	4	1.85	1.17	3.06	0.78	5.8*
	Overall	25	10.1	3.48	19.3	3.65	9.5*

*Significant df - 29 p<0.05

Table 2: Mean score of post test skill on cardiac defibrillation among nurses

SN	Aspects	Max. score	Mean	SD	Mean%
1	Preparation of patient	4	2.26	0.69	56.5
2	Placement of paddles	4	3.14	0.87	74.5
3	Cardiac defibrillation procedure	13	10.1	1.69	76.9
	Overall	21	15.9	1.98	75.8

Table 3: Item wise comparison of post test correct skill response (%) of nurses on steps of cardiac defibrillation procedure

SN	Steps	Correct practice	
		(f)	(%)
1	Presses 'ON'	30	100
2	Bares patient's chest	29	96
3	Prepares paddle sites with brisk dry rub	06	20
4	Prepares additionally for patient with excessive hair, oily or damp skin	11	36
5	Disconnects equipment which may pose a hazard or become damaged	22	73
6	Applies conductive gel over the entire paddle electrode surface	29	96
7	Sternum (anterior) paddle below right clavicle, lateral to sternum	28	93
8	Apex (lateral) paddle lateral to left nipple on maxillary line	29	96
9	Avoids areas with dressings, ECG electrodes and wounds	11	36
10	Describes anterior/posterior paddle placement	22	73
11	Verifies cardiac arrest rhythm of VF or pulseless VT	15	50
12	Presses energy select	30	100
13	Presses CHARGE on Apex paddle or on front panel of device	30	100
14	States - All Clear and observes all personnel are clear of patient/ bed	24	80
15	Confirms ECG rhythm and available energy, reads screen/overlay	20	66
16	Presses both shock buttons on paddles simultaneously after the charge completion, Removes charge by pressing SPEED DIAL or ENERGY SELECT for performance practice	14	46
17	Observes patient and ECG rhythm to determine results	21	70
18	Prepares for additional shocks if needed by repeating steps 6 - 12	24	80
19	Presses CODE SUMMARY for documentation	25	83
20	Presses ON to turn power off	30	100
21	Cleans and places paddles safely	28	93

Discussion

The results highlight that majority of nurses were in the age group of 21-30 years and have work experience between 2-4 years, it envisage the fact that nurses were at young adults category. This fact was mutually consistent with the study carried out by Naeem MM, Mohamed NT, Mohammed MA, Anwar MA that maximum 62% of nursing participants were in the age group of less than 25 years [9]. Our study shows maximum

number of nurses were female, have GNM has highest educational qualification i.e. an entry level requirement for nursing profession. This finding was congruent with the study result of Ali SN that majority of the participants in his study were female (92.5%) [10]. Similarly Gupta RV also observed that higher proportion of nurses had RGNM has educational qualification [11]. It was noticed that simulated demonstration was effective in improving the knowledge and skills on cardiac defibrillation among nursing professionals, and

the same was evident from statistically significant pre and post test mean scores. These findings were well supported by Naik N, Yadav R, Juneja R [12] and Salunkhe PA and Dias RA [13] that cardiac defibrillation training had enhanced the general concepts, Advance Cardiac Life Support (ACLS) and superiority performance of defibrillation procedure. The findings revealed that there was a statistically significant association found between knowledge, skill on cardiac defibrillation with demographic variables such as age and previous source of information respectively. It was coincident with results disseminated by Gupta RV that who also noticed a significant association between knowledge and age factor of participants at 0.05 level of significance [11]. Alongside the result exhibited a moderately positive relation between knowledge and skill on cardiac defibrillation. This information was in congruence with scientific communication by Jones TL, Lapkin S [14] that an upbeat correlation was noticed between awareness and practice on advance cardiac life support including method of cardiac defibrillation.

Conclusion

The sudden cardiac death cause adverse mortality, where timely emergency cardiac care enables to overcome the enormous impact on health and improves survival. The result highlights that simulated demonstration was found to be effective in improving various areas of knowledge and enhancing skill on cardiac defibrillation procedure among nursing professionals. It should be emphasized that having interactive session with simulated practical education along with educative materials to nurses regarding cardiac defibrillation would improve knowledge and develop competencies on cardiac defibrillation procedure. Thus it significantly contributes in reducing morbidity and mortality rate, minimizes the impact of cardiac arrest and treatment cost of critically ill patients due to cardiac emergencies. In conclusion, Regular the simulated education – Better the updates, sense of confidence and aptitude to carry out cardiac defibrillation procedure.

Source of Funding: Self

Conflict of Interest: Nil

Ethical Clearance: The study was approved by Institutional Research Committee and Institutional Ethics Committee (IRC/IEC) of Pravara Institute of Medical Sciences – Deemed to be University,

Loni (Bk), Maharashtra. The ethical guidelines for biomedical research on human participants were strictly followed.

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A study to Assess the Knowledge and Attitude Regarding Infertility among Teenagers Studying in Selected College of Ahmednagar

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Shilpa Kulkarni¹, Nilesh Mhaske²

Abstract

A study was conducted to assess the knowledge and attitude regarding infertility among teenagers studying in selected college of Ahmednagar, with a view to develop health education pamphlet. The objectives of the study were 1) To assess the knowledge regarding infertility among teenagers studying in selected college of Ahmednagar. 2) To assess the attitude regarding infertility among teenagers studying in selected college of Ahmednagar. 3) To find out association between the knowledge and selected demographic variables. 4) To find out association between attitude and selected demographic variables. 5) To develop health education pamphlet regarding infertility. The conceptual framework of the study was based on Nola J. Pender's health promotion model. The study was conducted on a sample of 60 teenagers studying in New Art's college of Ahmednagar, using simple random sampling technique. In the present study descriptive survey design was adopted. Data were collected by using structured knowledge questionnaire & Likert's 5 point attitude scale. The obtained data were analyzed by using descriptive and inferential statistics like frequency, percentage, mean, standard deviation and chi square. The knowledge scores of teenagers revealed that 58.33% had average knowledge, 25% had poor knowledge and remaining 16.66% had good knowledge regarding infertility. The attitude scores of teenagers revealed that 56.66% had neutral attitude, 25% had positive attitude and remaining 18.33% had negative attitude regarding infertility. The study concluded that the knowledge and attitude in the respective field was inadequate among the teenagers. So it is important to initiate actions to enhance the knowledge and attitude of the students in the college so that they can take necessary measures to prevent infertility.

Keywords: Infertility; Teenagers; Health Education Pamphlet.

Introduction

"With the birth of every child, man may calculate that God is still hopeful about the world he created"

William Words Worth.

Parenthood is a fundamental human need. To become a mother and father is one of life's greatest blessings. The urge to reproduce is virtually universal. It is the dream of every married couple to have a child which will bring happiness and joy into their life. It changes their heart, thoughts, and actions. It is a lifelong event that forever changes the couples. Failure by both men and women to fulfill their need for a child is usually devastating,

humiliating and emotionally destructive. Thus it becomes a major life stressor, which can affect the well-adjusted couples [1].

Fertility or the ability to produce children has a positive social value whereas; infertility has a negative social value in Indian culture. Family and society look down couple who is not able to bear children within a reasonable period of time following marriage. Another reason for so much importance being attached to the social aspect of fertility behaviour is that family name will not be carried forward without a child [2].

Infertility is defined as failure to conceive within one or more years of regular unprotected coitus. Primary infertility denotes those patients who have never conceived. Secondary infertility indicates previous pregnancy but failure to conceive subsequently. Infertility is a heartbreaking condition that affects nine million couples in the world each year. It causes tremendous stress, can trigger debilitating sadness and depression, and can tear a marriage to shreds [3].

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It is shown that 1 in 6 couples are said to have infertility in India. If the couples are more than 35 years, it increases as 1 in 3 couples. The males are responsible for 40% while females are responsible for another 40% and 10% because of the problems within the both, 10% is due to idiopathic reasons [2]. A study conducted in rural areas of India on prevalence of female infertility among 232 couples, reported that 14.4% had the prevalence of infertility [4].

The causes of infertility may be due to problem in the man, the women, or both: Problems with sperm (in 35% of couples), problems with ovulation (in 20%), problems with the fallopian tubes in the pelvis (in 30%), problems with mucus in the cervix (in 5% or fewer), unidentified factors (in 10%) [5].

The management in infertility is an endless concept as advancements are being made day by day. Techniques like Artificial insemination, IUI, IVF-ET, GIFT, ZIFT, ICSI are now done with increased feasibility and with cost effectiveness in such a way that even a layman can make use of it. New advancements made in the assisted reproductive techniques and in culture media, is helpful for the couples to make use of it at lesser cost [6].

Materials and Methods

A descriptive research approach was considered to carry out the study. The main focus of the study was to assess the knowledge and attitude regarding infertility in order to develop and administer health education pamphlet. The samples were teenagers between the age group 17-19 years studying in New Arts College, Ahmednagar. 60 samples

were taken by simple random sampling for data collection. The data was collected by structured knowledge questionnaire and Likert's 5 point attitude scale. The collected data were analyzed by using descriptive (mean, Standard Deviation) and inferential statistics (Chi square test).

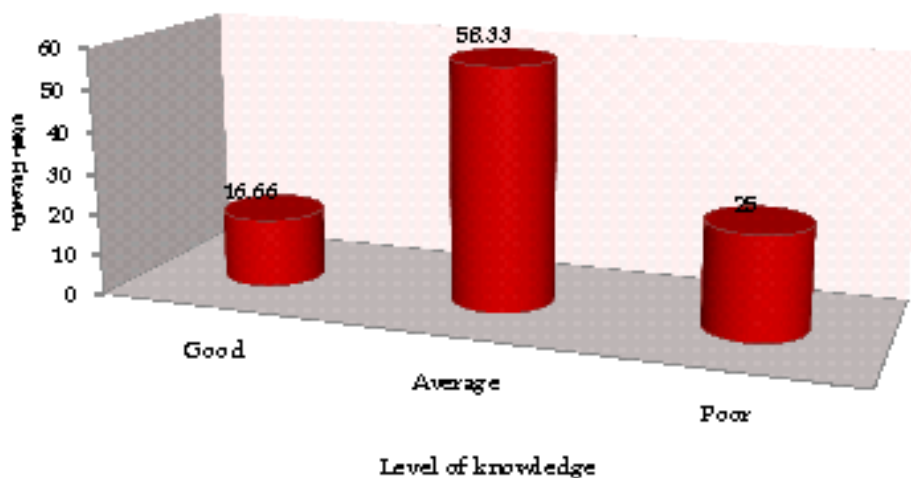
Results

Findings Related to Demographic characteristics of samples

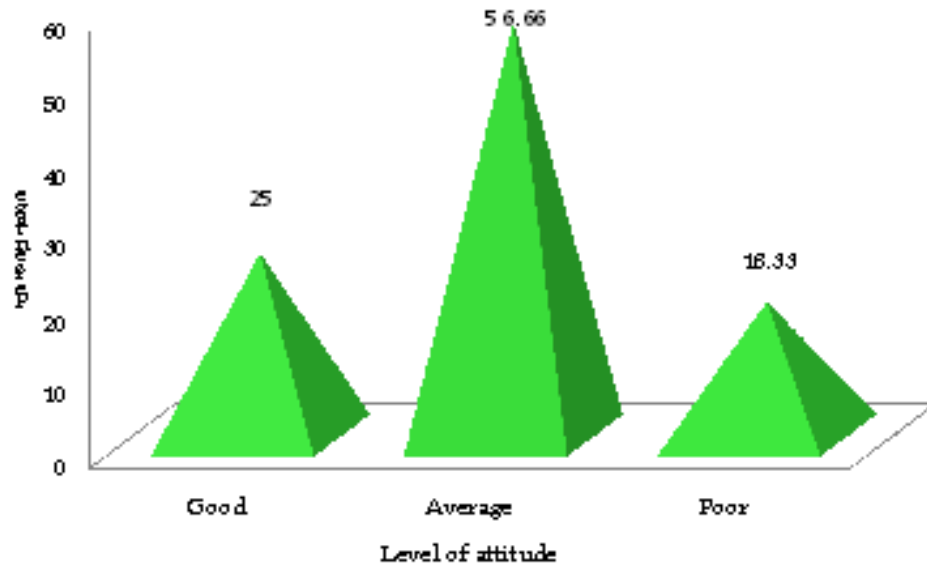
Majority of teenagers i.e. 65% were in the age group of 18-19 years & 35% were in the age group of 17-18 years. 50% were males and 50% were females. 58% were studying in 2nd year degree & 42% were in 1st year degree. 78.3% were Hindus, 13% were Christian, 5% were others & 3% were Muslims. 62% were from joint family and 38% from nuclear family. 50% had got information by the family and friends, 25% by the books and journals, 13% by mass media & only 12% had got information by health personnel. 67% were not having family history of Infertility whereas remaining 33% had family history of Infertility.

Findings Related to Assessment of knowledge and attitude regarding Infertility among teenagers. Graph-1-2

58.33% of teenagers had average knowledge, 25% had poor knowledge and 16.66% had good knowledge where as 56.66% of teenagers had neutral attitude, 25% had positive attitude and 18.33% had negative attitude regarding infertility.



Graph 1: Distribution of Samples by Level of Knowledge



Graph 2: Distribution of Samples by Level of Attitude

Table 1: Association between knowledge regarding infertility and selected demographic variables.

n=60

Sr No	Demographic variables	Good	Average	Poor	χ^2 Value	P Value	df
1.	Age						
	• 17-18 year	06	13	03	2.76	0.252	2
	• 18.1-19 year	06	21	12		(NS)	
2.	Sex						
	• Male	05	17	08	0.397	0.820	2
	• Female	05	19	06		(NS)	
3.	Education						
	• 1 st year	04	15	06	0.490	0.976	2
	• 2 nd year	06	20	09		(NS)	
4.	Religion						
	• Hindu	07	28	12	12.6	0.050*	6
	• Christian	03	03	11			
	• Muslim	00	02	00			
	• Other	00	02	01			
5.	Type of family						
	• Nuclear	05	11	07	1.36	0.851	4
	• Joint	05	19	08		(NS)	
	• Extended	00	00	00			
6.	Source of information						
	• Family and friends	06	15	09	5.10	0.531 (NS)	6
	• Health personnel	00	05	02			
	• Mass media	01	05	02			
	• Books journals	03	11	01			
7.	Any family history of infertility and its treatment						
	Yes	02	12	06	0.966	0.617	2
	No	08	21	11		(NS)	

NS- Non significant

* Significant

Findings related to Association between knowledge of teenagers regarding the Infertility and selected demographic variables. (Table 1).

The demographic variables age, sex, education, type of family, any family history of infertility & treatment were independent of each other. The other demographic variable i.e. religion ($\chi^2 = 12.6$) showed an association with knowledge scores at 0.05 level of significance.

Findings related to Association between attitude of teenagers regarding Infertility and selected demographic variables.

The demographic variables age, sex, education, religion, type of family, source of information and any family history of infertility & its treatment were independent of each other.

Discussion

1. Findings related to sample characteristics.

In the present study, sample of 60 teenagers studying in selected college of Ahmednagar were taken. Findings showed that the majority of teenagers i.e. 60% belonged to age group of 18.1-19 years. Similar findings were seen in a study conducted by Ms. Mini John. The results showed that majority 35% were between the age group of 17-20 years.

2. Findings related to knowledge on infertility.

Data analysis on level of knowledge revealed that majority of teenagers i.e. revealed that 58.33% of teenagers had average knowledge, 25% had poor knowledge, 16.66% had good knowledge. Similar findings were seen in study conducted by Ms. Mini John. The findings of the study revealed that majority of teenager's i.e. 76.6% had moderate, 15.3% had adequate and only 8% had inadequate knowledge.

Conclusion

The findings of study revealed that 58.33% of teenagers had average knowledge, 25% had poor knowledge and 16.66% had good knowledge and 56.66% of teenagers had neutral attitude, 25% had positive attitude and 18.33% had negative attitude regarding infertility. Thus it was found to be important to develop health education pamphlet regarding infertility to increase their knowledge and boost their attitude up.

The sample characteristics of teenagers with regard to source of health information showed that only 11.6% of the teenagers got the information from health personnel. So this emphasizes need to disseminate more information on health related aspects through health personnel. Hence, the nurses who come in contact with infertility risk teenagers should take initiative to provide necessary information on infertility so as to help them to prevent infertility.

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Effect of Structured Teaching Program on Knowledge Regarding Shaken Baby Syndrome among Caregivers of Infants

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Abstract

Shaken baby syndrome is the medical term used to describe the injuries resulting from shaking an infant or young child. Physical abuse is the one of the main causes of serious head injury in infants. The main aim of the study was to raise the awareness of shaken baby syndrome among care givers of infant. A pre experimental one group pre test post test design was undertaken to assess the effectiveness of structured teaching program on knowledge of caregivers of infants regarding shaken baby syndrome. Purposive sampling technique was used to select 60 caregivers of infant, who were meeting the sampling criteria. Structured knowledge questionnaire was used during data collection, pretest was conducted on day one followed by teaching program among the same care givers in Bhouri, Bhopal. Post test was conducted on the eighth day. Descriptive and inferential statistics were used to analyze data. The finding of the study revealed that mean post test knowledge score (57.8) were significantly higher than the mean pre test knowledge score (36.8) which was significant at 0.05 level. The study revealed that the structured teaching program was effective in enhancing the knowledge of caregivers of infant regarding shaken baby syndrome.

Keywords: Effectiveness; Shaken Baby Syndrome; Structured Teaching Program.

Introduction

Physical abuse is one of the leading causes which lead to serious head injuries among infants. The physical abuse in the past has been a diagnosis of exclusion; data regarding the nature and frequency of head trauma consistently support the need for a presumption of child abuse when a child is younger than one year has suffered an intracranial injury [1].

Shaken baby syndrome is a serious form of child abuse, which results from extreme rotational cranial acceleration induced by violent shaking or shaking impact. Which would be dangerous if not noticed on timely? Shaken baby syndrome is not an isolated event but the Evidences shows that the child abuse is common [2].

Need for the study:

A descriptive study conducted on children

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hospitalized for Shaken Baby Syndrome in Canada depicts that 19% died, 59% had neurological, visual impairment and/or other health effects and only 22% appeared well at discharge. Recent data indicate that babies who appear well at discharge may show evidence of cognitive or behavioral difficulties later on, possibly by school age [3].

The researcher found an article in the journal regarding shaken baby syndrome after reading the topic the researcher decided to conduct research on it because researcher found very less incidence regarding knowledge of shaken baby syndrome in India. So, further, the investigator concluded that it would be a great contribution and it is important to enlighten the caregiver about the shaken baby syndrome. Hence, the researcher planned to designed structure teaching program.

Statement of problem:

A Study to Assess the Effectiveness of Structured Teaching Program on Knowledge Regarding Shaken Baby Syndrome among Caregivers of Infants in Selected Rural Area, Bhopal.

Objectives:

1. To assess the existing knowledge regarding

shaken baby syndrome among caregivers of infants in rural area.

2. To evaluate the effectiveness of structured teaching program regarding of shaken baby syndrome among caregivers of infants.
3. To associate knowledge of caregivers regarding shaken baby syndrome with selected demographic variables.

Hypotheses:

H_1 - There is a significant difference between post and pre test mean knowledge scores regarding shaken baby syndrome among caregivers of infants.

H_2 - There is a significant association of knowledge scores among caregivers of infants with their selected demographic variables.

Research Methodology

A pre - experimental, one group pre-test post - test research design was used for the present study. The setting utilized was Bhouri at Bhopal. The population of the study was all the care givers of infant residing at Bhouri. The sampling technique used was non probability purposive sampling technique. All the caregivers of infant available during data collection were included. There were 60 care givers of infant selected for present study. The tool used for data collection comprised of two sections. Section A - background information was gathered using demographic proforma such as caregiver of infants, age of the caregiver, occupation of caregivers, educational status of caregivers, type of family, age of the child, gender of the child, order of the child and source of information. Section B- Structured questionnaire: This is a self - administered tool to assess the knowledge of caregivers of infant regarding shaken baby syndrome. It has twenty questions to assess the knowledge regarding shaken baby syndrome among caregivers of infants in following aspects:- 1- Knowledge on general information of shaken baby syndrome. 2- Knowledge on Incidence and

etiology of shaken baby syndrome. 3- Knowledge on clinical manifestation and mechanism of shaken baby syndrome. 4- Knowledge on management and prevention of shaken baby syndrome. The maximum score was 20. To interpret the level of knowledge scores were distributed as follows. Inadequate knowledge: <50% Moderately adequate knowledge: 50-75% Adequate knowledge: >75%.

The STP was prepared for four session namely general information of SBS, incidence and etiology of SBS, clinical manifestation and mechanism of injury of SBS, management and prevention of SBS. All the four session lasted for 45 minutes for four consecutive days. Before the main study pilot study was conducted at Fanda by selecting 10 sample to know the feasibility of the study, followed by main study was conducted. Following the pre assessment, the STP was provided to the subjects. Post - assessment was then administered one week after to evaluate the effectiveness of the STP. Institutional Ethics committee clearance was obtained.

Results

The data were analyzed according to the objectives of the study using descriptive and inferential statistics.

Section A: finding related to effectiveness of structured teaching program.

The table 1 depicts that the scores of related to level of knowledge among the respondents of which the respondents gain the knowledge after STP. The moderately adequate knowledge had the highest frequency of 40 (66.7%) and the inadequate

Table 1: Frequency distribution & Percentage of knowledge regarding caregivers of infants after STP. n=60

Level of knowledge	Frequency	Percentage (%)
Inadequate knowledge	12	20.0
Moderately adequate knowledge	40	66.7
Adequate knowledge	8	13.3
Over all	60	100

Table 2: Frequency distribution & Percentage of knowledge regarding caregivers of infants before and after STP.

n=60

Level of knowledge	Before STP		After STP	
	Frequency	%	Frequency	%
Inadequate knowledge	50	83.3	12	20.0
Moderately adequate knowledge	10	16.7	40	66.7
Adequate knowledge	-	-	8	13.3
Over all	60	100	60	100

knowledge were 12 (20.0%) and finally the level of adequate knowledge was found 8 (13.3%) among the caregiver of infants.

Section B: Finding related to comparison of knowledge before and after structure teaching program.

In table 2 the scores of related to the level of knowledge among caregivers of infant in which 100% (60) respondents had the low levels of knowledge at pretest and they were classified under the various level. The inadequate level of knowledge had the highest frequency of 50 (83.3%) and the moderate level of knowledge had the lower frequency of 10 (16.7%) and finally the level of adequate knowledge was found nil among the caregiver of infants. After STP shaken baby syndrome, the test results had shown improvement in respondents level of knowledge regarding shaken baby syndrome, 12 (20.0%) of respondents had inadequate knowledge, 40 (66.7%) of respondents had moderate level of knowledge, 8 (13.3%) of respondents had adequate level of knowledge regarding shaken baby syndrome. There was a difference in pre-test level of knowledge scores and post test level of knowledge scores which was shown below as graphical representation.

The above Table 3 presents the outcome of paired 't' test analysis based on enhancement of knowledge regarding shaken baby syndrome shown in mean difference and Mean % after STP. Mean difference for general information was found to be highest 1.62 with a mean % of 40.5 and mean difference for clinical manifestation and mechanism was found to be lowest as 0.92 with a mean percentage of 15.3. Mean difference for overall aspect of knowledge was found to be 4.20 with a mean % of 21.0. Paired 't' was carried out and found to be invariably significant at $p < 0.05$. It was also seen for the other aspects on knowledge such as incidence and etiology, management and prevention. In all these aspects of knowledge the enhancement was shown in Mean difference and Mean%, also the paired 't' test was invariably found to be significant at $p < 0.05$.

Hence, it is inferred that there is a significant increase in the level of knowledge of caregivers of infants regarding shaken baby syndrome after the STP.

Section C: Finding related to association on pre and post test knowledge scores with their selected demographic variables.

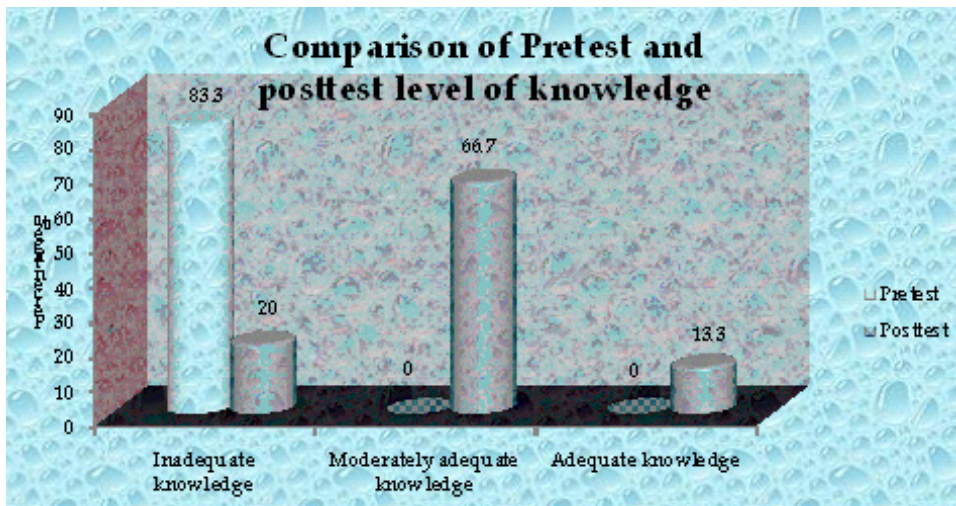


Fig. 1: Frequency and percentage distribution of care givers of infants according to knowledge regarding shaken baby syndrome before and after STP

Table 3: Enhancement score of pre and post test knowledge regarding shaken baby syndrome and statistical significance.

n=60

Aspects of knowledge	Max. Score	Mean difference	% of mean difference	Paired t-test value	p<value
General information of SBS.	4	1.62	40.5	18.11*	$p < 0.05$
Incidence and etiology of SBS.	4	1.51	37.7	11.37*	$p < 0.05$
Clinical manifestation and mechanism of injury. of SBS.	6	0.92	15.3	3.67*	$p < 0.05$
Management and prevention of SBS.	6	1.12	20.3	6.27*	$p < 0.05$
Over all	20	4.20	21.0	11.02*	$p < 0.05$

Note: * denotes significance at 5% level ($p < 0.05$)

The results showed that association of knowledge with selected demographic variables of caregivers of infant such as care giver of the infant, age of the care giver, occupation of the care giver, educational status, type of family, age of the child, gender of the child, order of the child and source of information

The chi-square analysis was carried out to determine the association between knowledge and selected demographic variables. The association between educational status (χ^2 -value = 11.665 df = 3) and order of the child (χ^2 -value = 6.046 df = 2) were significantly associated with knowledge at 0.05 level i.e. $p < 0.05$ and the remaining variables such as caregivers of infant, age of the care giver, occupation of the care giver, type of family, age of the child, and gender of the child was found to be not significant at 0.05 level, i.e. $p > 0.05$ and source of information was not applicable. The above results evidenced that knowledge of caregiver of infants was influenced by educational status and order of the child.

Research Hypothesis

H_2 - There is a significant association of knowledge with selected demographic variables of caregiver of infant regarding shaken baby syndrome.

Hence, the research hypothesis H_2 is accepted. 'There is a significant association of knowledge with selected demographic variables on caregiver of infant regarding shaken baby syndrome.'

Discussion

The results shows that the frequency and percentage distribution of level of knowledge of caregivers of infants before STP in which out of 60 caregivers of infants most of them 83.3% (50) had inadequate knowledge, 16.7% (10) had moderately adequate knowledge and none of them had adequate knowledge regarding shaken baby syndrome. Overall mean percentage score were found 36.8% with mean of 7.37 and SD of 2.24. The present study findings were consistent with the study done at Nationwide Crisis Line and Hotline Directory among social workers in child welfare with regard to vicarious and secondary trauma. Result shows that in particular, the prevalence and nature of vicarious trauma is largely unknown in this field. In response, this study was designed to facilitate increased knowledge about the prevalence of secondary traumatic stress among social workers in the child welfare field [4]. At the same time, there are studies that demonstrated findings with

higher and lower mean scores when compared to the present findings. A study was conducted at united states by Barr RG, Rivara FP showed a mean score of (0-100 point) and highest mean 63.8 among the mother who receive purple material and the lowest mean 58.4 among the mothers who receive the control materials for calming the crying baby. Mothers had the knowledge to sooth the crying the baby other than shaking and also know that shaking may cause harm to their baby, which is in contrast to the present study finding [5].

The current study shows the enhancement in all the four aspects and overall aspect of knowledge of caregivers of infants regarding shaken baby syndrome with regard to Mean difference, SD, Mean % comparing before and after STP. Mean difference for overall aspect was 4.20 with Mean % of 21.0. The paired 't' test was carried out and was found 11.02 which is significant at $p < 0.05$ level. However the mean score obtain in the present study remain less in all four aspect before the STP. Another study performed at California by Dr. Marks. Dias and colleagues also show that mean score accelerated parents knowledge level increased after reading the pamphlet and view a video titled preventing shaken baby syndrome, than their earlier knowledge related to shaken baby syndrome [6]. However, all the study including the present study reveals that a satisfactory level of knowledge among caregivers of infants was not found. The finding suggest that awareness program among the caregivers of infant are required to prevent the incidence of shaken baby syndrome.

The association of knowledge of caregiver of infant regarding shaken baby syndrome with selected demographic variables showed that it was found not significant with all the variables at $p < 0.05$ level except educational status and order of the child. Similar findings were elicited related to cognitive squealed of school - aged victims of shaken baby syndrome. In a study conducted at Quebec Canada by Stipanivic A, Nolin P projected that socio - economic status and family composition age and gender were significant with the weakness were noted in the clinical group for intelligence quotient [7].

Recommendations

Based on the findings of the study the following recommendations are put forward for further research:

- Similar study can be undertaken with a larger sample to generalize the findings.
- A similar study can be conducted by utilizing

the other domains like knowledge, and attitude of shaken baby syndrome among staff nurse.

Implications:

The investigator has drawn the following implications from the studies

- The present study emphasis an enhancement of knowledge to develop a favorable attitude towards the caregiver of infant regarding shaken baby syndrome.
- The study would be a motivation for budding researchers to conduct similar studies on a large scale.
- A comparative study can be done between the urban and rural caregiver of infant regarding shaken baby syndrome.

Conclusion

It is important to implement awareness program among caregivers of infant regarding shaken baby syndrome in the hospital and during the home visit to provide structured teaching to these care givers of infants on SBS. These interventions are vital to prevent the incidence of SBS and also to develop the positive attitude toward SBS. However, the present study finding shows that the knowledge related to shaken baby syndrome among care givers of infant was inadequate during pre test which was accelerated after the structured teaching program.

Ethical consideration: Obtained

Source of fund: Self

Conflict of interest: None

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Study to Assess the Effectiveness of STP on Knowledge of Mothers Regarding Safe Food Practices in Selected Hospitals, Uttarakhand

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Abstract

A structured teaching program was conducted to assess the knowledge score of mothers of under five children regarding safe food practices. The sample of these study comprise of 40 mothers. Collected data was analyzed by using description and inferential statistics in the mother mean value for the pre test 0.53 with the mean % of 53%. The mean value of post test is 0.71 with the mean % of 71%. The data analysis revealed that there is a significant association between all variable. The study revealed that the mothers of under five children gained adequate knowledge regarding safe food practices.

Keywords: Safe Food Practices; Mothers; Under Five Children.

Introduction

Children constitute a major proportion of the global population children are the previous possession of the family, community country and hence it world one cannot visualize good health without nutritious food and balance diet. Food is essential for a happy contended life, if children are health, future generation will be healthy resulting in a healthy nation. Poor infant feeding and poor food practices directly or indirectly contribute to under nutrition, morbidity and mortality in infants so good food practices is an important factors for under 5 year children, because it is the most crucial period in child development [1].

In the world over 10% of 5.8 billion people are children under 5 year of age and over 10.5 million death occur each year among children of under 5 year of age, who thirds of deaths occur during the first year of life and are loosely associated with poor breast feeding and poor complementary and food practices, underweight was estimated to cause 3.7 million death [2] Children living in rural and tribal areas of India are at high risk of under nutrition

because of improper nutrition sanitation with low food hygienic practices and other condition [3].

Safe food practice is very essential for children under the age of 5 year are at an increased risk for food borne illness and related health complication because their immune system are still developing young children with developing immune system cannot fight off infection as well as adults can, young children produce less stomach acid that kills harmful bacteria, making it earlier for them to get sick [4]. Knowledge and practice of mother of infants regarding food practices is very essential to overcome malnutrition and other nutritional deficiency disorder and for the healthy growth of child [4].

Objectives of the study:

1. To assess the pre-test knowledge on food safety practices among mothers of under 5 year children in selected hospital, Haldwani.
2. Find out the effectiveness of Structured Teaching Program on safe food practices among mother of under 5 year children in selected hospital, Haldwani, U.K.
3. Find out association between post test knowledge score and selected demographic variables.

Hypothesis

H1: There will be a significant association between selected demographic variables and knowledge score.

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Methodology

The researcher has selected Quantitative research approach in that pre experimental design (One group Pretest-Post test design) to assess the knowledge of mother under 5 year children regarding safe food practices. The setting of the study was Sushila Tiwari hospital, haldwani, Uttarakhand. The population of present study was mothers of under 5 year children of who admitted in hospital, haldwani Uttarakhand. The sample of the present comprised of 40 mothers of under 5 year children. Convenient sampling is the type of nonprobable sampling was found appropriate for the study.

In the present study the tool consist of two parts:

PART 1: Comprise of questionnaire regarding safe food practices.

PART2: A knowledge questionnaire was prepared consisting of 30 items on knowledge regarding safe food practices. It is a multiple choice questionnaire in which score 1 was awarded to correct response and 0 for wrong response. It is divided in to 3 aspect wise: Food handling, Food Preparation and Food storage and each consists of 10 questions.

The investigator had collected the data after getting formal permission from the authority from

the selected hospital Sushila Tiwari Haldwani, Uttarakhand. The participants were informed about the purpose of the study and written consent was taken from the participants. On an average each participant took 30 minutes to complete the questionnaires the investigator did not face any significant problem and the tool was found reliable.

Results & Findings

Table 1 reveals that Overall comparison of Aspect wise Mean, mean % & Standard deviation of mothers on safe food practices in pre & Post test. In pre test aspect wise food safety practices of mean % & SD value on food handling, food preparation, food storage was (52%) & (4.98), (69%) & (6.72), (4%) & (3.98) respectively. In post test aspect wise food safety practices of mean % & SD value on food handling, food preparation, food storage (68%) & (6.43), (87%) & (7.99), (57%) & (5.57).

Table 2 Shows that Overall Comparison of pre and post test score on safe food practices. In that pre test mean % & SD value was 53% & 16.22 and Post test mean & SD value was 71%, & 20.97 and t-test score is 7.42. So the knowledge score is higher in post test than pre test.

Table 1: Overall comparison of Aspect wise Mean, mean % & Standard deviation of mothers on safe food practices in pre & Post test. N=40

Aspect wise score on safe food practices	Pre Test		Post Test	
	Mean%	SD	Mean%	SD
Food handling	52%	4.98	68%	6.43
Food preparation	69%	6.72	87%	7.99
Food storage	4%	3.96	57%	5.57

Table 2: Overall Comparison of pre and post test score on safe food practices.

	Pre test		Post test		t-test	P value
	Mean %	SD	Mean %	SD		
Level of knowledge of safe food practices	0.53	16.22	0.71	20.97	7.42	<0.05

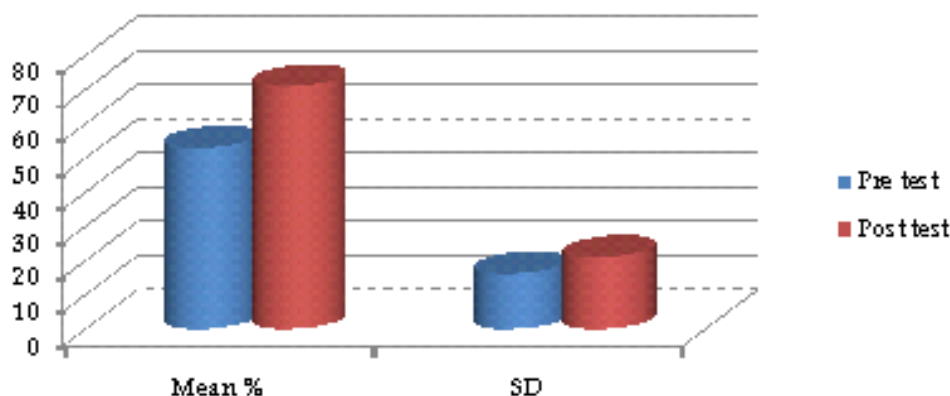


Fig. 1: Represents the pre and post test score on safe food practice.

Discussion

1) *Assess the pre test knowledge score of mother of under five year children regarding safe food practices.*

The present study revealed that the mean for pre-test 0.53 with the mean% of 53% & standard deviation of 16.22.

2) *Find out effectiveness of Structured Teaching Programme on safety food practices among mother of five year children in selected hospital, Haldwani, U.K.*

The present study revealed that the mean value of mother for post-test is 0.71 with mean % 71% & standard deviation 20.97 after the structured teaching programme. It reveals post test score is more than pre test score.

3) *Explore the association between post- test knowledge score of mother regarding safe food practices with selected demographic variables.*

Analysis revealed that there is significant association between all the variables.

Conclusion

A good food practice is an important factors for under 5 year children to reduce morbidity and mortality among under five children, because it is the most crucial period in child development. The study was conducted to assess the under five children mothers' knowledge on safety food practices. The study results revealed that post test knowledge score was higher than pre test.

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Effectiveness of Self Instructional Module on Knowledge and Practice Regarding use of Defibrillator among Staff Nurses

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Dhobale Pallavi B.¹, David Pascaline J.², Sukare Lata V.³

Abstract

Background: Cardiovascular disease is the nation's number one killer claiming almost as many lives as cancer, accident, pulmonary infection and all other causes of death combined. A cardiac arrest, also known as cardiopulmonary arrest, cardiopulmonary arrest or circulatory arrest, is the abrupt cessation of normal circulation of the blood due to failure of the heart to contract effectively during systole [1]. Dysrhythmias (abnormal heart rhythms) are common in people with cardiac disorders but also occur in people with normal hearts. Because seconds can literally make the difference between life and death for the person who is experiencing a serious dysrhythmias, evaluating responsiveness, quickly activating the emergency medical services and initiating cardiopulmonary resuscitation can determine the outcome [2]. Nurses play an important role in controlling and preventing dysrhythmias. Lack of adequate knowledge regarding the use of defibrillator may be life threatening. Hence the study was undertaken to evaluate the effectiveness of self instructional module on knowledge and practice regarding use of defibrillator among staff nurses working in selected areas of hospitals of the city, Nagpur. **Objectives:** to assess the pre test and posttest knowledge and practice, and to associate the knowledge and practice score with selected demographic variables. **Methodology:** a pre-experimental one group pretest posttest design was adopted for the study. It was conducted over 60 staff nurses and was selected by using non probability purposive sampling technique. Pre test was done using self structured questionnaire for knowledge and observation check list for practice. After pretest, the researcher administered self instructional module regarding knowledge and practice. Post test was done after seven days and analysis showed that there was significant increase in knowledge and practice after administering self instructional module. The analysis reveals that post test mean knowledge score value which was 22.60 with SD of ± 2.36 when compared with pre test mean knowledge score value which was 11.83 with SD of ± 2.76 . The calculated t value 23.89 is greater than table value 2.00 at 0.05 level of significance. Thus H₁ is accepted and H₀ is rejected and post test mean practice score was higher 18.78 with SD of ± 1.73 when compared with pre test mean practice score value which was 11.43 with SD of ± 2.16 . The calculated t value 23.79 is greater than table value 2.00 at 0.05 level of significance. Thus H₁ is accepted and H₀ is rejected. **Conclusion:** The significant association was found on knowledge with area of work. Thus, the study concluded that self instructional module was effective in improving knowledge and practice regarding use of defibrillator.

Keywords: Staff Nurses; Use of Defibrillator; Self Instructional Module; Knowledge; Practice.

Introduction

A cardiac arrest, also known as cardiopulmonary arrest, cardiopulmonary arrest or circulatory arrest, is the abrupt cessation of normal circulation of the blood due to failure of the heart to contract effectively during systole.

Dysrhythmias (abnormal heart rhythms) are common in people with cardiac disorders but also occur in people with normal hearts. Dysrhythmias are often detected because of associated manifestation of dizziness, palpitation, and syncope. Abnormalities in conduction are dangerous because of reduced cardiac output, which can lead to impaired cerebral perfusion. The most serious complication of a dysrhythmias is sudden death. Because seconds can literally make the difference between life and death for the person who is experiencing a serious dysrhythmias, evaluating responsiveness, quickly activating the emergency medical services and initiating cardiopulmonary resuscitation can determine the outcome.

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Defibrillation is used in emergency situation as the treatment of choice for ventricular fibrillation and pulseless ventricular tachycardia, the most common cause of abrupt loss of cardiac function and sudden cardiac death. Defibrillation is not used for patients who are conscious or who have pulse. The sooner defibrillation, survival rate: if it is used, within 1 minute of the onset of ventricular tachycardia or fibrillation, the survival rate is 90%; if it is delay for 12 minutes, the survival rate is 2% to 5%.

Defibrillation depolarizes a critical mass of myocardial cells all at once; when they repolarize, the sinus node usually recaptures its role as the pacemaker. The electric voltage required to defibrillate the heart is usually greater than that required for cardioversion and may cause more myocardial damage.

Background and Need of the Study

Health data compiled from more than 190 countries shows that heart disease remains the No. 1 global cause of death with 17.3 million deaths each year, according to "Heart Disease and Stroke Statistics- 2015 Update: A Report From the American Heart Association." That number is expected to rise to more than 23.6 million by 2030, the report found.

A cardiovascular diseases (CVDs) have now become the leading cause of mortality in India. A quarter of all mortality is attributable to cardiovascular diseases. Ischemic heart disease and stroke are the predominant causes and are responsible for > 80% of cardiovascular diseases deaths. The Global Burden of Disease study estimate of age-standardized cardiovascular diseases death rate of 272 per 100 000 population in India is higher than the global average of 235 per 100 000 population.

Karen O krainec MSc, Devi K Banerjee MD, Mark JE isenberg MD, MPH (2004) have conducted the study and found that coronary artery disease (CAD) is the leading cause of cardiovascular mortality worldwide, with >4.5 million deaths occurring in the developing world. Despite a recent decline in developed countries, both coronary artery disease mortality and the prevalence of coronary artery disease risk factors continue to rise rapidly in developing countries. However, it is projected that coronary artery disease mortality rates will double from 1990 to 2020, with approximately 82% of the increase attributable to the developing world. Existing data suggest

that rapid socioeconomic growth in developing countries is increasing exposure to risk factors for coronary artery disease, such as diabetes, genetic factors, hypercholesterolemia, hypertension, and smoking. There is a relative lack of prevention and control measures to decrease exposure to these risk factors in developing countries.

Finamore S (2008) Cardiac arrest, as a result of ventricular fibrillation or pulseless ventricular tachycardia, is a common phenomenon, and the only treatment available is defibrillation. Currently, defibrillators deliver either a monophasic or biphasic shock, depending on the device used. In 2005, the American Heart Association published new cardiac arrest management guidelines, which included directions about energy selection for both types of defibrillators. These guidelines created a platform to address misconceptions that exist in the practice setting with regard to the use of biphasic defibrillators.

Thombare S. (2005) Cardiovascular disease is the nation's number one killer claiming almost as many lives as cancer, accidents, pulmonary infections, and all other causes of death combined. According to 2010 statistic from American Heart Association (AHA), nearly one million deaths from cardiovascular disease were reported, 53.6% of which resulted from heart attacks, 3.1% from hypertensive diseases, 0.7% from rheumatic heart disease, and 27.6% from all other cardiovascular diseases. Nowadays, use of defibrillation is a necessity in the level of care for clients managed in Intensive care and on general care units. The clients who need emergency defibrillation is a challenge to the nurses providing care. Therefore the nurses must be familiar with the equipment, complications and nursing management.

A study was conducted on registered staff nurses working in intensive care unit to assess their knowledge on use of defibrillator with a view to prepare an information booklet and found that 23% had good knowledge, 54% had poor knowledge and after giving instructional module knowledge was increased and also concluded that area of work does not show significant association.

The investigator own experience, discussion with experts and the influence of new models of defibrillator made her to realize that there is a need to educate the staff nurses those who are working in wards on use of defibrillator to handle any emergencies occurring in wards. Very rare study are done on nurses working in general medical surgical wards to assess their knowledge on use of defibrillator. Hence, investigator plans to design

the self instructional module on knowledge and practice regarding use of defibrillator among staff nurses working in selected areas of hospital.

Statement of the Problem

A study to assess the effectiveness of Self Instructional Module on knowledge and practice regarding Use of Defibrillator among staff nurses working in selected areas of hospitals of the city.

Objectives

- To assess the pre test knowledge and practice regarding Use of Defibrillator among staff nurses.
- To assess the post test knowledge and practice regarding Use of Defibrillator among staff nurses.
- on knowledge and practice regarding Use of Defibrillator among staff nurses.
- To associate the knowledge and practice score with selected demographic variables.

Operational Definitions

Assess: In this study, it refers to estimate the knowledge and practice of staff nurses regarding use of defibrillator.

- *Effectiveness:* In this study effectiveness means improvement of knowledge and practice of staff nurses regarding use of defibrillator.
- *Self instruction module:* In this study it refers to systematically developed self learning material prepared by investigator to improve the knowledge and practice of staff nurses regarding use of defibrillator.
- *Knowledge:* In this study knowledge it refers to the information with regards to use of defibrillator among staff nurses in term of correct response to the items on structured knowledge questionnaire.
- *Practice:* In this study, practice means, the implementation of use of defibrillator by the staff nurses in term of correct response to the items on observational checklist.
- *Defibrillator:* In this study defibrillator means manual external defibrillator that delivers an electrical shock that completely depolarizes the myocardium, producing a brief period of asystole.

- *Staff nurses:* In this study staff nurses refers to, GNM, B.Sc nursing and PBBSc nursing qualified registered nurses working in selected hospitals of the city.
- *Areas:* In this study the areas means medical surgical wards.

Delimitation

This study is delimited to the staff nurses working in medical surgical wards.

Hypothesis

Hypothesis is tested at 0.05 level of significance

H_0 - There will be no significant difference between pre test and post test knowledge and practice score regarding use of defibrillator among staff nurses.

H_1 - There will be significant difference between pre test and post test knowledge and practice score regarding use of defibrillator among staff nurses.

Conceptual Framework

The conceptual framework selected for the study is based on Ersestine Wiedenbach's "Prescriptive Theory" (Helping art of clinical nursing).

Review of Literature

The literature reviewed has been organized into the following categories:

- Literature related to cardiac arrest.
- Literature related to defibrillator.
- Literature related to knowledge and practice on Use of Defibrillator.
- Literature related to effectiveness of self instructional module

Methodology

Research approach: Quantitative approach is used.

Research design: Showing pre experimental one group pre test post test design.

Setting of the study: Latamangeshkar hospital, Nagpur.

Variables

- *Independent variables:*

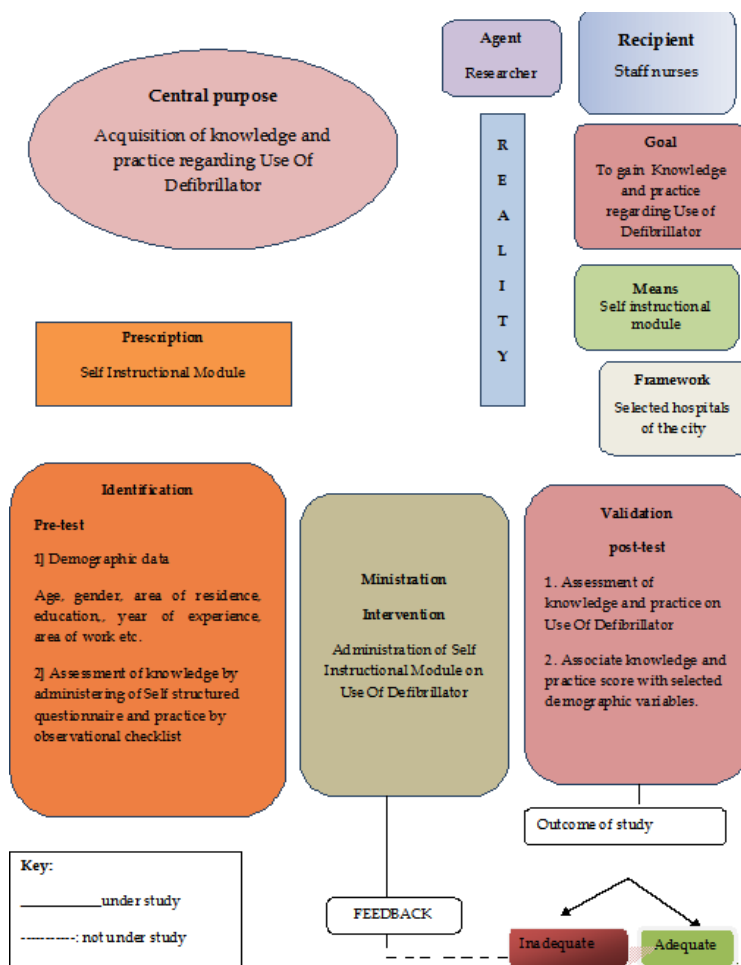


Fig. 1: Conceptual framework based on modified Widenbanch Prescriptive Theory

Self instructional module on knowledge and practice regarding use of Defibrillator.

- *Dependent variables:*

Knowledge and practice regarding use of Defibrillator among staff nurses working in selected areas of hospitals of the city.

- *Demographic variables:*

It includes, age, gender, professional education, training received from, area of work, experience in year etc

Population:

- *Target population*

It includes the staff nurses working in selected areas of hospital of the city.

- *Accessible population*

It comprises of staff nurses working in selected areas of hospital of the city who were available at

the time of data collection and who were fulfilling the inclusive criteria.

Sampling

- *Sample size:* 60
- *Sampling technique:* Non probability purposive sampling technique was used.

Sampling criteria

- *Inclusive criteria:*

Inclusive criteria was, staff nurses who are:

1. Registered nurses and are having RGNM, B.sc nursing and P.B.B.Sc/PC B.Sc Nursing qualification.
2. Able to read and understand English.
3. Willing to participate in study.
4. Available at the time of data collection

• *Exclusive criteria :*

Exclusive criteria was, staff nurses who are:

- Working in intensive care unit, operative theatre and casualty.

Description of tools

Section A: Demographic variables.

Section B: Self structured knowledge questionnaire

Section C: Observational checklist.

Section D: Self instructional module.

Validity

Content and construct validity of tool was determined by 24 experts including medical surgical nursing subjects experts, cardiologist and statistician etc.

Reliability

Karl pearson corelation coefficient formula wasused. The corelation coefficient 'r' of the questionnaire was 0.88, which is more than 0.8. Hence the questionnairewas found to be reliable.

The reliability of the observation checklist was calculated by the inter rater technique and it was found 0.85 thus, there was good agreement and the observation check scale was found to be reliable.

Pilot Study

Pilot study was conducted from 4th December 2017 to 12 December 2017 for a period of 7 days. A sample of 6 staff nurses was selected from the selected areas of hospital of the city. The pilot study was feasible in terms of time, money and resources.

Data Collection

The main study data was gathered from 15 December 2017 to 13 January 2018. Permission was obtained from concerned authority. The samples were approached in small groups on a daily basis. Before giving the questionnaire self introduction was given by the investigator and the purposeof the study mentioned. Consent of the samples were taken. The pretest questionnaires were distributed to the samples and collected back after 31 minutes. Practice was checked by using observational checklist. After the pretest, the investigator administrated the treatment (self instuctional module on use of Defibrillator) after 7 days post test was taken.

Results

Section I: Description of staff nurses with regards to their demographic variables

The table 1 shows that majority 68.3% of the staff nurses were in the age group of 21-30 years, while majority 98.3% of the staff nurses were females.

Table 1: Table showing frequency and percentage wise distribution of staff nurses according to their demographic variables

n=60

Sr. No.	Demographic Variables	Frequency (F)	Percentage (%)
	Age (in years)		
	21-30 yrs	41	68.3
	31-40 yrs	6	10.0
	41-50 yrs	13	21.7
	51 yrs and above	0	0
	Gender		
	Male	1	1.7
	Female	59	98.3
	Professional Education		
	RGNM	58	96.7
	BBS	2	3.3
	PBBSc	0	0
	Training Received from		
	Private Hospital	49	81.7
	Government Hospital	11	18.3
	Area of work		
	Medicine Ward	23	38.3
	Surgical Ward	12	20
	Orthopaedic Ward	12	20
	Other	13	21.7
	Experience in years		
	<1 yr	12	20
	1 to 5 yrs	26	43.3
	6 to 10 yrs	6	10
	>10 yrs	16	26.7

Educational status reveals that 96.7% of them were educated upto RGNM/GNM, 81.7% of staff nurses training receive from private hospital, 38.3% of them were working in medicine ward, majority 43.3% of the staff nurses had working experience of 1-5 years.

Level of significance $p < 0.05$

Above table 4 shows the overall mean knowledge scores of pre test and post test which reveals that post test mean knowledge score was higher 22.60 with SD of ± 2.36 when compared with pre test mean

Section - II: Description on pretest and posttest knowledge and practice of staff nurses regarding Use of Defibrillator

Table 2: Table showing comparison of pretest and post test knowledge grading score

n=60

Grading	Pretest		Posttest	
	Frequency	Percentage	Frequency	Percentage
Excellent	0	0.0%	50	83.33
Very Good	7	11.67%	10	16.67
Good	32	53.33%	0	0
Average	21	35%	0	0
Poor	0	0.0%	0	0

Table 3: Table showing comparison of pretest and post test practice grading score

n=60

Grading	Pretest		Posttest	
	Frequency	Percentage	Frequency	Percentage
Excellent	1	1.67%	55	91.67
Very Good	38	63.33%	5	8.33
Good	21	35%	0	0
Poor	0	0%	0	0

Section III: Description on the effectiveness of self instructional module on knowledge and practice of staff nurses regarding use of defibrillator

Table 4: Table showing effectiveness of self instructional module on knowledge score of pretest and posttest of staff nurses regarding use of defibrillator.

n=60

Overall	Mean	SD	Mean percentage	Calculated t value	Df	Table value	p-value
Pre Test	11.83	2.76	10.76	23.89	59	2.00	0.0001
Post Test	22.60	2.36					Highly Significant

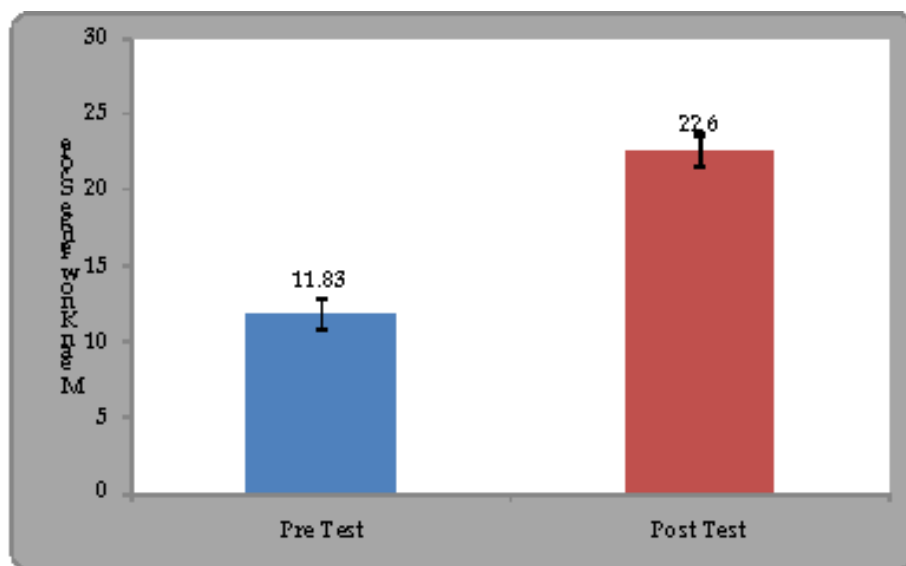


Fig. 2: Bar diagram representing effectiveness of self instructional module on knowledge score of pretest and posttest of staff nurses regarding use of defibrillator.

Table 5: Table showing effectiveness of self instructional module on practice score of pretest and posttest of staff nurses regarding use of defibrillator n=60

Overall	Mean	SD	Mean percentage	Calculated t value	Df	Table value	p-value
Pre Test	11.43	2.16	7.35	23.79	59	2.00	0.0001 Highly Significant
Post Test	18.78	1.73					

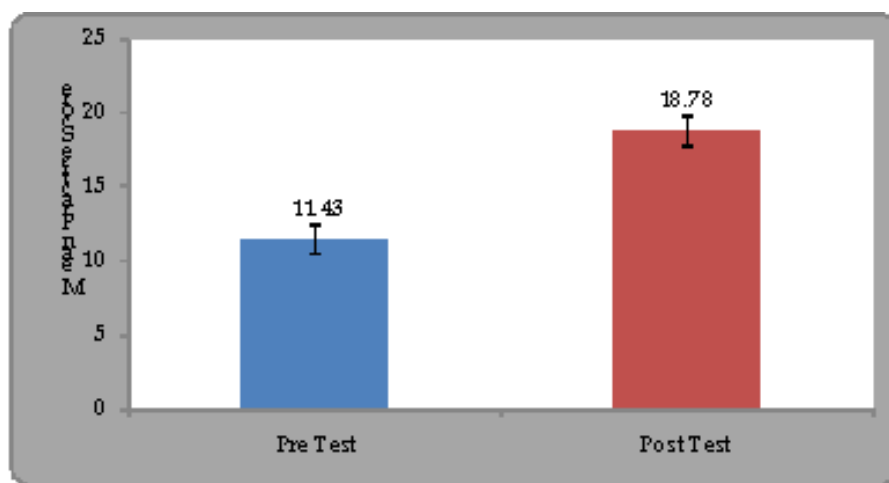


Fig. 3: Bar diagram representing effectiveness of self instructional module on knowledge score of pretest and posttest of staff nurses regarding use of defibrillator.

knowledge score value which was 11.83 with SD of ± 2.76 . The calculated t value 23.89 is greater than table value 2.00 at 0.05 level of significance. Hence it is statistically interpreted that self instructional module on knowledge regarding use of defibrillator was effective. Thus H_1 is accepted and H_0 is rejected.

Level of significance $p < 0.05$

Above table 5 shows the overall mean practice scores of pre test and post test which reveals that post test mean practice score was higher 18.78 with SD of ± 1.73 when compared with pre test mean practice score value which was 11.43 with SD of ± 2.16 . The calculated t value 23.79 is greater than table value 2.00 at 0.05 level of significance. Hence, it is statistically interpreted that self instructional module on practice regarding use of defibrillator was effective. Thus H_1 is accepted and H_0 is rejected.

Section III Description on association on knowledge and practice score with selected demographic variables

The analysis shows that the area of work was associated with knowledge score while none of the other demographic variables were associated with knowledge and practice score.

Discussion

Binu Xavier (2013) have conducted a quasi

experimental study with one group pretest and posttest. Without control group design was undertaken in Vinayaka Missions Hospital, Salem to assess the effectiveness of self instructional module regarding emergency management of patient with myocardial infarction on knowledge among staff nurses. Data was collected from 98 staff nurses selected by convenient sampling technique using closed ended questionnaire from 19.09.2009 to 02.10.2009. Data was analyzed by using descriptive and inferential statistics. Demographic characteristic reveals that the highest percentage (69%) of the staff nurses were in the age group of 21-25 years, were females (74%) were having B.Sc. nursing degree (80%). Highest percentage were having 3-4 yrs years of experience (69%), were working emergency unit (3%), ICU (Intensive Care Unit) (20%), and general ward (29%) and other wards (48%) and did not attend in-service program (93%). The overall pretest mean score 22.06 ± 1.92 which is 48% whereas in the post test the mean score (30.04 ± 2.82) which is 65% of the total score with an overall difference of 17% of pretest score reveals good knowledge. Highly significant difference found between the pretest and posttest knowledge score when compared with the demographic variables of staff nurses ($p < 0.05$). Indicated that self instructional module was effective.

Above study reveals that knowledge of staff nurses was poor in pretest. In present study also pretest knowledge score of staff nurses regarding

use of defibrillator was poor but after administration of self instructional module knowledge and practice score of staff nurses was increased in post test. This indicate that self instructional module was effective.

Jayakrishnan K. (2016) [11] conducted a descriptive study with cross sectional survey approach to find the extend of knowledge and practice among the staff nurses with OT (Operation Theatre), ICU(Intensive Care Unit) and ward experience in IMS AND SUM hospital. 100 staff nurse were selected by purposive sampling technique and data was collected. The association between practice and demographic data characteristics reveals that practice is significantly associated with age, department of service, year of service; and rest are not showing any significant association.

In above study practice was associated with age, department of service, year of service, but in present study knowledge is associated with the area of work. While practice was not associated with any other demographic variables.

Conclusion

Thus it was concluded that self instructional module on knowledge regarding use of defibrillator among staff nurses in selected hospitals of the city was found to be effective as a teaching strategy. Hence, based on the above cited findings, it was concluded undoubtedly that the written prepared material by the investigator in the form of self instructional module helped the staff nurses to increase knowledge and practice regarding use of defibrillator.

Implication of the Study:-

The findings of this study have implications for nursing practice, nursing education, nursing administration, and nursing research

Nursing practice

- Health care services are an essential component of community health care nursing, the role of the personnel is to conduct and participate in national programme to increase knowledge related to use of defibrillator among staff nurses.
- It will also help the nurses to keep update knowledge regarding various aspects of use of defibrillator
- When professional liability is recognized, it defines the parameters of the profession

and the standards of professional conduct. Nurses should therefore enhance their professional knowledge.

- The self instructional module can be used for imparting knowledge regarding various aspects of use of defibrillator to health team members.
- Self instructional module would serve as a ready reference material for the health team members. The information is particularly useful for the nurses for educating the relatives and other health team members the benefits of proper use of defibrillator.

Nursing education

- Nurse who are up to date with the knowledge regarding use of defibrillator are the better person to impart their knowledge to the nursing student which will ultimately decrease the mortality related to cardiovascular diseases.
- Now days, much emphasis is given on comprehensive care in the nursing curriculum. So this study can be used by nursing teachers as an informative illustration for nursing students.
- Self instructional module could help educators to use it as a tool for teaching.
- Students must be given clinical field assignment, in which they must be given opportunity to interact with people and create awareness regarding use of defibrillator.
- Teacher training programs must also include the topic of use of defibrillator.

Nursing administration

- Findings of the study can be used by the Nursing Administrator in creating policies and plans for providing education to the staff nurses and health professionals.
- It would help the nursing administrators to be planned and organized in giving continuing education to the nurses and to others for applying and updating the knowledge regarding use of defibrillator.
- In-service education must be conducted for the nurses to create awareness regarding use of defibrillator.
- It can help to prevent the client from sudden cardiac death.

Nursing research

- The findings of the study have added to the existing body of the knowledge in relation with use of defibrillator which will enhance the knowledge and would help to keep it updated.
- Other researchers may utilize the suggestions and recommendations for conducting further study.
- The tool and technique used has added to the body of knowledge and can be used for further references.

Limitation:

- The study was conducted only on staff nurses.
- The sample size was small to generalize the findings of the study.
- The study was limited to measure the knowledge of staff nurses in selected hospitals of the city.
- The tool for data collection was prepared by investigator herself. Standardized tool was not used

Recommendations:

- A similar study can be replicated on a larger population for a generalization of findings.
- A Study may be conducted to evaluate the effectiveness of self instructional module versus planned teaching programme on use of defibrillator.
- A comparative study can be done to assess the knowledge of use of defibrillator among staff nurses in community and in hospital setting.
- A descriptive study can be carried out to assess the attitude and practice of staff nurses on use of defibrillator.
- A similar study can be carried out to evaluate the effectiveness of video assisted self instructional module on use of defibrillator.

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Revolution in Nursing

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Pramilaa. R

Abstract

This article focuses on the need for revolution in nursing in this rapidly evolving era. Nurses need to get along with the advancements of technology in the same pace to maintain standards and quality nursing care. But it is apparent that missing links are found and therefore the need for revolution arises. The article furthers its discussion on the four major areas of nursing such as nursing administration, nursing education, nursing research and clinical practice. It is supported with adequate research. And it concludes stating that nursing community should come forward together with unity and cooperation and exercise required reforms in nursing and raise the standards of nursing profession.

Keywords: Revolution; Nursing administration; nursing education; clinical practice; nursing research

Introduction

It is essential that nurses acquire the necessary 21st century knowledge and skills for practice in a complex, emerging technologically sophisticated, consumer - centric, global environment. Nursing as a profession is based on the values of caring, compassion and community and nurses are

powerful allies who will attract countless others to your cause. They possess a down-to-earth professionalism that is sincere and authentic and they have firsthand knowledge of the life or death stakes of the most urgent issues of the day, from income equality to immigration reform to climate change. This article furthers discussion on four major areas of nursing as given in Fig.1.

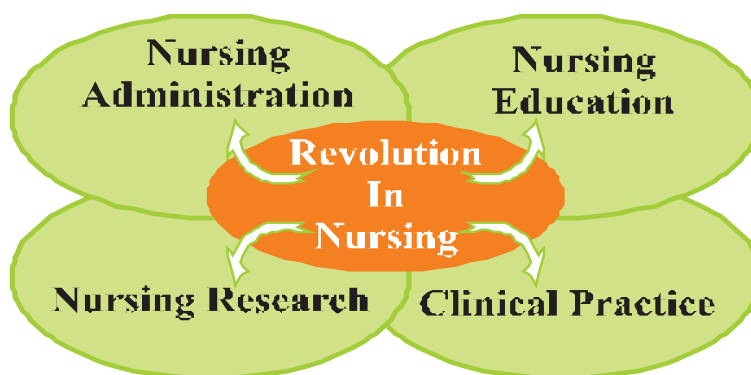


Fig. 1: Revolution among four major areas of Nursing

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Nursing education

Changing demographics, emphasis on health promotion, health care costs, movement toward community based care and expanding technology are factors that shape the health care system and

educational preparation for nurses. Preparing students for future practice will be more complex, will be provided in multiple settings and will require extensive knowledge, critical thinking and other cognitive skills, technologic and psychomotor skills and value system for making ethical decisions. Other outcomes of nursing education program include learning to learn, handling ambiguity, thinking like a professional and accepting responsibility for decisions made in practice [1].

The development and dissipation of high quality core curriculum that all nursing institutions can utilize and tailor to their own learners, communities and faculty would be an efficient and effective solution. A) i) The core curriculum should ensure that basic concepts required by all nurses are intertwined into nursing education. These concepts include quality and safety education, informatics, genetics, inter-professional educational competencies, technology competencies, specific types of communication strategies, health care policy and social determinants. ii) It should encompass standards for clinical simulation for nursing institutions using this pedagogy iii) A minimum number of clinical hours should be required to become Registered Nurse and Registered Midwife shall be based on evidence derived from federally sponsored research. B) Utilize health services research to guide the education of our nursing workforce and health care team. C) Create a collaborative National nursing campaign among all professional nursing organizations uniting all nursing institutions across the country. D) Do more to recruit and retain a diverse nursing workforce [2] (Fig. 2).

Clinical practice:

Health care research continually produces huge volumes of results and revised methods of treatment and care for patients, which, if implemented in practice, can potentially save lives and improve the quality of life of patients [3]. Nonetheless, a hike in the volume of research results available does not automatically translate into improved patient care and treatment [4]. A study done on implementing research results in clinical practice revealed challenges involved in closing the evidence-practice gap and may add to the growing body of knowledge on which basis actions can be taken to ensure the best care and treatment available actually reaches the patient [5]. Improving patient care has become a priority for all health care providers with the overall objective of achieving a high degree of patient satisfaction. Greater awareness among the public, increasing demand for better care, keener competition, more health care regulation, the rise in medical malpractice litigation and concern about poor outcomes are factors that contribute to this change [6]. (Table 1).

Nursing research:

In order to perform evidence-based practice, we need evidence. With nurses' knowledge and skills they can theorize, hypothesize, formulate studies and gathers evidence that result in standard care. The goal of nursing research is to achieve better care standards and application for patients and families. As nursing students are the future members of the nursing profession and for the profession to continue to advance, nursing research must be



Fig. 2: Educational reforms in Nursing

Table 1: Causes and approaches to Quality improvement

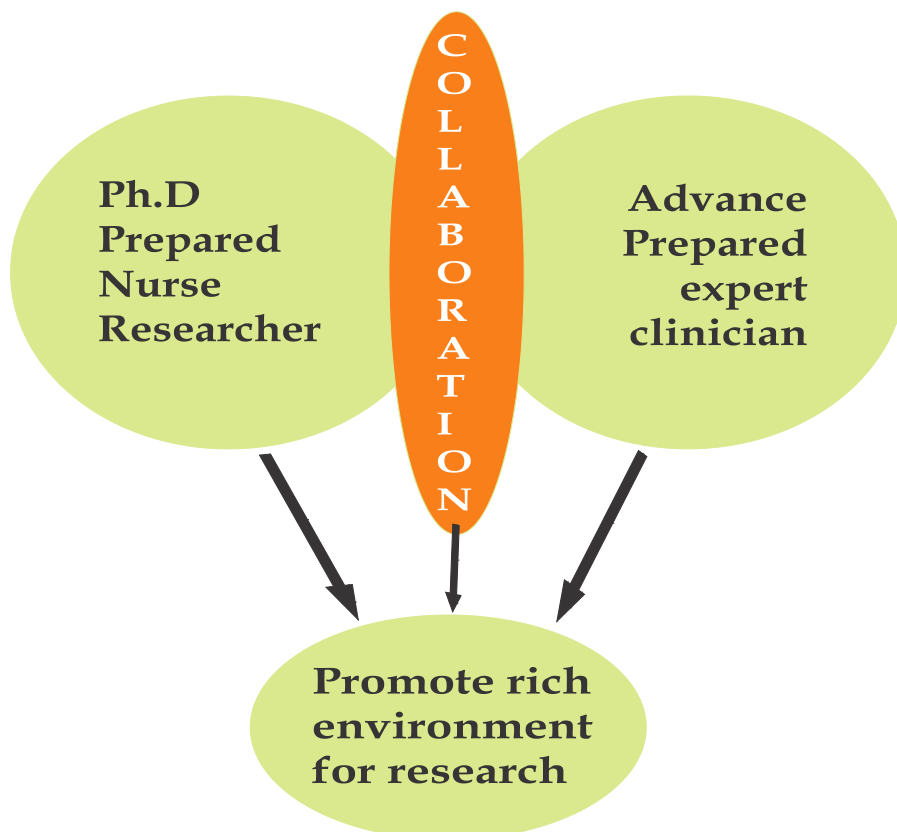
Causes	Approaches to Quality Improvement(QI)
Inefficient health care system	<ul style="list-style-type: none"> ✓ Introduce concept of QI from manufacturing industry ✓ Streamlining processes to produce better outcomes ✓ Replacing professional judgment with rules and protocols
Lack of systematic evaluation	<ul style="list-style-type: none"> ✓ Provide financial incentives to do better on quality measures ✓ Disclose quality information to public for competition ✓ Provide national benchmarks to evaluate quality of care
Insufficient staffing	<ul style="list-style-type: none"> ✓ Decreasing patient to nurse ratio ✓ Educating public about nursing contribution to quality care ✓ Expanding admissions to nursing schools to increase workforce

the foundation of comprehension, evidence-based clinical practice [7]. Successful utilization of nursing research in practice is a highly complex task. Basic requisites encompass a positive culture associated with the essential interest and support required to promote change.

As nursing research becomes a priority for health care by addressing evidence – based nursing care and quality clinical outcomes and it is important for nurse executives to examine the structure and process of the nursing department in health care organization. To enhance nursing research, it is essential for nurses to be involved in the development of the purpose, question, specific aim and design of research projects. A flexible multifaceted approach

to answering clinical questions is a necessary strategy to assure the presence of nursing research at all levels of organization.

Nurse researcher credibility and collaboration with nurse executives and staff nurses are important aspects of a research project. To promote evidence-based practice, it is crucial for nurse to conduct nursing research to find answers to clinical questions. Nursing should strive to set standard for research collaboration between PhD prepared nurse researchers and educationally advanced prepared expert clinician [8]. When they both collaborate, the differences can decrease the barrier and challenges and promote a rich environment for research (Fig. 3).

**Fig. 3:** Means to enhance research

Nursing administration:

In addition to changes in nursing education, practice and research, strong leadership as an administrator will be required to realize the vision of a transformed health care system. It is true that not all nurses begin their career with thoughts of becoming a leader; all nurses must be leaders in the design, implementation, and evaluation of, as well as advocacy for, the ongoing reforms to the system. Nursing research and practice must continue to identify and develop evidence-based improvements to care, and these improvements must be tested and adopted through policy changes across the health care system. Nursing leaders must translate new research findings to the practice environment and into nursing education and from nursing education into practice and policy.

Being an able administrator transcends all levels of the nursing profession and requires leadership skills and competencies that must be applied both within the profession and in collaboration with other health professionals. In care environments, being an administrator involves taking responsibility for identifying problems and areas of waste, devising and implementing a plan for improvement, tracking improvement over time, and making necessary adjustments to realize established goals. Serving as strong patient advocates, nurses must be involved in decision making about how to improve the delivery of care.

To be effective in reconceptualized roles and to be seen and accepted as leaders, nurses must see policy as something they can shape and develop rather than something that happens to them, whether at the local organizational level or the National level. They must speak the language of policy and engage in the political process effectively, and work cohesively as a profession. Nurses should have a voice in health policy decision making, as well as being engaged in implementation efforts related to health care reform. Nurses also should serve actively on advisory committees, commissions, and boards where policy decisions are made to advance health systems to improve patient care. Nurses must build new partnerships with other clinicians, business owners, philanthropists, elected officials, and the public to help realize these improvements [9].

Conclusion

The aforementioned reforms in each field of nursing should be taken up very seriously to maintain standards of nursing and profession itself. Most of the time, the brain storming ideas are discussed and listed but potency decreases during the implementation phase in the current scenario. Let us hope that nursing community would come forward together with unity and cooperation and exercise required reforms in nursing and raise the standards of nursing profession.

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Effects of Skipping Breakfast among Student Nurses

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Abstract

Breakfast is regarded by many as 'The most important meal of the day' because an adequate food intake at the reminder of the day is likely to be met. The habit of skipping breakfast has become very popular among children and adolescents. A study to assess the level of knowledge regarding the effects of skipping breakfast among second year B.Sc. Nursing students in MTPG & RIHS, Puducherry. The quantitative approach was used for the study. The study reveals that the maximum number (61) of students were having moderate knowledge on effects of skipping breakfast and also states age of the students, gender, education of the father, education of mother, occupation of the father, occupation of mother, religion, type of family, area of residence, family income/month had no significant association with knowledge of students.

Keywords: Breakfast; Skipping Breakfast; Cognition; Behavior; Anxiety.

Introduction

Breakfast is the first meal of the day, and it is the meal that the body uses to top up its glucose levels after eight to twelve hours of fasting. Glucose is vital for the brain and it's the main energy source for the body. As well, it also fuels the muscles that are necessary for physical activity through the day. If you skip breakfast, you will have a shorter attention span, be less alert, take longer to react, have low blood sugar, and decreased productivity. We need the most energy at the beginning of the day, and the least energy at the end, when most daily tasks are over and we are relaxing.

Statement of the problem

A study to assess the knowledge regarding the effects of skipping breakfast among second year B.Sc. Nursing students studying in College of Nursing, Mother Theresa Post Graduate and Research Institute of Health Sciences at Puducherry.

The objectives of the study are to:

- assess the knowledge regarding the effects of skipping breakfast among Nursing Students.
- associate the demographic variables with the knowledge regarding the effects of skipping breakfast among Nursing Students.

Methodology

In this study, quantitative research was used, quantitative research is based on the concepts of manipulation and control of phenomenon and the verification of results using empirical data gathered through senses. This study uses semi-structured questionnaire to collect the data related to identification of level of knowledge regarding effect of skipping breakfast among second year nursing students. The research design selected for this study was descriptive design. A simple random sampling technique was adopted for this study.

Score to assess knowledge:

Adequate knowledge = 24 - 30

Moderate knowledge = 16 - 23

Inadequate knowledge = below 16

It shows that 10% students have adequate knowledge and 87.14% students have moderate knowledge and only 2.8% students have inadequate knowledge.

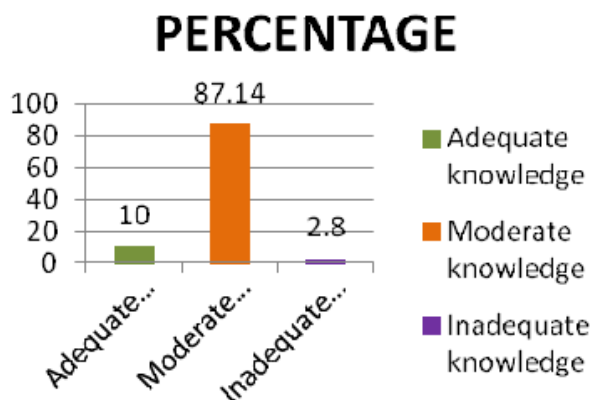
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Implications

The Nursing implications included the specific suggestion for Nursing practice, Nursing education, Nursing administration and Nursing research. The Nurses working in the community and clinical settings should practice health education as an integral part. On fixed days for adolescent students, booklets are to be provided to improve their knowledge and change their attitude towards the effects of skipping breakfast. When nurse education plan to instruct students, should provide adequate opportunity for them to educate adolescent groups regarding effect of skipping of breakfast. This study helps the nurse researchers to set the information for adolescent groups toward promotion of adolescent health and healthy eating habits.

Discussion

There were seventy students in B.Sc., Nursing MTPG & RIHS, Puducherry were selected for this study and major findings of the study are discussed as follows.

- Majority of the students in age a group of 18-19 years (i.e.,) 70%.
- Majority of the students are female (i.e.,) 67%
- Regarding the occupation of father majority are self employee (i.e.,) 30%.
- Majority of the students are Hindu (i.e.,) 82%
- Regarding the income per month majority are between 5,000 to 10,000 (i.e.,) 37.1%

Recommendations

On the basis of study that had been conducted, certain recommendations are suggested for future study.

1. A similar study can be done on a large scale for better generalization.
2. A comparative study can be done with student nurse studying in two different college.
3. An exploratory study may be conducted to identify the awareness, knowledge and attitude of health personal regarding skipping breakfast

Conclusion

This study concluded that majority of the subjects 61 (87.1%) were having moderate knowledge regarding skipping breakfast. Similarly, 7 (10%) of the subjects were having adequate knowledge and 2 (2.85%) of subjects were not having adequate knowledge. From this study the investigator observed that the students having moderate knowledge regarding the effects of skipping breakfast, but they were unaware about its complications. Therefore education, practice and experience are necessary of achieve the knowledge regarding effects of skipping breakfast.

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Depression as Co-Morbidity among Diabetes Patients in India: An Increasing Disease Burden

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Shatrughan Pareek¹, Narendra Kumar Kaushik²

Abstract

Depression is the most common mental disorder worldwide. Nearly 350 million people are affected from depression. The prevalence of depression is higher in developing countries compare to developed countries. Diabetes is a chronic endocrine disease, affecting a large proportion of the world population. World Health Organization estimated that by 2030, the number of diabetes patient at global and India level will be 360 million and 79.4 million respectively. Depression increases the possibilities of poor glycemic control among diabetic patients due to poor self-care and behavioral mechanism. In the world, prevalence of depression among patients with diabetes is around 8.5-27.3%. Indians have wide range of the prevalence (12-49%) because of vast geographical and ethnic differences. The co-morbidity of depression among diabetic patients is an obstacle in sound diabetes management. Lack of social support, migration, gender, low economic status, unemployment and poor screening system are increasing the risk of depression in patients with diabetes. An integrated health care program is necessary to reduce the prevalence of depression among diabetic patients. The screening of depression at diabetes clinic, good social support and collaborative program are effective in reduction of depressive symptoms among patients with diabetes. Early diagnosis and treatment of depression among diabetic patient will be helpful in declining the direct treatment cost, disease burden, morbidity and mortality rate.

Keywords: Depression; Diabetes; Prevalence; Diabetic Patients; Co-Morbidity; Screening.

Introduction

Depression is among the most common mental disorder at global level. Depression is a group of psychiatric symptoms. It is characterized by low self worth, altered sleep pattern, loss of appetite, sadness, lack of pleasure and poor concentration. Nearly 350 million people are suffering from depression. Prevalence of depression is common among women than men. Disability is the main cause of depression worldwide [1,2]. The prevalence of depression in developing countries is the most common psychiatric disorder, ranging from 10%-37.7%. The prevalence of depression is markedly increasing. The World Health Organization is predicted by 2030, depression will be on the top of global burden of disease [3]. In India, the prevalence of depression is high in urban and

rural areas. India has wide range of demographic and ethnicity so that the prevalence is varying in different populations [4].

Diabetes has emerged as a major health care concern at global level. Diabetes is a chronic endocrine disease resulting due to under utilization of the produced Insulin or insufficient secretion of the Insulin in the body. Diabetes is one of the leading causes of morbidity and mortality worldwide [5,6]. Diabetes patients are expected to carry out lifelong various self-care majors to maintain glycemic control and reduce the risk of developing complications [7]. The World Health Organization estimated that by 2030, the number of diabetes patient at global and India level will be 360 million and 79.4 million respectively. It is expected that by 2030, India will be the diabetes capital of the world [8,9].

Depression and diabetes are major public health issues. By 2030, depression and diabetes are projected to be among the 5 leading causes of disease burden [10]. Depression is an independent risk factor for the developing of diabetes type-2. Depression is associated with a 60% increased risk of developing diabetes among depressive people. Some studies have suggested that depression can

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affect the optimal blood sugar level due to poor self care. Recurrence of depression is common in people with diabetes [1]. Depression may also increase the risk for type-2 diabetes because of behavioral mechanism. The studies have shown that rate of depression to be 12-17% among patient with metabolic disorders. Patients have higher medical symptoms burden, poor blood sugar control and inadequate self care [4].

Prevalence of depression among diabetic patients

The prevalence of depression is high among diabetic patients. Depressive symptoms affect nearly 25% of diabetic population [1]. The world health survey reported that, the prevalence of depression in diabetes was significantly associated with a vast range of diabetes complications. The prevalence of depression among patients with diabetes is around 8.5-27.3% at global level [11]. In India, the prevalence rate is higher than developed countries. Ranjan Das et al revealed that in West Bengal, the prevalence was 46.2% and Naseer Ali et al. found that the prevalence was 27% among patient with diabetes [12,13]. Some studies have shown that rate of depression to be between 12-17% among diabetic patients. Patients had shown higher medical symptoms burden, poor blood sugar control and inadequate self-care [14,15,16]. Madhu et al. reported the prevalence of depression was 49% amongst patients with diabetes in Trivandrum, India [17]. National institute of Mental health reported that depression has a critical progress in diabetic patients. The rate of reoccurrence of depression is higher among diabetic patients compare to non-diabetic patients [18,19].

Risk factors for depression in diabetic patients:

1. Gender (Female)
2. Lack of social support
3. Low socio-economic status
4. Poor glycemic control
5. Critical life events
6. Migration
7. Presence of co-morbidities
8. Unemployment
9. Poor screening of diseases
10. Inadequate health education and counseling

Possible solutions to minimize the depression among diabetic patients:

- ❖ Integrated care for depressive and diabetic patients

- ❖ Screening for depression at diabetes clinic
- ❖ Develop self care activities among diabetic patients
- ❖ Collaborative care programme
- ❖ Screening for diabetes at psychiatric clinic
- ❖ Develop social support
- ❖ Implementation of Mental health program
- ❖ Evidence based treatment for depressive and diabetic patients
- ❖ Sound guidance and counseling system for depressive and diabetic patients

Conclusion

Depression is a group of psychiatric symptoms. Diabetes is increasing drastically at global level. By 2030, depression and diabetes are projected to be among the 5 leading causes of disease burden. Depression is a major concern among diabetic patients. The rate of depression is higher among patients with diabetes. People with depression and diabetes are at greater risk of disability, poor quality of life and mortality. American diabetes association has recommended screening and assessment of depression in diabetes patients [9]. Depression may be a critical obstacle in effective diabetes management. There is a need of integrated care system for the diabetic patients, suffering from depression. The proper screening is necessary for depression among diabetic patients to reduce the disease burden in India. Social support will be helpful in developing confidence among the patients. Guidance and counseling can be effective in better management of self care by diabetic patient. Evidence based treatment like psychotherapy, can be effective in managing depression among the patients. Preventive measures should be taken to decline the level of depression among diabetic patients. The cost of treatment among the diabetic patient suffering from depression may be reduced if proper initiatives are taken to prevent depression. Early diagnosis and treatment of depression among patients with diabetes will be helpful in reducing disease burden, morbidity level and mortality rate. The co-morbidity of depression and diabetes affects the national economy by direct treatment cost, indirect cost and loss of manpower & productivity.

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