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Incidence of Hospital-Acquired Infection among ICU Patients and its Association with Selected Factors in IMS & SUM Hospital, Bhubaneswar IJSN Volume 4, Number 2 © Red Flower Publication Pvt. Ltd

Farzana Begum

Abstract

The purpose of the study is to assess the incidence of Hospital-Acquired Infection among ICU patients and its association with selected factors in IMS & SUM Hospital, Bhubaneswar, Odisha. Nosocomial infections can be defined as those occurring within 48 hours of hospital admission, 3 days of discharge or 30 days of an operation. They affect 1 in 10 patients admitted to hospital. The approach/design of the study was Non-Experimental Descriptive research design /Survey approach, which were carried out among 100 patients admitted in ICU of IMS & SUM Hospital, Bhubaneswar, Odisha, selected by Non-Probability convenience sampling technique. An exclusive review of literature helped in preparation of data collection tools to assess the observed factors responsible for developing HAI. A structured Questionnaire was administered to collect demographic data and data on observed responsible factors for developing HAI. The techniques used for data collection were interview and participative observation. The analysis of the obtained data was based on the objective of the study. Descriptive and inferential statistics were used for data analysis and data interpretation. Results of the study revealed that ICU the incidence of Hospital-Acquired infection was 12% among them 3% of sample getting infection through I.V line, 7% of sample getting infection through catheter, 2% of sample getting infection through respiratory procedure and rest 88% of sample are not infected. It was concluded that the Incidence of Hospital-Acquired Infection among patient admitted in ICU, SUM Hospital is 12% & is due to some wrong practices of the health care provider. The most effective technique for controlling nosocomial infection is to strategically implement quality control measures to the health care sectors, and evidence-based management can be a feasible approach. For those with ventilator-associated or hospitalacquired pneumonia, controlling and monitoring hospital indoor air quality needs to be on agenda in management, whereas for nosocomial rotavirus infection, a hand hygiene protocol has to be enforced.

Keywords: Assess; Association; Factors; HAI; ICU; Incidence; Nosocomial; Patients.

Introduction

A hospital is an institution where the sick or injured are given medical or surgical care. Developing hospital acquired infection is nothing but simply certifying the quality of care provided by the hospital. A hospital-acquired infection or HAI, is an infection whose development is favored by a hospital environment, such as one acquired by a patient during a hospital stay. Most infections that become clinically evident after 48 hours of hospitalization are considered hospital-acquired. Such infections include fungal and bacterial infections and are aggravated by the reduced resistance of individual patients.

In the United States, the Centers for Disease Control and Prevention estimated roughly 1.7 million hospitalassociated infections, from all types of microorganisms, including bacteria, combined, cause or contribute to 99,000 deaths each year. In Europe, where hospital surveys have been conducted, the categories of Gramnegative infections are estimated to account for twothirds of the 25,000 deaths each year.

The study is conducted to determine the incidence of hospital acquired infection among ICU patient in SUM hospital, Bhubaneswar and its association with following selected factors, e.g., urinary catheter, respiratory procedures & I.V. lines.

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Problem Statement: Incidence of Hospital-Acquired Infection among ICU patients and its association with selected factors in IMS & SUM Hospital, Bhubaneswar, Odisha.

Aim of the study: This study aimed to evaluate incidence of HAI, identify the factors responsible for developing HAI and find out the association between the incidence and observed factors associated with HAI.

Objectives of the study

- 1. Find out the incidence of Hospital-Acquired Infection among ICU patient of IMS & SUM Hospital.
- 2. Identify the factors responsible for Hospital-Acquired Infection among ICU of IMS & SUM Hospital.
- 3. Find out the association between incidences of Hospital-Acquired-Infection with selected factors.

Materials and Methods

Research Methodology

Research Approach

Quantitative Research Approach

Research Design

Non-Experimental Descriptive Research Design

Setting

ICU of IMS & SUM Hospital, Bhubaneswar, Odisha.

Sample Population

Sample Size: 100

Sampling Techniques: Non-Probability convenience sampling

Inclusion criteria are:

(a) The patients those are admitted in ICU of IMS & SUM Hospital, Bhubaneswar, detected with HAI. (b) Those who are willing to participate in this study. (c) Those who are available during the study.

Exclusion criteria are

(a) The patients those are not admitted in ICU of IMS & SUM Hospital, Bhubaneswar, and not detected with HAI. (b) Those who are not willing to participate in this study. (c) Those who are absent during data collection.

Research tool for data collection

Self structured questionnaire was developed to assess the incidence of HAI among ICU patients by reviewing related literatures, books, journals, published and unpublished research studies, consultancy and guidance from various subjects, experts and in related fields, past experience of the investigator, formal and non-formal discussion with peer groups and consultation with statistician for data analysis. After revealing the research and non-research material, opinion from experts, a self structured questionnaire was constructed for collecting socio-demographic data and to assess the incidence of HAI among ICU patients. The tool used in the present study includes the following section. Section-A includes socio-demographic data and Section-B includes observed factors responsible for HAI.

Pilot study

Pilot study was carried out on 10% of total sample and it was excluded from the study subject to test the feasibility, applicability and the clarity of the questionnaire and to estimate the length of time needed to fill the sheet. As a result of the pilot study, the necessary modification in the tools was done and the final form was developed.

Implementation phase

Data collection period for this study was from October 2012 to November 2013, the researcher collected the data during the morning from 9A.M. to 1P.M, six days/week, at ICU of IMS & SUM Hospital, Bhubaneswar, Odisha. The researcher filled the questionnaires by interview and observation method.

Ethical consideration

At the initial interview, all subjects were informed about the nature, purpose and benefits of the study and that their participations were voluntary. They were individually interviewed for the sociodemographic data. Also, all the information was kept confidential.

Limitation of the study

The scope of the study was limited and the study finding could not be generalized because of the nonprobability convenience sampling technique, sample size limited to 100 and time constrains.

Validity

Validity is the suitability of the instrument or tool, for which it is prepared to measure. The tool was validated by three nursing experts, one critical care specialist and one statistician and recommended corrections were made in the tool.

Reliability

Reliability is the degree of consistency or dependability of the tool. It was tested on 10 ICU patients with HAI of IMS & SUM Hospital, Bhubaneswar, Odisha, by using Chronbach reliability formula. The reliability value was 7.2, thus it indicates that the questionnaire was reliable.

Data Analysis

Statistical analysis involves segmentation of a complex problem to smaller section & the smaller segments are analyzed, then the result co-related with respect to the whole process in order to solve the problem. The data analysis was carried out by using both descriptive, inferential statistics and on the basis of objectives of the study & the hypothesis set by the investigator.

Table 1: Distribution of the sample according to infected body fluid

Infected Body Fluid	Frequency(f)	%
Blood	3	3%
Urine	7	7%
Tracheal secretion	2	2%
None	88	88%

Table 1 shows that Distribution of the sample according to infected body fluid depicts 3% of sample getting infection through I.V line, 7% of sample getting infection through catheter, 2% of sample getting infection through respiratory procedure & rests 88% of sample are not infected.

Fig .1: Distribution of the according to infected body fluid



Fig.1 shows that Distribution of the sample according to infected body fluid depicts 3% of ample getting infection through I.V line, 7% of sample

getting infection through catheter, 2% of sample getting infection through respiratory procedure & rests 88% of sample are not infected.

Table 2. Distribution of the sample according to Hand Hygiene

Hand Hygiene	Frequency(f)	%
Yes	16	16%
No	84	84%

Table 2 shows that Distribution of the sample according to Hand Hygiene depicts that in 16% of

sample Hand Hygiene done and in 84% hand hygiene not practiced.

Farzana Begum / Incidence of Hospital-Acquired Infection among ICU Patients and its Association with Selected Factors in IMS & SUM Hospital, Bhubaneswar

Fig. 2: Distribution of the sample according to Hand Hygiene



Table 3: Distribution of the sample according to Tracheostomy care

Tracheostomy Care	Frequency(f)	%
8hrly tracheostomy care given	94	94%
8hrly tracheostomy care not given	6	6%





Table 4: Distribution of the sample according to change I.V. cannula in 72 hours

Change I.V.Cannula In 72 Hours	Frequency(f)	%	
Yes	15	15%	
No	85	85%	

Fig.4: Distribution of the sample according to change I.V. cannula in 72 hours



Table 5: Distribution of the sample according to use of pre-prepared heparin solution

Use of Pre-Prepared Heparin Solution	Frequency(f)	%	
Yes	100	100%	
No	0	0	

Fig. 5: Distribution of the sample according to use of pre-prepared heparin solution

Fig. 2 shows that Distribution of the sample according to Hand Hygiene depicts that in 16% of sample Hand Hygiene done and in 84% hand hygiene not practiced.

Table 3 shows that Distribution of the sample according to using Tracheostomy care depicts in 94% of sample tracheostomy care given 8 hourly whereas 6% of sample tracheostomy care 8 hourly not given.

Fig.3 shows that Distribution of the sample according to using Tracheostomy care depicts in 94%

of sample tracheostomy care given 8 hourly whereas 6% of sample tracheostomy care 8 hourly not given.

Table 4 shows that Distribution of the sample according to change I.V. cannula in 72 hours depicts for 15% sample I.V. cannula changed in 72 hours whereas in 85% sample I.V. cannula not changed in 72 hours.

Fig.4 shows that Distribution of the sample according to change I.V. cannula in 72 hours depicts for 15%

Table 6: Distribution of the sample according to I.V. set nozzle closed while not in use

I.V. Set Nozzle Closed While Not in Use	Frequency(f)	%	
Yes	94	94%	
No	6	6%	

Fig. 6: Distribution of the sample according to I.V. set nozzle closed while not in use



Table 7: Distribution of the sample according to daily practice catheter care

Daily Practice Catheter Care	Frequency(f)	%
Yes	0	0
No	100	100%

Fig. 7: Distribution of the sample according to daily practice catheter care



Change of Catheter in Every 15 Days	Frequency(f)	%
Yes	7	7%
No	93	93%

Table 8: Distribution of the sample according to change of catheter in every 15 days

Fig. 8: Distribution of the sample according to change of catheter in every 15 days



sample I.V. cannula changed in 72 hours whereas in 85 % sample I.V cannula not changed in 72 hours

Table 5 shows that Distribution of the sample according to use of pre-prepared heparin solution depicts in 100% sample pre-prepared heparin solution used to flush out before given any I.V. injection.

Fig.5 shows that Distribution of the sample according to use of pre-prepared heparin solution depicts in 100% sample pre-prepared heparin solution used to flush out before given any I.V. injection.

Table 6 shows that Distribution of the sample according to I.V. set nozzle closed while not in use depicts in 94% of sample I.V set nozzle closed while not in used & in 6% of sample I.V. set nozzle not closed while not in used.

Fig. 6 shows that Distribution of the sample according to I.V. set nozzle closed while not in use depicts in 94% of sample I.V set nozzle closed while not in used & in 6% of sample I.V. set nozzle not closed while not in used.

Table 7 shows that Distribution of the sample according to daily practice catheter care depicts in 100% of sample catheter care not given.

Fig. 7 shows that Distribution of the sample according to daily practice catheter care depicts in 100% of sample catheter care not given.

Table 8 shows that Distribution of the sample according to change of catheter in every 15 days depicts. In 7% of sample catheter changed in every 15 days & 93% of sample catheter not changed in every 15 days.

Fig. 8 shows that Distribution of the sample according to change of catheter in every 15 days depicts In 7% of sample catheter changed in every 15 days & 93% of sample catheter not changed in every 15 days.

As 3% of sample getting infection through I.V line, 7% of sample getting infection through catheter, 2% of sample getting infection through respiratory procedure and rest 88% of sample are not infected.

 change of catheter in every 15days yes
 change of catheter in every 15days no

By conventional criteria, this difference among associated factors responsible for hospital acquired infection is consider to be not statistically significant, that means that all the factors are equally responsible for Hospital-Acquired Infection if not providing quality care.

Discussion

The present study shows that in ICU the incidence of Hospital-Acquired infection was 12% among them 3% of sample getting infection through I.V line, 7% of sample getting infection through catheter, 2% of sample getting infection through respiratory procedure and rest 88% of sample are not infected. By conventional criteria, this difference among associated factors responsible for hospital acquired infection is consider to be not statistically significant, that means that all factors are equally responsible for Hospital-Acquired Infection if not providing quality care.

Recommendation

Keeping in view of the finding of the present study, the following recommendations are made since the study was come out of small convenience sample. The result can only guide for further study.

A similar study can replicate a large sample drawn from ICU of different Hospital.

A co-relational study can be made to assess the incidence of Hospital-Acquired infection among ICU patients in different Hospitals.

Conclusion

It was concluded that the Incidence of Hospital-Acquired Infection among patient admitted in ICU, SUM Hospital is 12% & is due to some wrong practices of the health care provider

The most effective technique for controlling nosocomial infection is to strategically implement quality control measures to the health care sectors, and evidence-based management can be a feasible approach. For those with ventilator-associated or hospital-acquired pneumonia, controlling and monitoring hospital indoor air quality needs to be on agenda in management, whereas for nosocomial rotavirus infection, a hand hygiene protocol has to be enforced.

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Effect of the Communication Board on Communication Pattern among Intubated Patients in the Critical Care Unit

Anbu M.*, Kumari M. J.**, Dutta T. K.***, Angeline Mary Sheela S.****

Abstract

The intubated patients have difficulty in expressing their needs and desires during mechanical ventilation that leads to dissatisfaction and feeling of negativism. Although there now exist many kinds of simple augmentative tools that can efficiently improve communication between patients and caregivers, these tools are not used and ignored in most of the health care settings. This study suggests the use of the communication board to increase the communication pattern among intubated patients, through which the needs of the patients can be identified and met. The objectives of the study were to assess the effect of the communication board on communication pattern among intubated patients in medical intensive care unit and to find out the association between communication pattern and selected demographic variables among intubated patients in JIPMER. The study adopted was Non-randomized pre-test post-test design. The sample size was 50 intubated patients. All the intubated patients who met the inclusion criteria were selected by convenient sampling technique. The tools used for data collection were (i) A Questionnaire to collect demographic variables such as age, sex, educational status, occupation and indication for intubation, (ii) rating scale to assess the level of communication pattern of intubated patients which was derived by the investigator and (iii) Modified Vidatak Communication Board. The level of the communication pattern score in pre-test was, all intubated patients had poor (100%) communication pattern before using communication board. In posttest, the level of communication pattern was 32 (64%) intubated patients had average communication pattern and 18 (36%) had good communication pattern after using communication board and none had poor communication pattern. The association between communication pattern and demographic variables was done using ANOVA and independent't' test, which showed that there was no significant association between the communication pattern and the demographic variables. This study emphasizes the use of the communication board for intubated patients to improve their communication pattern.

Keywords: Mechanical Ventilation; Communication; Intensive Care Unit; Intubated Patient.

Introduction

Communication is the process of sharing information through exchange of messages, thoughts by speech, visuals, signals, writing or behavior. Communication is an integral part of health care setting. It is important in nursing practice since all

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nursing care involves some degree of information. Communication is an essential component of effective care in the intensive care unit, where patient can experience communication difficulties due to their critical illness. The communication breakdown between patient and nurse has led to increase in patient pain, misdiagnosis, drug treatment errors, extension in hospital stay and even death. Communication difficulties are encountered with intubated patients in critical care units. The intubated patients have difficulty in expressing their needs and desires during mechanical ventilation that leads to dissatisfaction and feeling of negativism. Although there now exist many kinds of simple augmentative tools that can efficiently improve communication between patients and caregivers, these tools are not used and ignored in most of the health care settings. Thus patients who are intubated and connected to mechanical ventilator experience an intensified need

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to communicate their needs. But it often compromised, as intubation makes them speechless. Therefore, this study suggests the use of the communication board to increase the communication pattern among intubated patients, through which the needs of the patients can be identified and met. The level of the communication pattern score in pretest, all intubated patients had poor (100%) communication pattern before using communication board. In post-test, the level of communication pattern was, 32 (64%) intubated patients had average communication pattern and 18 (36%) had good communication pattern after using communication board and none had poor communication pattern.

Statement of the Problem

A study to assess the effect of the communication board on communication pattern among intubated patients in the critical care unit of Jawaharlal Institute of Postgraduate Medical Education and Research (JIPMER), Puducherry.

Objectives of the Study

1. To assess the effect of the communication board on communication pattern among intubated patients in medical intensive care unit, JIPMER.

2. To find out the association between communication pattern and selected demographic variables among intubated patients in JIPMER.

Hypothesis

There is significant difference in communication pattern among intubated patients before and after using the communication board in critical care unit JIPMER.

Material and Methods

The study adopted was non-randomized pre-test post-test design. The study population consisted of intubated conscious, oriented patients in the medical intensive care unit. Patients who get admitted in MICU were transferred from emergency department and from wards if they rapidly deteriorate. About 70% - 80% of patients were mechanically ventilated and they were conscious. The sample size was 50 intubated patients. The sample size was calculated using nMaster software. The study inclusion criteria was patients who were intubated and connected with a mechanical ventilator, above 18 years old and who were conscious and oriented to time, place and person. All the intubated patients who met the inclusion criteria were selected by convenient sampling technique.

The tools used for data collection were (i) A Questionnaire to collect demographic variables such as age, sex, educational status, occupation and indication for intubation, (ii) rating scale to assess the level of communication pattern of intubated patients which was derived by the investigator. It is a three point rating scale which consisted of 25 items to assess the communication pattern of intubated patients. The rating scale was rated as: not helpful (0), helpful (1) and very helpful (2). The scale maximum score was 50 and minimum score was 0. (iii) Modified Vidatak Communication Board.

There are two sides in the communication board. On the front of the communication board, it had two headings – 'I am' and 'I want', with descriptive words listed accordingly above each picture. On the back of the board towards the left side it has two drawings; one anterior view and one posterior view of the human body within a box entitled, 'pain chart' with numerical pain scale from 0 to 10. To the right of the pain chart are descriptive expressions of physical and psychological needs. There are conversational phases and the contents covered in the board were (I have pain, I want water, I am nauseous, My mouth is dry, etc...).

The total score of the communication pattern was interpreted as 0 to 16 was stated as poor, 17 to 33 was mentioned as average and 34 to 50 was noted as good the reliability of the tool was established by inter-rater method 'r' value = 0.863. Written consent was obtained from the patients. The content in the rating scale was read to the patients' one after the other by the investigator. The patients gave scores to the questions using their fingers and some patients wrote on a paper. Thus, the pre-test score was collected. After assessing the communication pattern the communication board was introduced to the patient.

The contents in the communication board were explained to the patients. The patient used the communication board for a period of three days to communicate their needs. After three days, the communication pattern was assessed by using the same rating scale and the post-test score was collected. All the statistical analysis were done using SPSS 19 version and was carried out at 5% level of significance and p value <0.05 was considered as significant.

Demographic variables		Frequency (N)	Percentage (%)
Age in year	<20 20 - 29	6 12	12 24
	30 - 39	13	26
	40 - 49	8	16
	>50	11	22
Sex	Male Female	18 32	36 64
Educational status	Illiterate Primary	5 15	10 30
	High school	23	46
	Higher secondary	3	6
	Graduate	4	8
Occupation	Unemployed	30	60
	Employed	20	40
Indication for	Cardiovascular disorder	5	10
intubation	Respiratory	12	24
	Renal disorder	6	12
	Metabolic disorder Others	4 23	8 46

Table 1: Demographic variables of the Intubated Patients in Medical ICU N=50

 Table 2: Level of Communication Pattern among the Intubated

 Patients in Pre and Post Test
 N=50

Level of Communication	Pre -Test		Post - Test	
Pattern	No.	%	No.	%
Poor (0-16)	50	100	0	0
Average (17-33)	0	0	32	64
Good (34-50)	0	0	18	36

Table 3: Effectiveness of Communication Board on Communication Pattern among Intubated Patients in Medical Intensive

 Care Unit

	Pre	test	Posttest						Mean	SD	Paired	P -
8.	Mean	SD	Range		Mean	SD	Range		Difference	Difference	't'-value	value
unica			Max	Min			Max	Min				
	12.86	1.79	16	10	32.58	2.61	39	28	19.72	2.86	48.210	P <0.00

Findings of the study

The study finding was as follows

Table 2 shows that the level of the communication pattern score in pre-test, all intubated patients had poor (100%) communication pattern before using communication board. In posttest the level of communication pattern was 32 (64%) intubated patients had average communication pattern and 18 (36%) had good communication pattern after using communication board and none had poor communication pattern. Table 3 illustrate that in the level of the communication pattern score in pre-test, all intubated patients had poor (100%) communication pattern before using communication board. In posttest the level of communication pattern was, 32 (64%) intubated patients had average communication pattern and 18 (36%) had good communication pattern after using communication board and none had poor communication pattern.

There was no significant association found between communication pattern and demographic variables of intubated patients in medical intensive care unit. Anbu M. et. al. / Effect of the Communication Board on Communication Pattern among Intubated Patients in the Critical Care Unit

Discussion

The communication pattern score has improved better in posttest among intubated patients after using communication board than the pretest. The findings showed that the communication pattern has significantly improved in posttest after using the communication board with paired 't' test value 48.21 which was highly significant at P<0.001 level (Table 2 & 3). Hence, the study research hypothesis was accepted. The study results revealed that patients were able to communicate easily and got benefited by using the communication board. They were communicated their needs and problems without any problem by simply pointing out the pictures in the communication board. It helps the health team members also to understand the patients' discomfort and rectified immediately. While conducting the study, the investigator felt that the communication board was very essential for patients who were admitted in intensive care unit with ET tube intubation. The investigator observed that patients who were admitted under emergency conditions (e.g. poisoning cases) were very often using the board to communicate their needs. The picture often they pointed out in the communication board was the family picture, pain scale, needs of food, water, about their discharge, health condition and stressful pictures. Whenever the patients pointed out the family picture, any one of the family member was called inside medical intensive care unit and was asked to talk to the patient after which the patients' anxiety reduced.

The study findings are supported by Rotondi et al study about the stressful experience of adult patients who received mechanical ventilation in an intensive care unit. The study concluded that patients' bothersome experience were pain, fear, anxiety, lack of sleep, feeling tense, ability to speak or communicate, lack of control, nightmares and loneliness. Stressful experience associated with the endotracheal tube were also strongly associated with patients' experience spells of frustration, feeling nervous when left alone and poor sleeping patterns. Therefore, the study suggested the use of any potential intervention which would reduce the frustration and improve the communication of intubated patients.

The investigator also felt that the communication board would be helpful for patients who were ventilated through tracheostomy. While collecting data in MICU, the patients with tracheotomy voluntarily asked for the communication board and they were using the board to convey their needs.

The association between communication pattern and demographic variables was done using ANOVA and independent 't' test, which showed that there was no significant association between the communication pattern and the demographic variables.

Conclusions

The communication pattern of intubated patients is not influenced by age, gender, educational and occupational status or the health conditions of the patient. All intubated patients have difficulty in communicating their needs to health care team members. This study emphasizes the use of the communication board for intubated patients to improve their communication pattern.

Implications

Nursing Practice

The critical care nurse needs to understand the importance of communication and identify the needs and problems of the intubated patients. The findings of the study showed that the communication board facilitates communication between intubated patients and nurses. Hence there is a need of implementing the communication board in ICU's as a part of holistic care. The nurse must update their knowledge in research and try to incorporate those findings into nursing practice.

Nursing Education

Communication is essential for interacting with the non-speaking patients to identify and understand their needs. Nursing educators should encourage the nursing students to know about the interventions that can improve the communication pattern of intubated patients. The Nurse-educator can give an in-service education to critical care nurses about the importance of maintaining an effective communication by the use of communication board.

Nursing Research

The present study revealed that the importance of the communication board and its use among

intubated patients. This study also focuses on improving the quality of nursing care to the patients with communication difficulties. Thus the nurse researchers should conduct further research studies in clinical setting regarding communication difficulties and the ways to solve their difficulties. The findings of the study help to expand the scientific body of professional knowledge upon which further research can be conducted.

Nursing Administration

Administrators must arrange for availability of the communication board in the wards and intensive care unit for patients, which facilitates communication among intubated patients and others who are all unable speak. The nurse-administrator can disseminate these findings to practicing nurses so that they can incorporate the use of the communication board in practice in critical care settings and wards. The nurse-administrator should provide opportunity for nurses to attend training program on the use of the communication board for patients on ventilator.

Recommendations for Future Research

- A similar study can be conducted with a larger sample.
- A similar study can be conducted to find out whether the needs of intubated patients are met with the use of the communication board.
- A similar study can be conducted to find the satisfactory level among staff nurses with the use of communication board.
- A comparative study between using picture board and other communication methods such as using electronic devices can be conducted.

Ethical consideration

The study was approved by JIPMER Scientific Advisory committee and Ethical committee clearance was obtained before conducting study.

Acknowledge

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A Study to Assess the Effectiveness of Self Instructional Module on Knowledge Regarding Selected Organ Donation among Under Graduate Students of Selected Colleges of the City

Sujo Jose .U

Abstract

A study was carried out to assess the effectiveness of self instructional module on knowledge regarding selected organ donation among undergraduate students in selected colleges of the city. This study was based on the quantitative approach. The samples were 60 undergraduate engineering students in selected colleges during the study period. Non-probability convenient sampling technique was used. In this study, there was a marked improvement in the post test score as mean was 20. 66 compared to pre-test mean score 7.03. The calculated't' value was much higher than the tabulated't' value at 0.05 levels of significance. Thus it was statistically interpreted that the self instructional module on selected organ donation among undergraduate students was effective.

Keywords: Organ Donation; Undergraduate Students; Self Instructional Module.

Introduction

Organ donation is a life-saving and lifetransforming medical process where organs are removed from a donor and transplanted into someone who is very ill or dying from organ failure. The gifts of organ and tissue by donation are a vital part of transplantation. Without the gracious decision of the donor or donor's family to give the "gift of life" by donation, there would be no post transplantation miracles.

Almost 1.5 lakh people in India need kidneys, but only 3000 of them are lucky to receive them. Only 1 out of 30 people who need a kidney receive one. 90% of people in the waiting list die without getting an organ. India's annual liver transplant requirement is 25,000 but we manage only about 800. 70% liver transplants are taken care of by a live donor, but 30% are dependent on cadaver donations.

Today's students are the pillars of tomorrow's world. They should have adequate knowledge and

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desirable attitude towards organ donation to overcome the problem of organ shortage. Most of the students who do not belong to the medical fraternity do not have much knowledge regarding organ donation. This study will help the engineering students to gain knowledge regarding selected organs donation and inspire them to contribute individually in increasing the number of organ donors nationwide. Hence, the researcher decided to conduct a study to recognize the effectives of self instructional module on organ donation.

Objectives of the Study

- To assess the pre-test knowledge score regarding selected organ donation among under graduate students.
- To assess the effectiveness of self instructional module on knowledge regarding selected organ donation among under graduate students.
- To associate the post test knowledge score with selected demographic variables.

Hypothesis

Hypothesis was tested at 0.05 levels of significance

• **H**₀-There will be no significant difference in pre-test and post test knowledge score regarding

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selected organ donation among undergraduate students.

• **H**₁-There will be significant difference in pretest and post test knowledge score regarding selected organ donation among undergraduate students.

Ethical Aspect

The study proposal was accepted by the ethical committee of the institution. Permission was obtained by the concerned authorities of the colleges before conducting the study. Consent letter was obtained from individual samples after explaining them the research process in their own language. Confidentiality regarding the samples information was maintained by using code numbers by the investigator.

Conceptual Framework

The Conceptual framework for research study presents the reasoning on which the purposes of the proposed study are based. The Conceptual framework selected for the study was based on Ernestine Wiedenbach's "Prescriptive Theory" (Helping Art of Clinical Nursing).

Fig. 1: Conceptual framework on Erniestiene Weidenbach's Theory



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Review of Literature

An extensive review of the research and the non research literature, related to the present study was done to broaden the understanding and gain insight into the selected problem. The attempt was made through Journal review, Textbooks, Medline, Pubmed, Google, Wikipedia, Mendeley, Chocrane review etc. in order to widen the understanding of the research problem and the methodology of the study. It helped in developing the instruments of the study and in selection of the variables to be included in the study.

In the present study, the literature review has been organized in categories under following headings:

- 1. Literature related to knowledge and attitude on organ donation.
- 2. Literature related to organ donation and organ transplant.
- 3. Literature related to the effectiveness of self instructional module.

Research Methodology

- (a) Research approach: Quantitative approach
- (b) Design: Pre experimental- one group pre test post test research design
- (c) Setting: Selected Colleges of the city
- (d) Variables of the study

Independent Variable: Self instructional module

Dependent Variable: Knowledge regarding selected organ donation.

Demographic Variables: Age, Gender, Religion, Occupation of parents, Year of Course, Stream of Course

- (e) Population: Students of engineering colleges
- *(f) Target population:* Under graduate students of engineering colleges
- (g) Accessible population: Under Graduate students of selected colleges
- (*h*) *Sample:* Under graduate students of selected engineering colleges
- (i) Sample size: 60 students
- *(j) Sampling technique:* Non probability convenient Sampling Technique.

Criteria for the sample

Inclusion criteria

The graduating students

- Available at the time of data collection.
- Studying in selected Engineering Colleges
- Who know English/ Hindi

Exclusion criteria

- Not willing to participate in the study.
- Who have undergone teaching program on organ donation

Tools

The tools used in this study consist of two sections:

- Section 1 consist of questionnaire on demographic data
- Section 2 consist of self structured questionnaire on knowledge regarding selected organ donation.
- Section- 3 self Instructional Module

Method of analysis

The data obtained was analyzed and interpreted by descriptive and inferential statistics based on the objectives of the study.

Results

Table 1 shows that majority, 40% of samples were of age group of 24 years and above, 36.7% were of age group of 21-23 years, and 23.3% were of age group of 18-20 years. 43 (71.7%) of the samples were males and 17(28.3%) were females. Maximum, 27(45.0%) were Hindus and only 3 (5%) were Muslims. Most of the sample, 29(48.3%) of sample's parents are undergraduates and only 2(3.3%) had primary education. Maximum, 29(48.3%) of samples had family income in the range of Rs.15001-20000, 24 (40.0%) had family income of more than Rs.20001, 6(10.0%) of them had family income of Rs. 10001-20000 and only 1(1.7%) had family income below Rs.10000. 31(51.7%) were residing in urban areas and 29 (48.3%) in rural areas. Majorities, 26 (43.3%) of samples belonged to electrical branch, 15 (25.0%) 50 Sujo Jose .U / A Study to Assess the Effectiveness of Self Instructional Module on Knowledge Regarding Selected Organ Donation among Under Graduate Students of Selected Colleges of the City

Demographic Variables	Frequency	Percentage (%)
19.20	Age(yrs)	22.2
18-20 years	14	23.3
21-23 years	22	30.7
24 years and above	24	40.0
Male	Gender	71.7
Male	43	/1./
Female	17 D.F.	28.3
TT: 4	Religion	15.0
Hindu	27	45.0
Muslim	3	5.0
Christian	17	28.3
Buddhist	9	15.0
Others	4	6.7
11111 (j. 11	Educational qualifications of parents	
Illiterate	3	5.0
Primary	2	3.3
Secondary	6	10.0
Higher Secondary	9	15.0
UG	29	48.3
PG	11	18.3
	Monthly Family Income(Rs)	
Rs 5000-10000	1	1.7
Rs 10001-15000	6	10.0
Rs 15001-20000	29	48.3
> Rs 20001	24	40.0
	Area of residence	
Urban	31	51.7
Rural	29	48.3
	Branch/Course in Engineering	
Mechanical	7	11.7
Civil	7	11.7
Electrical	26	43.3
Electronics	15	25.0
Others	5	8.3
1.35 503050	Awareness about organ donation	1991 C 2011
Yes	32	53.3
No	28	46.7
110	Source of knowledge regarding organ donation (n=32)	
Family	3	9.37
Friends	6	18.75
Relatives	2	625
Health Workers		25
Mass Media	12	37.5
ividas ividula	14	51.5

Table 1: Percentage wise distribution of undergraduate students according to their demographic variables

were studying electronics, 7(11.7%) of the samples were studying mechanical and civil engineering respectively. 32 (53.3%) of the samples had information regarding organ donation and 28 (46.7%) of them does not have any information regarding organ donation.

n=60

Fig. 2: Bar diagram showing Comparison of knowledge score in pre and post test



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Fig.1 shows that in pre-test, 27(45%) of the undergraduate students were having poor level of knowledge, 23(38.33%) had average and 10(16.67%) of them had good level of knowledge score, whereas

in post test, 27(45%) of the undergraduate students were having very good level of knowledge and 55% of them had excellent level of knowledge score.

Table 2: Effectiveness of Self Instructional Module regarding selected organ donation among undergraduate students

Tests	Mean	SD	t-value	Table value	d.f.	p-value	Significance
Pre Test	7.03	3.28	30.16	2.00	59	0.000	Highly Significant
Post Test	20.66	1.61					

This table shows the comparison of pretest and post test knowledge scores of undergraduate students in selected colleges of city in relation to selected organ donation. Mean, standard deviation values are compared and student's paired't' is applied at 5% level of significance. The tabulated value for n=60-1 i.e., 59 degrees of freedom was 2.00. The calculated't' value are much higher than the tabulated value at 5% level of significance for overall knowledge score which is statistically acceptable level of significance. In addition the calculated 'p' values for overall knowledge regarding selected organ donation in undergraduate students was 0.000 which is ideal for any population. Hence it is statistically interpreted that the self instructional module on knowledge regarding selected organ donation in undergraduate students was effective. Thus the H₁ is accepted.

Analysis also revealed that there is no association between knowledge score with any of the selected demographic variable.

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 the project and participate in national programs to increase the number of organ donors.
- It will also help the nurses to keep update knowledge regarding various aspects of organ donation.
- The Self instructional module can be used for imparting knowledge regarding various aspects of organ donation 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 about the benefits of donating organs.
- This study will help the nurses for coordinating health care services to health care professionals.

Nursing Education

- Nurse who are up to date with the knowledge about organ donation are the better person to impart the knowledge to the nursing student which will ultimately increase the number of organ donors.
- Now-a-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 organ donation.
- Teacher training programs must also include the topic of organ donation.
- Efforts can be taken to include organ donation in nursing curriculum to increase the knowledge of student nurses.

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 of organ donation.

- The result of the study contributes to the body of knowledge of nursing.
- In service education must be conducted for the nurses to create awareness regarding organ donation.

Nursing Research

- The findings of the study have added to the existing body of the knowledge in relation organ donation 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.

Conclusion

After detailed analysis, this study leads to the conclusion that there was a significant increase in the knowledge of undergraduate engineering students after the introduction of self instructional module. To find the effectiveness of planned teaching program paired't' test was applied and post test score was significantly higher at 0.05 level than that of pre test score. The post test findings revealed that 27(45%) of the undergraduate engineering students were having very good level of knowledge and 55% of them had excellent level of knowledge score.

Hence, it was concluded undoubtedly that the written material prepared by the investigator in the form of self instructional module helped the undergraduate engineering students to improve their knowledge about organ donation and found to be effective as a teaching strategy.

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Transitional Care: Care during Changing Condition of Patient

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Martis Pascaline V.

Meaning

- **Transition** means the process of changing from one state or condition to another.
- **Transitional care** means care given at the time of changing condition of patient.

Definition

- Transitional care refers to the actions of health care providers designed to ensure the coordination and continuity of health care during the movement between health care practitioners and setting as their condition and care needs change during the course of a chronic or acute illness.
- Transitional care also refers to the transition of young people with chronic condition to adult based services. A program in Australia GMCT transition care is an initiative aimed at improving continuity of care for young people with chronic health as they move from children's to adult health services.

Levels of Transitional Care

There are two level of transitional care:

Individual level

1. Early discharge planning with the development of standardized discharge policies and care plans.

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- 2. Education of patients about discharge with reception of information and promotion of realistic expectations.
- 3. Steps to encourage patient's independence with early weaning from equipment and one to one nursing care.
- 4. Steps to ensure direct handover with appropriate and adequate written documentation, of ICU patients to staff in an intermediate care unit.
- 5. Daytime discharge with adequate warning to the intermediate care unit.
- 6. Steps to involve patient's families in the discharge process and to encourage questions from patients and patient's family members.
- 7. Development of written resources.
- 8. Visits by ICU personnel to patients in the intermediate care unit after discharge from the ICU.
- 9. Improvement in knowledge of the resources of intermediate care units and the Community.
- 10. Efforts to improve reciprocal communication with staff in intermediate care unit.

System level

- 1. ICU discharge or liaison nurses,
- 2. ICU follows up clinics,
- 3. Use of step-down and intermediate care units,
- 4. Development of an evidence base and research agendas related to transitional care,
- 5. Improvement in the resources of intermediate care units,
- 6. Improvement in access to community resources,
- In-services training for staff intermediate care units and establishment of standardized transfer teaching programs,
- 8. Development of protocols or mechanisms for feedback from ICU patients.

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Concepts of Transitional Care



Care Transitional Measure (CTM)

The only currently nationally endorsed measure of care quality is the care transitional measures [CTM], which is a 15 item survey for administration to patients after discharge from the hospital. Dr Eric Coleman and his team at the university of Colorado at Denver and health sciences, center developed the CTM, as well as an intervention designed to improve patient outcome during transition. The care transitions intervention CTI, is a coaching to ensure that patients are comfortable in managing their own medications and their own health information understand the signs and symptoms that should lead them to contact a health care provider. Although the coaching intervention occurs for the first 30 days following the transition. This approach has been shown to significantly reduce hospital readmission as far as 6 months.

Care Transitions Intervention (CTI)

The Care Transitions Intervention (CTI) is a coaching intervention to assist patients in resuming self-care following a change in health status. It uses coaching techniques to ensure that patients are comfortable in managing their own medications and their own health information, understand the signs and symptoms that should lead them to contact a healthcare provider, and have assertion skills to ask important questions of providers. Although the coaching intervention occurs for the first 30 days following the transition, this approach has been shown to significantly reduce hospital readmission as far out as 6 months.

In 2002, the University of Colorado Denver implemented a program called Care Transitions Intervention[®]. As part of the program, a Transitions Coach works directly with patients and family members for 30 days after discharge to help them understand and manage their complex post discharge needs, ensuring continuity of care across settings. Participants in the program have a 20 to 40 percent lower hospital readmission rate at 30, 90, and 180 days post discharge.

Current Trends and Future Directions

Transition is a process or period in which something, undergoes a change and passes from one state, stage, form or activity to another. Ideally, health care transitions encompass safe and efficient movements of patients between different sectors, or levels of care. Within the health care system and appear to be fundamental in achieving beneficial outcomes for patients. Critically ill patients often experience multiple transitions as they move through different levels of care. The transfer of ICU patients to intermediate care units and subsequent ongoing provision of care is a daily occurrence in acute care hospitals. This care may be provided by ICU nurses, acute care nurses, physicians, and other health care professionals.

Transitional Planning as Collaborative Practice

Transitional planning is a collaborative process in which each health care team member works as a subunit of the whole, thereby allowing the team to achieve results that individual providers could not accomplish in isolation patient and family are primary contribution in the process and information is required from each member of the health care team. The more complex a patient's need, the most disciplines will be required to complete an adequate assessment and transitional plan. The nurse is integral to the transitional planning process. Nurses by virtues of their role have the most consistent contact with the patient and therefore, have the most consistent opportunity to collect information, make observation and identify care needs and understand patient family concern. This unique opportunity makes the nurse's contribution to transitional planning invaluable.

Aspects of Transitional Planning and the Nursing Role

Comprehensive transitional planning requires in depth assessment in four functional domains like, physical, psychological, social, and economical.

Physical

Physical function is the ability to perform self care, self maintenance and physical activities. It is divided between activities of daily living and instrumental activities of daily living [IADL]. ADL include bathing dressing, toileting, transferring, continence and feeding. These activities can represent a natural progression in both the loss of function and the return of ability on recovery or rehabilitation. IADLS, include meal preparation, shopping, transportation, laundry, housekeeping and medication administration.

Significance

Physical function is one of the most significant determinants of post hospital needs and the level of care, services and setting available to the patient. Given this fact, it becomes imperative that hospital care prevents unnecessary loss of function and promotes independence wherever possible. Assessment of physical function gives a picture of the patient's assets and/or deficits and creates a baseline that allows monitoring for changes so that decline can be prevented, function enhanced, and transitional planning needs identified.

Nursing role

Nurses in the acute care setting are in a pivotal position to assess function and target intervention to prevent loss of function and maintain an individual's self care ability. By obtaining information from the patient and family the nurse should assess the patients pre hospital ability to perform ADLS and should through observation and patient family feedback, regularly reassess the ability to perform ADLS during the course of care.



The nursing care plan should include interventions necessary to maintain independence and promotes self care. Attention to appropriate skin care, nutrition, and adequate rest and mobility can prevent complication that might hinder function. As the patient's condition allows, referral to physical and occupational therapy to assist in preventing deconditioning or in regaining self care capabilities may be appropriate. Given that sudden decline in function could signal underlying complication, any observed decline in functional abilities should immediately communicated to the health care team.

Psychological

Psychological function includes thinking and perception, cognition (alertness, orientation memory, insight, judgment) and affect (emotional expression). One recent study has shown that individual attitudes, prior experiences, the intensive care unit experience, and the support of family and friends all influence physical and psychological recovery following discharge to the community from an ICU.

Significance

A persons thinking, emotion and behavior have significant impact on the ability to provide for the individual's essential needs, either directly or by allowing others to meet those needs. Depression, delirium and anxiety are of particular concern in hospitalized patients. Delirium is a disturbance in consciousness that develops over a short period, trends to fluctuate ever the course of a day, and is manifested by reduced clarity of awareness, impaired ability to focus, sustain or shift attentions recent memory disturbances, perceptual disturbances such as misinterpretations, illusions, or hallucination and disorientation to time and palace. Depression is characterized by a persistently depressed mood, tearfulness, hopelessness and a diminished interest in activities. Anxiety is the apprehensive anticipation of future danger or misfortune and is accompanied by dysphoria and increased arousal with difficulty falling or staying asleep, irritability, difficulty concentrating and hypervigilance. Problem such as delirium, depression and anxiety may be indicative of underlying factors that should be promptly corrected (e.g. infection or medication reaction). Left untreated they may interfere with the patient's ability to cooperate with and thereby benefit from care and treatment, learn about an illness and provide appropriate self care and exercise hospitalization, physical functional decline and the need for increased care and service as a part of any transitional plan.

Nursing role

The nurse should continuously assess and reassess the patient's cognitive and emotional status. Observation of the patients, their reactions and interactions, and more formal testing of orientation and memory will allow appropriate and timely intervention. If delirium is present, the nurse should immediately notify the physician so that any underlying causes can be identified and treated. The nurse should act to ensure patient's safety, because there is a potential for harm from poor judgment or agitation. With the depressed or anxious patient, listening to concerns, educating the patient and family about the occurrence of depression and anxiety in acute illness, and reassuring the patient and family that interventions are forthcoming is helpful. If further assessment or interventions is required, initiating referrals to social work, psychiatry or chaplaincy would be appropriate.

Social

Assessment of social function helps determine the amount of physical and social support available to patient and their level of satisfaction with that support. Elements of social function include the living situation (alone, spouse, children, communal), social contacts (frequency of contact with family, friends and others), social activities, social resources and environment (accessibility of services, safety, transportation) social support (who helps with emergency and daily needs), caregivers/caregiver burden (stress on health, finances, and emotional resources from provision of care), and quality of life (level of satisfaction with life).

Significance

The level of social function in relationship to physical care needs assists in determining patient's ability to return to their preadmission living circumstances, the need for additional resources, or the need for an alternative level of care. Caregiver stress has particular impact on the success of a transitional plan, and provision will entail.

Nursing role

The initial nursing assessment should always include an understanding of patient's pre-hospital living situation. During the course of treatment, the nurse should be cognizant of the patient's physical function in relation to their living situation and communicate concerns to the transitional planning team. The nurse is instrumental in helping the patient and family make appropriate decisions about transitional plans. Many families want to take even very complex patients home but have no clear understanding of what 24 hour care entails. The nurse should provide education about the disease, disease process and caregivers activities. If caregivers seem particularly unrealistic in their determination to provide care, the nurse should have them provide daily care, under supervision, to gain an understanding of its complexity demand and burden thus better informing their decisions.

Economic

The economic domain includes income and insurance. Income could be in the form of a monthly social security check, pension, or dividends from investments. Many individual will have long term care insurance that may provide extensive resources for alternative care modalities outside of the hospital.

Significance

The assessment of a patents economic situation defines the number and kinds of resources available for transitional planning. Collaboration with social work, families, and significant others can provide important information in defining the economic resources available to the patient.

Nursing role

The nurse does not assume responsibility for assessment of the patient's financial and insurance situation. However when resources are limited the nurse may be able to assist the team with suggestions. That will make a transitional plan more economically feasible. For example suggestions about changing from intravenous to oral drug therapy or changing to a patient bed rather than renting a hospital bed, or consolidating follow up appointments to limit the expense of transportation would reduced the cost of care.

Conclusion

Transitional care encompasses both the sending and the receiving aspects of the transfer, is essential for person with complex care needs. Older adults who suffer from a variety of health conditions often need health care services in different setting to meet their many needs, for young people the focus is on moving successfully from child to adult health services.

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