

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

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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

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 pre-test, 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.

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

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

Table 2: Level of Communication Pattern among the Intubated Patients in Pre and Post Test **N=50**

Level of Communication Pattern	Pre -Test		Post - Test	
	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

Communication	Pretest		Range		Posttest		Range		Mean Difference	SD Difference	Paired 't'-value	P - value
	Mean	SD	Max	Min	Mean	SD	Max	Min				
		12.86	1.79	16	10	32.58	2.61	39	28	19.72	2.86	48.210

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.

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.

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