



A SIMPLE AID TO REDUCE COMMUNICATION DIFFICULTIES OF MECHANICALLY VENTILATED PATIENTS IN THE ICUS

Nursing

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ABSTRACT

INTRODUCTION: In the past few years, use of Mechanical Ventilator has increased from rare to highly prevalent in ICUs. A Simple Aid means Communication Board can help Mechanically ventilated patients to Communication effectively. Main aim of study was to evaluate the effectiveness of Communication Board on Communication Difficulty among Mechanically Ventilated Patients in ICUs.

METHOD: This study adopted Quantitative Approach with post test only design and conducted in three ICUs. 50 patients selected and randomly allocated into two group. A Communication Board was used on Experiment group during their weaning period.

RESULTS: For evaluating an effect of Communication Board on Communication Difficulty, Independent 't' test was computed and found significant ($t = -27.855$, p value < 0.001), it means Experiment group of Mechanically Ventilated patients has significantly less Communication Difficulty than Comparison group.

CONCLUSION: Communication Board is effective in reducing the Communication Difficulty among Mechanically Ventilated Patients.

KEYWORDS

Communication Difficulty, Mechanically Ventilated Patient, Communication Board

INTRODUCTION

In the past few years, use of Mechanical Ventilation has increased from rare to highly prevalent in ICUs around the world. More than half of patients in ICU are Ventilated in first 24 hours of ICU admission due to acute respiratory failure, severe respiratory acidosis or alkalosis, respiratory arrest and cardiac arrest (Hosseini, Valized-Hasanloei & Feizi, 2018). The prevalence of distressing symptoms like depression, anxiety, fear, anger, frustration, loneliness, loss of control, sleep disorder and decreased self esteem are high in Mechanically Ventilated patients (Khalaila, Zbidat, Anwar, Bayya, Linton & Svir, 2011; Glitus, Jeyalakshmi & Sanap, 2018).

One of the most difficult things for the Mechanically Ventilated patients is the inability to communicate in the ICU because of intubation (MacAulay et al, 2002; Grossbach, Stranberg & Chlan, 2011). So, effective communication is very essential for Mechanically Ventilated patients to express their basic physiological along with psychological needs (Grossbach, Stranberg & Chlan, 2011).

Most common communication methods used in ICU are lip reading, head nods, touch, writing, facial expression, mouthing words, Pointing, eye blink, Face and hand gestures. But these communication methods are time consuming as well as inadequate to meet all communication needs of Mechanically Ventilated patients (Glitus, Jeyalakshmi & Sanap, 2018; Arora, Bhardwaj, Rajlakshmi & Bansal, 2017).

It became necessary to develop a strategy that can help in communicating needs of patient with a view to improve interpersonal relationship between nurses and patients (Das, 2016).

Problem Statement

A study to evaluate the effectiveness of a Communication Board on Communication Difficulty among Mechanically Ventilated patients in the ICUs.

Objectives of the Study

To assess the effectiveness of Communication Board on Communication Difficulty between Experiment and Comparison group of Mechanically Ventilated Patients.

MATERIAL AND METHODS

This study adopted Quantitative Approach with post test only design and conducted in three ICUs. The patients who satisfied the inclusion and exclusion criteria were randomly allocated for the study as Experiment and Comparison group. Fifty patients (25 in Experiment & 25 in Comparison group) were randomly allocated as per Randomization Chart

Criteria for Sample Selection

The clearance was obtained from Scientific Review Committee and Ethical Committee of College of Nursing of ILBS, New Delhi.

Inclusion Criteria

- Patients above age group of 18 years.
- Patient on weaning mode.
- Patient who were Hemodynamic.
- Patients with normal Glasgow Coma Scale (GCS= 15)
- Patient with sedation score 1 according to Modified Ramsay Sedation Scale

Exclusion Criteria

- Patients who were Mechanically Ventilated with tracheostomy tube.
- Those patients who were not willing to participate.
- Period of extubation longer than 72 hours

Tool for Data Collection

Tool for Patients :- Socio-Demographic Characteristic, Clinical Characteristics and Structured Communication Difficulty Scale was used.

Communication Difficulty Score - Extensive review of literature was done to look for appropriate tool to assess the level of Communication Difficulty in patients on Mechanical Ventilation. This Structured tool had nine items on 5-point Scale from 0 (Not difficult) to 4 (Extremely Difficulty). Maximum Possible score for the tool is 36 and Minimum score is 0 awarded according to response of the patient. Higher scores indicate greater Communication Difficulty among Mechanical Ventilated patients

The Content Validity index of all tools were range from 0.96 to 1 and showed the good internal consistency. Cronbach's alpha for all tools within the acceptable range (0.78-1). So, All the tools were valid and reliable.

Method of Data collection

Data collection process was done from October 2018 to December 2018. The Communication Board was Validated from nine experts before showing to the patients. It was made in English and Hindi language.

Firstly Participant Information Sheet was given and explained to Patient's relative and Informed consent taken.

When Mechanically Ventilated Patients were on off sedation, level of Consciousness and alertness was assessed. Patient who had MRSS score 1 and GCS score 15 were included in the study. Only after regain of full consciousness, Communication Board was used for

Experimental group of Mechanically Ventilated Patients during entire weaning period till the extubation from Mechanical Ventilation. Duration of weaning was vary in Patients, It was minimum three hours to maximum 15 hours according to patients condition. In Comparison group routine care was given during entire weaning Period. After extubation from Mechanical Ventilator, with in 72 hours data was collected from Patients on Communication Difficulty

ANALYSIS AND INTERPRETATION OF DATA

The master data sheet was prepared in the Microsoft Office Excel and data analysis was done in Statistical Package for the Social Sciences (SPSS) Version 22.0.

Section 1 Socio-Demographic Characteristics of Mechanically Ventilated Patients

Socio-Demographic Characteristics of Mechanically Ventilated Patients of Experiment and Comparison group were compared and found both group were homogenous and Comparison group were comparable as shown in Table 1.

Table 1 Frequency and percentage distribution of Socio-Demographic Characteristics of Patients in Experiment and Comparison group

$n_1+n_2=25+25$

Socio-Demographic Characteristics	Experiment group f (%)	Comparison group f (%)	χ^2	Df	p value
Age (in years)					
21-40	4 (16.0)	7 (28.0)	1.052	2	0.591
41-60	13 (52.0)	11 (44.0)			
61-80	8 (32.0)	7 (28.0)			
Gender					
Male	23 (92.0)	21 (84.0)	0.758	1	0.384
Female	2 (8.0)	4 (16.0)			
Marital Status					
Married	22 (88.0)	21 (84.0)	0.357	2	0.837
Single	1 (4.0)	2 (8.0)			
Widow	2 (8.0)	2 (8.0)			
Employment Status					
Full Time	11(44.0)	12 (48.0)	0.406	2	0.816
Part Time	8 (32.0)	6 (24.0)			
Unemployed	6 (24.0)	7 (28.0)			
Area of Residence					
Urban	16 (64.0)	18 (72.0)	0.368	1	0.544
Rural	9 (36.0)	7 (28.0)			
Education Status					
Graduate and above	7 (28.0)	7 (28.0)	0.600	3	0.896
Higher Secondary	3 (12.0)	3 (12.0)			
High School	9 (36.0)	11(44.0)			
Middle School	6 (24.0)	4 (16.0)			

$p > 0.05$

1.2 Clinical Characteristics of the Mechanical Ventilated Patients

Clinical Characteristics of the Mechanically Ventilated Patients of Experiment and Comparison group were compared as shown in Table 2.

Table 2 Frequency and percentage distribution of the Clinical Characteristics of Patients in Experiment and Comparison group

$n_1+n_2=25+25$

Clinical Characteristic	Experiment group	Comparison group	χ^2	df	p value
	f (%)	f (%)			
Medical Diagnosis					
CLD Ethanol	8 (32.0)	10 (40.0)	0.424	3	0.935
CLD NASH	6 (24.0)	12 (24.0)			
ACLF	5 (20.0)	4 (16.0)			
Other	6 (24.0)	5 (20.0)			
Reason for intubation					
Altered Sensorium	8 (32.0)	6 (24.0)	5.175	3	0.159
Surgery	6 (24.0)	12 (48.0)			
Shock	7 (28.0)	2 (8.0)			
Respiratory Distress	4 (16.0)	5 (20.0)			
Duration of Mechanical Ventilation (in hours)					
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1-50	8 (32.0)	12 (48.0)	2.029	3	0.566
51-100	10 (40.0)	7 (28.0)			
101-150	5 (20.0)	3 (12.0)			
151-200	2 (8.0)	3 (12.0)			
Mode of Ventilation					
Pressure Support	11 (44.0)	11 (44.0)	0.571	2	0.751
Ventilation	6 (24.0)	8 (32.0)			
Spontaneous	8 (32.0)	6 (24)			
Breathing Trial					
T-Piece Trial					
Duration of weaning (in hours)					
1-5	10 (40.0)	8 (32.0)	0.459	2	0.795
6-10	13 (52.0)	14 (56.0)			
11-15	2 (8.0)	3 (12.0)			

$p > 0.05$

Both group were homogenous in terms of Clinical Characteristics and hence comparable.

Section 2 Comparison of Communication Difficulty between Experiment and Comparison group of Mechanically Ventilated Patients after using Communication Board

Table 3

$n_1+n_2=25+25$

Variable	Experimental group (Mean $\pm$ SD)	Comparison group (Mean $\pm$ SD)	MD	t value	df	p value
Communication Difficulty	9.20 $\pm$ 3.354	31.60 $\pm$ 2.217	-22.4	-27.855	48	0.000**

$p < 0.001$; ** Highly Significant

To compare the Communication Difficulty between Experiment and Comparison group Independent 't' test was used, which showed the significant value as evident by p value. Thus Communication Board was effective in reducing Communication Difficulty in Experiment group of Patients.

It also depicted in figure 1 that Comparison group has more Communication Difficulty than Experiment group.

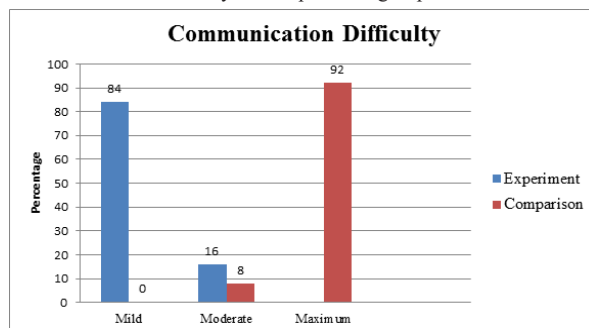


Figure 1. Bar chart showing Communication Difficulty according to score percentage between Experiment and Comparison group of Mechanically Ventilated Patient

DISCUSSION

In the present study, the mean of Communication Difficulty of Experiment and Comparison group was 9.20 and 31.60, respectively; and the mean difference between the two group was found statistically significant ($t = -27.855$, $p < 0.000$). Similar studies conducted by Das, Xavier and Begum (2015) also found that mean of pre test was lower than the mean of post test after use of Communication Board (z -value = 31.2, $p < 0.001$) which was found statistically significant at 0.05 level. It showed Communication Board was effective in reducing Communication Difficulty.

In this study no significant association seen between Communication Difficulty and Socio-Demographic and Clinical characteristic.

Limitations

The study was limited to the sample size of 50, the findings cannot be

generalized. Limited time was available for data collection. The investigator faced ample difficulty in collecting the review of literature related to Communication Board as studies conducted in India related to this were very few.

Recommendations

A similar study can be conducted with larger sample for generalization of study findings. A similar study can be repeated to understand the advantage of preoperative teaching in elective surgical patients. A similar study can be conducted with tracheostomy patients to know the effectiveness of Communication Board.

CONCLUSION

Mechanically Ventilated Patients who used Communication Board were having less Communication Difficulty than the other group who did not use the Communication Board.

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Conflict of interest

The authors have no conflict of interest to declare.

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