RESEARCH ARTICLE

A VALIDATED COMMUNICATION BOARD REDUCES NURSES' COMMUNICATION DIFFICULTIES IN THE ICUS.

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Manuscript Info	*Abstract*

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Introduction: Communication is a vital component in serving the needs of patients in any setting and in particular with patients in intensive care units where patients are often deprived of speech because of intubation. In ICU, mostly verbal communication or face-to-face communication is the preferred mode of communication. Mostly health care providers in the ICU usually do not properly communicate with patients because of the busy environment of the ICU. To provide the holistic care to Mechanically Ventilated patients in ICU the therapeutic communication demands should be met. The overall aim of the study was to evaluate the effectiveness of Validated Communication Board in reducing Communication Difficulties of Nurses in ICUs.
Method: This study adopted Quantitative Research Approach with post test only design and conducted in three ICUs of Institute of liver and biliary sciences (ILBS), New Delhi. Purposive sampling technique was used to include nurses into experiment and comparison group. The Validated Communication Board was used by experiment group of Nurses on mechanically ventilated patients during their weaning period. For data collection Demographic Characteristics and Communication Difficulty scale was used in this study and also a Opinionnaire taken from experiment group of nurses related to communication board.
Results: A Validated Communication Board is effective in reducing the Communication Difficulty in experiment group Nurses than comparison group Nurses (t = 2.090, p< 0.05). Most of nurses gave positive Opinionnaire related to communication board. It helped nurses to communicate with mechanically ventilated patients with a ease.

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Introduction:-

Nursing practice requires interpersonal, intellectual and technical skills with scientific knowledge of nursing care aspect. Interpersonal communication is an inseparable part of nursing in all areas like prevention, cure, promotion and rehabilitation (Arora, Bhardwaj. Rajlaxmi & Bansal, 2017).

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In ICU, Nurses are the important caregiver to Mechanically Ventilated patients and they usually spends more time with patients than any other health care worker. So, it is very important to have good nurse-patient communication in ICU to promote health and autonomy in communication compromised patients (Thompson & McKeever, 2014).

Nurses are skilled in understanding the communication demands of Mechanically Ventilated patients. Despite it, Many nurses confessed that many times they could not understand the Mechanically Ventilated patients' needs or problems. They also reported that they did not get any special training to communicate with Intubated patients. They learnt only through trial and error or by observing others. Many nurses admitted that due to communication difficulties, they avoid communicating with Mechanically Ventilated patients (Radtke, Tate & Happ, 2012).

It is utmost essential that a nurses working in Medical and Surgical Nursing area to be aware of techniques and technology available for intubated patients to improve communication and quality of life like use of spelling boards, icon chart, Picture board and electronic aid (Glitus, Jeyalakshmi & Sanap, 2018).

To overcome communication barrier between patient and nurses, it become necessary to develop some strategy like Communication Board that help in communication with Mechanically Ventilated patients and improve interpersonal relationship between patients and Nurses (Das, 2016).

Nurses can use Communication Board as a therapeutic tool to communicate with Mechanically Ventilated patients. Illustrated Communication Board minimize the effort of the patient and nurses in critical care setting. Appropriate content related to patients needs enable the medical team to use their time more effectively and enhances communication with intubated patients. Communication material should be suitable for patient to decrease the communication difficulties and enhances their level of satisfaction (Otuzoglu & Karahan, 2014).

Problem Statement
A study to evaluate the effectiveness of Validated Communication Board in reducing Communication Difficulties of Nurses in the ICUs of ILBS, New Delhi.

Objectives of the Study
To assess the effectiveness of Validated Communication Board in terms of Communication Difficulty among Nurses.

Material and Methods:-
1. Research approach – Quantitative Approach
2. Research design – Post only design
3. Sampling Technique – Purposive sampling technique used.
4. Setting – Three Intensive Care Unit - Liver Coma ICU (LCICU) , Surgical ICU (SICU), Liver Transplant ICU (LTICU) of Institute of Liver and Biliary Sciences (ILBS) Hospital, New Delhi

Inclusion Criteria for Nurses
1. Registered nurses working in three Intensive care units (LCICU, SICU, LTICU) of ILBS hospital and assigned on Mechanically Ventilated patients during their weaning period
2. Nurses who take care for these Mechanically Ventilated patients atleast for 3 hour during their weaning period.

Exclusion Criteria for Nurses
Nurses who were not willing to participant in the study.

Tool for Data Collection
Demographic Characteristic, Communication Difficulty scale and Opinionnaire of nurses about validated communication board

Demographic Characteristics-
This part of the tool deals with the Demographic Characteristic of Nurses. It include the Age, Gender, Designation, Area of work, Total working experience in Intensive Care Unit.

Communication Difficulty Scale-

This part dealt with the Communication Difficulties faced during care of Mechanically Ventilated patients with 10 items on 5-point Likert format from Strongly Agree to Strongly Disagree. Score range from 0 to 4 where 0 (Strongly Disagree), 1 (Disagree), 2 (Neutral), 3 (Agree) and 4 (Strongly Agree). This tool had equal positive and negative items. Negative item had reverse scoring with a score 4 for Strongly Disagree.

Maximum possible score for this tool was 40 and Minimum score was 0. Lower the scores highest Communication difficulty among Nurses.

Opinionnaire related the validated communication board-
This tools had 10 items with equal positive and negative items i.e. five positive and five negative items on 5- point Likert scale from strongly disagree to strongly agree.

Validity and reliability –
The CVI of communication difficulty scale from 0.96 to 1 and Cronbach's alpha was 0.84.

Steps of Data Collection among Mechanical Ventilated Patients
Nurses who were assigned on Mechanically Ventilated Patients of Experiment and Comparison group were included in this study after fulfilling the inclusion and exclusion criteria.

Data collection process was done from 29 October 2018 to 31 December 2018.A Participant Information Sheet given and explained to Nurses. If they were willing to take part in the study, their signature were taken on Informed consent form. Firstly the researcher explained and showed to experiment group nurses regarding the use of the Validated Communication Board on Mechanically Ventilated patient during the Weaning period and also encourage them to use it till the patient's extubation from Mechanical Ventilator.

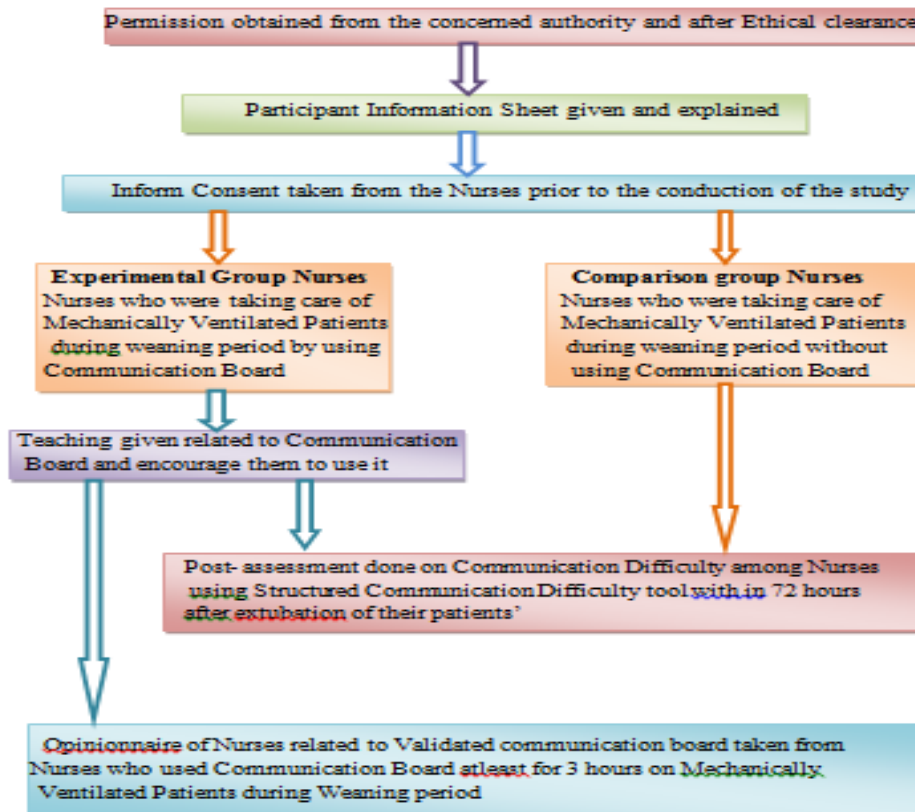Data Collection steps from Nurses shown in Figure 1.

Figure 1:-Schematic Diagram showing Data Collection Method among Nurses in the study

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. The descriptive and inferential statistics was chosen according to objective and hypothesis of the study.

Section 1. Description of Demographic Characteristics of Nurses
This Section dealt with the Demographic Characteristics of Nurses like Age, Gender, Designation, Area of work and Total working experience in ICU for both Experiment and Comparison group.

Chi square test was computed to test the homogeneity in terms of Demographic Characteristics of Nurses in Experiment and Comparison group. Frequency, Percentage analysis of the Demographic Characteristic were performed and shown in Table 1

Table 1:-Frequency and percentage distribution of Demographic Characteristics of Nurses
$n_1+n_2=30+28$

Demographic Characteristic	Experiment group f (%)	Comparison group f (%)	χ^2	df	p value
Age (in years)					
26-30	11 (36.7)	12 (42.9)			
31-35	16 (53.3)	12 (42.9)	0.690	2	0.708
36-40	3 (10.0)	4 (14.3)			
Gender					
Male	14 (46.7)	14 (50.0)	0.640	1	0.800
Female	16 (53.3)	14 (50.0)			
Designation					
Patient care executive Nurse	24 (80.0)	22 (78.6)	0.180	1	0.893
Junior Nurse	6 (20.0)	6 (21.4)			
Area of Work					
LCICU	24 (80.0)	18 (64.3)			
SICU	2(66.7)	2 (7.1)	2.124	2	0.346
LTICU	4 (13.3)	8 (28.6)			
Total working experience in ICU (in years)					
0-5	11 (36.7)	9 (32.1.)			
6-10	14 (46.7)	11(39.3)	1.185	2	0.553
11-15	5 (16.7)	8 (28.6)			

  $p > 0.05$

Table 1 showed the Demographic Characteristics of Nurses in Experiment and Comparison group. Both the groups were homogenous and comparable as evident by p value.

Section 2. Description and Comparison of Communication Difficulty between Experimental and Comparison group of Nurses
This section deals with the Description of Communication Difficulty among Experiment and Comparison group Nurses. Communication Difficulty among Nurses was assessed by using Communication Difficulty Scale (Nurses) which had 10 items on a 5 point Likert scale ranging from 0 (Strongly Disagree) to 4 (Strongly Disagree). The Minimum Score was zero and the Maximum possible score was 40. Lower scores indicated greater Communication Difficulty among the Nurses.

The Range, Median, Mean and Standard Deviation was computed to describe the Communication Difficulty in Experiment and Comparison group and tabulated in Table 2

Table 2:-Range, Median, Mean and Standard Deviation of Communication Difficulty in Experiment and Comparison group of Nurses after using Communication Board

$n_1+n_2=30+28$

Group	Range	Median	Mean	S.D
Experiment	20-35	28.50	28.47	4.075
Comparison	19-30	26.00	26.21	4.131

Minimum Score : 0, Maximum possible Score : 40

The higher the Communication Difficulty score, lower the Communication Difficulty among Nurses. Experiment group Nurses has higher the Score than Comparison group. It conclude from the score that Communication Difficulty was lower among Experiment group after using using Validated Communication Board.

Comparison of Communication Difficulty of Nurses between the Experiment and Comparison group was done. An Independent 't' test was computed to assess the effectiveness of Validated Communication Board on Communication Difficulty of Nurses and shown in Table 3.

Table 3:-Mean, Standard Deviation, Mean Difference, t and p value of Communication Difficulty score between Experiment and Comparison group of Nurses after using Validated Communication Board.

$n_1+n_2=30+28$

Variable	Experiment group (Mean ±SD)	Comparison group (Mean ±SD)	MD	t value	df	p value
CommunicationDifficulty	28.47 ± 4.075	26.21± 4.131	2.252	2.090	56	0.041*

$p < 0.05$, * Significant

Data in the table 3 showed the Means, Standard Deviation, Mean Difference, t value and p value of Communication Difficulty of Nurses between Experiment and Comparison group. The 't' was found to be statistically significant, as evident from the 'p' value of 0.041 which was less than 0.05.

It was concluded that there was a significantly lower Communication Difficulty among Experiment group of Nurses than Comparison group. This indicated that the Validated Communication Board was effective in reducing the Communication Difficulty among Experiment group Nurses during care of Mechanically Ventilated Patients during weaning Period.

Section 3. Item wise description of Opinionnaire of Nurses about Validated Communication Board
This section dealt with the Item wise opinions of Nurses related to Validated Communication Board. It include 10 items related like Communication Board helped to understand the patient' medical need, Helped patient to avoid repetition, Helped patient to respond well, Helped to promote comfort to patient, Helped to forming rapport with patients, Save a lot of time, Helped to understand patient needs, Made easy to interact with Mechanically Ventilated (MV) Patient, Helped to improve the care to MV patient, Helped to restore staff confidence. This item wise description shown in Figure 2.
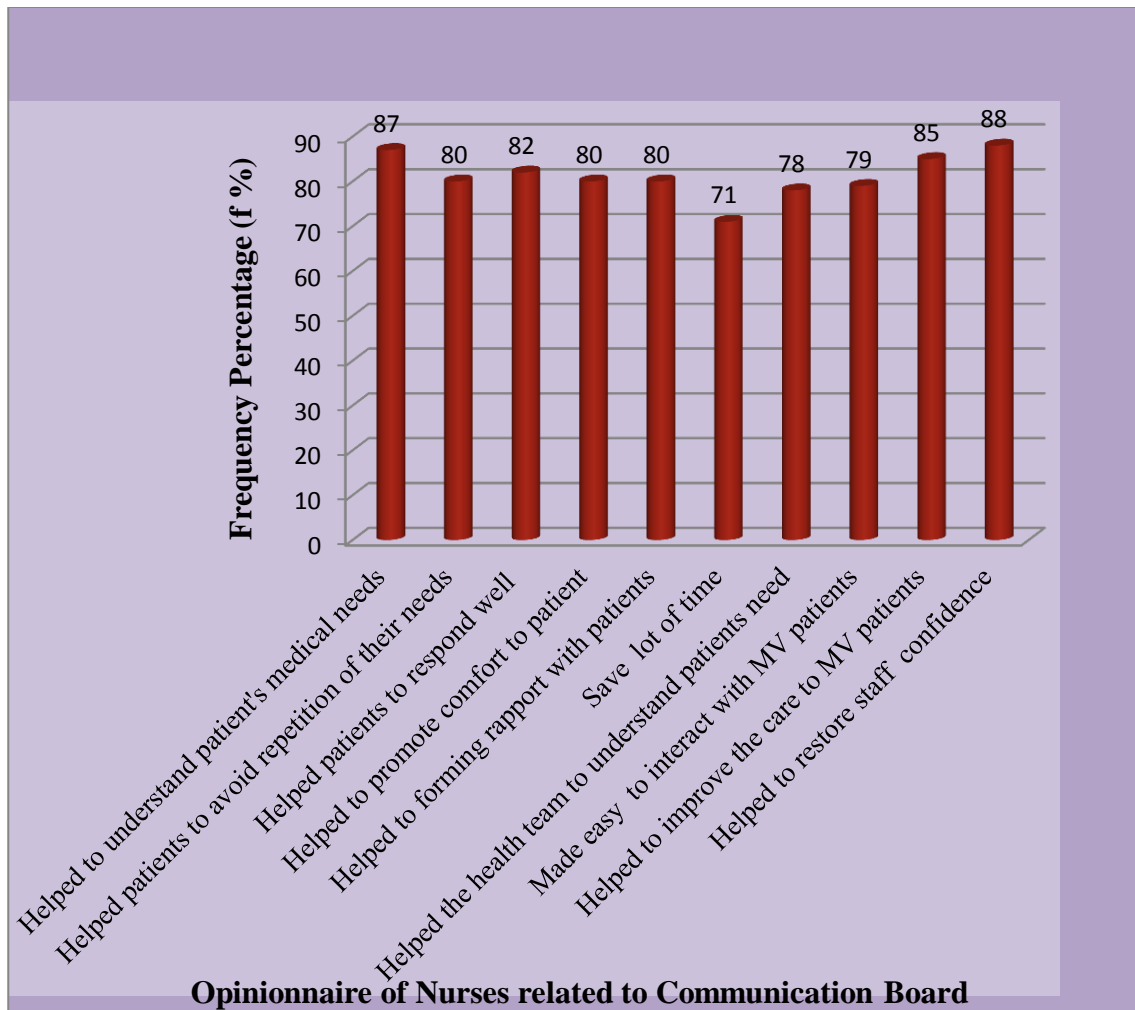
Figure 2:-Item wise description of Opinionnaire of Nurses about Validated Communication Board

Figure 2 depict that majority of nurses agree that Validated Communication Board helped the heath team to understand patient's medical need , helped to avoid repetition their needs, helped to respond well, helped to promote comfort, helped to forming rapport with patient, helped the health team to understand the patient's need, made easy to interact with Mechanically Ventilated Patients, helped to improve care to Mechanically Ventilated Patients and helped to restore staff confidence. Most of the Nurses (71%) agree that Communication Board saved a lot of time.

Discussion:-
In the present study, the mean score of Communication Difficulty of Nurses in Experiment and Comparison group was 28.47 and 26.21, respectively; and the mean difference between the two group was found statistically significant (t = 2.090, p = 0.041). It showed that Validated Communication Board was effective in reducing the Communication Difficulty in Experiment group Nurses than Comparison group Nurses after use of Validated Communication Board.

A similar study done by Happ et al., (2011) revealed the findings point to areas for practice improvement in the use of assistive communication strategies and communication materials with critically ill patients. Evidence-based interventions are needed to improve critical care nurses' skill with assisted communication, access to communication materials (eg, writing tools, communication boards), and success in communicating about pain and other symptoms.

A study carried out by Finke, Light and Kitko (2008) also discovered that mostly Nurses have Communication Difficulty with speech compromised patient and using Augmentative and alternative communication (AAC) strategies helped nurses to communicate effectively with those patients who are unable to talk.

Findings suggest that Vaidated Communication Board is useful aid in reducing the Communication Difficulty of Nurses and it also help them in Communicate effectively with Mechanically Ventilated Patients.

Implications Of The Study
1. This study helps to provide awareness towards ICU nurses in terms of resolving Communication problems among Mechanically Ventilated Patients.
2. The findings of the study showed the Valiated Communication Board definitely facilitates the Communication between Mechanically Ventilated Patient and Nursing Staff in Intensive Care Unit.
3. The study results revealed the need of implementing the Validated Communication Board in Intensive Care Unit as a part of holistic care. The nurse must update their knowledge in research and try to incorporate those findings into nursing practice to provide the quality care to Patients.
4. This study also enlighten that Validated Communication Board help Nurses to Communicate easily and effectively with Mechanically Ventilated patients and it also save Nurses time as well as energy to interact with patients. This Validated Communication Board reduce Nurses Communication Difficulty in Intensive Care Unit.
5. Incorporating Communication in the nursing standards would ensure that patients are treated with dignity which would help improve patient outcomes.
6. The nurse educator can give an in-service education to Nurses about the importance of maintaining an effective communication by the use of Validated Communication Board.
7. Nurses should undergo special training regarding effective use of Communication Board and different Communication technique to communicate patients in Intensive Care Unit.

Strength of the study
1. The study was based on thorough review of literature.
2. Validated and reliable tools were used in this study.
3. A simple Communication Board was develop in Hindi and English by the researcher and content validity and language Validation was done by experts before use in this study.

Limitations
1. The study was limited to the sample size of 58, the findings cannot be generalized.
2. The study was limited only to those Nurses who willing to use this communication board on Mechanically Ventilated patients. Purposive sampling technique was used to allocated nurses in experiment and comparison group.
3. Limited time was available for data collection.
4. Scales on Communication Difficulty very limited.
5. The investigator faced ample difficulty in collecting the review of literature related to Validated Communication Board as studies conducted in India related to this were very few.

Conclusion:-
The Validated communication board was found effective in reducing the communication difficulties of experiment group Nurses. Most of the Nurses gave positive opinion related to Validated communication Board.

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