



## EFFECTIVENESS OF AUGMENTED ALTERNATIVE COMMUNICATION METHOD ON COMMUNICATION SATISFACTION AMONG PATIENTS ON MECHANICAL VENTILATOR

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### ABSTRACT

**Background:** Communication is the basic element of human interaction. [1]. Many disease conditions and health deviations led to impairment in communication. Intensive care unit procedures like intubation and mechanical ventilation are necessary to support respiratory function and life, these technologies create many distressful physiological and psychological experiences for patients. [2]. Invasive mechanical ventilation prevents patients from communication. To be aware, but unable to communicate is a novel experience for patients and it will be distressing for them. [3]. Augmented alternative communication (AAC) method includes unaided systems such as gestures, eye blinks and head nods as well as aided techniques such as picture board, alphabet board, word board, pencil and paper. It helps the patients on mechanical ventilator to express their thoughts, needs and problems [4].

**Objectives:** The study focused on assessment of communication satisfaction among patients on mechanical ventilator, evaluation of the effectiveness of augmented alternative communication method on the communication satisfaction among patients on mechanical ventilator.

**Materials and methods:** Quantitative approach was adopted for the study. Study design selected was Quasi experimental (non equivalent control group) post test only design. Non probability purposive sampling technique was used to select 30 subjects in the control group and 30 subjects in the experimental group in Govt. Medical College Hospital, Kottayam. The data were collected using socio personal data sheet, clinical data sheet and communication satisfaction rating scale. The patients on synchronized intermittent mandatory ventilation or continuous positive airway pressure or spontaneous modes of mechanical ventilator for more than 24 hours were only included in the study. No pre test was conducted in this study. During the data collection period, the intervention ie, augmented alternative communication method was given only to the experimental group. It is a continuous therapy, patients were practiced this method for communicating their thoughts, needs and problems until extubation. Post test was conducted after extubation.

**Results:** The study proved that augmented alternative communication method had a statistically significant effect on communication satisfaction ( $p < 0.05$ ,  $U = 177$ ) among patients on mechanical ventilator.

**Conclusion:** Based on the findings of the study it can be concluded that there is an evident improvement in communication satisfaction among patients on mechanical ventilator as a result of augmented alternative communication method.

### KEYWORDS :

#### INTRODUCTION

Communication involves conveying information and the exchange of thoughts and feelings. It allows people to establish, maintain and improve contacts with others and also associate with the world around them. The professional relationship between a nurse and patient can become a strong and trusting one with effective communication. [5].

Mechanical ventilation is a common intensive care unit life-saving intervention used to treat respiratory failure from a variety of causes. When on mechanical ventilator the ability of the individual to communicate become ineffective. Thus, this situation presumably increases patient vulnerability to many psycho emotional problems like anxiety, fear, frustration, loneliness, discomfort. [6]. In health care settings, communication breakdowns between patient and caregiver can have serious consequences such as increased patient pain, discomfort, misdiagnoses, drug treatment errors and prolonged hospital stay and even poor health outcomes. [7].

Augmented alternative communication (AAC) is a method of communication which can be used to add more than usual methods of speech and writing when these are impaired. The use of AAC devices in ICUs as an intervention helps to enhance communication and help patients to express and facilitate meeting their needs easily, and helps to gain recognition of the patient's individuality. [8].

#### MATERIALS AND METHODS

Quantitative approach was used for the study. Study design selected was Quasi experimental (non equivalent control group) post test only design. A total of 60 samples were selected by non probability purposive sampling technique. First 30 subjects were included in the control group and second 30 subjects were included in the experimental group. The following tools were used to collect the data on the present study.

**Tool 1:** Socio personal and clinical data sheet

**Tool 2:** Communication satisfaction rating scale

Duration of the study was six weeks. The intervention given was augmented alternative communication method. In this study the intervention ie, augmented alternative communication method was given only to the experimental group, while the patients in the control group received routine care. The therapy started when the patients on control or assist control modes of mechanical ventilator changed into SIMV or CPAP or spontaneous modes of mechanical ventilator or in the patients, already they were in these modes of mechanical ventilator. Post test was conducted after extubation in patients who has normal hemodynamics and oxygenation status both in the experimental and control group. Communication satisfaction was assessed using communication satisfaction rating scale.

#### RESULTS

A socio personal and clinical data sheet was prepared to collect information on different aspects. A few of the findings include the following. Among the study participants, 56.6% subjects in the control and 43.3% of subjects in the experimental group were belonged to the age group of 61-75 years. The data showed that 60% of the subjects in the control and 66.7% subjects in the experimental group were males. Regarding the diagnosis 60% of subjects in the control group and 63.4% of the subjects in the experimental group had respiratory disorders. The indication for mechanical ventilation in 56.7% of subjects in the control group and in 50% subjects in experimental group was hypercapnic respiratory failure. Regarding the duration of mechanical ventilation 66.7% of the subjects in the control group and 50% of subjects in the experimental group were mechanically ventilated for 48-72 hrs. The data also showed that 40% of the subjects in the control group and

43.4% of subjects in the experimental group were on SIMV mode of mechanical ventilator.

**Communication satisfaction level of patients on mechanical ventilator**

This section deals with communication satisfaction among patients on mechanical ventilator after the implementation of augmented alternative communication method.

**Table 1: Frequency distribution and percentage of patients based on level of communication satisfaction**

n=60

Level of communication satisfaction	Control group (n=30)		Experimental group (n=30)	
	f	%	f	%
Fully satisfied (28-42)	0	0	9	30
Moderately satisfied (14-27)	13	43.3	16	53.3
Dissatisfied (0-13)	17	56.7	5	16.7

The data presented in table 1 depicts that that 56.7% of the subjects in the control group were dissatisfied whereas in the experimental group 16.7% were dissatisfied. In the control group 43.3% of subjects were moderately satisfied whereas in the experimental group 53.3% of the subjects were moderately satisfied. None of the subjects in the control group were fully satisfied whereas in the experimental group 30% were fully satisfied.

**Effectiveness of augmented alternative communication method on communication satisfaction among patients on mechanical ventilator**

It was analysed through Mann-Whitney U test.

**Table 2: Median and inter quartile range (IQR) of post test scores of communication satisfaction among patients on mechanical ventilator between control and experimental group**

n=60

Group	Communication satisfaction	
	Median	IQR
Control (n=30)	14	6.25
Experimental (n=30)	23	8.75

Table 2 shows that median post test scores of communication satisfaction of experimental group was 14 whereas in control group it was 23.

**Table 3: Mean rank, sum of ranks and U value of post test scores of communication satisfaction among patients on mechanical ventilator in control and experimental group**

n=60

Group	Communication satisfaction		
	Mean rank	Sum of ranks	U
Control (n=30)	21.4	642	177 *
Experimental (n=30)	39.6	1188	

\*significant at 0.05 level

The study findings concluded that augmented alternative communication method is effective in improving the communication satisfaction among patients on mechanical ventilator.

**DISCUSSION**

The present study was conducted to evaluate the effectiveness of augmented alternative communication method on the communication satisfaction of patients on mechanical ventilator. The data were analysed using descriptive and inferential statistics. In the present study it was found that, clients who received augmented alternative communication method had better communication satisfaction and these findings were supported by many earlier studies.

The findings of the present study reveals that augmented

alternative communication method had statistically significant (p<0.05) influence in improving the communication satisfaction among patients on mechanical ventilator. The findings of the study was congruent with another study which reported that the patients with communication board reported higher communication satisfaction (p<.001). [9]. The findings were also consistent with another study which showed that communication board was highly effective among the clients on mechanical ventilator (p<0.001). [10].

**CONCLUSION**

Based on the findings of the study the following conclusions were drawn. Ventilator dependent patients in the ICU often experience difficulties with one of the most basic human function, namely communication due to intubation. Augmented alternative communication method is an effective therapy to improve the communication satisfaction among patients on mechanical ventilator.

Communication with mechanically ventilated patients is seen to be the most neglected area in critical care. Impaired communication of mechanical ventilated patients results in many negative psychoemotional as well as health related problems. In consideration of the problems, a study about the effectiveness of augmented alternative communication method among patients on mechanical ventilator in improving communication satisfaction was proposed. Communicating with intubated patients provides a challenge to both medical and nursing staff who may struggle to meet the patient's physiological, psychological and comfort needs. So this study is promisingly noteworthy with regard to the nursing service as the work deals precisely with the matter related to the communication satisfaction of patients on mechanical ventilator. The use of augmented alternative communication devices in ICUs as an intervention helps the patients to enhance communication and thus help them to express and fulfilment of their needs easily. It will result in better outcome like absence of complications, early recovery and decreased hospital stay.

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