EFFECTIVENESS OF COMMUNICATION SIGN BOARD ON COMMUNICATION FOR PATIENTS ON MECHANICAL VENTILATOR SUPPORT

By

S. Dilipkumar

A DISSERTATION SUBMITTED TO THE TAMIL NADU DR. M.G.R MEDICAL UNIVERSITY, CHENNAI, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR DEGREE OF MASTER OF SCIENCE IN NURSING

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EFFECTIVENESS OF COMMUNICATION SIGN BOARD ON COMMUNICATION FOR PATIENTS ON MECHANICAL VENTILATOR SUPPORT

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I hereby declare that the present dissertation entitled “EFFECTIVENESS OF COMMUNICATION SIGN BOARD ON COMMUNICATION FOR PATIENTS ON MECHANICAL VENTILATOR SUPPORT” is the outcome of the original research work undertaken and carried out by me, under the guidance of Prof. S. Ani Grace Kalaimathi M.Sc (N), PGDNA., DQA., Ph.D. Principal and Prof. N. Jayasri, M.Sc (N), M.Phil, Ph.D. HOD, of Medical-Surgical Nursing, MIOT College of Nursing, Chennai. I also declare that the material of this has not found in any way, the basis for the award of any degree or diploma in this University or other Universities.

Mr.S.DilipKumar
II year M.Sc., Nursing
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ABSTRACT

A quasi - experimental study to assess the effectiveness of Communication Sign board on communication for patients on mechanical ventilators in CTICU at MIOT Hospitals, Chennai.

The conceptual framework adopted for this study was modified Watsons human caring theory model. The study variable was mechanically ventilated patients. An experimental research with quantitative approach was used. Research design quasi- experimental study with post- test design was used to achieve the objectives of the study. The present study was conducted at MIOT hospitals, Chennai, with the sample size of 40 patients receiving mechanical ventilator support in conscious state, (20 samples on experimental group and 20 samples on control group). They were selected through non-probability convenient sampling technique.

The investigator used a demographic variable Proforma and an observation checklist on communication sign board to collect the data. It revealed that the majority of the participants 75.0% of mechanically ventilated patients were communicating in a highly effective way. Whereas, in control group 60.0% of mechanically ventilated patients were ineffective in communication. Over all the communication sign board mean score 77.71 with standard deviation of 14.76 in experimental group. Whereas, the mean score of control group participant was 55.00 with standard deviation of 20.57. The independent t value is 4.010, and value at p<0.001, which is highly significant. Hence the research hypothesis was accepted. This shows the effectiveness between study and control group has been determined.
and mechanically ventilated patients were effective in communication using the sign board.
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CHAPTER I

INTRODUCTION

“ACTION SPEAKS LOUDER THAN VOICE
BUT WORDS SPEAK SO MUCH CLEARLY”

(Goose, 2007)

Communication is an essential component of survival of all the creatures. It is the matrix for all thought and relationship between people. Perception of self, the word and the one’s place in it results from communication. To communicate means to impart information, to exchange ideas to express one’s self, in such a way as to understand. All people communicate but members of health care profession modify ordinary communication to promote the health of their clients. Verbal and non-verbal communication is learned in a cultural setting, and if the person does not communicate many difficulties arise for he/she cannot conform to social expectations. Disordered thinking feeling and action results along with mental anguish and perhaps emotional and physical illness

Albanan.A.W. (2001) reviewed the communication with intubated patients and those with tracheotomies in an intensive care unit environment. A major aspect of nursing care within intensive care environment was communication. Nursing communication is to be both effective and therapeutic; nurse need to understand the principle of communication and identity the purpose of nurse-patient interactions. The actual and potential barriers to communication between nurses and patients who are intubated or have tracheotomies need to be assured and evaluated for implementing effective communication strategies and caring such patients
Mechanically ventilated patients experience many barriers to communicating their needs. Patients have reported that their inability to communicate results in unrecognized pain, feelings of loss of control and depersonalization, anxiety, fear, distress, and frustration.

According to Levine, et al., the lack of ability to communicate with care providers and family during periods on mechanical ventilation results in high-risk situations and increases patient anxiety and frustration because life-threatening needs may not be met. Patients receiving mechanical ventilation have reported communication difficulties as their number one problem while being intubated.

Nearly 40% of seriously ill patients who die in hospitals spend their last days and hours in medical intensive care and receiving mechanical ventilation many patients die in pain without the ability to fully express their needs, wishes about end-of-life care, or final messages to loved ones.

Illness was never being an isolated life event. Patients react differently to illness. Individual behavior and emotional reaction depend on the nature of the illness and the patient attitude towards it. Patients who were supported with mechanical ventilator create undue stress, uncertainty fear and anxiety among the patients. Therefore it is important to understand each individual’s uniqueness in order to provide care based on their felt needs. The focus of phenomenological inquiry is to know about the patient’s experience with regard to some phenomenon and how they interpret those experiences. This phenomenological reflects highly on personal and dynamic nature of the patient’s response to their health care experiences.

Stovsky, et al. (1988) used a quasi-experimental design to compare two methods of communication in 40 patients receiving ventilator support after cardiac
surgery (age: M = 60 years; 5% female patients; intubation period: M = 18–21 hours). The experimental group (n = 20) was introduced to a communication board before surgery and they used the board during the post-operative period while receiving mechanical ventilation. The communication board used icons and pictures to represent basic needs (pain, fear, heat/cold, thirst, and bedpan). In contrast, the control group (n = 20) relied on standard care and on the experience of nurses. Patients in the experimental group were significantly more satisfied with communication using the board than were patients in the control group.

Cardiac surgical procedures are among the most commonly performed operations in the United States. According to the American Heart Association, more than 734,000 open-heart procedures are performed each year and they are in mechanical ventilation. It is the responsibility of the health care practitioners to assess and determine an effective means for their patient’s ability to communicate while they are verbally unable to do so; the author invented the communications tool as a result of his first-hand observations with frustrated patients.

Health care practitioner interventions often include interpreting patients’ nonverbal forms of communication such as mouthing, gesticulating, nodding, and writing. Such nonverbal methods require excess energy and are fatiguing and emotionally draining for these patients. Previous literature supports health care practitioner interventions in facilitating communication in mechanically ventilated patients. However, limited research exists on the patient’s perception of the helpfulness of these interventions.
Furthermore, previous research studies have not yet reported the actual level of effectiveness on communication sign board experienced by mechanically ventilated patients. Therefore, research is needed to investigate these areas.

**Need for the Study**

Each individual is unique. The essence of nursing is to provide individual and holistic care to the patients based on their felt needs. Hospitalization of the patients in critical care unit imposes unavoidable separation from the family. It affects the patient both physically and psychologically. When the patients could not able to communicate verbally, it further adds the patient’s agony and also provision of effective and quality care.

The Patients hesitate to express their needs and problems and feel apprehensive about their health. This necessitate the need for nurses to establish a trusting relationship, with the nurse and the patient must be enhanced in order to elicit the patient felt needs.

Patient connected to mechanical ventilator have to endure various experience and emotions, which are unique to each patients, these patients are subject to physical and emotional stress which is related the unfamiliar surroundings of the intensive care environment and limitations caused by the process of ventilation. Factors that hamper the optimal functioning of patients on the mechanical ventilator include the inability to communicate and the fear of impending dependency.

Communication with all patients is very important to the provision of quality nursing care. Communication cannot always be achieved using the speech modality. Nurses need to have tools and skills that will allow them to communicate with all of their patients whether or not they can speak.
Madhavi, (2007) conducted a study on the lived inexperience of patients who received mechanical ventilator assistance on selective basis. Qualitative, phenomenological approach was adapted for the study and 11 patients belonging to both sexes who had mechanical ventilation following cardiac surgery were the participants. Patients who were conscious and on SIMV mode were interviewed 5 to 7 days following extubation. The interview was audio taped. The findings suggest that patient who was assisted with ventilator had physical problems and psychological disturbance and communication difficulties.

Important to develop alternative methods of communicating for the patient who is receiving mechanical ventilation. Once the patient’s limitation is known, the nurse offers several appropriate communication board. Mechanically ventilated patients can communicate with the doctors and nurses by the use of communication boards. By using of these communicating boards, the nurse can able to identify the patient’s limitation and needs. This type of communicating board can help the patient to improve patient’s satisfaction and communication pattern.

Patak. L (2003) Stated that patients reports of health care practitioner intervention that are related to communication during mechanical ventilation. This study described the level of frustration experienced by mechanically ventilated patients and ascertains the helpfulness of methods used by health care practioner to meet the communications needs of the mechanical ventilated patients. A total of twenty nine patients extubated within the last 72 hours, were included in the descriptive study using qualitative method. Subjects participated in an average 30 minutes audio-taped interview session consisting questions pertinent to their perceived level of frustration in communicating and the interventions practitioner
used to meet their communication needs. It was found that 62 percentage (n=18) of patients reported a high level frustration in communicating their needs while being mechanically ventilated.

While numerous research studies have been completed, they are predominantly qualitative and descriptive. Recent studies have investigated the patients' perceptions and recollections of the communication that transpired between them and nurses while they were cared for within an ICU. The literature indicates that nurses communicate extremely poorly with patients, despite a high level of knowledge and skill with respect to communication. Furthermore, previous research studies have not yet to report the actual level of communication experienced by mechanically ventilated patients. Therefore, research is needed to investigate these areas. So the investigator is very much interested in doing research by intervening the sign boards in communication process to avoid frustration in communicating his own needs and which will help the nursing personnel.

**Statement of the Problem**

A quasi-experimental study to assess the effectiveness of communication sign board on communication for patients on mechanical ventilators in CTICU at MIOT Hospitals, Chennai.

**Objectives**

- To determine the effectiveness of communication sign board between control and experimental group among mechanically ventilated patients
- To associate the effectiveness of communication sign board with selected demographical variables in experimental group among mechanically ventilated patients.
Operational Definitions

Effectiveness

In this study, effectiveness means the capability of producing an effect, the outcome of communication sign board on communication among patients on mechanical ventilator & it will be assessed by observational checklist.

Communication

In this study, communication is a process whereby a person with mechanical ventilator, expresses his/her needs, views, ideas, feeling or giving some information during his/her period of stay in CTICU by using communication sign boards.

Sign board

In this study, Signboard refers to a kind of written & visual graphics created to display information for communication process which includes various pictures regarding (Ventilation elimination, Pain management, Comfort measures & positions) which helps to express the needs of the patients with mechanical ventilator to the health care provider until they are extubated.

Mechanical ventilator

In this study, Mechanical ventilation is a method to mechanically assist or replace spontaneous breathing.
Patient

In this study, Patient is any person who receives medical attention, care, or treatment. Here the patient is one; who underwent cardiothoracic surgery and receives medical attention and mechanical ventilator care.

Hypothesis

H_1. There will be a significant difference in communication by using communication sign board in experimental group than in control group.

H_2. There will be a significant association between communication in experimental group and control group with selected demographic variables.

Assumptions

- Communication process plays a vital role in caring for patients with critical illness.
- During the time of mechanical ventilation patient will have difficulty in communication.

Delimitations

- This study is delimited for only ventilator support patients in Cardio Thoracic Intensive care unit.
- The duration of the study is 6weeks only.
- The findings of the study cannot be generalized.
Projected Outcome

The use of communication sign board will be highly effective on communication process among mechanically ventilated patients and care providers; and will also avoid frustration, anger, anxiety, fear and distress to patients. And it will help the nurses to provide care to mechanically ventilated patient by understanding their expressed needs.
CHAPTER II

REVIEW OF LITERATURE

Review of literature of the process in which the investigator examines the strength and weakness of the appropriate scholarly publication/Literature.

Literature review serves a number of important functions in the research process. It helps the researcher to generate ideas or to focus on a research topic. It can also be useful in pointing out the research design, methodology, meaning of tools and type of statistical analysis that might be productive in pursuing the research problems.

The review of literature in this session is divided into the following sections:

Section 1: Literature review related to communication process and problems as perceived during mechanical ventilation.

Section 2: Literature review related to communication sign board used for mechanical ventilator patients on communication.

Section 1: Literature review related to communication process and problems as perceived during mechanical ventilation.

Patak.L.(2003) conducted a study on patients reports of health care practitioner intervention that are related to communication during mechanical ventilation. The objective of the study was to describe the level of frustration experienced by mechanically ventilated patients and ascertains the helpfulness of methods used by health care practitioner to meet the communications needs of the mechanical ventilated patients. A total of twenty nine patients extubated within the last 72 hours, were included in the descriptive study using qualitative method. Subjects participated in an average 30 minutes audio-taped interview session consisting questions pertinent to their perceived level of frustration in communicating
and the interventions practioner used to meet their communication needs. The result of the study was found that 62 percentage (n=18) of patients reported a high level frustration in communicating their needs while being mechanically ventilated. Mechanical ventilated patient experience a high level of frustrations. When communicating their needs and health care providers have a significant impact on the mechanically ventilated patient experience.

Albanan.A.W. (2001) reviewed the communication with intubated patients and those with tracheotomies in an intensive care unit environment. A major aspect of nursing care within intensive care environment was communication. Nursing communication is to be both effective and therapeutic; nurse need to understand the principle of communication and identity the purpose of nurse-patient interactions. The actual and potential barriers to communication between nurses and patients who are intubated or have tracheotomies need to be assured and evaluated for implementing effective communication strategies and caring such patients.

Madhavi, (2007) conducted a study on the lived inexperience of patients who received mechanical ventilator assistance on selective basis. Qualitative, phenomenological approach was adapted the study 11 patients belonging to both sexes who had mechanical ventilation following cardiac surgery were the participants. Patients who were conscious and on SIMV mode were interviewed 5 to 7 days following extubation. The interview was audio taped. The findings suggest that patient who was assisted with ventilator had physical problems and psychological disturbance and communication difficulties.
Finke, et al. (2008), conducted a study to assess the experiences of patients with Complex Communication Needs (CCN) in an acute hospital ward. The study focuses on problems that occur when people with CCN are hospitalized, such as patients’ inability to describe pain and a lack of available communication resources. The article also makes recommendations for improving communication among patients, hospital staff, and caregivers in healthcare settings.

Menzel, (2009) discussed on the communication-related responses among nonspeaking patients treated with mechanical ventilation, the author found that patients had greatest difficulty in communicating with their family members. Infact, a patient’s inability to speak at the end of life can be a tremendous loss for the patient’s family members. Statements such as "If only I could have heard his voice one last time" characterize family members’ regret about patients’ loss of speech and impaired communication at the end of life. However, some patients and family members find low satisfaction in communication due respiratory intubation.

Thaur, (2008) conducted a cross-sectional, correlational study on mechanical ventilator patient on communication, a convenience sample of 65 patients was recruited consecutively during the working week from a 9-bed medical ICU Data were collected during a 17-month period, 255 intubated patients were admitted to the ICU. , a sample size of 65 was sufficient to yield a power of 85%. Interviews were mostly conducted in the ICU, Data were collected from medical charts and via interviews with the patients. tests of significance were 2-tailed; $P$ values less than .05 were considered significant. the researcher found that patients had moderate feelings of depression and anxiety, anger and fear.
Costello, (2001) conducted a qualitative study to assess the general satisfaction with the communication intervention in the ICU (intensive care unit). The sample size was 43 with 17 to 44 years of age. Patients expressed general satisfaction with the communication intervention and patients did not report isolation, fear related to the inability to speak in the ICU. The AAC augmentative and alternative communication) devices were used by the patients to communicate their basic needs. The study results revealed that the general satisfaction of the patients was improved by using AAC devices. The author concluded that use of AAC (augmentative and alternative communication) devices improved the patients satisfaction in communication while they were admitted in intensive care unit.

Fridlund, (2001) conducted a study to assess the experiences of patients being mechanically ventilated. The author retrospectively interviewed 158 patients and their recall of experiences while being mechanically ventilated 2 – 48 months after their ICCU experience. Approximately 50% of the patients were able to remember the experience of being ventilated and most recalled the situation as discomforting, stressful, anxiety, fear and insecurity.

Fowler, (2006) conducted a qualitative study to assess the experiences and stressful events among ICU patients indicate significant relationships between inability to talk and feelings of panic and insecurity (P < .001), sleep disturbances (P <.05), and stress level (P < .01). The researcher interviewed 10 surgical ICU patients after extubation to describe the communication experience and common messages during short-term intubation. Patients described not being able to speak during intubation as scary, frustrating, horrible & difficulty in communication. All of
the participants in this study were physically restrained, most received sedatives and/or analgesics, and half reported that no formal mechanism was used to facilitate communication during intubation of their communications.

Jablonski, (2003) conducted a qualitative study to identify the communication difficulty due to mechanical ventilation. The researcher interviewed 12 participants who were intubated and mechanically ventilated in intensive care unit (ICU). All were initially orally or nasally intubated, and 4 required a tracheostomy at a later time. From the interviews, she identified patients experiencing frustration, anger, fear, and anxiety in their failure to communicate by mouthing words, using gestures, or writing. Patients reported that their attempts to communicate were interpreted due to improper communication methods.

Johansson, G (2001) conducted a study on twenty-two consecutive patients treated in an intensive care unit (ICU) were interviewed three times over a 2-month period about their experiences of changes to their communication during ventilator treatment. Structured questionnaires, including open-ended questions were used on each occasion. The registered nurse (RN) in charge of each patient evaluated the extent of communication during the ventilator treatment in a nurse protocol. Thirteen of the twenty-two patients reported that the RNs were able to understand their needs and wishes during the ventilator treatment. The RNs, however, reported functional communication in nineteen patients. A functional communication was typically related to the use of effective communication methods, while a lack of communication was associated with compromised medical status of the patients. The results suggest the need for detailed examination of patients' potential for effective
communication, evaluation of the communication skills of the RNs, and further investigation of devices that can help facilitate communication between RNs and patients during ventilator treatment.

Finke EH, & Light J, (2008) conducted a study to assess the experiences of patients with Complex Communication Needs (CCN) in an acute hospital ward. The study focuses on problems that occur when people with CCN are hospitalized, such as patients’ inability to describe pain and a lack of available communication resources. The article also makes recommendations for improving communication among patients, hospital staff, and caregivers in healthcare settings.

Johnson, et al. (2002) conducted a qualitative study to identify the communication patterns and behaviors between patients, and their health care providers. The researcher interviewed 14 patients and identified 19 factors that caused distress for these patients. In this, the inability to speak was identified by all participants as causing improper communication to some degree, from mild to extreme. Because of improper communication, the patient was unable to express pain/discomfort from the endotracheal tube, suctioning, inability to determine time, and noise. These distressing factors can be alleviated by health care professionals by using communication board/picture board.

Gawlinski, (2004) conducted a study to assess the patient satisfaction in hospital among post operative patients However, many patients complained that they were not treated with respect by caregivers, did not receive adequate pain medication after surgery, and did not understand the instructions they received for home care once they left the hospital. The author claimed that poor communication was a major
source of medical errors, encouraging doctors and nurses to listen more carefully to their patients.

Alasad.J (2005) conducted a study on communication with critically ill patients. The main aim of the study that investigated the experience of nurse verbal communication with critically ill patients. The findings of the study revealed that unconscious and interaction that verbally responsive patient.

Fox & Rau, (2002) described a collaborative interdisciplinary approach to AAC assessment and intervention for persons who undergo radical head and neck cancer surgery. This psychiatric nurse specialist-speech language pathologist team applies individualized AAC techniques in a progressive manner as patients' needs, motivation, and abilities change during the postoperative period. Clinical criteria or parameters of cognitive function to identify patients for whom electronic AAC devices will be useful have not been established. At this writing, no comparative studies of AAC device use with patients with head and neck cancer have been published.

Rotondi, et al. (2002) conducted a study on communication among mechanical ventilator patients found that each endotracheal tube experience was remembered by more than 20% of patients and that the experience was moderately to extremely bothersome for more than 66% of those who remembered it., the majority of intubated patients (82.7%) remembered the experience of not being able to speak. About 80% of these patients were moderately to extremely bothered by this experience.
Ashworth, (2002) conducted a descriptive and qualitative study to investigate the problems in communication between nursing staff and patients with orotracheal, nasotracheal, or tracheostomy tubes in 5 ICUs. By observing nurse–patient communication and interviewing nurses and patients, she found that communication was not only short in duration (1 minute) but also limited to task-related activities. The researcher described the nurse–patient communication as depersonalizing, failing to acknowledge each patient’s individuality. Most of the time the nurses ’communication failed to address the patients ’specific physical and emotional needs and was something that “justhappened.

Kacperek, (2001) conducted a study to assess the patient experiences of communication problem during ventilator treatment. A descriptive approach was used and samples are consecutive patients treated in ICCU and structured questionnaire methods are used to collect data. The result suggest that the need for detailed examination of patients potential for effective communication, evaluation of the communication skills of the nurses and further investigations of devices that can help facilitate communication between nurses and patients during ventilator.

Levis, (2000) conducted a study to assess the effectiveness of intensive communication among the intensive care unit patients. An experimental approach was used and samples are 134 consecutive patients before and 396 after our intensive communication intervention. The study revealed that intensive communication is associated with durable reductions in intensive care unit length of stay and reduced mortality in critically ill adult medical patients.
Elizabeth, (2002) conducted a study to investigate the experiences of a group of critical care nurses concerning verbal communication with critically ill patients. Comparative approach was used and sample ten unconscious patients received less communication and ten verbally responsive patients. Data were collected by interviews and observational method. The study revealed that the communication with sedated or unconscious patients in ICU should not be viewed as an interactive process rather, it should be perceived as the means to give the information and support that such patient needs.

Hallal, (2002) conducted a retrospective study to identify communication satisfaction & stressful experiences of patients who received mechanical ventilation in an ICU, a majority of subjects (78.1%) remembered having trouble speaking during ventilator treatment. Most of those subjects (82.7%) rated speaking difficulties as moderately to extremely bothersome. Results says that episodes of terror were associated with not being able to talk because of endotracheal intubation (γ =0.786).

Howard & Stewart, (1999) conducted a study to assess the difficulties and stresses of mechanically ventilated patients in the intensive care unit (ICU) when trying to communicate with doctors and nurses. The study revealed that critical care nurses rarely receive training in effective communication with non-verbal patients, and most are unfamiliar with augmentative communication methods.

Berg.J, (2001) conducted a prospective study to assess the communication-related responses, self-esteem, severity of illness, difficulty with communication, and the number of days of intubation was significantly associated with feelings of anger,
worry, and fear among patients treated with mechanical ventilation. Patients with higher severity of illness scores had the most anger about the inability to speak due to mechanical ventilation. These findings suggest that anger, fear, and worry, communication difficulties are most significant for nonspeaking critically ill patients.

Happ, et al. (2004) Even if a variety of techniques are available for achieving oral communication for individuals receiving mechanical ventilatory support, these techniques may not be suitable for all individuals, speech may still be less than satisfactory and voice and articulatory functions may not be sufficient for oral communication. The use of augmentative and alternative communication (AAC) can be warranted to meet communicative needs. Since the general motor abilities (hand and arm function) of ventilator-supported individuals are often restricted, the use of AAC can, however, be a demanding task. Some of the strategies that patients on an ICU ward use when voicing is difficult include head nods, mouthing words, gestures and writing.

Hafsteindottir, (1999) conducted a study to investigate the experiences of a group of critical care nurses concerning verbal communication with critically ill patients. Comparative approach was used and sample ten unconscious patients received less communication and ten verbally responsive patients. Data were collected by interviews and observational method. The study revealed that the communication with sedated or unconscious patients in ICU should not be viewed as an interactive process rather, it should be perceived as the means to give the information and support that such patient needs.
Bergbom-Engberg and Haljamae, (1998) retrospectively interviewed 158 patients on their recall of experiences while being mechanically ventilated 2 to 48 months after their ICU experience. The telephone interviewers inquired about the influence of medical and nursing care factors on the patient’s experience of discomfort and feelings of security or insecurity. Approximately 50% of the patients were able to remember the experience of being ventilated, and most recalled the situation as discomforting and stressful. Approximately half of the subjects reported experiencing feelings of anxiety/fear, agony/panic, and insecurity, and found it distressing not to be able to communicate properly with the nurses and their relatives.

Section 2: Literature review related to communication sign board used for mechanical ventilator patients on communication

Saylers, J, (2003) found nurse patient communication in the intensive care unit. Patients in the ICU especially those who were unable to communicate verbally need sensitive and individualized communication to prevent feeling and isolation and alimentation and to promote continued socialization throughout their hospitalization and return to the community. The result of the study indicated the patients in the ICU need to communicate through alternative ways like paper, pencil method and head nodding.

Irene Grossbach, (2011) Communicating effectively with ventilator-dependent patients is essential so that various basic physiological and psychological needs can be conveyed and decisions, wishes, and desires about the plan of care and end-of-life decision making can be expressed. Numerous methods can be used to communicate, including gestures, head nods, mouthing of words, writing, use of letter/picture boards and common words or phrases tailored to meet individualized patients’ needs.
Communication boards are available for more complex cases. Various options for patients with a tracheostomy tube include partial or total cuff deflation and use of a speaking valve. It is important for nurses to assess communication needs and identify appropriate alternative communication pattern to create a customized care plan with the patient, the patient’s family, and other team members. Ensure that the care plan is visible and accessible to all staff interacting with the patient; and continue to collaborate with colleagues from all disciplines to promote effective communication with non-vocal patients.

Adomat & Killingworth, (2002) Published case studies and other clinical literature which have a predominating need to use communication boards and other assistive communication devices for patients receiving mechanical ventilation. These devices range from simple pencils and papers, to alphabet/word/picture boards, to computer keyboards. Although many authors suggest a picture board for use with patients during mechanical ventilation, they rarely describe what the board consists of, what patients mostly ask for on the board, and whether the board is successful in helping patient.

Susan B, (2008) describe the experience of impaired verbal communication during short-term oral intubation in surgical critical care patients Semi-structured interviews for (N=10). Patients identified feelings related to discomfort, fear, and frustration. And they desired to communicate messages regarding pain and discomfort, difficulty breathing, length of intubation, use of restraints, family, physical status, and suctioning the findings can be used to educate patients and families and develop patient-driven communication tools.
Happ.M & B.Roesch, (2009) conducted a study on exploratory, complementary study was conducted in intensive care unit of an urban teaching hospital. 10 purposively selected patients with a mean age of 57.1 years (SD = 12.8 years) and moderately severe illness (Acute Physiology and Chronic Health Evaluation III score mean = 27.1 + 13.2) who had communication devices in their hospital rooms for 9.1 + 6.2 days. The researcher used observation, interviews, questionnaires, and clinical record review to collect data from the study participants. Communication devices were used in message construction in 8 (17%) out of 48 total observed communication events. Writing (31%) and nonverbal communication (46%) were the most frequently observed primary methods of communication used by patients with mechanical ventilation. Five patients demonstrated occasional communication device use with or without cuing, and one used the communication device as the dominant communication method. Ease of Communication Scale scores showed only slightly less difficulty with communication when compared to a historic control group. Patients initiated communications more often when communication devices were used in message construction. Although writing and making gestures were the most common communication methods, communication devices were used successfully by selected patients and may be particularly beneficial for constructing complex messages during conversation. This study suggests that communication devices may be an appropriate assistive communication strategy for mechanical ventilation patients in ICU.

Enrique Rivero, (2006) conducted a study on critically ill patients on mechanical ventilation in intensive care units often feel high levels of frustration decreased satisfaction in communicating their needs to their caregivers — but use of a
communication board can change that, a new UCLA study has found. The study gauged patients' opinion of the Vidatak EZ Board, a light, flexible communication board devised by Patak that is organized so that the patient can easily inform the caregiver of all of his or her conceivable needs. For example, the patient can communicate thirst, cold, hunger, anger or pain; wanting to sit up or exercise; wanting a pillow or a blanket; needing someone to clean his or her mouth or face, or simply wanting to say "thank you." All require no more effort on the patient's part than marking a box next to the appropriate selection with an attached wet-erase marker.

The researchers found that 12 of the patients (41.4 percent) said the board would have been "extremely helpful" and another eight (27.6 percent) claimed it would have been "very helpful" to them in conveying their needs. Additionally, five patients (17.2 percent) thought it would have been "helpful" and three others (10.3 percent) said it would have been "somewhat helpful" to them while they were in mechanical ventilation. Only one patient didn't believe the communication board would have been helpful.

Martin Houze, (2001) conducted A quantitative study on use of augmentative and alternative communication (AAC) devices with nonspeaking adults in intensive care unit settings. The researcher collected data on communication patterns with and without augmentative and alternative communication devices. Data on communication in the intensive care unit were compared with a historical (versus within group) sample. Quality of communication was measured by using ease of communication scale, communication event record. Data were analyzed by using descriptive statistics. The results showed that the augmentative and alternative communication devices improved the communication pattern and satisfaction in
communication. The author concluded that the augmentative and alternative communication devices are effective tool in promoting communication pattern, satisfaction in communication with adults in intensive care unit.

Lawless, (1975) described different types of boards that could be used to help patients communicate during mechanical ventilation: a magic slate board, magnetic plastic letters and board, an alphabet board, a picture board, and a simple writing board. The specific content and format of these boards were not described, nor were any of these boards tested to assess their effectiveness in facilitating communication.

Sarah stranberg, (2011) conducted a qualitative study to promote effective communication for patients receiving mechanical ventilation. The researcher used participant observation, semi-structured interviews, questionnaires, and clinical record review in a complementary design to obtain data on communication events and use of communication board with 11 critically ill adults. Study participants, 45.5 +/- 16.0 years of age with 13 +/- 1.9 years of education and moderately severe illness (APACHE III=27.5 +/- 16.1), used the communication board for 5.7 +/- 4.6 days. Ease of Communication Scale measurements showed significantly less difficulty with communication after device use (t>2.62; P=.047). Almost half (n=5) of the participants demonstrated some independent use of the device. Communication boards were used in one quarter of observed communication events. Patients used this board most often to communicate with family & health care providers. The initiated communication interactions more often when communication board was used than when communicating by other non vocal methods. This study showed that use of communication board is possible with selected critically ill adults and may contribute
to greater ease of communication during respiratory tract intubation. Further clinical research using control or comparison groups is needed.

Appel-Hardin, (1984) was the first author to illustrate a sample communication board in the literature. The author suggested that the content of the board include alphabet letters, words describing basic needs (i.e., pain and thirst), pictures of body parts, and names of people (i.e., spouse, family member, and doctor). Publishing a sample communication board provided clinicians with the content and format of a board from the nurses’ perspective. However, this published board was not tested for its ability to meet patients’ communication needs.

Costello, (2000) Two published research studies investigated the effectiveness of a communication board in facilitating communication with patients during mechanical ventilation (Fried-Oaken, Howard, & Stewart, 1991; Stovsky et al., 1988). Other research studies that used different communication methods (e.g., electronic voice output) were found but were not included in this focused review of the literature on the use of communication boards in patients receiving mechanical ventilation.

Carroll, (2004) conducted a study on communication-related responses among non speaking patients treated with mechanical ventilation, researcher found that patients had greatest difficulty in communicating with their family members. Studies of the experiences and stressful events among ICU patients indicate significant relationships between inability to talk and feelings of panic and insecurity \((P < .001)\), sleep disturbances \((P < .05)\), and stress level \((P < .01)\). Researcher interviewed 10 surgical ICU patients after extubation to describe the communication experience and
common messages during short-term intubation. Patients described not being able to speak during intubation as "scary," "frustrating," and "horrible." All of the participants in his study were physically restrained, most received sedatives and/or analgesics, and half reported that no formal mechanism was used to facilitate communication during intubation.

Lindgren, (2005) Best nursing practice says that mechanically ventilated patients can achieve decreased length of ventilator days as well as decreased length of ICU stay by an average of 2.7 and 3.6 days, respectively. Multidisciplinary team collaboration that incorporates effective communication with the patient is necessary for achieving these stated outcomes. "Give the patient paper and pencil to determine if handwriting is legible. Picture and alphabet boards can be useful as well... one such tool is the communication board." The communication board is the research-based communication tool shown to reduce frustration and improve patient satisfaction.

Leatheart, (1994) conducted a study to assess importance of picture boards in facilitating communication in all medical settings, including but not limited to ambulances, hospitals, emergency rooms, and health clinics. Many U.S. residents do not speak proficient English, and the author advocates using the boards to bridge the communication gap, especially since 48% of hospitals treat patients with limited English every day. The article concludes by explaining the origins of picture boards and showing how people with communication difficulties can use them to get help during emergencies and disaster drills.

Stovsky, et al. (1988) used a quasi-experimental design to compare two methods of communication in 40 patients receiving ventilator support after cardiac
surgery (age: M = 60 years; 5% female patients; intubation period: M = 18–21 hours).
The experimental group (n = 20) was introduced to a communication board before surgery and they used the board during the postoperative period while receiving mechanical ventilation. The communication board used icons and pictures to represent basic needs (pain, fear, heat/cold, thirst, and bedpan). In contrast, the control group (n = 20) relied on standard care and on the experience of nurses. Patients in the experimental group were significantly more satisfied with communication using the board than were patients in the control group. The level of significance was P = .05. A surprising finding was that the nurses who worked with the board did not express increased satisfaction in communicating with patients.

Patak L, (2006) conducted a descriptive and qualitative study was conducted to identify patients reports of health care practitioner interventions that are related to communication during mechanical ventilation. Twenty-nine critically ill patients who were extubated within the past 72 hours were included in this descriptive study. Study participants participated in a 20- to 60-minute audio taped interview consisting of questions about their perceived level of frustration when communicating with and without a communication board and their thoughts about the appropriate content and format of a board. Transcripts were analyzed by questions for meaning and overall themes. Sixty-two percent (n = 18) of patients reported a high level of frustration in communicating their needs while receiving mechanical ventilation. Patients judged that their perceived level of frustration in communicating their needs would have been significantly lower (P < .001) if a communication board had been offered (29.8%) than if not (75.8%). Most patients (69%; n = 20) perceived that a communication board would have been helpful, and they also identified specific characteristics and
content for a communication board. The researcher concluded that the communication board may be an effective intervention for decreasing patients' frustration and facilitating satisfaction in communication.

Magnus and Turkington, (1997) A study exemplifies communication picture boards to bridge communication barriers between health care professionals and patients. The authors have distributed more than 2,200 boards to facilities across the state in its efforts to ensure that every patient receives effective medical care. The article strongly advocates the use of communication boards, stating that they should become an integral part of the health in communication. Although communication boards may not be an appropriate tool for diagnosing diseases or requesting consent, they are useful for everyday communication purposes.

Fried-Oaken, et al. (1991) explored patients’ experiences and preferences for augmentative and alternative communication (AAC) methods during mechanical ventilation in an acute care medical ICU. Five adults in the ICU with temporary severe expressive communication disabilities due to Guillain–Barre´ syndrome or botulism were interviewed. The patients were 17–68 years old (M = 45 years) and had been receiving ventilator support for 2 weeks to 3 months. Patients were offered five to nine AAC methods during mechanical ventilation, including yes/no questions, mouthing words/lip reading, facial expression reading, and use of an alphabet board, a magic slate board, a phrase board, and electronic scanning devices. Details of the content of the various communication boards were not described in the study. Interviews of patients about their experiences in the use of AAC methods during mechanical ventilation revealed that four of five patients preferred the alphabet board
and the magic slate board. Patients least preferred electronic scanning devices, expressing that the alphabet and magic slate boards were simple to use and easy to learn and apply. In addition, patients recommended the in-service training of all ICU staff with AAC techniques and continual patience when using these devices. Training of family members and acceptance of communication alternatives were also identified as crucial to success in communicating.
Conceptual framework

A conceptual framework consists of concepts that are placed in logical and sequential design and it is a structural that guides the researcher to gather and analyze the data.

The conceptual framework adopted for this study was modified Watson’s human caring theory model. According to Watson’s caring in nursing term representing the factors, which the nurse use to deliver health care to patients theorist states that by responding to others as unique individuals, the caring (nurse) perceives the feelings of the other (patients) and recognizes the other. The concepts used from this theory are,

- Developing a helping trust relationship.
- Promoting expression of positive and negative feelings.
- Allowing for existential phenomenological forces.

The theorist states that by responding to others as unique individuals, the caring person (nurse) perceive the feeling of other patients and recognizes uniqueness of the other. The concepts used from this theory are;

The first concept of this modified theory is developing a helping-trust relationship. Here, the investigator establish a helping-trust relationship by introducing self, initiating trust and empathy, developing rapport, gaining cooperation confidence and facilitate unlocking self.
The second concept of this modified theory is promoting expression of positive and negative feelings. Here, the investigator unveils the patient’s feelings and experience by using an observed checklist on communication process.

The third concept of this modified theory is allowing for existential phenomenological forces. Here, it permits the investigator to observe the patients’ feelings and experience during mechanism ventilator support with regard the communication process and problems psychological reactions to the communication problems and factors promoting and hindering communication.

The third concept of this modified theory is allowing for existential phenomenological forces. Here it permits the investigators to observe the effectiveness communication process while handling patients during ventilator support, with regard to communication process, importance of communication sign board, communication methods, factors hindering and promoting communication process and response to communication.
Figure - 1: Conceptual Framework Based On Modified Watsons Human Caring Theory (1988)
CHAPTER III

METHODOLOGY

This chapter deals with the research method used by the communication sign board among mechanical ventilator supported patient at CTICU in MIOT hospitals, Chennai. Methodology includes research approach, research design, setting of the study, population, sample size, sampling technique, criteria for sample selection, and description of tool, pilot study, data collection procedure.

Research Approach

Quantitative approach was used in this study.

Research Design

A quasi - experimental with post- test design only was adopted in this study.

<table>
<thead>
<tr>
<th>Group</th>
<th>Intervention</th>
<th>Post-test</th>
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<tbody>
<tr>
<td>Experimental</td>
<td>X</td>
<td>02</td>
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<tr>
<td>Control</td>
<td>-</td>
<td>02</td>
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</table>

Where,

E Experimental group
C Control group
X Intervention (communication sign board)
- No intervention
O2 Post – test
Setting

The study was conducted at MIOT Hospitals, Chennai; it is 500 bedded multispecialty corporate hospital. The setting of the study was in cardio thoracic intensive care unit.

Population

The target populations of this study was the entire patients who received mechanical ventilator support at cardio thoracic intensive care unit after cardio thoracic surgery at MIOT Hospitals at Chennai.

Sample

The samples of the study were patients those who underwent cardiothoracic surgery and received mechanical ventilation support post operatively and out of sedative agents.

Sample Size

The sample size was 40 patients received mechanical ventilator support in conscious state. (20 patients in experimental group and 20 in control group)

Sampling Technique

The samples were selected by non probability convenient sampling technique.

Inclusion Criteria

- Male and female patients receiving mechanical ventilation

Exclusion Criteria

- Patients receiving sedative agents
- Blind patients
Data Collection Tool

Description of the Tool

To assess the effectiveness of communication sign board on communication, the investigator developed 24 questions to observe the communication process with two parts after reviewing the literature on communication sign board.

Part I:

It consists of 9 items related to demographic variables such as age, sex, religion, marital status, monthly income, educational status, vision, type of ventilation, and duration of ventilation.

Part II:

It consists of observation checklist to assess the effectiveness of communication sign board on communication, the questionnaire were prepared with regard areas of communication process like source, message, channel, receiver and environment. It contains 24 “Yes” or “No” questions, “Yes” carries 1 mark and “No” carries 0 mark. Possible maximum mark is 24 and minimum is 0. The total score was interpreted in % which is as follows,

- Highly effective – 75-100%
- Moderately effective – 51-74%
- Ineffective – < 50%

Scoring interpretations

75 – 100% - Use of communication sign board is highly effective among mechanical ventilator patients (Highly effective)
51-74% - Use of communication sign board is moderately effective among mechanical ventilator patients (Moderately effective).

Less than 50% use of communication sign board is ineffective among mechanical ventilator patients (ineffective).

<table>
<thead>
<tr>
<th>Blue print of the Tool</th>
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<tbody>
<tr>
<td><strong>Content</strong></td>
</tr>
<tr>
<td>Source</td>
</tr>
<tr>
<td>The message</td>
</tr>
<tr>
<td>The channel</td>
</tr>
<tr>
<td>Receiver</td>
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<tr>
<td>Environment</td>
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</table>

**Validity**

The tool was developed through an extensive review of literature and sent to experts in the field of nursing and medicine for validation.

**Reliability**

The reliability of tool was established by conducting pilot study; the reliability was established by Inter-rated method. ‘r’ value = 0.863. It is a valid and reliable instrument.

**Pilot Study**

Pilot study was conducted in cardio thoracic intensive care unit at MIOT Hospitals, Chennai, for the period of one week. The investigator obtained formal permission from the respective authorities to conduct the study on 4 patients; 2
patients selected in control group and 2 patients selected for study group, who meet the inclusion criteria selected by non probability convenient sampling technique. Pilot study reveals that the study is feasible.

**Data Collection Procedure**

Data collection procedure was carried out for a period of six weeks in CTICU at MIOT Hospitals, Chennai. The investigator obtained formal permission from the concerned authorities to conduct the study. The experimental and control group consist of 40 patients in which 20 patients were in experimental group and 20 patients were in control group who were selected alternatively by non probability convenient sampling method and only experimental group were instructed and provided the communication sign board prior to the elective surgery date. All the patients’ identity was collected and kept confidentially and observed post operatively while on mechanical ventilator support by using observational yes or no checklist method. The data collection was done as per the following schedule:

<table>
<thead>
<tr>
<th>Group</th>
<th>Post test</th>
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<tr>
<td></td>
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<tr>
<td><strong>Group</strong></td>
<td><strong>Control</strong></td>
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<tr>
<td>Experimental</td>
<td>3</td>
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<tr>
<td>Control</td>
<td>3</td>
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<tr>
<td>Experimental</td>
<td>3</td>
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<tr>
<td>Control</td>
<td>3</td>
</tr>
<tr>
<td>Experimental</td>
<td>4</td>
</tr>
<tr>
<td>Control</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>20</strong></td>
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</table>
Human Rights Protection

The pilot and the main study were conducted only after approval of the research proposal by the college of nursing and the institutional ethical committee. Permission was obtained from the concerned authorities prior to the commencement of the study. Informed consent was obtained from all the participants who participated in the study.
CHAPTER IV

DATA ANALYSIS AND INTERPRETATION

This chapter describes the analysis of the numerical data collected by the study instruments and their meaning and relevance. Statistics is a field of study concerned with techniques or methods of collection of data, classification, summarizing, interpretation, drawing inferences, testing of hypothesis, making recommendation, etc.

The data was collected from 40 mechanical ventilator supportive patients and analyzed according to objectives and hypothesis of the study. This chapter deals with analysis and interpretation includes both descriptive and inferential statistics.

Organization of findings

The findings of the study were organized and presented under the following headings:

Section I: Distribution of demographic variables among patients on mechanical ventilators in CTICU for experimental and control group.

Section II: Effectiveness of communication sign board on source among patients on mechanical ventilators in CTICU between experimental and control group.

Section III: Comparison of communication sign board on source among patients on mechanical ventilators in CTICU between experimental and control group.
Section IV: To find out the association between effectiveness of communication sign board and demographic variable among patients on mechanical ventilators in CTICU for experimental group.
This section deals with the description of demographic variables in frequency and percentage.

Table 1: Distribution of demographic variables among patients on mechanical ventilators in CTICU for experimental and control group

N=40

<table>
<thead>
<tr>
<th>Demographic Variables</th>
<th>Experimental Group</th>
<th>Control Group</th>
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<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>1. Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) 18 – 30 yrs</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>b) 31 – 40 yrs</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>c) 41 – 50 yrs</td>
<td>3</td>
<td>15.0</td>
</tr>
<tr>
<td>d) 51 yrs and above</td>
<td>17</td>
<td>85.0</td>
</tr>
<tr>
<td>2. Gender</td>
<td></td>
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</tr>
<tr>
<td>a) Male</td>
<td>12</td>
<td>60.0</td>
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<tr>
<td>b) Female</td>
<td>8</td>
<td>40.0</td>
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### 3. Religion

<table>
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<tr>
<th></th>
<th>Hindu</th>
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<th>Hindu</th>
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<tbody>
<tr>
<td>a)</td>
<td>11</td>
<td>55.0</td>
<td>11</td>
<td>55.0</td>
<td>b)</td>
<td>7</td>
<td>35.0</td>
</tr>
<tr>
<td>b)</td>
<td>7</td>
<td>35.0</td>
<td>6</td>
<td>30.0</td>
<td>c)</td>
<td>2</td>
<td>10.0</td>
</tr>
<tr>
<td>c)</td>
<td>2</td>
<td>10.0</td>
<td>3</td>
<td>15.0</td>
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</tbody>
</table>

### 4. Marital Status

<table>
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<tr>
<th></th>
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<th>Married</th>
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</tr>
</thead>
<tbody>
<tr>
<td>a)</td>
<td>16</td>
<td>80.0</td>
<td>18</td>
<td>90.0</td>
<td>b)</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>b)</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>c)</td>
<td>4</td>
<td>20.0</td>
</tr>
<tr>
<td>c)</td>
<td>4</td>
<td>20.0</td>
<td>2</td>
<td>10.0</td>
<td>d)</td>
<td>0</td>
<td>0.0</td>
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<tr>
<td>d)</td>
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<td>0.0</td>
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<td>0.0</td>
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</table>

### 5. Monthly Income

<table>
<thead>
<tr>
<th></th>
<th>Rs 2000 - 4000</th>
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<th></th>
<th>Rs 2000 - 4000</th>
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</tr>
</thead>
<tbody>
<tr>
<td>a)</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td></td>
<td>0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>b)</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td></td>
<td>0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>c)</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td></td>
<td>0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>d)</td>
<td>20</td>
<td>100.0</td>
<td>20</td>
<td>100.0</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

### 6. Educational Status

<table>
<thead>
<tr>
<th></th>
<th>Primary school</th>
<th></th>
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<th></th>
<th>Primary school</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a)</td>
<td>4</td>
<td>20.0</td>
<td>6</td>
<td>30.0</td>
<td>b)</td>
<td>10</td>
<td>50.0</td>
</tr>
<tr>
<td>b)</td>
<td>10</td>
<td>50.0</td>
<td>12</td>
<td>60.0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
c) Graduate  6  30.0  2  10.0

d) Post graduate

7. Vision

a) Normal vision  5  25.0  10  50.0
b) Spectacle user  15  75.0  10  50.0
c) Blind  0  0.0  0  0.0

8. Type of Ventilation

support

a) Oro-tracheal intubation  8  40.0  12  60.0
b) Naso- tracheal intubation  12  60.0  8  40.0
c) Tracheotomy tube  0  0.0  0  0.0

9. Duration of ventilation

a) 6-12 hrs  0  0.0  0  0.0
b) 13-18 hrs  7  35.0  3  15.0
c) 19-24 hrs  7  35.0  4  20.0
d) 24 hrs and above  6  30.0  13  65.0
Table 1 shows that (85.0%) were above 51 years of age, (68.0%) were males, (55.0%) were Hindus, (80.0%) were married, (50%) were graduates, (75.0%) were using spectacles, (60.0%) were undergone Naso-tracheal intubation, (35.0%) patients on ventilation for 13-18hrs and (35.0%) of patients on ventilation for 19-24hrs in duration.

In control group (60.0%) were above 51 yrs of age and (70.0%) were males, (55.0%) were Hindus, (90.0%) were married, (60.0%) were graduates, (50.0%) with normal vision and spectacle users, (60.0%) oral tracheal intubation. (65.0%) were 24hrs and above duration of ventilation.
SECTION II

This section deals with distribution of effectiveness of communication sign board on source among patients on mechanical ventilators in CTICU between experimental and control group.

**Table 2: Effectiveness of Communication Sign Board on Source among Patients on Mechanical Ventilators in CTICU between Experimental and Control Group.**

<table>
<thead>
<tr>
<th>Effectiveness of Communication</th>
<th>Experimental Group</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>--------------------</td>
<td>--------------</td>
</tr>
<tr>
<td>Ineffective (&lt;50%)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Moderately Effective (51-74%)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Highly Effective (&gt; 75%)</td>
<td>20 100.0</td>
<td>20 100.0</td>
</tr>
</tbody>
</table>

Table 2 shows that (100%) were highly effective about source of communication sign board, in control group (100%) were highly effective.
Figure 2: Effectiveness of Communication Sign Board on the Message among Patients on Mechanical Ventilators in CTICU between Experimental and Control Group

N=40

Figure 2 reveals in experimental group 80.0% of mechanically ventilated patients communicating the message effectively with sign board. In control group 65.0% of mechanically ventilated patients were ineffective in communicating the messages.
Figure 3: Effectiveness of Communication Sign Board on the Channel among Patients on Mechanical Ventilators in CTICU between Experimental and Control Group

N=40

Figure 3 shows in experimental group 80.0% of the mechanically ventilated patient’s feels the communication sign board was moderately effective channel for communication. In control group 60.0% were ineffective.
Figure 4: Effectiveness of Communication Sign Board on Receiver among Patients on Mechanical Ventilators in CTICU between Experimental and Control Group

N=40

Figure 4: shows in experimental group 75.0% of mechanically ventilated patients were communicating effectively by using the sign board with the receivers, in control group 60.0% of mechanically ventilated patients were ineffective while communicating with the receivers.
Table 3: Effectiveness of Communication Sign Board on Environment among Patients on Mechanical Ventilators in CTICU between Experimental and Control Group

N=40

<table>
<thead>
<tr>
<th>Effectiveness of Communication</th>
<th>Experimental Group</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>Ineffective (&lt;50%)</td>
<td>5</td>
<td>25.0</td>
</tr>
<tr>
<td>Moderately Effective (51-74%)</td>
<td>4</td>
<td>20.0</td>
</tr>
<tr>
<td>Highly Effective (&gt; 75%)</td>
<td>11</td>
<td>55.0</td>
</tr>
</tbody>
</table>

Table 3 reveals 55.0% of mechanically ventilated patients in experimental group felt cardio thoracic ICU environment was conducive for communication with sign board. In control group 65.0% of mechanically ventilated patients felt the environment was not conducive for communication.
Figure 5 shows that overall 75.0% of mechanically ventilated patients in experimental group were communicating in a highly effective way. Whereas, in control group 60.0% of the patients were ineffective in communication. This shows that communication sign board is highly effective method for communication among mechanical ventilator supported patients.
SECTION- III

Table 4 Comparison of Communication Sign Board on Source among Patients on Mechanical Ventilators in CTICU between Experimental and Control Group

N=40

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean</th>
<th>Standard deviation</th>
<th>Independent t-test and P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental group</td>
<td>97.00</td>
<td>7.33</td>
<td>t = 0.777</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>P = 0.442 (N.S)</td>
</tr>
<tr>
<td>Control group</td>
<td>95.00</td>
<td>8.88</td>
<td></td>
</tr>
</tbody>
</table>

Note: N.S. – Not Significant

Table 4 shows that mean score of 97.00 with standard deviation 7.33 in Experimental group, on comparison of communication sign board source. Whereas in control group the mean score of participant was 95.00 with standard deviation of 8.88.
Table 5 Comparison of Communication Sign Board on the Message among Patients on Mechanical Ventilators in CTICU between Experimental and Control Group

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Standard deviation</th>
<th>Independent t-test and P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental group</td>
<td>83.00</td>
<td>19.76</td>
<td>( t = 5.997 )</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>( P = 0.000 ) ***</td>
</tr>
<tr>
<td>Control group</td>
<td>41.00</td>
<td>27.12</td>
<td></td>
</tr>
</tbody>
</table>

Note: *** – P<0.001 level of Significant

Table 5 explains the mean score 83.00 with standard deviation of 19.76 in experimental group on comparison of communication sign board on the message. Whereas the mean score of participant was 41.00 with standard deviation of 27.12 in control group. The independent t value of 5.997, which is significant at p<0.001.
Table 6 Comparison of Communication Sign Board on the Channel among Patients on Mechanical Ventilators in CTICU between Experimental and Control Group

<table>
<thead>
<tr>
<th>Descriptive Statistics</th>
<th>Mean</th>
<th>Standard deviation</th>
<th>Independent t-test and P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental group</td>
<td>61.25</td>
<td>20.64</td>
<td>t = 3.106</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>P = 0.004 **</td>
</tr>
<tr>
<td>Control group</td>
<td>38.75</td>
<td>24.97</td>
<td></td>
</tr>
</tbody>
</table>

Note: ** – P<0.01 Level of Significant

Table 6 shows the mean score 61.25 with standard deviation of 20.64 in experimental group on comparison of communication sign board on the channel. Whereas the mean score of participant was 38.75 with standard deviation of 24.97 in control group. The independent t value is 3.106, which is significant at p<0.001.
Table 7 Comparison of Communication Sign Board on Receiver among Patients on Mechanical Ventilators in CTICU between Experimental and Control Group

N=40

<table>
<thead>
<tr>
<th>Descriptive Statistics</th>
<th>Mean</th>
<th>Standard deviation</th>
<th>Independent t-test and P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental group</td>
<td>73.00</td>
<td>26.97</td>
<td>t = 1.652 P = 0.107 (N.S)</td>
</tr>
<tr>
<td>Control group</td>
<td>58.00</td>
<td>30.37</td>
<td></td>
</tr>
</tbody>
</table>

Note: N.S. – Not Significant

Table 7 shows the mean score 73.00 with the standard deviation of 26.97 in experimental group on comparison of communication sign board on the receiver. Whereas the mean score of participant was 58.00 with standard deviation was 30.37 in control group.
Table 8 Comparison of Communication Sign Board on Environment among Patients on Mechanical Ventilators in CTICU between Experimental and Control Group

<table>
<thead>
<tr>
<th>Descriptive Statistics</th>
<th>Mean</th>
<th>Standard deviation</th>
<th>Independent t-test and P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental group</td>
<td>71.00</td>
<td>22.92</td>
<td>t = 4.607, P = 0.000 ***</td>
</tr>
<tr>
<td>Control group</td>
<td>38.00</td>
<td>22.38</td>
<td></td>
</tr>
</tbody>
</table>

Note: *** – P<0.001 Level of Significant

Table 8 shows the mean score 71.00 with standard deviation of 22.92 in experimental group on comparison of communication sign board on the environment. Whereas the mean score of participant was 38.00 with standard deviation of 22.38 in control group. The independent t value of 4.607, which is significant at p<0.001.
Table 9 Comparison of Overall Communication Sign Board among Patients on Mechanical Ventilators in CTICU between Experimental and Control Group

<table>
<thead>
<tr>
<th>Descriptive Statistics</th>
<th>Mean</th>
<th>Standard deviation</th>
<th>Independent t-test and P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental group</td>
<td>77.71</td>
<td>14.76</td>
<td>$t = 4.010$ P = 0.000 ***</td>
</tr>
<tr>
<td>Control group</td>
<td>55.00</td>
<td>20.57</td>
<td></td>
</tr>
</tbody>
</table>

Note: *** – P<0.001 Level of Significant

Table 9 shows that overall communication sign board mean score 77.71 with standard deviation of 14.76 in experimental group. Whereas, the mean score of participant was 55.00 with standard deviation of 20.57 in control group. The independent t value is 4.010, which is significant at p<0.001. Hence the research hypothesis $H_1$ was accepted
## SECTION- IV

Table 10 Association between Effectiveness of Communication Sign Board and Demographic Variable among Patients on Mechanical Ventilators in CTICU for Experimental Group

n=20

<table>
<thead>
<tr>
<th>Demographic variables</th>
<th>Ineffective</th>
<th>Moderately Effective</th>
<th>Highly Effective</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>%</td>
<td>No</td>
</tr>
<tr>
<td><strong>1. Age</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) 41 – 50 yrs</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>d) 51 yrs and above</td>
<td>2</td>
<td>11.8</td>
<td>3</td>
</tr>
<tr>
<td><strong>2. Gender</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Male</td>
<td>2</td>
<td>16.7</td>
<td>2</td>
</tr>
<tr>
<td>b) Female</td>
<td>0</td>
<td>0.0</td>
<td>1</td>
</tr>
<tr>
<td><strong>3. Religion</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Hindu</td>
<td>2</td>
<td>18.2</td>
<td>3</td>
</tr>
<tr>
<td>b) Muslim</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td>c) Christian</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
</tr>
<tr>
<td><strong>4. Marital Status</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Category</td>
<td>Count</td>
<td>Percentage</td>
<td>Median</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>-------</td>
<td>------------</td>
<td>--------</td>
</tr>
<tr>
<td><strong>a) Marries</strong></td>
<td>1</td>
<td>6.3</td>
<td>3</td>
</tr>
<tr>
<td><strong>c) Widow</strong></td>
<td>1</td>
<td>25.0</td>
<td>0</td>
</tr>
</tbody>
</table>

**5. Monthly Income**

| d) Rs 8001 and above           | 2     | 10.0       | 3      | 15.0               | 15   | 75.0 |

**6. Educational Status**

| a) Primary school              | 1     | 25.0       | 1      | 25.0               | 2    | 50.0 |
| b) Secondary school            | 1     | 10.0       | 2      | 20.0               | 7    | 70.0 |
| c) Graduate                    | 0     | 0.0        | 0      | 0.0                | 6    | 100.0|
| d) Post graduate               |       |            |        |                    |      |      |

**7. Vision**

| a) Normal vision               | 2     | 40.0       | 1      | 20.0               | 2    | 40.0 |
| b) Spectacle user              | 0     | 0.0        | 2      | 13.3               | 13   | 86.7 |

**8. Type of Ventilation**

**support**

| a) Oro-tracheal intubation     | 2     | 25.0       | 1      | 12.5               | 5    | 62.5 |
| b) Naso-tracheal intubation    | 0     | 0.0        | 2      | 16.7               | 10   | 83.3 |
9. Duration of ventilation

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>b) 13-18 hrs</td>
<td>1</td>
<td>14.3</td>
<td>1</td>
<td>14.3</td>
<td>5</td>
</tr>
<tr>
<td>c) 19-24 hrs</td>
<td>0</td>
<td>14.3</td>
<td>1</td>
<td>14.3</td>
<td>5</td>
</tr>
<tr>
<td>d) 24 hrs and above</td>
<td>0</td>
<td>0.0</td>
<td>1</td>
<td>16.7</td>
<td>5</td>
</tr>
</tbody>
</table>

Table 10 shows that there was no association between the effectiveness of communication sign board and demographic variable at P =0.05 level, except for spectacles users with the value of P=0.027, hence the research hypothesis $H_2$ was not accepted.
Table 11: Association between Effectiveness of Communication Sign Board and Demographic Variable among Patients on Mechanical Ventilators in CTICU for Control Group  

\[ n=20 \]

| Demographic variables | Ineffective | | | Moderately Effective | | | Highly Effective | | |
|-----------------------|-------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|                       | No | % | No | % | No | % |                |                |                |                |
| 1. Age                |    |    |    |    |    |    |                |                |                |                |
| c) 41 – 50 yrs        | 5  | 62.5 | 0  | 0.0 | 3  | 37.5 |                |                |                |                |
| d) 51 yrs and above   | 7  | 58.3 | 3  | 25.0 | 2  | 16.7 |                |                |                |                |
| 2. Gender             |    |    |    |    |    |    |                |                |                |                |
| a) Male               | 8  | 57.1 | 3  | 21.4 | 3  | 21.4 |                |                |                |                |
| b) Female             | 4  | 66.7 | 0  | 0.0 | 2  | 33.3 |                |                |                |                |
| 3. Religion           |    |    |    |    |    |    |                |                |                |                |
| a) Hindu              | 8  | 72.7 | 1  | 9.1 | 2  | 18.2 |                |                |                |                |
| b) Muslim             | 2  | 33.3 | 1  | 16.7 | 3  | 50.0 |                |                |                |                |
| c) Christian          | 2  | 66.7 | 1  | 33.3 | 0  | 0.0 |                |                |                |                |
| 4. Marital Status     |    |    |    |    |    |    |                |                |                |                |
| a) Marries            | 10 | 55.6 | 3  | 16.7 | 5  | 27.8 |                |                |                |                |
c) Widow                  2   100.0  0   0.0  0   0.0

5. Monthly Income

d) Rs 8001 and above       12   60.0  3   15.0  5   25.0

6. Educational Status

b) Secondary school       4    66.7  0   0.0  2   33.3

c) Graduate               8    66.7  2   16.7  2   16.7

d) Post graduate          0    0.0  1   50.0  1   50.0

7. Vision

a) Normal vision          6    60.0  1   10.0  3   30.0

b) Spectacle user         6    60.0  2   20.0  2   20.0

8. Type of Ventilation

support

a) Oro-tracheal intubation 8    66.7  1   8.3  3   25.0

b) Naso- tracheal intubation 4    50.0  2   25.0  2   25.0

9. Duration of

ventilation
Table 11 reveals that there was no association between the effectiveness of communication sign board and demographic variables in the control group.

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Cases</th>
<th>Percentage</th>
<th>Females</th>
<th>Males</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>b) 13-18 hrs</td>
<td>2</td>
<td>66.7%</td>
<td>0</td>
<td>0.0%</td>
<td>1</td>
</tr>
<tr>
<td>c) 19-24 hrs</td>
<td>3</td>
<td>75.0%</td>
<td>0</td>
<td>0.0%</td>
<td>1</td>
</tr>
<tr>
<td>d) 24 hrs and above</td>
<td>7</td>
<td>53.8%</td>
<td>3</td>
<td>23.1%</td>
<td>3</td>
</tr>
</tbody>
</table>
CHAPTER V

DISCUSSION

The present study was designed to assess the effectiveness of communication sign board on communication for patients on mechanical ventilator support in cardio thoracic intensive care unit at MIOT Hospitals, Chennai. This study was carried out with 40 mechanical ventilated patients (20 were selected in experimental group and 20 were in control group). The effectiveness of communication sign board on communication was assessed through post-test.

The findings of the demographic variables indicates in the experimental group majority of the selected patients, 85.0%(17) were above 51 years of age, 68.0%(12) were males, 55.0%(11) were Hindus, 80.0%(16) were married, 50.0%(10) were graduates, 75.0%(15) were using spectacles, 60.0%(12) were undergone Naso-tracheal intubation. 35.0% (7) of patients on ventilation for 13-18hrs and 35.0% (7) of patients on ventilation for 19-24hrs in duration.

In control group 12(60.0%) were above 51 yrs of age, 14(70.0%) were males, 11(55.0%) were Hindus, 18(90.0%) were married, 12(60.0%) were graduates, 10(50.0%) with normal vision and spectacle users, 12(60.0%) oral tracheal intubation. 13(65.0%) were 24hrs and above duration of ventilation,
The first objective of the study was to determine the effectiveness of communication sign board between control and experimental group among mechanically ventilated patients

Figure 2 reveals in experimental group 80.0% (16) of the patients who were on mechanical ventilation felt comfortable in communicating the messages with the help of sign board

In control group 65.0% (13) of mechanical ventilated patient’s communication were ineffective in communicating the messages to the health workers, so the investigator interprets that, for mechanical ventilator patient’s sign board will be a useful medium for communicating the messages precisely

Table 5 explains on comparison of mechanical ventilated patients in experimental and control group that there is difference in communicating the messages to the health workers with independent t value of 5.997 which is significant at p<0.001 level. So the research hypothesis $H_1$ was accepted.

Figure 3 reveals that 80.0 % (16) of mechanical ventilated patients in the experimental group felt communication sign board was an effective media to communicate with the health workers.

Table 6 shows on comparison of mechanical ventilated patients in experimental and control group that there is difference in communication channel to health workers with p value of 0.004, which is significant at p<0.001 level. So the research hypothesis $H_1$ was accepted.
As per figure 4, in experimental group 75.0% (15) of mechanically ventilated patients were communicating precisely with the health workers. Whereas, in control group 60.0% (12) were ineffective in communication. So the investigator interprets that health care workers were able to understand the messages communicated with the help of sign board.

Table 3 reveals 55.0% (11) of mechanically ventilated patients in experimental group feels CTICU environment was conducive for communication with the help of sign board. Whereas in control group 65.0% (13) of patients feel the environment was not conducive for communication. Table 8 shows that on comparison of mechanically ventilated patients in experimental and control group that there is a difference in communication environment with the value of $P = 0.000$ which is highly significant to $P<0.001$. So the research hypothesis $H_1$ was accepted.

Figure 5 shows that overall 75.0% (15) of mechanically ventilated patients in experimental group were communicating in a highly effective way to fulfill their needs. Whereas, in control group 12(60.0%) of the patients were ineffective in communicating their needs. This shows that the experimental group communication is highly effective than the control group which is significant at $p<0.001$ level. Table 9 shows that over all communication sign board mean score 77.71 with standard deviation of 14.76 in experimental group. Whereas the mean score of control group participant was 55.00 with the standard deviation of 20.57. The independent t value is 4.010 and value at $p<0.001$, which is highly significant. Hence the research hypothesis $H_1$ was accepted.
Similar study was done with various objectives to evaluate the sign board and it uses among ventilated patients, some of the supported studies are given below.

Patak L, (2006) concluded in his study that the communication board may be an effective intervention for decreasing patients' frustration and facilitating satisfaction in communication.

Stovsky, et al. (1988) used a quasi-experimental design to compare two methods of communication in 40 patients receiving ventilator support after cardiac surgery (age: M = 60 years; 5% female patients; intubation period: M = 18–21 hours). The experimental group (n = 20) was introduced to a communication board before surgery and they used the board during the postoperative period while receiving mechanical ventilation. The communication board used icons and pictures to represent basic needs (pain, fear, heat/cold, thirst, and bedpan). In contrast, the control group (n = 20) relied on standard care and on the experience of nurses. Patients in the experimental group were significantly more satisfied with communication using the board than were patients in the control group.

Lindgren, (2005) Best nursing practice says that mechanically ventilated patients can achieve decreased length of ventilator days as well as decreased length of ICU stay by an average of 2.7 and 3.6 days, respectively. Multidisciplinary team collaboration that incorporates effective communication with the patient is necessary for achieving these stated outcomes. "Give the patient paper and pencil to determine if handwriting is legible. Picture and alphabet boards can be useful as well... one such tool is the communication board." The communication board is the research-based communication tool shown to reduce frustration and improve patient satisfaction.
According to Watson’s modified human caring theory, there was an effective communication by providing the sign board to patients to express their positive and negative feelings to the health worker. Thus, the result also shows that communication sign board has been helped to the patients to express their positive and negative feelings.

This shows the significant of the research study and the effectiveness between the experimental and control group by using communication sign board has been determined. So the investigator interpreted that the experimental group is highly effective in communication using the sign board.

Second objective of the study was to associate the effectiveness of communication sign board with selected demographical variables in experimental group among demographic variables.

The corresponding research hypothesis $H_2$ stated that there will be significant association between communication in experimental group and control group with selected demographic variables.

As per table 10 and 11 the association between the effectiveness of communication sign board was done using chi square test, which showed that there was no significant association between communication sign board and demographical variables except for spectacles users with the value of $P=0.027$. Hence the research hypothesis $H_2$ was not accepted.
CHAPTER VI

SUMMARY, CONCLUSION, IMPLICATION AND RECOMMENDATION

This chapter presents the summary and conclusion of the study, the implication for nursing practice and recommendations for further study.

Summary

A quasi-experimental study to assess the effectiveness of communication sign board on communication for patients on mechanical ventilator support in CTICU at MIOT Hospitals, Chennai. The conceptual framework adopted for this study was modified Watsons human caring theory model. An extensive research review of literature on communication sign board on communication for mechanically ventilated patients was made. And with guidance of research experts in the field of nursing and medicine the foundation of the study tool was developed.

A quantitative research approach with quasi-experimental study with post-test design was used to achieve the objectives of the study. The present study was conducted in MIOT hospitals at Chennai, with the samples size of 40 patients receiving mechanical ventilator support in conscious state. Out of 40 patients 20 patients were selected in experimental group and 20 patients were selected in control group through non probability convenient sampling technique. The investigator used a demographic variable proforma and an observation checklist on communication sign board to collect the data. The data collection tools were validated by experts and the reliability was established through inter rater reliability method. After obtaining the
formal permission, the main study data was collected for 6 weeks. The collected data were tabulated and analyzed using descriptive and inferential statistics.

**Major findings of the study**

The demographical variable indicates in experimental group majority of the selected patients, 85.0%(17) were above 51 years of age, 68.0%(12) were males, 55.0%(11) were Hindus, 80.0%(16) were married, 50.0%(10) were graduates, 75.0%(15) were using spectacles, 60.0%(12) were undergone Naso-tracheal intubation. 35.0% (7) of patients on ventilation for 13-18hrs and 35.0 % (7) of patients on ventilation for 19-24hrs in duration.

In experimental group 80.0% of the patients who were on mechanical ventilation felt comfortable in communicating the messages, with the help of sign board and 80.0% of mechanically ventilated patients felt sign board was an effective media to communicate with health workers. Overall 75.0% of the mechanically ventilated patients in experimental group were communicating in a highly effective way to fulfill their needs. Whereas in control group 60.0% of mechanically ventilated patients were ineffective in communicating their needs. This shows that the experimental group communication is highly effective than the control group which is significant at p<0.001 level. So the research hypothesis was accepted.

**Conclusion**

Every human being is communicating with some kind of medium, for mechanically ventilated patients have many barriers to communicate their needs to the health care workers. The majority of the participants 75.0% were highly effective on
overall communicating their needs with communication sign board and without communication signboard 60.0% were ineffective in communicating their needs this showed the significant to the research study p<0.01. Therefore communicating with sign board will be a précised form of communication for mechanical ventilator supported patients and it help the health care workers to understand the exact patients’ need.

**Limitations**

- This study was delimited for only mechanically ventilated patients in Cardio Thoracic ICU.
- The duration of the study was 6 weeks only.
- The findings of the study cannot be generalized.

**Nursing Implications**

Numerous implications can be drawn from the present study which helps to create new dimension to nursing profession.

**Nursing Practice**

- The essence of nursing is to provide in individual and holistic care of the patients based on their felt needs
- The study highlights the felt needs for quality care. One way of ensuring high quality care is by fulfilling the patient’s expectations and meeting their needs and problems.
- Nurses must initiate concrete steps to amalgamate the knowledge, skill and attitude in right proportion, emphasizing on human touch and tender touching care.

- The nurse must abreast themselves with the recent research findings and try their best to incorporate those findings into nursing practice

**Nursing Education**

- Nursing should be an evidence based quality care along with adequate theoretical knowledge.

- The study provides additional knowledge which might promote formulations of new nursing theories and refinement of existing theories.

- The nurse educators are responsible to incorporate it into the nursing curriculum there by inculcating interest among nursing students.

- Educating the efficacy of this study to the nurse will hike professionalism and help to change the trend and outlook of nursing profession.

**Nursing Administration**

- Nurse administrators must ensure that the nurse patient ratio in the ICU is maintained at 1:1 per 8 hours. These facilitates through interaction between the nurse and the patient in order to explore the needs and feelings and to provide nursing care.

- The nurse administrators must organize “in-service education programmes on active communication to patient on ventilator treatment” and also emphasize
on developing interpersonal relationship in order to enhance the knowledge of
staff nurse.

- Administrators must arrange the availability of communication aids such as
  sign board for the nurses and patients there by helping in the immediate
  fulfillment of the patients needs.
- Availability of information booklet may enhance the nurse-patient
  relationship.
- The nurse administrator must appoint a nurse-counselor to identify the patients
  felt-needs and to provide adequate information to the patients and families
  throughout the treatment.

**Nursing Research**

- Nursing research is very important for the growth of our profession This study
  can be a baseline for further studies to build on.
- The Nursing research can serve as an eye – opener to our myths, and thus
  highlight the individuality of the patients and uncover other hidden or
  unquestioned issues in nursing, thereby improving nursing care to the patients.
- This study also support that the phenomenological research design will help us
  to explore the real, felt-needs of the patient, there by facilitating the nurse to
  plan effective nursing care to meet those needs.
- Nurse researcher must encourage and support the nurses to conduct the
  research and in the utilization of research findings into practice.
Recommendations

- A similar study can be conducted for a large sample.
- A similar study can be done in difficult setting.
- A similar study can be done using a video assisted interview method.
- A similar study can be done by integrating phenomenological design and ethnographic study to gain in depth understanding of patient’s experiences.
- A similar study can be done to identify the distress experience by the family members of this patient.
- A similar study can be performed to patients who have undergone other major surgeries also.
- A similar study can be done by focusing only one aspect human dimension.
- A similar study may be carried out in different ethnic and national as cross cultural study to find out the variation and similarities.
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APPENDIX A

LETTER SEEKING PERMISSION TO CONDUCT THE STUDY

From:

Mr. S. Dilip kumar
M.Sc (N) 1st year
MIOT College of Nursing
Chennai

Forwarded Through,

Prof. Mrs. Ani Grace Kalaimathi, M.Sc (N), Ph.D
Principal
MIOT College of Nursing,
Chennai.

To,

Dr. V.V. Basha M.S., M.Ch., FIACS, FACS
Chairman – Center For Thoracic and Cardio Vascular Care
MOIT Hospitals
Chennai

Respected Sir

Subject: Requesting permission to conduct Study in Cardio Thoracic department

As a part of M.Sc. N requirement under the fulfillment of Tamilnadu Dr. M.G.R Medical university, Guindy, Chennai. I'm conducting "A QUASI EXPERIMENTAL STUDY TO ASSESS THE EFFECTIVENESS OF COMMUNICATION SIGN BOARD ON COMMUNICATION FOR PATIENTS ON MECHANICAL VENTILATOR SUPPORT IN CTICU AT MIOT HOSPITALS, CHENNAI. Kindly grant me permission to conduct study and do the needful.

Thanking you,

Date: 29.03.2011
Place: Chennai

[Signature]

DILIP KUMAR.
APPENDIX B
RESEARCH INFORMED CONSENT

I am S.Dilipkumar. II year M.Sc. Nursing student, MIOT College of Nursing, Chennai. As a part of my studies, I am interested to do “Quasi experimental Study to Assess the Effectiveness of Communication Sign Board on Communication for Patients on Mechanical Ventilators in CTICU at MIOT Hospitals, Chennai is selected to be conducted. The finding of the study will be helpful in utilizing the intervention for communication on mechanical ventilator patients. I hereby by seek your consent and co-operation to participate in the study. Please be and honest in your response. The information collected will be kept confidentially and anonymity

Thank you,

Signature of the investigator

I __________________________ hereby consent to participate and undergo the study

Date:

Place:

Signature of the participant
APPENDIX C

TOOL

DEMOGRAPHIC DATA

DATE:

Age
a) 18 to 30yrs
b) 31 to 40yrs
c) 41 to 50yrs
d) 51yrs and above

Gender
a) Male
b) Female

Religion
a) Hindu
b) Muslim
c) Christian
d) Others

Marital Status
a) Married
b) Single
c) Widow
d) Divorced

Monthly Income
a) Rs 2000 - 4000
b) Rs 4001 – 6000

c) Rs 6001 – 8000

d) Rs 8001 and above

**Educational status**

a) Primary school

b) Secondary school

c) Graduate

d) Post graduate

**Vision**

a) Normal vision

b) Spectacle user

c) Blind

**CLINICAL VARIABLES**

**Type of ventilation support**

a) Oro – tracheal intubation

b) Naso – tracheal intubation

c) Tracheotomy tube

**Duration of ventilation**

a) 6 – 12hrs

b) 13 – 18 hrs

c) 19 – 24hrs

d) 24 hrs and above
# PART II

**OBSERVATION CHECKLIST TO ASSESS THE EFFECTIVENESS OF COMMUNICATION SIGN BOARD ON COMMUNICATION**

## OBSERVATION ON COMMUNICATION

<table>
<thead>
<tr>
<th>S.NO</th>
<th>OBSERVATION ON COMMUNICATION</th>
<th>PATTERN</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source</td>
<td>Was patient fully alert and awake?</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Was the patient conscious and oriented?</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Was patient fighting or restless with the ventilator support?</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Was the patient restrained to avoid self extubation?</td>
<td>Yes</td>
<td>No</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The message</td>
<td>Do patient want to communicate his needs?</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Was communication sign board provided to the patient?</td>
<td>Yes</td>
<td>No</td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>8.</td>
<td>Was the patient able to point out his needs clearly?</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Did patient convey the message correctly while communicating?</td>
<td>Yes</td>
<td>No</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>10.</td>
<td>Did patient repeatedly convey the same message?</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>The channel</td>
<td>Did the patient maintain eye contact while</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
communicating?

12. Did the patient use any gesture (like nodding the head) to communicate?

13. Did the patient facial expression suggest the same message which he intended to convey?

14. Was communication aids (communication sign board) used to facilitate communication?

**Receiver**

15. Was the receiver able to understand the message conveyed by the patient correctly?

16. Did the receiver clearly understand the patient needs by gesture?

17. Did the receiver respond immediately to the patient?

18. Was the care provider response consistent with what the patient communicated?

19. Did the receiver felt any difficulties in communicating with the mechanically ventilated patients?

**Environment**

20. Did the ICU environment enhance the communication process?

21. Was the patient provided with adequate privacy?

22. Was the physical arrangement in the ICU conducive for communication?
23. Did the patient express his anger or frustration for difficulty in communication?

24. Was the patient satisfied for communicating his needs?
<table>
<thead>
<tr>
<th>Call my people</th>
<th>I'm thirsty</th>
<th>Pain on my chest area</th>
<th>Paper &amp; pen</th>
<th>Want medicine for pain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headache</td>
<td>Throat pain</td>
<td>Throat pain</td>
<td>Doctor</td>
<td>Remove the tube</td>
</tr>
<tr>
<td>Back pain</td>
<td>Vomiting</td>
<td>Choking</td>
<td>Brush my teeth</td>
<td></td>
</tr>
</tbody>
</table>