SCHOOL OF NURSING

COLLEGE OF HEALTH SCIENCES

UNIVERSITY OF GHANA, LEGON

PATIENTS' PERCEPTIONS OF HEALTH PROFESSIONALS' COMMUNICATION DURING ENDOTRACHEAL INTUBATION AT THE KORLE BU TEACHING HOSPITAL, GHANA

BY

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THIS THESIS IS SUBMITTED TO THE UNIVERSITY OF GHANA, LEGON IN PARTIAL FULFILMENT FOR THE REQUIREMENT FOR THE AWARD OF MPHIL NURSING DEGREE

JULY, 2015

DECLARATION

I, Stephen Narkotey certify that, this thesis is the result of a research conducted towards the award of the Master of Philosophy Degree in Nursing at the School Nursing, University of Ghana, Legon. The research was conducted with the guidance and supervision of Mr. Kwadwo Ameyaw Korsah, School of Nursing, University of Ghana and Dr. Pokua Sarpong, Department of Anaesthesia, Korle Bu Teaching Hospital. The undersign supervisors certify that, they have read the thesis and have recommended it to the School of Nursing for acceptance.

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DEDICATION

I dedicate this work to my lovely wife Lily Asiedu Danso and my children Maunger, Dromi and Sinah.

ACKNOWLEDGEMENT

To God be the glory.

Many people have contributed to this work in diverse ways. I wish to thank my supervisors Dr. Kwadwo Ameyaw Korsah and Dr. Pokua Sarpong for their guidance, constructive criticism and encouragement provided freely to me in the course of this study. To my wife and my children who have supported me so much during this study, I say thank you. I also wish to thank my friend, Mr. Bismark Ofosu Amponsah for helping in the acquisition of the computer used in this research, may God bless you. I cannot for my brother, Peter Narkotey who also purchased text books that were useful during this research study, thank you. To Ms. Awura Amma Aboagye who meticulously helped with editing the script, I want to say Thank you.

Special thanks to my friend Dotsey Kaledzi for his printing the drafts free of charge, God bless you. Special thanks to the participants in this study who were willing to share their experiences after recovering from critical illnesses. Finally my gratitude to all the authors whose work were cited in this study.

ABSTRACT

Communication is a vital and basic component of nursing. Nurse-patient communication is essential to establish trust, friendly working relationship and to discuss treatment methods. However, patients admitted to the intensive care units and given respiratory treatment, are unable to communicate verbally due to the insertion of artificial airways, tracheostomy or endotracheal tubes. Such patients therefore rely on nonverbal communication methods to express their needs which could be missed out or misinterpreted by health professionals resulting in anxiety, frustration and self-removal of the artificial airways. The aim of this study was to explore Intensive Care Unit Patients' experiences of how they communicated with Nurses while they had endotracheal tubes in situ. The study employed the exploratory descriptive approach to qualitative research. Purposive sampling technique was employed to recruit participants for the study. Nine (9) participants were recruited for participation in the study. All participants were conscious for at least 24 hours while they still had endotracheal tube in situ. The interviews were conducted between two weeks and two months after participants were discharged home from hospital. Gestures were the major nonverbal method of communication used by the intensive care unit patients. However, most intensive care unit nurses did not understand gestures hence the needs being expressed by the intensive care unit patients were unmet. Negative emotions such as anger, frustration, fear and loneliness were expressed by participants when they realized that they had lost their voices. Some participants attempted self extubation to enable them use their voices. It is recommended that intensive care unit nurses must have orientation for intensive care unit patients after regaining consciousness. Methods of attracting the nurses' attention must be uniform and must not be different from one nurse to another. Intensive care unit nurses must develop accepted meanings for common gestures which would be used by patients while on admission. Further studies is needed to uncover the reasons of self-extubation from the patients' perspective.

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LIST OF ABBREVIATIONS

ICU	Intensive Care Unit
KBTH	Korle Bu Teaching Hospital
UGMS	University of Ghana Medical School
PACU	Post Anaesthetic Care Unit

CHAPTER ONE

INTRODUCTION

1.0 Background

The Intensive Care Unit (ICU) is a specialized unit within a hospital with specialized staff and equipment for caring for patients who are at risk of actual or potential life threatening health problems such as Guillain Barre Syndrome, Flail Chest, Pneumothorax etc. (American Association of Critical Care Nurses, 2012). Communication is a vital element and basic component in all aspects of nursing. It renders nursing feasible to exercise all its interventions, including prevention, treatment, rehabilitation, education and health promotion. Without communication, the nursing process as a scientific method of specialized care remains deficient. Nursing assessment and diagnosis of the patient could be done through many methods but is complemented by interviewing patients and family members (Klisiari & Gaki, 2012).

Most patients admitted to the ICU require respiratory support which often involves the insertion of artificial airways for administration of oxygen. One of the artificial airways is the endotracheal tube which is inserted by an anaesthetist or a trained nurse anaesthetist for mechanical ventilation. As a result air does not come into contact with the larynx which produces sound elements of speech hence the patients' inability to communicate. Patients may also be unable to communicate due to weakness from the illness situation itself or from administration of sedatives (Grossbach, Stranberg & Chlan, 2011; Kristin & Fiona, 2007).

Wenham and Pittard (2009), observed that the ICU environment is unfriendly to the acutely and critically ill patients who are nursed there. Such patients already have physical stress from disease and pain to which the ICU adds insertion of tubes, cannulas

for haemodynamic monitoring, drainages, noise from monitors, sedation, physical restraints and social isolation.

Communication involves the process of expressing ideas or feelings and giving information to people and the methods used to do this. The inability of the patient with endotracheal tube in situ to communicate has been documented. This barrier to communication may lead to pain, fear, loss of control, anxiety, and frustration because patients are unable to communicate their needs and obtain relief for their stress (Stein-Parbury & McKinley 2000).

According to Patak, Gawlinski, Fung, Doering, and Berg (2004), intubated patients reported that their attempts to communicate with health workers were interpreted as apprehension and thus healthcare providers frequently respond by administering sedatives and analgesics. Patients then feel they are being prevented from communicating their needs by the use of drugs. Thus the use of medication as a "restraint" often perpetuated the problem it was meant to solve. The authors concluded that healthcare providers, especially nurses, are the communication gatekeepers and ultimately control the type of experience that intubated patients have if nurses are able to anticipate the unspoken needs of intubated patients and appropriately intervene.

Nurse – patient communication is important to satisfy patients' need for information, reassurance and discussion of treatment (McCabe, 2004). It is also needed to establish trust, friendly working relationship and reduction of stress due to treatment methods (Attree, 2001).

1.1 Problem Statement

Intubated patients may need information to reduce their level of stress but they are unable to communicate these needs due to the critical illness.

Korle Bu Teaching Hospital has two Intensive Care Units. These are; Cardiothoracic Centre ICU and Ground Floor ICU. In addition it has the First Floor Recovery Ward which performs the functions of Post Anaesthesia Care Unit (PACU) but where patients are also held for mechanical ventilation when the need arises. Nurses who work in these units are certified critical care nurses and general nurses. However, it seems both categories of nurses are not given any formal training in non-verbal communication techniques which is needed to discern the unspoken needs and wishes of the patients who are either too ill to speak or who could not do so due to the treatment methods such as insertion of endotracheal tubes for ventilation.

Most researches on communication between intubated patients and ICU nurses were done in Europe and North America and were unilingual. However, the patients nursed in the ICUs in Korle Bu Teaching Hospital speak different languages and majority of them cannot read and write English. In addition, it seems that very little research has been done in West Africa on communication between ICU nurses and intubated patients.

Majority of patients admitted to the ICUs are unable to communicate verbally due to the nature of the illness or the treatment method. I have observed during clinical practise as a critical care nurse that nurses in the ICUs at Korle Bu Teaching Hospital tried to find out the needs of intubated patients without success. Some patients who become agitated due to their inability to communicate with their healthcare providers like nurses, extubated themselves in order to be able to speak them. This unplanned extubation in turn may result in laryngeal trauma, pneumonia and respiratory failure to mention a few. To prevent self extubation and interference with other invasive interventions, patients are sedated or

physically restrained if they become restless. Restlessness however, may be due to their inability to communicate with healthcare providers. Physical restraints also limit the patients' ability to use the upper limbs to gesture. Physical restraints have resulted in dislocations and fractures while sedatives have also resulted in prolong ICU stay. Based on these issues, the following research questions were posed.

1.2 Research Questions

1. What are the methods of communication between intubated patients and Intensive Care Nurses?
2. What are the communication needs of intubated patients in the Intensive Care Unit?
3. What are the feelings of intubated patients concerning their inability to communicate?
4. In what ways can intubated patients be helped to communicate effectively with their healthcare providers?

1.3 Purpose of the Research

This thesis intended to explore and describe the Patients' Perceptions of Health Professionals' Communication during Endotracheal Intubation at the Korle Bu Teaching Hospital

1.4 Objectives of study

The objectives of the study are to:

1. Describe the communication methods between intubated patients and ICU nurses.
2. Explore the feelings of intubated patients related to their inability to communicate
3. Explore the communication needs of intubated ICU patients
4. Identify ways of supporting intubated patients to effectively communicate with their healthcare providers.

1.5 Significance of the Study

Findings will provide healthcare professionals a better understanding of the communication needs of intubated patients and hence improve the care they render to such patients. Findings of this study will be important to the management of Korle Bu Teaching Hospital in formulating policies that will improve the patient-health professional communication in the Intensive Care Unit. A brief review of literature showed that little research seemed to have been done on the patients' perspective of health professionals' communication during endotracheal intubation in Ghana. This study will therefore serve to bridge the knowledge gap and may also unearth other areas for future research.

1.6 Operational Definitions

Communication: Expression of ideas, feelings through speech, gestures, mannerisms, and facial expressions.

Intubation: Insertion of endotracheal tube or any oxygen delivery device such as oral airways, tracheostomy tubes which help patients to breathe but also interfere with speech.

Extubation: Intentional or unintentional removal of endotracheal tubes

Perceptions of communication: The intubated patients' opinion of effectiveness of communication between them and the Health Professional.

The next section looks at the literature review relevant and pertinent to this study.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

Literature is reviewed on issues related to the subject matter of the study with reference to the study objectives. Literature from databases such as HINARI, SAGE, SCIENCE DIEECT and GOOGLE SCHOLAR were reviewed to get understanding of previous studies on nurse-patient communication in the ICU. The literature review was organised under the following headings: communication, communication between nurses and patients, communication methods in ICU, feelings of intubated patients concerning inability to communicate, the adequacy of communication methods used by ICU nurses to meet the needs of intubated patients, and communication needs of intubated ICU patients. At the end of the pertinent literature, summary and conclusions drawn from the review are presented. Now let us start looking at communication in general, what it means and what goes on during communication between two people.

2.1 Communication

Communication is one of the essential factors that maintain good quality of life because it allows humans to interact and to provide comfort. It is the process of transmitting verbal and non-verbal information between a sender and a recipient. Communication is a dynamic, complex, context-related and on-going process in which the experiences of the participants are shared (Sheen, 2011; Munodawafa, 2008; Sheldon, Barrett & Ellington, 2006). From the above, communication is a process of sharing ideas, information, and messages with others in a particular time and place. Communication is not merely giving of information. The information being given must be understood by the receiver who also gives a response that must equally be understood by the sender.

Continuously conveying information, ideas, attitudes and feelings among individuals and among groups of individuals is an important communication tool.

Sheen (2011) stated that communication is one of the essential factors to maintain a good quality of life because it allows humans to interact and to provide comfort. It includes verbal and nonverbal. She believes that the choice of words used during verbal communication is influenced by level of education, socioeconomic status, age, gender, race, place and situation.

Communication consists of a sender, a receiver and channel of communication. Communication is the process of transfer of information or the production process and transmission of messages, the existence of discussions between two or more people and the exchange of messages. Communication occurs when one person sends a signal, called transmitter, to another person who receives the message and processes it, the receiver. The communication process can be inhibited by many factors that affect the quality of the message. These factors may be external or internal. Among the external sources are sight, sound, smell excessive heat or coldness. The internal sources include personal thoughts and feelings. Feelings of inadequacy, hunger, excessive shyness or extroversion, and deficient or excessive knowledge can all interfere with the ability to send and receive messages effectively (Munodawafa, 2008).

From the above literature, communication involves a message, a sender who initiates the message, a method of transmitting the message, a receiver and a response.

2.2 Communication between Nurses and Patients

In a study to determine the issues of communication between nurses and patients coming through the cardiac catheterization laboratory, the researcher found that communication is a vital element and basic component of nursing in all areas. It renders nursing feasible to

exercise all its interventions, including prevention, treatment, therapy, rehabilitation, education and health promotion. Without communication nursing care remains deficient. The nursing process as a scientific method of exercise and performance of nursing is achieved through dialogue, in a climate of interpersonal and individual skills of verbal communication. Nursing assessment and diagnosis of the patient could be done through many methods but is complemented by interviewing patients and family members. (Klisiari & Gaki, 2012).

However, Antai-Otong (2007) suggests that, in the nurse–patient relationship, communication involves more than the transmission of information; it also involves transmitting feelings, recognizing these feelings and letting the patient know that their feelings have been recognized and understood. Attree (2001) and Thorsteinsson (2002) support this view and indicate that communication is a fundamental part of nursing and that the development of a positive nurse–patient relationship is essential for the delivery of quality nursing care.

However, McCabe (2004) stated that many nurses are more concerned with doing their work than communicating with their patients personally. Nurses approach patients only to deal with administrative or functional activities. An earlier study by Jarrett and Payne (2000), suggested that this is because nurses are not aware of the meaning and significance of the nurse–patient relationship for patients. This lack of awareness by nurses results in making assumptions about what nursing care a patient needs or wants because they do not ask patients and this ultimately lead to poor quality service.

Klisiari and Gaki, (2012), show that patients often express the need for support, feedback from nurses, and information to address their health needs. Communication with patient is positively correlated with high quality health care, which generally increases the overall satisfaction that the patient derives from the health care services. Thus where two

health personnel have almost equal technical abilities, patients prefer the one who communicates well with them.

Others also argued that patients rarely express their concerns and emotions directly and spontaneously but instead express indirect cues that something is worrying them. A core skill for nurses is to be able to recognized clinically relevant cues which are not directly expressed and intervene appropriately. If the nurse fails to observe and understand these nonverbal cues, the care she delivers will not be satisfactory to the patient (Uitterhoeve, Bensing, Dilven, RiaggZud, Donders, deMulder, and Achterberg 2008; Eide, Quera, Graugaard, & Finset, 2004).

Shattel (2004) reviewed literature on nurse-patient communication and concluded that patients believed that the nurse-patient interaction was important in their care, and in fact, more important than other aspects of care. Patients wanted nurses to be genuine, not in a hurry, available and willing to talk to them. Patients wanted to be valued and respected as individuals and believed that social interaction was important. Patients did not want to be treated like objects.

2.3 Communication Methods and Difficulties of Intubated Patients

The findings of Happ, Tuite, Dobbin, DiVirgilio-Thomas, and Kitutu (2004), indicated that a clinically significant proportion of nonspeaking non-surviving ICU patients who receive mechanical ventilation communicate to nurses, other clinicians, and family members primarily through head nods, miming, and gesture. Head nods and miming were the most commonly used methods of communication, and the majority of documented communication involved yes/no responses to caregivers' questions. Communication that take place between patients and health professional in the ICU are initiated by the ICU staff. Those initiated by the patient could be missed or misunderstood.

They also observed that writing was the fourth primary method of nonverbal communication by intubated mechanically ventilated intensive care patients. Intensive care nurses also indicated that one of the factors which hinder communication with intubated patients is the patients' inability to write. Clearly writing would have made it easier for the critical care nurses to understand the needs of the intubated patients.

This is supported by another study by Happ, Garrett, Tate, DiVirgilio-Thomas, George, Houze, Radtke, and Sereika (2011) that 86.2% of communication between intubated patients and nurses were initiated by nurses and 70% of all these communication processes were unsuccessful. There is therefore the need to study how symptoms are communicated by intubated patients in order to effectively manage pain and other distressing symptoms. They also described communication interactions, methods, and assistive techniques between nurses and nonspeaking critically ill patients in the intensive care unit and showed that only nonverbal natural communication methods were used by participants that is, head nod, gesture, miming, and facial expression. Head nods and yes/no questions were the most common communication technique used, followed by miming and communicative nonverbal actions and gestures. Writing was minimally used.

Drugan (2011) conducted a study to explore the experiences of conscious intensive care patients while they were attached to a mechanical ventilator and found that participants could hear everything that was said about them, but, at the same time, were unable to correct what they considered to be inaccurate information regarding them. Some of the participants also described methods for trying to attract attention of nursing staff, including waving and removing the oxygen saturation probe from fingers as this would cause the monitor to 'beep'. Other participants used to bang a beaker of juice on the bedside table to attract attention, especially if the breathing tubing had come disconnected. Tapping or banging the side of the bed with a pen was another method used. All the above

methods were effective to some degree, but none of these methods were initiated by nursing staff as agreed methods of communication. They were all developed by individual patients as a means of attracting the nurses' attention when they needed something. Participants used head nods but those who were unable to move their heads or limbs had to rely on blinking or closing eyes, while others wiggle their toes. These methods also relied on the healthcare worker, or visitor, asking the right closed ended questions and a lot of guesswork to establish even limited communication. Participants who were more able could attempt to write messages but this was not an easy task. Participants reported feeling weak and the oxygen saturation probe also interfered with writing.

Karlsson, Lindahl and Bergbom (2012) conducted a study to describe patients' statements, communication and facial expressions during a video recorded interview while undergoing mechanical ventilation. They found that inability to talk and having no voice was troublesome, discomforting and strange for participants, creating communication problems. Others felt secure in the belief that they were understood by the health professionals. The patients developed individual styles of communication while on the ventilator. Writing to make themselves understood by both nurses and relatives, took all their energy and was regarded as very taxing although some were unable to write because of injuries caused by trauma or disease or because their hands were too shaky. The patients' handwriting varied, sometimes the text was difficult to read – the sentences ran into each other and the letters were sometimes written on top of one another – making it difficult to read their responses. In such cases, the interviewer repeated the question and sometimes the patients rewrote the answer. The patients gesticulated when they wanted something or to answer, they used their fingers to show characters. The participants used facial expressions to varying extents. Some frowned, raised their eyebrows, smiled and cried. Nasally intubated participants also mouthed their words.

Magnus and Turkington (2006) also found that apart from the expected level of consciousness and sedation which have an impact on the communication in ICU, patient's responses indicated a number of other issues impacted on the success of communication. Intubated patients in the ICU could only listen to health workers since communication initiated by the patient were misunderstood. Patients often gave up communicating with health workers and family members because they could not read lips or understand the gestures and facial expressions.

Touch, lip reading, 'yes' and 'no' questions, blinking and communication boards were the methods used by ICU nurses to communicate with intubated patients (Wojnicki-Johansson, 2001).

Patak, Gawlinski, Fung, Doering, Berg, and Henneman (2006) also found that 62% of the participants were highly frustrated in their attempt to communicate their needs with ICU nurses during the period of endotracheal intubation because the nurses misunderstood patients' messages.

Patak et al. (2004) in another study to ascertain the helpfulness of methods used by health care practitioners to meet the communication needs of the mechanically ventilated patients, revealed that providing materials for writing and asking questions that demand yes or no response so that participants could shake or nod their head for yes or no were the ways healthcare providers assisted participants to communicate their needs. Participants reported feeling misunderstood, devalued as a human being, and discouraged when healthcare providers were inattentive and walked out on them while they were trying to communicate.

Happ (2000) noted that critically ill patients experience overwhelming communication problems caused by intubation and cognitive, sensory, or language deficits that distance the patients from caregivers and loved ones. According to her, mechanical

ventilation and use of paralytic and sedative agents impair communication between patients and others. Physical restraints used to prevent disruption of medical devices further limit patients' ability to gesture or use alternative communication techniques. This makes the patient powerless, helpless and apprehensive.

Johnson, St John and Moyle (2006) found that patients in the ICU had difficulty determining what was real and what was not. This study however failed to take into consideration that the effects of analgesics and sedatives could affect the accounts given by participants.

Alasad and Ahmad (2005) conducted a study to investigate the experiences of a group of critical care Jordanian nurses concerning verbal communication with critically ill patients and concluded that interaction between nurses and critically ill patients depends on the level of consciousness of the patient and his ability to respond. Because patients cannot communicate well with nurses, it becomes more difficult for some nurses to provide care because they cannot determine what patients would and would not like to be done for them. This in turn made nurses feel frustrated because they had to depend on speculation. They stated that nurses consider communication with critically ill patients as a hindrance to getting the work done. Participant observation was used to collect data which has the tendency that the researchers may choose to observe events that support their hypothesis.

The findings of Khalaila, Zbidat, Anwar, Bayya, Linton, and Sviri, (2011) also indicated that communication difficulties of patients treated with mechanical ventilation were the strongest predictor, explaining the variance of patients' psychological and emotional distress at being unable to speak. They suggest that interventions to prevent psycho-emotional distress among patients treated with mechanical ventilation should target patients with communication difficulties.

The reason so many of ICU patients expressed their frustration with being unable to speak while being treated with mechanical ventilation may be related to the discomforts of communication difficulties associated with periods of increased awareness and alertness during weaning from the treatment. Receiving mechanical ventilatory support seriously affects speaking and communication and many ventilator-supported patients experience difficulties and frustration with their speech and voice production (Hoit, Banzett, Lohmeier, Hixon, & Brown, 2003)

The ability or inability to communicate and be understood by others can have an impact on an individual's quality of life, overall medical care, psychological functioning and social interactions. Communication goes beyond speech but most people use speech as a primary way of expressing themselves, however, this option is often not available for many ICU patients who are intubated and mechanically ventilated. Multiple nonvocal communication methods were used by most participants to convey their point, and this was a slow process that required great effort. They need to expend so much energy finding a way to communicate. They used miming and facial expressions to communicate, and this takes a long time for them to get their point across if the receiver was not a proficient lip-reader. Weakness and lying in a supine position often impeded the ability of participants to write. Participants demonstrated their shaky hands and nearly illegible writing made it difficult for the nurses to read and understand their needs. Having to rewrite legible words was a tedious process. Participants often had to change their communication approach to be understood, and this was time consuming. They got the nurses' attention by using the call light, flashing the bedside light, and banging on their bedside tables.

When a nurse has difficulty understanding the message a voiceless individual is conveying, lack of clarity and uncertainty can result. Open-ended questions might not be able to elicit the information the nurse wants from a voiceless patient because of the

difficulty of understanding the response. When an individual is ventilated and voiceless, there is no proven effective method to ensure that adequate communication can occur. Patience, diligence, and a trial-and-error approach are required to find a combination of communication methods that works for a voiceless individual (Carroll, 2007).

Engström, Nyström, Sundelin and Rattray (2013) noted that intubated and mechanically ventilated participants tried to speak, mime and write messages, without success. They tried using technical aids, such as pointing on a board, but failed as they could not control their own arms or their hands were too shaky. It was difficult just to shape the mouth to try to express oneself and mime the words. According to the participants their relatives could understand and interpret them and their mimes better. After a while the staff learned to understand what the participants wanted to say and they found their own ways to attract attention, e.g. by using the saturation probe on their finger to knock on the side of the bed when they were thirsty. The participants were relieved when they could manage to use a speech valve or write a message and thus express their thoughts.

2.4 Feelings of patients concerning their inability to verbally communicate

In a study conducted to find the lived experience of patients who were conscious during mechanical ventilation in intensive care unit, Karlsson, Bergbom and Forsberg (2012) reported that being unable to utter a single word by participants, led to a sense of loss of energy, despair, irritation and anger when they were not understood. Participants felt that their inability to speak meant they were not being identified as individuals, nor cared for as a human being with individual personality. Being unable to communicate their wishes resulted in feelings of powerlessness. Several patients described experiencing fear, such as fear of death or that the ventilator would stop functioning. The thought that the ventilator

might stop functioning led to a sense of panic, which in some cases lasted throughout the ICU stay. Patients felt that moving their bowels in bed meant loss of personal dignity as they realized the necessity of leaving themselves completely in the hands of someone else, with all the dependency that this entailed. The patients felt as weak and helpless as small children.

Samuelson (2011), in a study to describe unpleasant and pleasant memories of the ICU stay in adult mechanically ventilated patients. According to her, participants experienced feelings of anxiety, anger and frustration and some described how they constantly had worried thoughts about their situation, others wished they could escape and attempted to climb out of bed in order to get away. Some participants were depressed and had memories of feeling sad, lonely, empty and isolated, whilst some described memories of being trapped or locked up. Most participants felt uncertain and helpless. Waking up not knowing what had happened or what was wrong, feeling the loss of information, experiencing the inability to take care of oneself, feeling powerless and vulnerable, were distressing experiences.

A study conducted to describe patients' statements about their situation while conscious and receiving mechanical ventilation, how patients communicate and their facial expressions during a video-recorded interview found that conscious, intubated and mechanically ventilated participants reported that they were not getting any or insufficient air and the experience was like being in hell. They had the feeling of being suffocated and evoked panic. The endotracheal tube felt like something big and horrible in the throat. The patients also found it difficult to breathe through the endotracheal tube or tracheal cannula and sometimes felt they had to constantly think about breathing. Not getting enough air also made it difficult for them to sleep as they were unable to relax (Karlsson, Lindahl & Bergbom, 2012).

Not being able to use their vocal cords had an immense effect on their sense of disempowerment. Indeed, not being able to make themselves heard was associated with an enormous sense of frustration, which in some cases led to anger. However, there was no way of expressing anger, or fear, or pain which resulted in a sense of isolation (Drugan, 2011).

A study to investigate the experience of patients who survived mechanical ventilation and to identify salient factors that contributed to successful liberation showed that participants overwhelmingly described surviving mechanical ventilation as a very traumatic and emotional experience that was both depressing and frustrating. Emotions reported by participants ranged from being scared and frightened to being angry about their need for ventilatory support. Fear of the unknown and the realization that they were unable to speak or breathe on their own added to participants' distress and anguish (Arslanian-Engoren & Scott, 2003).

Johnson et al (2006) revealed that initially participants were totally unaware of the endotracheal tube and the mechanical ventilator that was on and around them, and were surprised when they moved and discovered a foreign tube or piece of equipment attached to them. Participants were irritated and annoyed by its presence, and found the effects of its application unpleasant and uncomfortable. Participants reported feeling sensations of choking and suffocating associated with the presence of an artificial airway, were experienced as the most unpleasant aspects of technology. Experiencing a lack of oxygen, gasping for air, obstruction of the airway and or feelings of suffocation are frightening experiences at the best of times. Another concern for all participants, directly related to the presence of the endotracheal tube, was their inability to communicate effectively. Being without speech meant that they were unable to indicate to nurses, family members and others their needs, feelings and intentions.

A study conducted by Carroll (2007) to explore communication experience of nonvocal ventilated individuals in rehabilitation settings with an aim to understand the reality of being voiceless revealed that the nonvocal experience was frustrating and sometimes led to anger and even withdrawal. Participants in that study were distressed by the sense of physical restriction that resulted when they did not have their voices. Some participants likened the experience of not having their voices to feeling "caged." Most participants felt physically restricted regardless of their mobility levels. Physical restriction encompassed both restricted movement and restricted voice.

A study conducted to describe the intensive care unit experiences of people undergoing mechanical ventilation while conscious revealed how hard it was not being able to communicate verbally. Participants could not talk due to weakness and tubes in their mouths and throats. They said that it would have been good to be able to use sign language. Not being able to make themselves understood led to feelings of panic and frustration (Engström, Nyström, Sundelin, & Rattray, 2013).

Khalaila et al. (2011) examined the association between communication characteristics and psychoemotional distress among patients treated with mechanical ventilation in a medical intensive care unit and noted that the reason so many of our patients expressed their frustration with being unable to speak while being treated with mechanical ventilation may be related to the discomforts of communication difficulties associated with periods of increased awareness and alertness during weaning from the treatment. Their finding suggests that facilitating effective and appropriate communication methods may protect patients treated with mechanical ventilation from negative emotional distress.

2.5 Communication Needs of Intubated Patients

A study done to investigate staff perceptions of communication with patients and patients' perceptions of difficulties in communication within ICU revealed that patients' inability to communicate may result in feelings of anger and low mood, which can lead to withdrawal from interaction with family and carers. This can have an impact on the patient's active participation in treatment and their recovery process. For members of the healthcare team, breakdown in communication with patients may be frustrating and related to a reduced knowledge of strategies to facilitate communication and access to communication aids (Magnus & Turkington, 2006).

In a study to find out the communication needs for nonspeaking patients with head and neck cancer during their acute care hospitalization after surgery and to explore whether family caregivers' and nurses' perceptions of communication needs differed from those identified by these patients, Rodriguez and Blischak (2010) revealed that pain, breathing problems, the need to be suctioned, and the need to move the bowel and bladder followed by feelings of loneliness and fear are the most important communication needs that intubated patients wanted to communicate but could not due to their inability to speak. The study also identified nurses as the group of health professionals who were the most difficult to communicate with. It concluded that communication between patients and nursing staff was inadequate for meeting the needs of the participants.

Happ et al. (2004) found that most communications initiated by intubated patients could not be interpreted or were misunderstood by communication partners even though the communication partner realized that the patient was attempting or trying to communicate. This clearly indicates that most communication needs of intubated patients were misunderstood by care providers. The study however, indicated that where intubated patients' initiated communication, they were understood by care givers. Such

communication were more about immediate physical needs and symptoms than about emotions, home, family concerns, and treatment decisions.

In 2008, a study conducted by Zeilani showed that the ICU environment is considered strange and unfamiliar, with many machines that frightened the women with the loss of their senses of body control. Since these women could not verbally asked for information, the ICU nurses should have an orientation plan for the newly admitted patients.

A study conducted by Schou and Egerod (2008) to provide a contemporary description of the patient experience of weaning, in order to up-date this aspect of knowledge in the context of newer modalities of mechanical ventilation and sedation found that many of the patients experienced loss of control and reduced self-confidence. Participants lacked the ability to orient themselves to time and place and felt helpless. They were not always sure what was going on. Participants felt lonely and needed close contact with nurses because the ICU was an unfamiliar environment. Half the patients experienced lack of orientation to time and place. They did not know if it was night or day, or how long they had been in the ICU. Some of the participants of that study had to rely on relatives visiting to get the time of day.

A study to describe the interaction between intensive care patients and the intensive care unit environment revealed that some nursing actions were performed without the patient receiving any information, while at other times the patient had no time to react to information received before the action occurred. While ICU patients are told what procedures are going to be done, they do not receive adequate explanations about where the procedures are going to be done or those who are going to do them. The ICU environment can also be incomprehensible to a patient who is waking up from sedation or anaesthesia. There is therefore the need for the ICU nurse to provide intubated patients,

who cannot verbally ask for explanation, complete information about ongoing ICU activities and procedures (Merilainen, Kyngas & Ala-Kokko, 2013).

Wang, Chang, and Chao (2008) in a study conducted to investigate patients' intensive care experience while receiving mechanical ventilation in intensive care units, found that patients experience the ICU environment as very unfamiliar. On waking up for the first time in the ICU participants feel they had come into another world. Hospital, as a special environment, is strange to every person and is very different from living and working environments. It has special environmental layout, many instruments and equipment which can 'know everything, do everything', unfamiliar staff, the strange professional language spoken by staff all this constitutes the intensive care unit's special cultural environment. Participants in the study experienced the intensive care unit as strange, unfamiliar and totally unlike their everyday world.

When participants were not understood, their needs were often not met. Incontinence resulted when participants were unable to convey that they needed to void. Some participants' needs were unmet because time or fatigue impeded communication efforts. Inconsistency of nursing staff contributed to unmet needs. Any time a new nurse is assigned to a patient, that nurse had to learn the nonverbal communication methods of that patient all over again (Carroll, 2004).

2.6 Summary

From the literature review, communication is a process of sharing information, ideas and feelings. It involves a sender, a message, a channel and a receiver. The sender initiates the process by sending the message which can be verbal or nonverbal. Verbal messages involves the words we use whether spoken or written, while the nonverbal consists of posture, facial expressions, touch, and even how the sender smells. Even

though there are different mediums or channels of communication for example; mass media, telephone, computer based internet etc, in the intensive care unit face to face communication using the five senses: auditory, visual, gustatory, olfactory, or tactile is the rule.

The nurse – patient communication involves more than a social communication. The patients express the need for support and information to address their health needs. Patients do not express these concerns and emotions directly and freely but instead express indirect cues that something is worrying them. However, the many nurses are more concerned with doing their work than communicating with their patients. When the nurse engages a patient in communication it is about administrative issues or task that needs to be done for the patient.

Intubated and mechanically ventilated patients in the intensive care unit use nonverbal methods to communicate with their care givers. Most of the communication initiated by the patients were not understood. Methods used to attract nurses were developed by the patients since there was no agreed method for communication. Patients expressed negative emotions concerning their inability to communicate during mechanical ventilation

Thus the literature review focused on communication, communication between nurses and patients, communication methods in ICU, feelings of intubated patients concerning inability to communicate, the adequacy of communication methods used by ICU nurses to meet the needs of intubated patients, and communication needs of intubated ICU patients. The findings in the literature review was used as guide with which the current study was compared, which is found in chapter five.

The next section, research methodology, discusses the research approach the current researcher used in this study

CHAPTER THREE

METHODS

3.0 Introduction

This chapter outlines the research design, described the research setting, the target population, the inclusion and exclusion criteria, sample size and sampling method, data gathering instrument and data gathering procedure, the piloting study and the method used for analysing the data, rigor and trustworthiness. Ethical consideration and potential risk to participants were also identified together with data management.

3.1 Research Design

The study employed the exploratory descriptive approach to qualitative research. Qualitative research is an inductive, systematic empirical inquiry into the meaning the research participants attach to phenomena of interest. It attempts to interpret phenomena from the perspective of the participants (Denzin & Lincoln, 2000; Shank, 2002). Qualitative research is different to traditional quantitative methods in that it does not attempt to manipulate the environment but is naturalistic in that it attempts to study people in natural, everyday settings (Bowling, 2009; Silverman, 2010).

To answer the research aims and objectives, to promote trust and emotional security of the participants and to successfully gain access to personal accounts about their experiences, qualitative methods were employed within this study (Bowling, 2009). This qualitative approach was particularly appropriate as it was intended to enable participants to talk about their experiences, in their own terms, and provide insight into the aspects of the participants' experiences for which there is currently little evidence. One advantage of the qualitative method is that it is able to access in-depth rich data about participants' complex and dynamic life experiences in highly detailed accounts, which is particularly

valuable if little has been written about such experiences before. Another advantage of qualitative study is that it unearth early rich data that can inform larger quantitative and qualitative studies (Bowling, 2009).

There are three main qualitative research traditions which are ethnography, phenomenology and grounded theory. Ethnography involves the description and interpretation of phenomena from culture and beliefs of the participants. The second tradition is the Grounded Theory which attempts to account for actions in a substantive area from the perspective of those involved. Phenomenology is the third tradition and involves the investigation of subjective phenomena with the belief that critical truths about reality are grounded in people's lived experiences (Polit & Beck, 2012).

Descriptive qualitative research observes, describes and documents aspects of a situation as it naturally occurs and appears not to follow any of the traditions of qualitative studies. An exploratory research, according to Denzin and Lincoln (2000), investigates social phenomena with minimal a priori expectations in order to develop explanations of these phenomena. Thus an explorative descriptive research is designed to investigate the various ways in which a phenomenon is manifested. This design is considered appropriate for this study since it describes and investigates the full nature of the phenomenon (Polit & Beck, 2012).

3.2 Research Setting

The Korle Bu Teaching Hospital (KBTH) is located in Accra-the capital of Ghana within the Ablekuma Sub Metro. Established on October 9, 1923, the Korle Bu Teaching Hospital has grown from an initial 200 bed capacity to 2,000. It is currently the third largest hospital in Africa and the leading national referral centre in Ghana.

Korle Bu, which means the valley of the Korle lagoon, was established as a General

Hospital to address the health needs of the indigenous people under Sir Gordon Guggisberg's administration, the then Governor of the Gold Coast. Population growth and the proven efficacy of hospital-based treatment caused a rise in hospital attendance in Korle Bu. By 1953, demand for the hospital's services had escalated so high that the government was compelled to set up a task force to study the situation and make recommendations for the expansion of the hospital.

The government accepted and implemented the recommendations of the task force which resulted in the construction of new structures, such as the Maternity, Medical, Surgical and Child Health Blocks. This increased the hospital's bed capacity to 1,200.

Korle Bu gained teaching hospital status in 1962 when the University of Ghana Medical School (UGMS) was established for the training of medical doctors. The UGMS and five other constituent schools are now incorporated under the College of Health Sciences to train different groups of health professionals. All the institutions of the College however, undertake their clinical training and research in the Hospital.

At the moment, the Hospital has 2,000 beds and 17 clinical and diagnostic Departments/Units. It has an average daily attendance of 1,500 patients and about 250 patient admissions.

Clinical and diagnostic departments of the hospital include Medicine, Child Health, Obstetrics and Gynaecology, Pathology, Laboratories, Radiology, Anaesthesia, Surgery, Polyclinic, Accident Centre and the Surgical/Medical Emergency. Other Departments includes, Pharmacy, Finance, Engineering and General Administration.

The Hospital also provides sophisticated and scientific investigative procedures and specialisation in various fields such as Neuro-surgery, Dentistry, Eye, Ear, Nose Throat, Renal, Orthopaedics, Oncology, Dermatology, Cardiothoracic, Radiotherapy, Radiology, Paediatric Surgery and Reconstructive Plastic Surgery and Burns. The Reconstructive

Plastic Surgery and Burn Centre, the National Cardiothoracic Centre and the National Centre for Radiotherapy and Nuclear Medicine in particular also draw a sizeable number of their clientele from neighbouring countries such as Nigeria, Burkina Faso and Togo.

KBTH also has two intensive care units; Cardiothoracic and Ground Floor intensive care units. In addition, there is First Floor Surgical Theatre Recovery ward where patients are held and given mechanical ventilator support when the need arises. Both the Cardiothoracic and Ground Floor are 4-Bed capacity wards while the First Floor Surgical Theatre Recovery ward is 7-Bed capacity ward.

3.3 Target Population

The population of interest were patients admitted to the intensive care units of the Korle Bu Teaching Hospital for various acute life threatening conditions and who were intubated and given respiratory therapy. Patients who were 18 years and above and had recovered and discharged from the hospital were the target population for this study.

3.4 Inclusion Criteria

Participants included in this study were 18 years old or more, and who had been intubated and mechanically ventilated or given oxygen via T-piece for a period of at least 24 hours after regaining consciousness. Participants who were contacted to take part in the study were discharged from the hospital for at least between two weeks and two months. This was important to allow participants time to resettle in their homes but not too long to begin to forget their experiences in the intensive care unit.

3.5 Exclusion Criteria

Patients who were under 18 years old or had psychological or mental health conditions prior to admission or after discharge were not selected for the study. Patients below 18 years are below the age of consent in Ghana and therefore were not included in the study. Patients who were diagnosed as having psychological or mental health problems prior to the ICU admission or before discharged from the ICU were considered inappropriate because those conditions can influence their responses during data collection.

3.6 Sample Size and Sampling Method

Purposive sampling technique was employed to select the participants for the study. This method was considered appropriate because it enabled the researcher to select participants who possessed the characteristics being studied (Polit and Beck, 2012). The researcher sought the help of nurse in charges of the intensive care units to help him contact patients who were admitted to their wards for respiratory therapy and who were intubated and either mechanically ventilated or given oxygen via T-piece during the period on admission. Those who had recovered and were discharged from the hospital were contacted using the telephone numbers taken on the day of admission to participate in the study. An appointment was booked with them at their convenience and the purpose of the study was explained to them. The researcher continued to sample or add on participants until data saturation was achieved. In this study data saturation was achieved when nine (9) participants were sampled. Data saturation means a point in data collection where no new themes, findings, concepts or problems are evident in the data (Francis, Johnston, Robertson, Glidewell, Entwistle, Eccles, & Grimshaw, 2010).

3.7 Data Gathering Instrument

Information from participants was solicited with the aid of an interview guide (Appendix A). The interview guide was in two main sections. The first section consisted of a set of questions that obtained demographic data from the participants. This part was also intended to establish rapport and make participants feel at ease before the beginning of the main interview.

The second section was made up of guiding questions that directed the main interview. The interview guide in this study were aimed at focusing specifically upon participants' experiences of communication while being conscious and attached to a ventilator within an intensive care unit. It consists of a series of open-ended questions developed to guide the interview process. The questions were informed by the literature and academic supervision. This particular design ensured that participants were able to talk about their experiences in their own way and that their experiences were recorded and reported validly. At the same time, this design allowed the researcher to guide the interviews in order to address study goals with an ultimate objective of gaining insight into issues that were relevant to improving nursing practice of this population of patients in the future.

3.8 Data Gathering Procedure

An in-depth interview lasting for about 30 to 45 minutes was used to collect data. Participants were recruited from a group of patients discharged from the two different intensive care unit and post anaesthesia unit within the same Teaching Hospital. These units are the cardiothoracic intensive care unit, the surgical ground floor intensive care unit and the first floor surgical recovery ward. The interviews were conducted with participants who had been cared for within an intensive care unit, and took place between two weeks

and two months after participants were discharged home from hospital. The rationale for this was to gain access to experiences that might still be fresh in their minds and also to ensure that they had recovered enough to avoid exhausting them. The purpose and the benefits of the research was explained to each participant. In addition, each participant was required to sign written informed consent form. Participants who could not write thumb printed.

The interview was scheduled at the convenience of the participants. Participants were also informed that the interview would be audio taped with their permission and that there might be more than one interview session. Field notes were also taken to augment the audio recording. An interview guide was used to solicit information from participants but the researcher also probed for further explanation and elaboration where necessary. The first section consisted of a set of questions that obtained demographic data from the participants. This part was intended to establish rapport and make participants feel at ease before the beginning of the main interview. The second section consist of a series of open-ended questions developed to guide the interview process. The questions were informed by the literature and academic supervision. If at some stage during the interview participant began talking about issues that were not related to communication disability during endotracheal intubation the question was repeated to help redirect the participant.

3.9 Piloting

A pilot study was carried out at Ridge Regional Hospital Intensive Care Unit with two participants. This was done to enable the researcher test the effectiveness of the interview guide. It helped to determine the feasibility of the main study. Finally, it assisted the researcher to establish logistic problems that might arise during the main study and also to assess whether the proposed data analysis method would uncover potential

problems. Two intubated patients discharged from the ICU at Ridge Regional Hospital were recruited to participate in the study. Full disclosure about the study was made available to them. This included their right not to participate and to withdraw from the study at any time. The data obtained from the piloting was not included in the main study because changes were made to the interview guide after the trial during the piloting. (Please see Appendix for the information sheet)

3.10 Data Analysis

The data collected was analysed using content analysis. Content Analysis focuses on identification of themes and patterns in data and grouping similar ideas together (Bloor, & Wood, 2006). The audio taped interviews were listened to several times. All interviews were then transcribed verbatim, and read in sequence a number of times in order to explore the true essence of the content of each interview. Field notes taken during the period of audio interviews were also read and analysed together with the transcriptions. This repeated reading helped to understand the data and facilitated the identification of codes to enable the categorisation of data. Coding of the transcripts was done followed by clustering or extraction of significant statements that are related to the phenomena. Repetitive patterns or themes were noted. Data collection and analysis proceeded simultaneously. Thus in this research, data collected from participants was transcribed verbatim. Notes were made from the transcripts to identify major files. Similar or same information was placed in common files and names given to them. Similar files were also brought together out of which major categories were identified. This process is known as second order categorization.

3.11 Rigour/Trustworthiness

Trustworthiness and integrity in qualitative study is ensured through several ways one of which is proposed by Denzin and Lincoln (2000). According to them, trustworthiness in qualitative studies can be established through credibility, dependability, confirmability, transferability and authenticity.

Credibility involves steps taken to establish confidence in data and how they are interpreted.

In this study, credibility was established through the method employed to elicit information from the participants. A pilot study was done to streamline ambiguous questions in the interview guide. Semi-structured interview was employed and participants' experiences were audio recorded. Field notes were also used to capture expressions such as body language which could not be captured by the audiotape. All these was done to ensure that the researcher records information exactly as they are provided by the participants. Participants were also given adequate time to express their experiences in their own words.

Verbatim transcriptions of each interview was presented to the participants to confirm whether it represented their experiences and clarifications were duly done. The transcripts were also discussed with supervisors to enhance a more accurate representation of participants' views

Dependability refers to the stability of data over time (Polit and Beck, 2012). To ensure that other independent researchers are able to replicate the research method and reach similar conclusions, the same interview guide was used to collect data from all participants. In addition to accurate audio recording of interviews, detailed field notes describing participants' behaviours and body language during interaction were written.

The interview transcripts, the field notes and conclusions drawn from them would be made available to interested independent researchers who want to reproduce the study.

Confirmability is concerned with establishing that the data represent the information provided by the participants and that the interpretations of those data are not invented by the inquirer. This study ensured that findings reflect participants experiences by member checking, that is, providing feedback on emerging interpretations to participants to confirm their accuracy. The audio recordings, transcriptions, field notes and how consent of participants were sought were audited by the academic supervisors. Drafts of the study were also submitted to academic supervisors to inspect before the final copy was produced.

Transferability refers to the extent to which findings can be transferred to other settings or groups. To achieve potential transferability of findings to other situations, this study used purposive sampling method to ensure that the participants selected were representative of the target population. The use of detailed, descriptive data, regarding the participants and their experiences, alongside the application and integration of the researcher's observations enhanced the transferability of this study. Detailed description of sampling methods, and detail presentation of data collection process and analysis were provided.

3.12 Ethical Considerations

Ethical approval was sought from the Institutional Review Board of Noguchi Memorial Institute of Medical Research, University of Ghana, Legon before the research commenced (Appendix B). Introduction letters and request for permission to undertake the study were obtained from the School of Nursing, University of Ghana to the Director of Nursing Services, Korle Bu Teaching Hospital and the Deputy Directors of Nursing

Services of the National Cardiothoracic Centre, the Department of Anaesthesia and the Principal Nursing Officers in charge of the Intensive Care Units. Copies of the introductory letters were sent to the Chief Executive of the Korle Bu Teaching Hospital, the Director of the National Cardiothoracic Centre and the Head of Department of Anaesthesia. When the researcher met the participants, it was explained to them that taking part in the study would be voluntary. Participants were told that they were free to exit from the study at any time even after the interview had commenced. They were also told that if they opted out of the study, such decision would not affect their current treatment or future treatment in the hospital. The purpose, objectives and the benefits of taking part in the studies was explained to the participants. They were also told that the study would not include their names or their hospital patient identification numbers. Direct quotes from interviews may be used in published material. However, such quotes would only be used to demonstrate a point the researcher is trying to emphasize, and would not in any way be used in a manner that would link their identity to the quotes. These quotes would be assigned numbers referring to a particular participant but whose identity would only be known by the researcher and his supervisors. Furthermore, their experiences would not be directly used as examples in such a way that it would identify them. Written informed consent was also obtained from participants before the interview. Permission was obtained from participants before recording the interviews.

3.13 Data Management

The participants in this study were assured that their responses would remain confidential. The researcher would transcribe the audio recorded interview and type it. No one would have access to the tape or the typed interview except the researcher and the academic supervisors. Once the interview is completed the tape would be stored in a

locked drawer. The tape will be destroyed once the interview has been typed up. The typed copy of the interview would be kept on a password protected computer. All data will be destroyed five years after the completion of the project. Prior to that the interview material would be kept locked in the researcher's custody.

The next section focuses on research findings.

CHAPTER FOUR

FINDINGS

4.0 Introduction

This section of the study presents the findings of the study. The demographic data of the participants are presented followed by series of interdependent themes. Thematic analysis was used to identify themes within the data.

4.1 Demographic Data

Nine participants were interviewed in this study. However, three patients who were recruited could not remember being intubated or being in the ICU even though all of them were fully conscious for more than eight hours before they were extubated. Of the nine who participated in the study, seven of them were interviewed in the surgical conference room during their first review after discharge. The remaining two were interviewed in their homes.

Three of the participants were admitted to the Cardiothoracic ICU for mechanical ventilation after various cardiac surgeries. The rest were admitted for respiratory and inotropic support after general and obstetric surgeries at the Ground Floor Surgical ICU and the First Floor Surgical Recovery Ward respectively. The mean age of the participants was 37.3 with the youngest being 19 years and the oldest being 62 years. 88% (n = 8) of the participants were Christians with the remaining 12% (n = 1) being Islamists. Similarly 88% (n = 8) of the participants were females with 12% (n = 1) being males. Only two of the participants were educated to the tertiary level. One was also educated to senior high school level, while the rest were junior high school and middle school graduates. The highest number of days spent by participants was 34 days with the lowest being 5 days. The average days spent by participants was 12 days.

Participants remained intubated between 4 to14 days with the average days that participants remained intubated being 7.3.

4.2 The Major Themes

The major themes that were identified during the thematic analysis are presented below with their corresponding categories.

The five major themes are:

1. Initial fear and misunderstanding.
2. Communication Methods of intubated patients.
3. Feelings of intubated patients concerning intubation and inability to talk.
4. Challenges of intubated patients in their effort to communicate.
5. Perceived disregard of nurses to the concerns of participants.
6. Ways of helping intubated patients to communicate effectively.

Below is a table of the major themes and their categories

Table 1: Major themes and corresponding Categories

Theme	Categories
Initial fear and misunderstanding	Strange place and people
	Limited movement due to Restraints
	Breathlessness
Communication Methods of Intubated Patients	Gestures
	Writing
	Try and Error Questioning
	Lip reading and Head nods
Feelings of intubated patients concerning voice loss	Feeling Isolated and Miserable
	Fear
	Frustration
	Anger
Perceived disregard of nurses to the concerns of participants	Impatient Nurses
	Disregard for patients' communication efforts
Challenges of intubated patients in their effort to Communicate	Disorientation after regaining consciousness
	No call system
	Nurses' inability to understand non-verbal cues.
Ways of helping intubated patients to communicate effectively	

The themes and their respective categories are presented in detail.

4.3 Initial fear and misunderstanding

Most of the participants were brought to the ICUs for either respiratory or inotropic support or both. They arrived either unconscious and intubated, or they were intubated on arrival and put on the mechanical ventilator. They were continuously sedated and or given opiates continuously until the respiratory condition improved. Sedative and opiate administration was stopped for a day or two before extubation is done. Patients therefore become fully conscious most often after the withdrawal of these drugs. This theme explains how patients perceived their environment and themselves when they first became fully conscious. The theme has three main categories; strange place and people, breathlessness and movement being restrained.

4.3.1 Strange place and people

All the participants became conscious while they were still intubated. The way participants perceived and interpreted their environment had a strong link with explanations participants would wish to seek from healthcare providers. Most of the participants were brought to the ICUs unconscious as referral cases from smaller hospitals. They were intubated, sedated and put on mechanical ventilators for respiratory support. A few of them also had emergency surgeries at the Korle Bu Teaching Hospital before being put on the mechanical ventilator. 55.6% (n = 5) of the participants reported that on regaining consciousness, they found the ICU environment strange, frightening and intimidating. The equipment in the ICU and indoor dressing worn by staff with almost all their faces covered provoked fear in participants. A strange environment and strange people therefore raised the anxiety level of participants. A participants described his experience as follows:

"I had been brought in unconscious. Later, I woke up and all I realized was that there were tubes in my nose and my mouth. I didn't know where I was. And I was not able to talk. In fact where I found myself was near to death at the time. I thought they had mistaken me for a thief. So I wanted to tell them I was not an arm robber but I could not talk. I did not know what was really happening to me" (P1).

For this participant, he did not know how he got to the Hospital and the ICU. When he regained consciousness, he was intubated, restrained, had bilateral chest tubes and surrounded by medical staff with head gears and face masks. His first reaction was that he was going to be lynched as a thief. He saw himself face to face with death and hence he wanted to explain to the people around that he was not a thief, then he realized that he could not speak. His next reaction was that of aggression to free himself but physical restraint was in place to control that. He became desperate as he could not comprehend his situation

Another participant, on regaining consciousness at the ICU thought she was dead. The type of indoor dressing worn by the ICU staff and visitors made her believed that she was dead and even her mother, similarly dressed was not a real human being. She also needed information on what was happening but she did not get any explanation. Here is what she had to say:

"At first I did not know where I was. When I woke up, I found myself at a strange place. I saw the people moving around me but I did not know any of them. I was confused and wanted to find out where I was. At first I did not know where I was. I wanted to ask the people around where I was and if they were real humans. When my mother came around I also wanted to ask her if she was real. I thought I was dead" (P9).

When she woke up for the first time at the ICU, she thought she was dead and was in the spiritual world. She saw the ICU healthcare providers as spiritual beings. Visitors to the ICUs are also made to wear gowns on their clothing but without head gear so that patients can easily identify their visitors. She became even more confused about reality when her mother also visited dressed in a cover gown. She was afraid and eager to find out if indeed she was dead.

One of the participants however, realized that she was in a hospital but also required information which she could not get while she remained intubated.

"When I first became conscious I realized I was in a hospital and among people I did not know. I tried to gesture to the people around but could not gain their attention" (P7).

This participant recognised that she was in a hospital but did not know which hospital it was. She had an emergency caesarean section done due to obstetric complications and was admitted to the ICU shortly after. She was anxious to know where she was and what happened to her baby but she failed to obtain information.

This category is closely linked with the next category

4.3.2 Limited movement due to Restraints

Both physical and chemical restraints were generally used in the ICUs to control the movement of patients in order to prevent their interference with therapy and minimize the irritation associated with the endotracheal tube. Chemical restraints are pharmacological preparations used to control agitation or in some cases induce coma and paralysis while physical restraints are mechanical devices that restrict patient's movements (Rose and Luk, 2002).

66.7% (n = 6) of the participants remembered they were physically restrained. However, only 11.1% (n = 1) of the participants mentioned that she was chemically restrained. This is expected since sedatives were normally stopped before participants fully became conscious. Typical statements by participants follows:

"These tubes were inside my throat and my hand were tied to the bed. I tried to speak but I could not and when I tried to remove the tubes I realized my hands were tied. I tried to struggle and somebody injected me and I went back to sleep. When I woke up I was too weak to struggle" (P4).

This patient became agitated on realizing that she could not speak and was also restrained. Even though physical restraints were in place, it is common for patients to shake their heads vigorously leading to self extubation or laryngeal trauma. They do also kick with their legs which could hurt staff or dislodge tubes, Intravenous cannulas and "giving sets". In the case of this participant, sedatives were stopped so as to gradually wean her off from the mechanical ventilator and subsequent enable extubation. However, her reaction to her inability to speak and restraint led to re-administration of the sedatives. Continuous infusion of sedatives results in accumulation leading to delayed weaning from the mechanical ventilator and increased length of ICU stay (Bray et al, 2004). The result was that it led to a longer stay on the mechanical ventilator.

Participants who could not immediately figure out how to attract the healthcare providers' attention due to physical restraints and voice loss had to lie quietly in bed until

they were seen by the nurses. A typical statement by a participant who was only physically restrained follows:

"When I became conscious, I tried to use my hands to attract their attention. Since my hands were tied I could not move. I just lay there until one of the nurses discovered that I had opened my eyes. Then they said oh you are back" (P5).

This participant became conscious for a period of time but due to the restraint and voice loss as a result of the ET tube, she could not attract the nurses' attention. The participant was not sure for how long she had been lying there before the nurses discovered that she was conscious.

The use of physical restraint could have devastating psychological and emotional effects if the patient is conscious. Being tied to the bed could be interpreted as a punishment by the patient and can provoke anger. A participant expressed this about the use of restraint when she first became conscious:

"You know when you are on that machine, they also tie both of your hands. So I could not use my hands effectively to make signs. I felt helpless and miserable especially when I had a visitor" (P9)

This participant also expressed her feelings about being restrained whilst unable to speak. She thought it was accepted norm for mechanically ventilated patients to be simultaneously physically restrained. But the psychological and emotional effect on the patient, as she expressed it, was underestimated by the ICU team. Participant felt so embarrassed to be seen tied to the bed post by her visitors. She believed her visitors would think she was being 'naughty' and hence the restraint.

On the other hand two of the participants who had 'Elective' cardiac surgery did not experience the shock of being on mechanical ventilator and being physically restrained. For these participants, the surgery was planned for more than six months before the actual surgery. They were admitted to the ward and prepared for the surgery. As part of the

preparation, both patients were told what to expect on regaining consciousness. One of them had this to say:

"At the time I became conscious and was not able to talk, I did not panic or thought that I was going to die because I was told that I was going to be operated on and I will surely recover from it. I was also told that tubes will be inserted into my nose and my mouth to help me breath" (P2).

This participant did not show any anxiety or anger and frustration or any emotion during the interview. In addition to being counselled before the ICU experience, the ICU records and information obtained from the Principal Nursing Officer in charge of the ICU indicated that, she had had a previous experience of mechanical ventilation.

The other participant who also had counselling before the ICU experience also stated:

"I was told that they would insert some tubes in my nose and mouth and put me on a machine. So when I see that I should not panic or fear. When I woke up I was not surprised" (P3).

This participant was also not shocked when she regained consciousness and realized that she was intubated and on a mechanical ventilator. Pre-counselling before intubation where applicable, could reduce anxiety, patient agitation and enhance patient cooperation. However, this may be difficult in emergencies where patient might arrived in the ICUs unconscious.

The effect of this initial interaction of intubated patients with their environment strongly determines how desperate they would be in seeking information to explain their situation. Timely information from the healthcare providers to patients brought in unconscious could improve their initial perception about their environment and make patients accept the ICU therapy.

4.3.3 Breathlessness

The purpose of intubating and ventilating an ICU patient mechanically is to reduce the workload of breathing as a result of existing respiratory failure or impending respiratory failure (Groenewald, 2011). 44.4% (n = 4) of the participants reported being breathless. Participants associated their feelings of breathlessness to the presence of the endotracheal tube in their throat. Participants felt that the endotracheal tube was causing the very problem it was inserted to solve – breathlessness. One of the participants had this to say:

"I am not able to breathe well and felt as if something was being pushed down my throat which was choking me" (P7).

According to this participant, the tube appeared to fill her chest and was obstructing her breathing.

Another participant also expressed:

"I could not breathe with all those tubes in my nose and my mouth" (P1).

This participant was orally intubated while nasogastric tube was also passed through one of the nostrils. He also associated his breathlessness to the presence of the tubes and wanted them removed to enable him breathe normally.

Finally a third participant also recounted how the endotracheal tube felt in her throat as follows:

"I could not breathe well it feels like a stick has been push down your throat" (6).

According to this participant the tube felt like a stick in her chest blocking her airway. Thus while the endotracheal tube was inserted to secure the airway to allow mechanical ventilation, participants felt it was rather obstructing their breathing.

4.4 Communication Methods of patients

Participants found the experience of losing their voices very frustrating. Their inability to use their voices coupled with the restraints was very distressing. This theme is divided into four categories: Gestures, Writing, Try and error questioning, Lip reading and head nods. These categories of communication methods are closely linked and were used simultaneously by participants whilst they remained intubated.

4.4.1 Gestures

This was the primary method of communication by the participants. It was used by each participant (n = 9) as the first method of communication immediately after regaining consciousness. It was used by both educated and uneducated participants until their condition improved enough to change to other methods such as writing. Each participant used gestures at some period of his or her ICU stay.

One of the participants expressed her experience as follows:

"And I had to make sign to attract their attention but my hands were also tied. Later, when I got up, I was like a duck moving around without any control trying to use my hands to communicate. When finally they untied my hands, I used signs to communicate with them. Sometimes they understood but at times they didn't get what I wanted to say and this makes me so sad" (P1).

He compared his initial attempts to gesture to a duck flapping its wings which had no meaning to healthcare providers. Gestures were inhibited by physical restraints. Participant was unable to communicate his needs for the period he was restrained. The sadness and frustration associated with the feelings of being misunderstood was not limited to him alone.

Another participant had this to say:

"When I needed something, I clapped my hands to call the attention of the nurses and use my hands to make signs to tell them what I needed. Sometimes I could see them wondering about what I described or not understanding what I wanted. When they did not get it I just gave up" (P2).

She knew when she was misunderstood as she could see the nurses deliberating about what her gestures meant. She was calm about her inability to communicate because it was her second experience of being intubated and its associated voice loss.

Here are what other participants expressed:

"Sometimes I use signs to communicate to them and at times, some of the nurses are able to get what I am saying. What I mean is I use my hands to make signs, my lips and anything I could think of. E.g. head nod smiling. Also when I use the signs and they are not able to understand me I get frustrated. I even tried to remove the tubes so that I could talk to them" (P4).

For this participant, even though gestures were not the only method of communication she used while she was intubated, she used it most of the time. Since she needed to communicate her needs to healthcare providers for those needs to be met, she tried all means she could think of to make herself understood. She used combination of nonverbal methods of communication to make herself understood. When all this failed, she became frustrated, agitated and even attempted to extubate herself. She revealed that self-extubation; the unplanned, unskilled removal of the endotracheal tube by patients is not merely due to the discomfort it caused but also due to patients' urge to make themselves understood by care providers.

"I used my hands to make signs. Sometimes they understand you, most times they don't and there is nothing you can do" (P5).

This participant was often misunderstood. She was unable to communicate her needs even though she made the effort to communicate. She ended up holding back her needs and her feelings about services delivered at the ICU.

"I tried to use my hands to communicate with them. I mean I used my hands to make signs" (P6).

Even though gestures was the primary method of communication used by intubated patients, it was largely misunderstood by healthcare providers in the ICUs resulting in sadness, frustration and distress in participant. Gestures were largely misunderstood

because the participant might be gesturing in her own mother tongue which might be different from the language spoken by the ICU nurse since multiple languages are spoken in the study setting.

4.4.2 Writing

Writing using pen and paper was used by literate participants as their condition improved. As muscle strength and coordination improved participants, who could write, used writing as a method of communication with ICU nurses. 44.4% (n = 4) of the participants stated that they used writing to communicate with the ICU nurses. Writing improved communication and eliminates the misunderstandings and frustrations associated with the other methods of nonverbal communication used by intubated participants. This is expressed by participants as follows:

"When I was a little stronger and my hands were released I was writing for them and that was better. Initially I was so weak that I could not raise my hands to write. Later my hands were shaking and my writings were so messed up that they could not read. But as I got stronger I could write better and they understood what I wrote" (P5).

Care givers recognized as soon as this participant regained consciousness that she could write. However, when she signalled the need to communicate and her hands were released, she was unable to hold her hands up to write. Her writings were unclear initially but as her condition improved her writings also improved and communication with care givers was better.

Another participant also used gestures to start communications and would only switch to writing when she realized that her gestures were not understood. Here is what she had to say:

"On some occasions they don't understand. But if I realized that they are not able to understand me, then I will write for them. If I write for them then they would also give me what I asked for. This way of communication continued until I was taken off the machine. I normally write for them to ask for anything that I needed, for example if I wanted to drink" (P3).

This participant was aware that if she used any other method of communication other than writing she might be misunderstood. Yet she continued using gesture and would only write if her gestures were misunderstood. This shows that gestures as a method of nonverbal communication is very important for ICU patients.

One participant knew that writing was a better method of communication during the period of intubation but it was difficult for a weak ICU patient who had just regained consciousness. She had this to say:

"Later, when my hands were released, I resorted to writing and they understood me better. But initially, even raising my hands to write was so draining that I preferred using signs" (P7).

This participant got to know that she was easily understood when she communicated through writing, yet she was using gestures as her primary method of communication because writing was energy demanding. Restraints put some restriction on writing but even without restraints writing required extra effort for this participant.

Finally, another participant who also used gestures as the primary method of communication also expressed:

"Later when my hands were released, if they did not understand my signs, I asked for pen and paper and write for them" (P9).

Similarly, this participant would also request for writing materials only when other methods of nonverbal communication were unsuccessful.

Writing was beyond doubt a better method of communication for participants who could write since most of them stated that they were better understood by healthcare providers. However, participants would still use gestures first, and used writing only when their healthcare providers failed to understand the gestures. This is because writing was more energy demanding compared to gestures hence their preference to gestures. Participants realized early during the period of intubation that their hands were trembling, their writings were unreadable and they were easily drained of energy as they tried to write.

4.4.3 Try and Error Questioning and head nods

Try and error questioning was used by the ICU nurses to find out what participants wanted when the nurses misunderstood other methods of communication initiated by participants. All the participants used this method of communication except two who received no help from the healthcare providers after their gestures and other nonverbal communication methods were misunderstood. In this method nurses tried to find out the needs of participants by asking them a series of close ended questions. Where a question answered the need of the participant, he or she indicated agreement by nodding the head or blinking the eye. This was described by participants as follows:

"If they did not get what I wanted, then they would ask me series of questions so that I either agree or disagree. They would keep asking me these questions until it falls within my need then I would nod my head in agreement. This kind of communication is frustrating and makes you angry especially if your need is urgent" (P6).

According to this participant, this method is about guesses or predictions by the nurses. Experience nurses might guess rightly after a short trial while inexperience nurses might spend longer time trying to guess her needs. Most often they were not able to predict her needs so those needs were not met. If those needs were urgent then she got frustrated and angry.

Another participant who had diarrhoea and wanted to move her bowel used gestures to communicate this need to the nurses. Since the nurses could not understand her gestures, they entered into try and error questioning with the participant. This engagement started after her gestures were misunderstood by the nurses. Both methods of communication takes time. She became desperate as the communication dragged on and the urge to move her bowel became stronger. Finally, she had to give up by soiling herself. She had this to say:

"Sometimes they will also asked me if it is this or that. And they would continue to ask me until it agrees with what I wanted then I would nod my head. This is frustration especially if what you wanted is urgent. For example I wanted to use the bed pan when I was better but the tube was still there. I attracted the nurse's attention but she did not understood my signs until I soiled myself since I was having diarrhoea" (P7).

This incidence occurred when participant had recovered sufficiently to use the bed pan. For adult participants who have recovered sufficiently enough to take part in self-care, soiling themselves was a serious embarrassment and guessing this need using try and error questioning would lead to enormous frustration. This method of communication can go on for a long time without coming near to the need the participant wanted to communicate. It depends on the nurse's experience and her ability to predict participants' needs in the ICU.

On the other hand, two of the participants were not engaged in try and error questioning. They were just left to their fate when the nurses failed to understand their gestures. This was what they had to say;

"So I resolved to ask for simple and routine things that they will understand. I did not tell them that I was thirsty or I was hungry or asked when they were going to remove the tube because I tried once and they did not understand me. The nurses did not make any effort to help me communicate with them" (P8).

This participant avoided nonverbal communication that involved lengthy elaboration because she knew she would not be understood. When her nonverbal communication efforts were misunderstood, the ICU team made no effort to probe for understanding. This means most of her needs during the period of intubation in the ICU were not met.

One other participant also reported that the ICU nurses just leave you if they were unable to understand your nonverbal communication efforts.

"But if they did not understand you, they would just leave you. They did not make any effort to find out what I wanted or to help me communicate" (P9).

For this participant, she was just left whenever the nurses failed to understand her gestures. When she was asked what she did in such situation she sighed deeply and responded "*what could you do?"*

This expression 'what could you do?' sums up the situation of the intubated patient with voice loss. It indicated a state of helplessness, desperation and frustration. She found herself powerless and vulnerable when she was misunderstood.

4.4.4 Lip reading and Head nods

Another method of communication that was also closely linked with head nod was lip reading. This was normally used by participants who were nasally intubated. 44.4% (n = 4) of the participants mentioned that they used lip reading and head nods to communicate with the ICU nurses. The participant mouthed the words and the healthcare providers read their lips. The lip reading is followed by questioning by the healthcare provider for the participant to confirm what she was communicating. One participant expressed:

"I use my lips and use my hands to make signs to tell them what I needed. Few of the nurses are able to read my lips but most of them are unable to understand me. I tried to speak the words so that they could observe my lips. They then repeat what they saw my lips saying I either agree or disagree" (P2).

Even though she knew her voice would not be heard she mimed the words. She was not heard and miming was also largely misunderstood. Care givers had to observe the movement of her lips to be able to determine the words her lips were forming. Most the healthcare providers were unable to read her lips correctly so the needs she wanted to communicate were not met. The ICU nurse must be able to understand the language being used by the participant to be able to guess the inaudible words being formed by the participant. Sometimes, the nurse might be trying to understand inaudible words in a language she did not understand in the first place.

Another participant also expressed:

"I also tried to speak so they look at my lips. They will then repeat what they saw me saying. When they repeated the right statement then you nod your head. When the tube is in your throat, nodding the head to agree to a question is painful hence you become frustrated if you are misunderstood" (P5).

For this participant, it was agonizing when healthcare providers failed to read her lips correctly. Nodding one's head while intubated could cause the ET tube to penetrate deeper into the throat resulting in pain.

However, one of the participants who was orally intubated also tried miming. She had difficulty forming the words with her lips because of the presence of the ET tube. This participant had the tube inserted through her mouth and had this to say:

"What I mean is I use my hands to gesture, my lips and anything I could think of to make them understand me. E.g. head nod smiling. The tube was in my mouth so it was difficult trying to speak the words so the nurses were not able to read my lips. They looked at my lips and repeated what I said for me to confirm but they normally got me wrong" (P4).

When the ET tube is inserted into the throat through the nose, it is easier for patients to form words with their lips. If, however, the ET tube is inserted into the throat through the mouth, the movement of the lips to form words is hindered. Adhesive tapes that are used to secure the ET tubes in position also prevent the lips from moving. Thus, participant was unable to properly form the words due to obstruction of lip movement by the ET tube and the adhesive tape used to secure it. The healthcare providers largely misunderstood her.

Summary

Intubated participants initiated different nonverbal methods of communicating with their care providers in the ICUs. Apart from writing which was well understood by care givers, once the participant was able to write, all other methods were largely misunderstood by the care givers. Gestures was the primary method of communication used by participants including those who could read and write.

Nurses also tried to help participants communicate their needs by asking them series of close- ended questions to which participants were to agree or disagree. Participants found this method frustrating. Hence a strong anticipation of the needs of intubated patients is therefore a prerequisite to understanding nonverbal cues of these patients.

4.5 Feelings of intubated patients concerning voice loss

This theme presents the feelings of intubated participants concerning their inability to verbally communicate during their stay in the ICU. Various emotions were experienced by participants. The theme is divided into four closely related categories; Feeling Isolated and Miserable, Fear, Frustration and Anger. Each category is presented and participant verbatim expressions are explained.

4.5.1 Feeling Isolated and Miserable

Inability to make themselves heard was traumatic to the participants. Indeed the loss of voice was associated with loss of control and living at the discretion of others. Participants felt secluded and even depressed in some cases. 33.3% (n = 3) of the participants reported feeling isolated and miserable as a result of the voice loss associated with the Endotracheal Tube.

One participant thought she was avoided and only approached when the ICU team had something to do for her. She felt isolated and cut off from the rest of the word. She had this to say:

"So they avoid communicating with you. They only inform you when they want to do something for you. It makes you feel isolated. When I first realized I could not talk, I felt like I was cut off from my family and the rest of the world. I felt that I was already dead" (P7).

According to this participant, since the non-verbal methods of communication initiated by her were difficult for the healthcare providers to understand, they avoided communicating with her. She did not get any information from her family or outside world apart from what the healthcare team provided which was strictly related to nursing and medical procedures. She thought that even if the medical staff did not understand her nonverbal communicating efforts, being available by her bedside and letting her know that they care would have been better than being avoided.

A second participant reported that during the period she could not use her voice, she felt miserable restless and desperate since her needs could not be met as a result of her voice loss. This was how she expressed it:

"I felt miserable, restless and worried because I wanted something and I am trying to communicate it and the person who will provide it also did not understand. You become desperate" (P9).

She had mood swings as a result of her inability to talk. She felt lonely, agitated and depressed and some level of anxiety all of which were likely to be missed by the healthcare providers except the agitation. She made a lot of effort to communicate her needs but all became fruitless when she was misunderstood and she had to give up those needs.

One of the participants also confirmed that she was depressed during the period she had the ET tube in situ in the ICU. She felt miserable when her nonverbal communication efforts were misunderstood by the ICU team. Here is what she had to say:

"When the nurses misunderstood your signs, you feel bad and I really felt miserable and depressed" (P8).

This participant became depressed after she realized that she could not verbally communicate. She had lost interest for some time in using non-verbal methods of communication with her ICU healthcare team.

Another participant who had undergone Caesarean Section, and wanted information on her baby but was unable to obtain that information felt that losing your voice can be compared with confinement to a cell. She felt locked up within herself with no outlet and had this to say:

"But my head also had limited movement with that tube in your throat. I felt like I was trapped or even caged" (P6).

Participant wanted information from her relatives on her newly delivered baby and her other children in the house. However she was physically restrained and intubated. She

could not use her hands to gesture effectively. She had also lost her voice due to the endotracheal tube in her throat. Head nod was also difficult leaving her with almost no option to communicate with her relatives. She felt like she was falsely imprisoned.

Another participant also felt locked up in herself and had this to say:

"You want to find out what is happening but you cannot even ask them because your hands were tied and you cannot talk because of the tubes. You feel like you are put in a box and covered up" (P4).

For this participant, realizing that she could not verbally communicate on regaining consciousness, wanted to find out why she was intubated and physically restrained. She was at her wits end when she realized that the nurses were unable to understand her gestures. For a period during her ICU stay she was not able to effectively communicate with her care providers. She described this period she was unable to communicate her needs for appropriate response as 'being covered up in a box'

Finally another participant described the feeling as:

"But inability to talk is like being among strangers who don't understand your language" (P2).

Even though she saw activity among the healthcare team who appeared to understand one another, she felt lonely and isolated as a result of the loss of her voice. She was not involved in decisions about her care and was unable to correct information about herself which she considered to be inaccurate.

4.5.2 Fear

Fear was one of the feelings experienced by participants but were unable to communicate to their care providers. Some participants were afraid of the environment, others because they thought the voice loss was permanent and also due restrains. Five of the participants, however, said that inability to talk was frightening.

One of the participants who was admitted for cardiac surgery reported that the change from using ones voice before surgery and voice loss after surgery was so sudden that she even thought she was dead. It was even terrifying when she realized she could not ask for explanations due to her inability to speak. She expressed it this way:

"One day you open your eyes and realize that you cannot speak just like that. You are even not sure whether you are alive or dead. You are not able to find out because you cannot speak. Initially, it was very frightening. I was even forcing myself to talk and became restless, then they said calm down, if you remove the tube you will die. I was so scared" (P5).

Inability to speak limits communication and loss of control. After regaining consciousness, she needed information to confirm if she was really alive. The voice loss coupled with lack of information was terrifying for this participant who eventually became agitated and tried to remove the endotracheal tube to be able to use her voice. In attempting to protect her from the complications that might arise from unplanned extubation, the nurses told her that if she extubated herself she would die. This worsened her anxiety. Lack of regular and timely information in addition to inability to communicate verbally may lead to unplanned extubation.

Another participant who was orally intubated was asking a lot of questions but obtained no answers for those questions because her nonverbal communication efforts were not understood. She wanted information on her environment and why she could not speak. Her inability to speak and lack of information about her surrounding was terrifying experience. Here is what she had to say:

"I was afraid and was asking myself what is this thing in my mouth and what is this machine? They did not tell me anything but kept on telling me to keep calm. So I prayed to God to deliver me. I was seriously afraid but those around me told me to take heart, that I shall be well (P6).

Even though the ICU environment is terrifying the participants, inability to obtain information due to voice loss compounds the fear. ICU nurses are able to detect anxiety when a conscious patient is experiencing it. However they might not be able to identify the

cause of the anxiety. They normally resort to reassuring the patient without necessarily addressing the cause of the patients' anxiety.

Fear was also due to the perception by participants that their voice loss was permanent as expressed below:

"When I first realized that I could not speak I was scared. I was very frightened. I thought I could not speak again. At that time I managed to know by observing that I was alive and in a hospital. So I was scared. I did know why all of a sudden I was not able to talk" (P9).

This participant was not scared as a result of the environment but as a result of her perception that her voice loss was permanent. She was able to establish that she was on a hospital ward. That did not scare her. However, it was the thought that she was not going to speak again ever that terrified her.

Another participant also confirmed that it was the thought that the voice loss was permanent that terrified her had this to say:

"I got scared. I thought I might not be able to talk again, because I did not know how come I slept and woke up and all of a sudden I could not talk" (P4).

This participant was also terrified by the sudden loss of voice without any explanation from care givers. She was unable to ask for explanation due to her inability to verbally communicate with her care providers. Since the ICU health team also failed to provide an explanation she formulated her own opinion that the voice loss was permanent leading to her anxiety.

One of the functions of nursing is to provide timely information to patients to alleviate their anxiety but for ICU patients who just regained consciousness, this was apparently lacking.

4.5.3 Frustration

Three participants described their voice loss and inability to communicate verbally as frustration. They also reported that non-verbal methods of communication with the

healthcare providers were frustrating. The ICU nurses are unable to understand the nonverbal cues of the participants resulting in repeated trials. Sometimes the participants had to give up those needs they were trying to communicate. Typical statements by one of the participants follows:

"I was frustrated when I realized that I could not talk and I was too weak to write for the nurses. Also when I use the signs and they are not able to understand me I get frustrated" (P4).

For this participant, it is not only the loss of voice that was frustrating but also the presence of the tube. The tube hurts your throat, limits your movement and you have to be careful when swallowing because it would hurt you.

One participant reported that she was frustrated by the try and error method of communication. She needed to wait for the nurse to keep asking questions which might not be related to what she wanted. This is how she expressed it:

"They would keep asking me these questions until it falls within my need then I would nod my head in agreement. This kind of communication is frustrating and makes you angry especially if your need is urgent" (P6).

This participant felt that there are needs that need immediate attending to by the ICU nurses such as when she felt there is mucus in the tube which is obstructing her breathing. This needed to be sucked out by the ICU nurses. She became frustrated whenever her attempt to communicate this need is unnecessarily prolonged as a result of her voice loss.

This was also confirmed by another participant as expressed below:

"This is frustrating especially if what you wanted is urgent" (P7).

For them it was the methods of non-verbal communication which delayed urgent needs that were frustrating. Participants had to give up on those needs and where the need is urgent, for example, bowel movement participant had no option but to soil herself leading to embarrassment and low self-image.

4.5.4 Anger

The presence of the endotracheal tube and inability to communicate verbally produced rage in some participants. Two participants stated that they were angry as a result of their inability to communicate verbally. One of the participants who was angry when she realized she could not verbally communicate had this to say:

"You see other people talking to you and feel like talking but you cannot talk. And then it is a lot of, I don't know how to describe it. You want to speak but you cannot. It is nothing that you wish to experience a second time. It is just terrible. I felt sad in the first place because I did not know what was happening to me. Because I have not been in that situation before and could not talk. When you cannot talk and your hands are also tied, you feel crazy. You don't know what to do again" (P5).

Loss of voice is a dreadful experience that she would not wish anybody to have neither did she wished to have it a second time. Inability to verbally communicate and restraining of a conscious participant could drive her to the limit where she was so angry that she would not know what to do with herself.

Another participant who also experienced anger as a result of sudden realization of voice loss expressed:

"I made attempts to talk to my sisters but they could not hear me. That was when I realized I could not talk. I feel mad and was determined to take out those tubes so I could talk to my sisters. My sisters who were standing by asked me to remain calm so that the machine will breathe for me" (P6).

This participant, on regaining consciousness, associated her voice loss with the endotracheal tube in her throat. Unplanned extubation could occur not only as a result of the discomfort from endotracheal tube but also participant's urge to communicate verbally.

The presence of the endotracheal tube also came with various emotions as expressed below:

"I am not able to breathe well and felt as if something was being pushed down my throat which was choking me" (P7).

The ET tube is inserted into the trachea to keep the airway open so that patients can be assisted to breath. However, when patients become conscious they tend to see the ET tube as the reason why they are unable to breathe. This participant felt she was choking on the tube.

Finally, one participant also associated the ET tube with unbearable pain and had this to say:

"The tube in my throat was painful. I was suffering. I felt helpless and miserable. It is like you are being drowned" (P9).

For participant P9 it was uncomfortable and she felt like she was drowning. She described the period of intubation as a period of torment. When participants become conscious there is a period of weaning off the ventilator when they are taken off both analgesics and sedatives pending extubation. They become fully aware of the discomfort associated with the presence of the endotracheal tube and some of them signalled for its removal.

4.6 Perceived disregard of nurses to the concerns of participants

This theme presents findings on what participants regarded as inattentiveness of the ICU nurses. The intensive care practice requires quick and accurate clinical decision and interventions to maintain optimal function of acutely ill patients. Participants however, felt they were neglected for the sake of getting the job done. It is presented in two categories: Impatient Nurses and Disregard for ` patients' communication efforts and consequently their needs.

4.6.1 Impatient Nurses

Participants appreciated the efforts of the ICU healthcare team in their recovery. However 55.6 % (n = 4) of the participants thought the healthcare team was not patient during the period participants were intubated and had to communicate non-verbally with

the nurses. Nurses were always in a hurry to attend to other patients. Participants wanted nurses to give more time to attend to patients who could not verbally communicate. Typical statement by one of the participants follows:

"They have to be patient and try to understand the patient because from my own experience it is not easy at all if you cannot talk and people don't understand your signs. The nurses are always in a hurry to attend to some other patients too. But they must have time for the one who cannot talk" (P8).

This participant felt that the nurses were in haste to take care of other patients hence they did not have enough time to understand gestures and other nonverbal communication efforts of intubated patients. The nurses appeared to give equal attention and time to all their patients but she felt intubated patients who are unable to communicate verbally must be given more attention.

When nurses left patients who were unable to communicate their needs, it increased the sorrow and anguish of those patients. One participant had this to say:

"Nurses should not be in hurry to leave patients when they do not understand patient's sign language. This increases the patient's distress" (P1).

For this participant, even if the nurses failed to understand her gestures, staying there by her bed would be comforting. But leaving in haste to do something else increased her sorrow since it appeared to her that her attempts to communicate was wasting the nurses' time.

Another participant felt nurses must add human touch to their work. Nurses must not be so mechanical to leave a patient whose non-verbal communication efforts were difficult for them to understand. She had this to say:

"I want to say that nurses must exercise patience towards their patients since your work involves dealing with human beings. When a nurse leaves you because she could not understand what you were describing, sometimes you feel like probably you would not recover so she does not want to waste time on you" (P2).

For this participant, when a nurse leave a patient merely because the nurse could not understand her, the patient might think she was not going to recover and that was why she was being treated like that.

One participant also thought that healthcare providers failed to understand the situation of voice loss and so they take it lightly. If the ICU healthcare team had experience what it feels to lose your voice, they would have been more patient. Typical statement from her follows:

"When a person who cannot talk is communicating, it is difficult to understand. You can only understand the feelings of the patient when you become one of them. So health workers must be patient during this trying times. You are hardworking but you need to be patient" (P6).

According to this participant, the ICU healthcare team were good about their work but they needed to do more concerning their patience regarding non-verbal communication with their patients.

Yet another participant also felt that she was a burden on the ICU healthcare providers. She thought healthcare providers deliberately delayed in responding to her call.

"Health workers must be patient and respond to patients' call as soon as possible. Their impatience makes you feel you are a burden on their shoulders" (P7).

For this participant even if nurses think they might not understand the non-verbal cues of their patients it is appropriate to attend on them when they called.

4.6.2 Apparent disregard for patients' communication efforts by healthcare providers

55.6% (n = 5) of the participants felt nurses did not understand their non-verbal communication because the nurses did not pay enough attention to the methods the patients used. The nurses had already made up their minds that patients non-verbal cues would be difficult to understand so they paid no attention to those signs.

For one of the participants even though nurses informed her when they were about to perform a procedure, failure to obtain a response from her meant her opinion was not sought. Typical statement by her follows:

"I think the nurses do not even watch your lips or the other signs you use to communicate. Their attitude is like "we won't understand so be patient" and this is very frustrating. They do what they want to do without seeking your opinion because they know you cannot talk" (P4).

For this participant, the nurses know that intubated patients would not be able to talk so after informing patients about an intended procedure, nurses would not wait for the patients' approval. For example if the nurse wanted to feed you and you are satisfied at the time because you cannot talk she would still feed you. Certain procedures such as feeding per Nasogastric tube are ordered 2 hourly, 3hourly or as the case may be. Nurses feed according to these orders which may not be convenient for the individual intubated patient.

The position that healthcare providers do not pay attention to the non-verbal communication efforts of intubated ICU patients is also shared by the following participant who expressed:

"You have to listen to the sign the person is indicating. Without the sign you cannot even know what the person meant to be done. So you have to pay attention to the sign. Even when you attract their attention and they come to you, they don't watch the signs you are making. They just tell you to calm down" (P5).

This participant wondered how the healthcare providers thought they could understand a patient who could not talk if they did not pay attention to her non-verbal cues. Healthcare providers neglect those cues and instead asked her to calm down if she becomes agitated as a result of that neglect.

Another participant laments over the lack of attention for the non-verbal communication efforts of intubated ICU patients:

"But they must have time for the one who cannot talk. They must not be in a hurry to leave the patient. They must pay attention to the signs the patients use to communicate for them to understand the patient" (P8).

Another participant who was using her finger to write in her palm and make sketches in the air wondered why it did not occur to the healthcare providers that she could read and write so that they could provide her with pen and paper. She concluded that her non-verbal signs were disregarded. However, ICU nurses set priorities as they work with patients to meet patients' health needs. When a patients become physiologically stable, ICU nurses spends more time with the less stable patients which the more stable patients consider as neglect.

A participant who could write and indicated this ability by inscribing in her palm wondered how the ICU healthcare team could miss that. She expressed:

"Looking back, I am not quite sure whether they really pay attention to the sign language. Because using my finger to write in the air and palm should have alerted them that I was capable of writing and that I wanted pen and paper. But they did not get it" (P9).

According to this participant, she showed all the signs to the nurses that she was capable of writing. If they really wanted to know what she wanted to communicate they would have provided her with pen and paper. The nurses did not link her effort to writing as a method of communication.

4.7 Challenges faced by intubated patients regarding communication

This theme presents challenges faced by intubated ICU patients who are not able to communicate verbally regarding their quest to obtain information and to be understood. The theme is further divided into three categories; No call system, Nurses' inability to understand non-verbal cues, and Lack of orientation after regaining consciousness.

4.7.1 Lack of orientation after regaining consciousness

Lack of orientation after regaining consciousness was one informational challenge that most participants had. 66.7 % (n = 5) of the participants reported they received no

orientation when they regained consciousness in the ICU. Orientation of a patient after regaining consciousness is important since sedative drugs administered during mechanical ventilation also induce amnesia (Merilainen, Kyngas and Ala-Kokko, 2013). They need information on where they are, date and time, how long they have been unconscious, the history of their disease or injury. One participant reported that he regained consciousness when his hands were tied to the bed with tubes in his throat. He thought he was mistaken for an armed robber. Yet he was not provided with any information as to how he found himself in that state. This is what he had to say:

"Later, I woke up and all I realized was that there were tubes in my nose and my mouth. I didn't know where I was. I thought they had mistaken me for a thief. So I wanted to tell them I was not an arm robber but I could not talk. I did not know what was really happening to me" (P1)

For this participant, lack of orientation resulted in agitation which was common with other participants. The ICU team most often fail to identify themselves to their patients probably because the patient is unable to communicate verbally.

Another participant who was not also given orientation on regaining consciousness expressed:

"When I opened my eyes I did not know where I was. I was surrounded by people I did not know. I tried to struggle and somebody injected me and I went back to sleep" (P4).

This participant who was already physically restrained, struggled to remove the restraint and the endotracheal tube. The healthcare team responded by administering a sedative instead of providing the information participant required. When a patient's agitation is likely to result in self-harm or interfere with treatment the ICU team leader normally orders a sedative which is administered by the nurses to calm the patient down.

A participant was confused about reality when she regained consciousness. Her immediate need was information to confirm whether she was alive or dead. A typical statement from her follows:

"One day you open your eyes and realize that you cannot speak just like that. You are even not sure whether you are alive or dead. You are not able to find out because you cannot speak" (P5).

This participant needed information from healthcare providers to confirm reality but could not obtain it. Participant had to listen to conversations around her in order to reassure herself that she was alive. This confusion could have been resolved if she were given orientation when she regained consciousness.

Another participant whose relatives were at her bedside at the time she regained consciousness tried to obtain information from them first and later from the healthcare providers. Both parties did not understand her need for information about her new born baby, so she turned to religion for support. She had this to say:

"When I woke up, I saw that tubes were in my throat and a machine was on me. I did not understand what was happening to me. They did not tell me anything but kept on telling me to keep calm. So I prayed to God to deliver me" (P6).

Failure to provide timely information, could lead to mistrust. Participant finally depended on supernatural support during the time when healthcare providers were not able to explain her situation to her due to her inability to communicate verbally. This kind of silent prayer by intubated nonverbal patients are missed by the ICU team.

Finally, a participant who was initially confused about where she was as a result of lack of orientation after regaining consciousness also expressed:

"When I woke up, I found myself at a strange place. I saw the people moving around me but I did not know any of them. I was confused and wanted to find out where I was" (P9).

Lack of orientation for intubated patients who had regained consciousness could lead to confusion. This participant thought she was dead and was in the spiritual world yet there was no information to resolve this confusion.

4.7.2 No Call System

A nurse call button is a button found around a hospital bed that allows patients in health care settings to alert a nurse or other health care staff member remotely of their need for help. Activation of the system at a patient's station will sound a repeating audible signal at the nurse station requiring a nurse or a nurse assistant to respond to the call (Mojdeh, Nadi, Gordiz, Khalili & Sadri; 2013).

The ICUs had no call system. There was also no agreed method for intubated patients to attract the attention of healthcare providers. Each participant had to device her own method of attracting attention from violently shaking the bed to gently raising or waving hands. Some of the methods such as hitting the bed with the SPO2 probe attracted the displeasure of healthcare providers. The SPO2 probe is attached to the figure of ICU patients to monitor the concentration of arterial oxygen of the patient. One participant who did not know how to attract the attention of the ICU healthcare team initially expressed:

> *"I did not know for how long I was laid there after I became conscious before they discovered that I had opened my eyes. I also did not know how to attract their attention since I could not use my voice and my hands too were tied. I had never felt that helpless in my life like the one I experienced during those moments"* (P5).

With her hands restrained and being unable to talk, she laid there until it was found out that she had regained consciousness. The ICU nurses sit at the foot end of the patients' bed to monitor interventions being carried out by the medical team. The nurses conduct periodic checks on the level of consciousness of the patients such that if the patient becomes fully awake without making any movement, the nurse would notice that during the consciousness check.

One participant started attracting attention by hitting the bed with the probe but changed quickly when he realized that the ICU health team was not happy with that. This is what he had to say:

"I used the metal on my finger to hit the bed to get their attention. Some of the nurses were not happy with that so I also raised my hands when I needed something" (P1).

Hitting the metal bed with the SPO_2 probe destroys the sensor in the probe making it ineffective. This will naturally displease the ICU nurses who are responsible not only of patients' welfare but also ensuring that equipment are functioning and ready for use.

On the contrary, one participant initially attracted attention by shaking the bed but later used the probe to hit the bed. She expressed:

"At first I was not able to gain their attention because my hands were also tied to the bed. I shook the bed until I got their attention. When my hands were tied and I could not talk, there was some pin attached to my finger. I normally used it to hit the bed to attract their attention" (P7).

This participant switched the methods of attracting the attention of the nurses from shaking the bed to hitting the side rails of her bed with the probes attached to her finger. This does not only make noise but also caused the monitor to alarm which would surely make the ICU nurse hurry to her bed. The purpose of the monitor alarm, however, is to alert the nurse of disruptions of medical interventions and life threatening physiological changes that require immediate attention. This must not be confused with physical needs of the patient which might not be life threatening.

A unique and an unusual method of attracting attention was expressed by one of the participants as follows:

"When I wanted to attract the nurses' attention, I had to cough until somebody looks in my direction and comes around" (P6).

Patients with endotracheal tube in situ normally cough as a result of the discomfort and irritation produced by the tube. The nurses could get confused with cough used for attracting attention and that associated with the endotracheal tube.

Two other participants clapped or wave their hands to attract nurses' attention. Typical statements from them were:

"When I want to attract their attention, I clapped my hands, raised my hands or click my thumb and middle finger together" (P8).

"I wait until they are passing by then I wave my hands to attract their attention" (P9).

Both participants had their restraints removed at that time so they could use their hands to attract the nurses' attention.

Participant P2 whose surgeries were elective and therefore had counselling concerning endotracheal intubation and mechanical ventilation, was also not told how to attract nurses' attention after regaining consciousness. She had this to say:

"But when I woke up initially, I did not know how to call the nurses because I could not talk and my hands were also tied to the bed. I would wait until they look at my face before I will use my lips to try to tell them what I needed" (P2).

Even for this participant who had counselling on the ICU situation before the surgery was done was also not told how she could attract the nurses' attention whilst she was intubated. Thus intubated patients who could not communicate verbally with the nurses were left on their own to device their own ways to attract the attention of the nurses.

4.7.3 Nurses' inability to understand non-verbal cues

Non-verbal methods of communication are the only options for intubated ICU patients. All the participants used gestures, miming and head nods during the early stages of their recovery. Those who could read and write, used writing later as their health improved. However healthcare providers in the ICUs largely misunderstood these non-verbal methods of communication apart from writing. Most of the participants had to give up communicating their needs about personal care and comfort and need for information on their care.

One participant whose nonverbal cues were misunderstood and had to give up her needs expressed:

"It was difficult for the nurses to read my lips and understand what I needed. Sometimes I could see them wondering about what I described or not understanding what I wanted. When they did not get it I just gave up. They got frustrated and I also got frustrated. It was a trying time" (P2).

This participant used miming as chief non-verbal communication method since she was nasally intubated. She gave up on her need when she was not understood. This could lead to unsatisfactory services since participants experienced fear, frustration and anger as a result of their inability to talk.

One of the participant expressed her fear when nurses attempted to meet needs which were not what she was asking for. She decided that it was better to keep her needs to herself instead of trying to communicate it to the nurses. She had this to say:

"To be misunderstood is very terrible because they would attempt to satisfy needs which were not really your needs at all. So I resolved to ask for simple and routine things that they will understand. I used my hands to indicate I want to urinate or if I want them to remove saliva from the tube I do like this. I did not tell them that I was thirsty or I was hungry or asked when they were going to remove the tube because I tried once and they did not understand me" (P8).

This participant got depressed when she was not understood so she limited herself to asking for simple routine needs such as suctioning of the ET tube and urinating which the nurses understood. Others such as feeding and thirst were done at the discretion of the nurses. She denied herself from asking for needs that would lead to elaborated communication.

Participants limiting themselves to routine was confirmed independently by another participant. This is what she had to say:

"It makes you stick to a particular routine, judgement and guesses of the nurses. If they guess right you are happy but if they got it wrong then you are at their mercy. When I used signs to communicate with them, I also try to make them understand me because I try to do something they can understand. Sometimes I start planning for this about 30 min before the interaction actually starts yet I am misunderstood" (P4).

This participant tried to plan how to make herself understood before she attempted to communicate a need but that made no difference. She was still not understood.

On the other hand one participant did not give just one try. He would wait if he was misunderstood and then try again. Here is what he had to say:

"If I wanted to tell the nurses something and they did not understand me, then I gave up without saying anything again. I would call them later and then use signs to communicate with them. Sometime they understood but at times they didn't get what I wanted to say and I just left it like that" (P1).

Since lifting the hands to gesture alone is also tiring for recovering patients, he allowed some time to elapse after the first trial and then retry. He gave up if he was not understand again. Allowing sometime to elapse before attempting to communicate the need again also give the ICU nurses time to anticipate the possible needs the participant might have at that point in time and sometimes improved the outcome of the nonverbal communication between the nurses and the patients.

When an ICU patient is unable to communicate a need, that need is not met. Even though the patient might recover, his stay in the ICU will not be satisfactory. Typical statement by one of the participants follows:

"There were occasions I had to abandon what I wanted because they did not understand me. When that happens the particular thing that you wanted them to do for you is not done. When your back is hurting and you wanted them to turn you but they did not understand you, your back continue to hurt" (P7).

4.8 Ways participants suggested they could be helped to communicate effectively

Most participants thought gestures was the best method that nurses could develop to facilitate nurse patient communication in the ICU. Majority of the participants thought if nurses could be patient, they could understand the gestures initiated by the participants. A few of them however, believed that the nurses should have agreed meaning to common gestures and inform patients immediately they become conscious. Leaving the patient to invent their own gestures could lead to different meanings assigned to similar gestures and this could lead to confusion.

One of the participants who did not know how to attract the nurses' attention on regaining consciousness recounted her feelings as follows:

"As I told you earlier, when I became conscious I did not know how to attract their attention. They could find accepted method for attracting the nurses' attention and inform the patient when she becomes conscious. They could also find accepted signs, which they can inform each patient that, for example, if you blink your eyes once it means you want to be turned and if you blink twice it means you are hungry" (P5).

This participant believed that gestures and what they mean in the ICU should not be left as a prerogative of the patient. Instead the ICU nurses must assign meanings to common gestures and inform the patients once they become conscious.

Another participant is in agreement with this position and express her thoughts this way:

"The nurses must design common meaning of some signs (gestures) and tell the patient what it means. E.g. if they tell me that raising one figure means you are thirsty and raising two figures mean pain, it will be easier. Instead they allow you to invent the sign and nobody understands" (P6).

According to this participant, it would be difficult for the nurses to try and understand gestures that would be initiated by all patients admitted to the ICU. However, if the nurses design their own gestures and meanings and allow the patients use those gestures communication would be easier.

One participant wanted the surgeons to create a space around the ET tube that would allow the intubated patient to use her voice while on admission in the ICU. She expressed her view as follows:

"The doctors must try to create a surgical hole around the tube to enable patients use their voice while they were intubated" (P9).

This participant one of the worse things that a human being can experience is the loss of his voice. She however, believed that the ICU team could anticipate this unfortunate event and find a surgical way to allow their patients to use their voices while they were still intubated.

4.9 Summary

This chapter presented findings of participants' experiences of non-verbal communication with ICU healthcare team. Finding on five major themes and their categories were presented.

It was found that participants become confused about their environment on regaining consciousness. With the endotracheal tube in their throat and both hands restrained, participants generally needed explanation of their situation.

Participants used varied methods of non-verbal methods to communicate with their healthcare providers including gestures, miming, head nods, and writing. All participants used gestures at some period of their intubation but few used writing. Even at the point where participants could write they used gestures first and only changed to writing when the gestures were misunderstood by their care providers.

The experience of voice loss was distressing for participants who exhibited various emotions that might not be obvious to the healthcare providers. They experienced anxiety, frustration, anger and mood swings and isolation as a result of the voice loss and their inability to make themselves understood.

Participants were of the view that the ICU healthcare team were impatient regarding communication initiated by intubated patients. This had led to a feeling of rejection and frustration for participants. They believed their non-verbal communication efforts were misunderstood largely because the nurses did not even watched their efforts. Their efforts were simply disregarded.

It was also found that patients were not given any form of orientation after regaining consciousness. Each participant also had to device his or her own methods of attracting nurses' attention. The needs of the participants who could not write were largely not met since the participants were unable to communicate those needs due to the nurses'

misunderstanding of nonverbal methods of communication or probably participants were not able to communicate their needs the right way.

The next section focusses on discussions of findings where findings of this study are used to build on previous findings from relevant studies.

CHAPTER FIVE

DISCUSSION OF FINDINGS

5.0 Introduction

This section reviews this study's findings in the light of previous research with the aim of establishing its significance for the care of intubated patients receiving care in critical care units. In addition, there will be consideration of the importance of reflection focussed on the researchers' experiences during the research process. Study limitations are also discussed, as are the implications for policy, nursing practice and future research. Some final conclusions are also drawn.

5.1 Initial Fear and Misunderstanding

The importance of orientating patients to the ICU environment and reality has been underestimated by ICU nurses. This is especially important to patients who are not vocal and brought to the ICU either unconscious, or intubated, ventilated and sedated. This study found that the ICU environment was frightening and intimidating for participants. The equipment in the ICU and indoor dressing worn by staff with almost all their faces covered provoked fear in participants. The strange environment and strange people therefore raised the anxiety level of participants. The need to provide information to patients who regain consciousness in the ICU was historically reported by Hafsteindottir (1996) who stated that patients described feeling of shock and fear when they woke up attached to mechanical ventilators. Their first reaction was to try to communicate or seek information hence the need for the nurse to be present when the patient wakes up to provide patients with information.

This finding was also confirmed by Zeilani (2008), who showed that the ICU environment is considered strange and unfamiliar, with many machines that frightened the

patients with the loss of their senses of body control. According to her, since these patients could not verbally asked for information, the ICU nurses should have an orientation plan for the newly admitted patients.

The current study found that providing participants information before intubation where applicable could reduce their initial anxiety, patient agitation and enhance patient cooperation. This finding is also consistent with the findings of Scott (2004), who stated that, preoperative information is unquestionably of value to patients facing surgery and a post-operative stay in intensive care, as it can help ease anxiety. She argued that it would be beneficial for intensive care nurses to extend their role into the pre-operative period by providing information to their patients.

Providing information to potential ICU patients preoperatively, might only be applicable in surgical ICUs and where those patients were booked for elective surgeries. However, when patients are admitted to ICU for emergency respiratory and cardiovascular treatments or some other treatments for organ failure, the intensive care nurses might not have the opportunity to talk to the patient about what to expect in the ICU before admission. In such situations, continuous and timely release of information to the patient and relatives is important and this must be done immediately the patient in the ICU regains consciousness. Failure of the nurse to provide patients with information about the ICU environment, the treatment methods and explanations regarding why they are unable to speak can lead to enormous anxiety.

From my experience as a critical care nurse, patients, on regaining consciousness in the ICU become less anxious when the ICU nurse introduce herself, tell the patient the date and time where the patient is and why patient is intubated and being ventilated. Schou, and Egerod (2008) confirmed these findings in their studies which found that half the patients experienced lack of orientation to time and place. They did not know if it was

night or day, or how long they had been in the ICU. Some of the participants of that study had to rely on relatives visiting to get the time of day.

This finding is also consistent with Hofhuis, Spronk, van Stel, Schrijvers, Rommes, and Bakker (2008) who showed that explanations and the instructions during the mechanical ventilation were perceived as being reassuring, resulting in less fear and uncertainty and that information concerning patient's disease condition and the course of the illness if it is complete and honestly provided was perceived as important. Knowing why specific treatment methods were carried out was supportive and reduced fears.

This study's findings are in line with findings by Shattell, Hogan, and Thomas (2005) which found that patients in the acute care environment experience fear due to vulnerability, illness, possible disability, and powerlessness. Patients experienced the acute care hospital environment as confining: a place where they did not want to go, did not want to be, and were always glad to leave. The hospital environment was portrayed as "a necessary evil."

Patients reported not receiving information about how to communicate in the ICU. They also accepted that they were unable to recall information provided during admission. Because ICU patients could easily forget previous information due to sedation the timing for provision of information and the need for repetition of information is important (Magnus & Turkington, 2006).

Participants felt embarrassed to be in restraints when they had visitors. Other negative feelings about physical restraints were fear and humiliation. Findings also indicated that physically restraining conscious and intubated patients who could not verbally communicate was regarded as a form of punishment provoking them to anger. This finding is consistent with that of Strout (2010) who reviewed literature on patients' perspectives on the experience of being physically restrained and reported that fear,

humiliation, and demoralization were common feelings of physically restrained conscious patients. He concluded that physically restrained patients described their experience as punitive, abusive and infringes on the integrity of the patient.

Hofsøa, and Coyerb, (2007) reviewed literature on patient perspective of the use of chemical and physical restraints in the management of mechanically ventilated patients in the ICU and reported that psychological response to restraint include increased agitation, withdrawal, emotional devastation, fear and loss of dignity

Since intubated and conscious patients are unable to communicate verbally, physically restraining them also takes away the use of their hands to gesture. Physical restraints also resulted in agitation in participants. The findings in this study is supported by Liu et al (2009), Happ et al (2004) who showed that when conscious, intubated ICU patients were physically restrained by wrist belts to prevent unplanned extubation, they also lose the ability of gesture, which is the most common form of nonverbal communication and this was a major concern.

From my experience as a critical care ICU nurse, patients newly admitted to the ICUs are restrained before they regain consciousness. Such patients needed to be put to 'sleep' using anaesthetic drugs before intubation. They are also physically restrained before they regain consciousness due to the belief that if they wake up and extubated themselves, giving them another dose of the same anaesthetic drugs again in order to re-intubate them may be harmful to or complicate their already critical illness.

Patient agitation in the ICU might be caused by sudden realization that she could not speak and was also 'tied' to the bed post (Happ et al., 2004).

Findings also showed that most participants were breathless and associated their breathlessness to the endotracheal tube, NG tube and the mechanical ventilator. (Karlsson,

Lindahl and Bergbom, 2012; Arslanian-Engoren and Scott, 2003) confirmed this findings that participants felt being suffocated by the tubes in their throat.

5.2 Communication Methods of intubated patients

5.2.1 Gestures

This study found that Gestures were the primary method of communication used by conscious intubated participants. It was used by each participant at some period during his or her ICU stay. All the participants described how they had to use their hands and fingers to make signs or signal to nurses. Gestures are hand actions accompanying speech performed to enrich communicative repertoire of a particular cultural community (Molnar-Szakacs, Wu, Robles, & Iacoboni, 2007). Gestures can be considered to be unspoken words or phrases, in that they are symbolically used (Gunter & Bach, 2004).

Happ et al (2004) carried out a study to describe the communication ability, methods, and content among nonspeaking non-surviving patients treated with mechanical ventilation in an intensive care unit, also confirmed this findings that gestures was one of the primary nonverbal methods between intubated intensive care patients and their care givers.

Another study by Happ et al (2011) confirmed that gestures as nonverbal communication method between intubated intensive care patients and their care givers is very important.

Gestures were inhibited by physical restraints. Participants in this study, were unable to gesture with their hands during the period they were physically restrained. The physical restraints used in the intensive care unit were wrist bands, side rails and bed linen tucked around patients' chest and hands. This finding is supported by Happ et al (2004), Happ (2000) that gestures, as primary method of nonverbal communication, are often inhibited by use of wrist restraints. Additionally, wrist restraints hinder the use of

augmentative and alternative communication methods such as pointing to characters and writing. Physical restraint may indirectly hinder communication by contributing to feelings of stress, anxiety, depression, and withdrawal among patients receiving mechanical ventilation.

For intubated intensive care patients, nonverbal communication is very important in making themselves understood by their healthcare providers. Findings in the current study showed that participants' gestures were largely misunderstood by intensive care nurses. Happ (2000), confirmed this finding by showing that nonverbal methods of communication including gestures by intubated intensive care patients are often misunderstood by intensive care nurses. She suggested that intensive care nurses needed to develop their skills in nonverbal communication.

Failure of the intensive care nurses to understand the gestures of intubated intensive care patients could also be attributed to the fact that Ghana is a multicultural and multilingual society. A patient admitted to the intensive care unit could be gesturing in his own language and that sign could mean something different from what the nurse understand it to mean. Gullberg (2006) in a study to establish the importance of gestures in second language acquisition showed that one of the most outstanding features of gestures is that individuals differ in their gesture use. As a result, it is commonly believed that gestures are peculiar to individuals and random. For this reason gestures cannot be studied in a structured way. It is also known that people in other cultures differ in the way they use Gesture.

Halligan (2006) described critical care nurses' experiences in caring for patients of Muslim denomination in Saudi Arabia and also agreed that Arabs use a number of gestures to get their points across, for example, the 'clicking of the fingers', a widely accepted practice in the Middle East, is considered to be a rude and unprofessional gesture in

Western societies. Knowledge of the patient's culture may reduce some of the frustration of misunderstanding gestures and help the nurse to understand.

5.2.2 Writing

Writing as a method of nonverbal communication was hardly used by the intubated intensive care participants. Even literate participants who were capable of writing would attempt to gesture or mouth words first and it was only when these methods failed that they would write out their needs. The finding in the current study is in line with that of Happ et al (2011) which showed that writing was minimally used by intubated mechanically ventilated patients. Findings from this study also indicates that participants found writing very tiring and energy demanding hence their preference to gestures and miming. Happ et al (2004) observed that writing was the fourth primary method of nonverbal communication by intubated mechanically ventilated intensive care patients. Drugan (2011) also reported that intubated conscious intensive care participants who were more able could attempt to write messages but that was not an easy task. According to her, participants reported feeling weak and the oxygen saturation probe also interfered with writing.

The findings in the current study supports that of Karlsson, Lindahl and Bergbom (2012) who showed that writing by conscious intubated intensive care patients to make themselves understood by both nurses and relatives, took all their energy and was regarded as very exhausting. Some were unable to write because of injuries caused by trauma or disease or because their hands were too shaky. The patients' handwriting varied, sometimes the text was difficult to read – the sentences ran into each other and the letters were sometimes written on top of one another – making it difficult to read their responses.

Writing was easily understood by the nurses and was a better way for participants to communicate their needs. Once the conscious intubated intensive care patients were able

to write and the words were legible, their needs were understood and provided according to the intensive care unit protocol. This finding supports Happ et al (2004) who observed that one of the factors which hinder communication with intubated patients is the patients' inability to write. Clearly writing would have made it easier for the critical care nurses to understand the needs of the intubated patients.

Findings in the current study showed that when patients' gestures are misunderstood by intensive care nurses, patients might extubate themselves to enable them verbally communicate their needs. Participants who had second experience of being intubated and its associated voice loss had lesser negative emotions when their nonverbal cues were misunderstood. It seems no studies have been done on unplanned self-extubation from the perspective of the patient since the current researcher could not find any study to support or refute this finding. Again it appeared no studies have been done with patient who had more than one experience in endotracheal intubation with voice loss. Such patients appeared to have lesser negative emotions when their nonverbal communications were misunderstood by the ICU nurses.

5.2.3 Try and error questioning, and head nods.

Although participants said the intensive care nurses did not help them in their effort to communicate while they were intubated, further questions during data collection revealed that they received some form of help from the nurses to enable them communicate nonverbally. In try and error questioning, nurses asked participants series of close ended 'yes' or 'no' questions, which participant could answer with head nod if a question meet his need. This kind of questioning is guess work and depends on the ability of the intensive care nurse to anticipate the needs of the participants. Findings of Happ et al (2011) are in line with the findings of the current study. They described communication interactions,

methods, and assistive techniques between nurses and nonspeaking, conscious critically ill patients in the intensive care unit and showed that only nonverbal natural communication methods were used by participants, i.e. head nod, gesture, miming, and facial expression. Head nods and yes/no questions were the most common communication technique used, followed by miming and communicative nonverbal actions and gestures.

The findings presented in this study are also consistent with the findings of Drugan (2011) who demonstrated, in a study to explore the experiences of conscious intensive care patients while they were attached to a mechanical ventilator, that participants used head nods but those who were unable to move their heads or limbs had to rely on blinking or closing eyes, while others wiggle their toes. These methods also relied on the healthcare worker, or visitor, asking the right closed ended questions and a lot of guesswork to establish even limited communication.

The success of the nurse to guess right is also closely related to experience and how familiar the nurse has become with a particular patient. For example if the nurse is assigned to a particular patient regularly, she becomes better at predicting the needs of that patient compared with if she is assigned to different patients anytime she is on duty. This finding supports the findings of Engström, Nyström, Sundelin, and Rattray (2013) who conducted a qualitative study on people's experiences of being mechanically ventilated in an ICU and found that participants described how hard it was not being able to communicate verbally. They could not talk due to weakness and tubes in their mouths and throats. They said that it would have been good to be able to use sign language. Not being able to make themselves understood led to feelings of panic and frustration. They tried to speak, mime and write messages, without success. They tried using technical aids, such as pointing on a board, but failed as they could not control their own arms or their hands were too shaky. It was difficult just to shape the mouth to try to express oneself and mime the words. According to

the authors, after a while, the staff learned to understand what the participants wanted to say and they found their own ways to attract attention, e.g. by using the saturation probe on their finger to knock on the side of the bed when they were thirsty. The participants in that study appreciated continuity among the staff, as they got to know some of those who were often there and learnt to interpret the participants' signals better. The participants described being worried about being transferred to another ward with fewer staff, whether the staff there would manage to care for them as was being done and about the need to create new relationships.

Another study on 'Living the situation stress-experiences among intensive care patients' by Fredriksen and Ringsberg (2007), agreed with the findings of the current study. Participants in that study reported that the way care is organised often affects the satisfaction of elementary physical and psychological needs of the patient. It may increase or reduce his fear and anxiety. Patients and their significant others rate continuity of care and the proximity of nurses and physicians as very important. Close and familiar relationship is essential to assure patients and significant others of safety and hope.

Findings in the current study indicates that try and error questioning is guess work and can take a long time. It is almost always used by nurses when other methods such as gestures or lip reading fails. It is very frustrating and sometimes embarrassing to participants. One participant recounted how she entered into try and error questioning with a nurse when she wanted to use the bed pan. She ended up soiling herself because the nurse was unable to ask her the right question. This experience was very embarrassing to the participant. Some participants avoid needs that will result in elaborate communication due to this frustration. In a study to investigate nonvocal ventilated patients perceptions of being understood Carroll (2007), confirms the finding of the current study by showing that when a nurse has difficulty understanding the message a voiceless individual is conveying,

lack of clarity and uncertainty can result. Open-ended questions might not be able to elicit the information the nurse wants from a voiceless patient because of the difficulty of understanding the response. When an individual is ventilated and voiceless, there is no proven effective method to ensure that adequate communication can occur. Patience, diligence, and a trial-and-error approach are required to find a combination of communication methods that works for a voiceless individual. This finding is also consistent with that of Alasad and Ahmad (2005) who conducted a study to investigate the experiences of a group of critical care Jordanian nurses concerning verbal communication with critically ill patients and concluded that interaction between nurses and critically ill patients depends on the level of consciousness of the patient and his ability to respond. Because patients cannot communicate well with nurses, it becomes more difficult for some nurses to provide care because they cannot determine what patients would and would not like to be done for them. This in turn made nurses feel frustrated because they had to depend on speculation

5.2.4 Lip Reading

Miming words, involves conscious intubated intensive care patients using their lips to form words for the nurse to read the lips and interpret it. The nurse would then say what the participant had said for him to confirm with a head nod. Thus in both try and error questioning and lip reading the nurse puts up an effort to assist the participant to communicate his needs. The findings in this study supports an earlier study by Happ et al (2004), that a clinically significant proportion of nonspeaking non-surviving ICU patients who receive mechanical ventilation communicate to nurses, other clinicians, and family members primarily through head nods, miming, and gesture. Head nods and miming were

the most commonly used methods of communication, and the majority of documented communication involved yes/no responses to caregivers' questions.

Findings in the current study also support Patak et al (2004) who conducted a study to ascertain the helpfulness of methods used by health care practitioners to meet the communication needs of the mechanically ventilated patients and revealed that providing materials for writing and asking questions that demand yes or no response so that participants could shake or nod their head for yes or no were the ways healthcare providers assisted participants to communicate their needs.

From my experience as a critical care nurse, miming words and lip reading becomes difficult for nurses to understand if the participant is orally intubated. Using the lips to form words becomes difficult for the orally intubated patients. The endotracheal tube distort the lips and adhesive tapes used to secure the tube also mask the lips. The nurse may also misunderstand the patient initially if the words mouthed by the patient are not in English. This misunderstanding may continue until the nurse clarifies the language spoken by the patient. This happens in the study setting since Ghana is a multilingual country.

5.3 Feelings of intubated patients concerning voice loss

Waking up from coma or sedation and realizing suddenly that you cannot talk was traumatic to participants. They may not be immediately aware of the presence of the endotracheal tube. But as they begin to move their heads they discover the presence of this foreign tube in their throats. This theme discusses various negative emotions expressed by the participants concerning their inability to speak and the presence of the endotracheal tube.

5.3.1 Feeling isolated and depressed

Participants felt that losing their voices was just like being physically isolated. They reported feeling cut off from their families and the rest of the world and living in seclusion in the ICU where they could not make themselves understood. Some participants reported that they were deliberately avoided by the nurses because the nurses thought it would be difficult to understand their nonverbal expressions. Participants used words like 'trapped', 'caged', 'locked in' and 'covered up' to describe the psychological and physical restrictions they experienced as a result of their inability to speak. The findings in the current study supports that conducted by Carroll (2007) to explore communication experience of nonverbal ventilated individuals in rehabilitation settings with an aim to understand the reality of being voiceless using interpersonal relations theory as the theoretical study framework. One participant likened the experience of not having his voice to feeling "caged." Most participants felt physically restricted regardless of their mobility levels. Physical restriction encompassed both restricted movement and restricted voice.

The result is also in line with Samuelson (2011), who describe unpleasant and pleasant memories of the ICU stay in adult mechanically ventilated patients. According to her, participants experienced feelings of anxiety, anger and frustration and some described how they constantly had worried thoughts about their situation, others wished they could escape and attempted to climb out of bed in order to get away. Some participants in her study, were depressed and had memories of feeling sad, lonely, empty and isolated, whilst some described memories of being trapped or locked up. Most participants felt uncertain and helpless. Waking up not knowing what had happened or what was wrong, feeling the loss of information, experiencing the inability to take care of oneself, feeling powerless and vulnerable, were distressing experiences.

Findings revealed that mood swings were common when participants were unable to communicate their needs as a result of the voice loss. Sometimes they become lonely, depressed and withdrawn. Other times they become agitated and aggressive, crying and shouting even though no one heard them. This finding builds on Karlsson, Bergbom and Forsberg (2012) who studied the lived experience of patients who were conscious during mechanical ventilation in intensive care unit, and reported that being unable to utter a single word by participants, led to a sense of loss of energy, despair, irritation and anger when they were not understood. They also reported that participants in their study felt that their inability to speak meant they were not being identified as individuals, nor cared for as human beings with individual personalities. Being unable to communicate their wishes resulted in feelings of powerlessness. Several patients described experiencing fear, such as fear of death or that the ventilator would stop functioning. The thought that the ventilator might stop functioning led to a sense of panic, which in some cases lasted throughout the ICU stay.

5.3.2 Fear

Findings in this study indicated that participants experienced fear due to their inability to communicate verbally and as a result of healthcare providers' inability to understand their nonverbal expressions. The strange intensive care unit environment provoked fear in participants. Regaining consciousness and realizing you were in a strange place where the people covered their heads and faces (head gear and face masks), your hands tied to your bed and no one tells you why you cannot speak was frightening to participants.

Threatening words from healthcare providers to make participants comply with treatment methods worsened their anxiety. For example one participant reported that when

she realized that she could not speak due to the presence of the endotracheal tube she attempted to remove the tube so as to talk to the healthcare providers. She was told that if she removed the tube she would die and that was very frightening. Lack of information about the ICU environment and the treatment procedures also aggravated the fear participants experienced. Some participants did not understand why they were connected to the mechanical ventilators. Others also thought their voice loss were permanent. The thought that they were not going to speak again for the rest of their lives was terrifying.

The fact that they could not seek information to clarify these fearful thoughts and the healthcare providers also offered no information about these concerns worsened their fears. If the ICU team failed to provide an explanation about an issue, participants formulated their own opinion about that issue which may lead to negative emotions in the participants. Providing timely information to patients to alleviate their anxiety but for ICU patients who just regained consciousness, this was apparently lacking. Some participants relied on religion to alleviate their fears. The findings in this study supports the findings of Drugan (2011) who noted that not being able to use their vocal cords had an immense effect on their sense of disempowerment. Indeed, not being able to make themselves heard was associated with an enormous sense of frustration, which in some cases led to anger.

However, there was no way of expressing anger, or fear, or pain which resulted in a sense of isolation. It is also consistent with the findings of Arslanian-Engoren and Scott (2003) who revealed that emotions reported by intubated participants ranged from being scared and frightened to being angry about their need for ventilator support. Fear of the unknown and the realization that they were unable to speak or breathe on their own added to participants' distress and anguish.

5.3.3 Frustration

Participants expressed frustration about the method and the nature of communication with the intensive care health team. Participants got frustrated when the healthcare team failed to read and interpret their lips and gestures correctly. When participants were unable to communicate urgent needs such as the need for the endotracheal tube to be suctioned to get rid of accumulated mucus, they become frustrated and desperate. They became frustrated whenever their attempt to communicate their needs was unnecessarily prolonged as a result of their voice loss. They felt helpless and powerless when they had to give up their needs due to their inability to communicate verbally.

The presence of the endotracheal tube and inability to communicate verbally produced rage in some participants. Some participants described feeling crazy and unable to control their anger. They were even angrier when they realized that even though they were expressing anger, no one seemed to have noticed it. Some participants out of anger attempted self-extubation, others hit the side rails with the saturation probes while others said they wish they could throw things at members of the healthcare team. Carroll (2007) also recounted that the nonvocal experience was frustrating and sometimes led to anger and even withdrawal. Participants were distressed by the sense of physical restriction that resulted when they did not have their voices. In a study on the intensive care experiences of Jordanian women Zeilani (2008) revealed that negative emotions experienced by the participants were distress, frustration and a sense of loneliness as a result of the loss of verbal communication with their relatives. Nurses should be aware of the frustration from the participants' incapability to communicate verbally and encourage them to use nonverbal communication methods or writing down notes. Zeilani's findings are also in line with the findings of the current study.

Findings of Khalaila et al (2011) who examined the association between communication characteristics and psychoemotional distress among patients treated with mechanical ventilation in a medical intensive care unit were in agreement with the current study. They noted that the reason so many ICU patients expressed their frustration with being unable to speak while being treated with mechanical ventilator might be related to the discomforts of communication difficulties associated with periods of increased awareness and alertness during weaning from the treatment. They suggested that facilitating effective and appropriate communication methods may protect patients treated with mechanical ventilation from negative emotional distress. Similarly, Patak et al (2004); Happ et al (2004) and Carroll (2004) also found high levels of frustration and anger among intubated patients who could not communicate verbally.

5.3.4 Anger

Findings from this study showed that the presence of the endotracheal tube and inability to communicate verbally annoyed some participants. Some participants became angry on realizing that they could not use their voices. Some became agitated while others tried to extubate themselves. This findings supports that of Johnson et al (2006) who revealed that initially participants were totally unaware of the endotracheal tube and the mechanical ventilator that was on them and around them, and were surprised when they moved and discovered a foreign tube or piece of equipment attached to them. Participants were irritated and annoyed by its presence, and found the effects of its application unpleasant and uncomfortable. Shattell, (2004) found that nonverbal ICU patients described feeling like they had no control over their treatment and were coerced or forced into certain behaviours that the staff thought more appropriate. The participants responded to this apparent control by ICU nurses with anger.

The findings of the current study is also in agreement with Hofhuis et al., (2008) who concluded that both verbal and non-verbal communications have a major impact on the patient's emotional stability and perceived care. However, when the nurses did not adequately attempt to understand the nonverbal communication, the patient may feel that nurses do not care enough. This makes patients angry and sad. Consequently, impaired communication is positively correlated to feelings of anger and low mood.

5.4 Perceived disregard of nurses to the concerns of participants

5.4.1 Impatient nurses

Even though participants appreciated the work of the intensive care nurses, most of the participants were of the view that the ICU nurses were impatient regarding the nonverbal communication efforts of intubated patients. Participants wanted the ICU nurses to allot more time to attend to the needs of the intubated patient who could not communicate verbally. The nurses should demonstrate patience and willingness to stay by the intubated patient in order to understand what the intubated patient wanted to communicate. Participants observed that the ICU nurses were always in a hurry to attend to other patients. Participants felt that ICU nurses give equal attention and time to their patients but more time should be assigned to patients who could not communicate verbally. Participants in the current study thought that even when a nurse was unable to understand what they wanted to communicate, showing availability by staying by their beds was comforting. But it was distressful when the nurse left them in haste to do something else either for them or somebody else. It made them feel that their effort to communicate was a waste of time to the nurse. Some participants thought that they were beyond help and that was why the nurses did not want to waste time understanding them.

The situation where social aspect of nursing is sacrificed for technical or clinical efficiency could lead patients to believe that they are mere 'duties' to be discharged by the ICU nurses. Failure to understand their needs made them believe they were responsibilities that the nurse needed to discharge but not appreciated like human beings.

The findings of the current study supports the findings of Alasad and Ahmad (2005), who conducted a study to investigate the experiences of a group of critical care Jordanian nurses concerning verbal communication with critically ill patients and concluded that interaction between nurses and critically ill patients depends on the level of consciousness of the patient and his ability to respond. They stated that nurses consider communication with critically ill patients as a hindrance to getting the work done. Patak et al (2004) agreed with the findings of the current study. In a study to ascertain the helpfulness of methods used by health care practitioners to meet the communication needs of the mechanically ventilated patients, their participants reported feeling misunderstood, devalued as a human being, and discouraged when healthcare providers were inattentive and walked out on them while they were trying to communicate.

The findings is also in line with that of Shattell (2004), who revealed that patients believed that the nurse-patient interaction was important in their care, and in fact, more important than other aspects of care. Patients wanted nurses to be genuine, not in a hurry, available and willing to talk to them. Patients wanted to be valued and respected as individuals and believed that social interaction was important. Patients did not want to be treated like objects.

5.4.2 Apparent disregard for patients' communication efforts by healthcare providers

Participants believed that nurses did not understand their non-verbal communication because the nurses did not pay enough attention to the methods the patients used. The nurses had already made up their minds that either patients' non-verbal cues would be difficult to understand, or nonverbal communication with participants was time consuming so they paid no attention to those signs. Hence ICU nurses do not even observe the participants while they were making effort to communicate. Participants felt that even if the ICU nurses had informed them before an intended procedure, failure to obtain response from them meant their opinions were not sought. The inattention to participants' nonverbal cues was deep to the extent that some participants even started scribbling in their palms yet it did not occur to their care providers that if they were provided with pen and paper could write their needs.

This finding agrees with a case study by Jenabzadeh and Chlan (2011) which described a nurse's experience of being intubated while receiving mechanical ventilation. They noted that nurses who were comforting were those who would talk to the participant directly, explaining the care being provided. Participants especially appreciated nurses who would take the time to sit and make the effort to communicate with them; it showed that they were interested in their work and their patients. Nurses who made the extra effort to try to figure out participant's wants and needs were invaluable to her.

The finding in the current study supports the findings of Alasad and Ahmad (2005) who conducted a study to investigate the experiences of a group of critical care Jordanian nurses concerning verbal communication with critically ill patients and concluded that interaction between nurses and critically ill patients depends on the level of consciousness of the patient and his ability to respond. According to the authors, because patients cannot

communicate well with nurses, it becomes more difficult for some nurses to provide care because they cannot determine what patients would and would not like to be done for them. This in turn made nurses feel frustrated because they had to depend on speculation. They stated that nurses consider communication with critically ill patients as a hindrance to getting the work done.

McCabe (2004) conducted a study to explore patients' experiences of nurse-patient communication and also had a similar finding. She noted that the participants in the study frequently referred to how nurses did not provide enough information and many commented on how nurses were more concerned with tasks than with talking to them. Some of the participants felt that nurses did not communicate in a patient-centred way because they made assumptions about their concerns and needs.

The conclusions of Shattell (2004) after she reviewed literature on Nurse-patient interaction is in agreement with the finding of this study. She revealed that patients believed the nurse-patient interaction was important in their care, and in fact, more important than other aspects of care. Patients wanted nurses to be genuine, not in a hurry, available and willing to talk to them. Patients wanted to be valued and respected as individuals and believed that social interaction was important. Patients did not want to be treated like objects.

One informational challenge that most participants had was lack of orientation after regaining consciousness. Participants needed information on where they were, date and time, how long they have been unconscious, the history of their disease or injury after waking up from sedation or anaesthesia. Participants reported regaining consciousness when their hands were restrained with tubes in their throats. Yet no information was provided as to how they found themselves in that state. Some participants admitted they were confused about reality, they were not sure whether they were alive or dead. Others

thought they were mistaken for robbers and so were tied up. This finding is in line with that of Merilainen, Kyngas and Ala-Kokko (2013) who described the interaction between intensive care patients and the intensive care unit environment and revealed that some nursing actions were performed without the patient receiving any information, while at other times the patient had no time to react to information received before the action occurred. While ICU patients are told what procedures are going to be done, they do not receive adequate explanations about where it is going to be done or those who are going to do it. The ICU environment can also be incomprehensible to a patient who is waking up from sedation or anaesthesia. There is therefore the need for the ICU nurse to provide intubated patients, who cannot verbally ask for explanation, complete information about ongoing ICU activities and procedures.

Schou and Egerod (2008) also agreed with the findings of this study. In their study to provide a contemporary description of the patient experience of weaning, in order to up-date this aspect of knowledge in the context of newer modalities of mechanical ventilation and sedation, they found that many of the patients experienced loss of control and reduced self-confidence. Participants lacked the ability to orient themselves to time and place and felt helpless. They were not always sure what was going on. Participants felt lonely and needed close contact with nurses because the ICU was an unfamiliar environment. Half the patients experienced lack of orientation to time and place. They did not know if it was night or day, or how long they had been in the ICU. Some of the participants of that study had to rely on relatives visiting to get the time of day.

The findings in the current study is also supported by Wang et al (2008) who investigated patients' intensive care experience while receiving mechanical ventilation in intensive care units, and found that patients experience the ICU environment as very unfamiliar. On waking up for the first time in the ICU participants felt they had come into

another world. Hospital, as a special environment, is strange to every person and is very different from living and working environments. It has a special environmental layout, many instruments and equipment which can 'know everything, do everything', unfamiliar staff and the strange professional language spoken by staff all constitutes the intensive care unit's special cultural environment. Participants in the study experienced the intensive care unit as strange, unfamiliar and totally unlike their everyday world.

Participants adopted two main ways of resolving this confusion which resulted from lack of orientation to the ICU environment after regaining consciousness. Some participants cope by relying on the supernatural. They relied on faith to see them through. Findings of Phelps et al. (2009) who studied the association between religious coping and use of intensive life-prolonging care for near death patients with advanced cancer is in agreement with the current study. They established that 78.8% of the total study participants reported moderate to high reliance on religious coping with 31.6% of the participants agreeing that it is the most important thing that keeps them going. 55.9% of the participants engaged in times of prayer, meditation, or religious study at least daily.

The findings of Arslanian-Engoren and Scott (2003) who investigated the lived experience of survivors of prolonged mechanical ventilation is also in agreement with the current study. They found that participants who experienced prolonged mechanical ventilation expressed finding comfort through religion and prayer. According to the participants, they prayed a lot every day, either in private or with family members, throughout the entire ordeal of mechanical ventilation. Belief in God and belief in the power of prayer provided comfort and support during anxiety attacks or episodes of fear. Moreover, the participants believed that something more powerful than them assisted in their recovery.

5.5 Challenges of intubated patients in their effort to Communicate

5.5.1 Lack of orientation after regaining consciousness

Participants reported that they were not provided any information about where they were after they had regained consciousness. Some struggled to obtain information and was rather given a sedative to calm her down. Some of the participants were also confused about reality not knowing whether they were alive or dead. The ICU team did not identify themselves when attending to the patients. Participants had to listen to conversations around them in order to know where they were.

This finding supports an earlier study conducted by Wang et al. (2008), who found that on waking up for the first time in the ICU patients feel they had come into another world. Hospital, as a special environment, is strange to every person and is very different from living and working environments. It has special environmental layout, many instruments and equipment, unfamiliar staff, and the strange professional language spoken by staff all this constitutes the intensive care unit's special cultural environment. Participants in that study experienced the intensive care unit as strange, unfamiliar and totally unlike their everyday world.

The finding is also in line with Schou and Egerod (2008) who revealed that many of the ICU patients experienced loss of control and reduced self-confidence. They lacked the ability to orient themselves to time and place and felt helpless. They were not always sure what was going on. Half the patients experienced lack of orientation to time and place. They did not know if it was night or day, or how long they had been in the ICU.

The finding in the current study is in agreement with that of Samuelson (2011) who found that ICU patients experienced strange feelings that were often frightening. They also experienced confusion, which resulted in a sense of disorientation. Some felt that

everything was unreal and diffuse, like being in a black hole or in another world; others did not know where they were or did not recognize their relatives.

5.5.2 No call system

Most of the participants in the current study ended up in the ICU through the emergency departments or as a result of deterioration in their condition after an emergency surgery. There was no time for the ICU staff to inform participants of an acceptable method of attracting staffs' attention prior to intubation and mechanical ventilation. Each participant after regaining consciousness, or waking up from sedation had to device her own method of attracting the attention of the ICU staff. The methods initiated by participants for attracting the attention of the ICU staff include violently shaking the side rails of the patient bed, hitting the bed with the SPO_2 probe on their fingers, raising their hands, waving to the staff, coughing, and clapping the hands.

Participants reported that initially they were at a loss as to how to attract the attention of the ICU staff. They had to device means of attracting the attention of the healthcare providers all by themselves. Some of their methods were not pleasing to the ICU staff hence they had to switch methods.

Participants who were too weak to use their limbs and those who were physically restrained at the time they regained consciousness found it even more difficult to attract the attention of the ICU staff.

The findings of the current study are consistent with that of Drugan (2011) who conducted a study to explore the experiences of conscious intensive care patients while they were attached to a mechanical ventilator. According to her study, some of the participants described methods they used for trying to attract attention of nursing staff, including waving and removing the oxygen saturation probe from fingers as this would

cause the monitor to 'beep'. Other participants used to bang a beaker of juice on the bedside table to attract attention, especially if the breathing tubing had come disconnected. The findings also supports that of Engström et al (2013) who explored People's experiences of being mechanically ventilated in an ICU. They found that after a period of not knowing what to do, participants found their own ways to attract attention, by using the saturation probe on their finger to knock on the side of the bed when they were thirsty or want something.

The studies of Happ (2000) on the interpretation of non-vocal behaviour and the meaning of voicelessness in critical care also is in line with the findings of the current study. She found that the deliberate use of devices by participants to summon the nurse to their bedside is a compelling, technologically mediated interaction between patient and nurse. This attention getting behaviour may indicate a basic physiologic need e.g., thirst, elimination. However, nurses also associated this behaviour with fear of being alone and fear of dying.

From my experience as a critical care nurse, each intubated and mechanically ventilated ICU patient is assigned a nurse during a shift. That nurse sits by the bed of the patient to serve the needs of that patient. There is no formal way for intubated patients to attract the attention of the nurse. The patient normally initiates a method, and the nurse taking care of the patient may modify the method to ensure that it does not cause damage to equipment. For instance, hitting the bed with the Spo2 probe might destroy the sensors in it. Both ICU nurses and patients have a challenge when an intubated conscious patient is too weak to use the limbs. The only way such a patient can attract the nurses' attention is through the use of facial expressions. Since facial expressions do not produce sound, the nurse might be sitting by the bed side but she might miss the patient's effort to attract her attention.

Perhaps electronic call systems were not installed in the ICUs due to the proximity of the nurse and the patient. However findings from this study indicates that participants would greatly benefit from call systems in the ICU.

5.5.3 Nurses' inability to understand nonverbal cues of intubated Patients

Conscious, intubated, and mechanically ventilated ICU patients have non-verbal methods of communication as the only options of interaction with the ICU staff. Participants in the current study used gestures, miming, head nods during the early stages of their recovery. Those who could read and write however, used writing later as their health improved. Healthcare providers in the ICUs largely misunderstood these non-verbal methods of communication apart from writing. Most of the participants had to give up communicating their needs about personal care and comfort and need for information on their care. The inability of the ICU staff to understand the non-verbal cues of the participants resulted in anger frustration and unmet needs. The needs participants had wanted to communicate were basic needs of elimination, suctioning, hunger, thirst, pain or change of position.

The findings of the current study builds on that of Happ et al (2004) who studied communication ability, method, and content among nonspeaking non-surviving patients treated with mechanical ventilation in the intensive care unit which indicated that most communications initiated by intubated patients could not be interpreted or were misunderstood by communication partners even though the communication partner realized that the patient was attempting or trying to communicate. This clearly indicates most communication needs of intubated patients were misunderstood by care providers. The study however, indicated that where intubated patients' initiated communication were

understood by care givers such communication were more about immediate physical needs and symptoms than about emotions, home, family concerns, and treatment decisions. When participants were not understood, their needs were often not met. Incontinence resulted when participants were unable to convey that they needed to void. Some participants' needs were unmet because time or fatigue impeded communication efforts. Inconsistency of nursing staff contributed to unmet needs. Any time a new nurse is assigned to a patient that nurse had to learn the nonverbal communication methods of that patient all over again (Carroll, 2004).

5.6 Ways participants suggested they could be helped to communicate effectively

Almost all participants believed gesture was the best method that nurses could develop to facilitate nurse patient communication in the ICU. Majority of the participants thought if nurses could be patient, they could understand the gestures initiated by the participants. A few of them however, believed that the nurses should have established meaning of common gestures and inform patients immediately they become conscious. Leaving the patient to invent their own gestures could lead to different meanings assigned to similar gestures and this could lead to confusion.

This finding is in line with Miners and Kamel (2002) who studied knowledge-based disambiguation of hand gestures and found that it is possible to study traditional hand gestures and create a database of their meanings

The finding in the current study also support that of Drugan (2011) who revealed that participants in her study described methods for trying to attract attention of nursing staff, including waving and removing the oxygen saturation probe from fingers as this would cause the monitor to 'beep'. Other participants used to bang a beaker of juice on the bedside table to attract attention, especially if the breathing tubing had come disconnected.

Tapping or banging the side of the bed with a pen was another method used. All the above methods were effective to some degree, but none of these methods were initiated by nursing staff as agreed methods of communication. They were all developed by individual patients as a means of attracting the nurses' attention when they needed something.

The next chapter focuses on summary, recommendations, implication for nursing practice, education, research, administration and management.

CHAPTER SIX

SUMMARY, IMPLICATION FOR NURSING, RECOMMENDATION AND CONCLUSION

6.0 Introduction

This chapter deals with the summary and conclusion of this research study, the key findings and their implications for nursing practice, nursing administration, nursing policy and research. Limitations to the study and recommendations are also discussed.

6.1 Summary

This study explored the Patients' Perceptions about Health Professionals' Communication while they had endotracheal tube in situ. The research questions asked required qualitative descriptive method to answer them. This method allowed the researcher to investigate and obtain in-depth experiences of participants concerning communication with health care providers while the participants were intubated and were in the intensive care unit.

The Research Questions were;

1. What are the methods of communication between intubated patients and Intensive Care Nurses?
2. What are the communication needs of intubated patients in the Intensive Care Unit?
3. What are the feelings of intubated patients concerning their inability to communicate?
4. In what ways can intubated patients be helped to communicate effectively with their healthcare providers?

The study was conducted at the First Floor Surgical Recovery Ward, Cardiothoracic Intensive Care Unit and the Surgical Ground Floor Intensive Care unit of the Korle Bu Teaching Hospital. The data analysed produced five (6) themes and sixteen (16) categories which answered the research questions. The themes were; Initial fear and misunderstanding, Methods used by intubated patients to Communicate with Healthcare Providers, Feelings of intubated patients concerning voice loss, Perceived disregard of nurses to the concerns of participants, Challenges faced by intubated patients regarding communication and Suggested ways of improving communication between ICU patients and their care providers.

Seven (7) of the participants reported disorientation and anxiety when they regained consciousness. They were unable to solicit for information and the ICU health Care team also failed to explain their situation to them. However, two (2) of the participants who had pre-operative counselling on what to expect before admission to the ICU reported less anxiety on regaining consciousness.

The primary nonverbal method of communication used by the participants was gestures. All the participants used gestures regardless of their level of education. Even literate participants who were strong enough to write would gesture first and write only when the gestures were misunderstood. Writing was used by literate participants as muscle strength and coordination improved. Writing was easily understood by the ICU nurses. However participants reported that writing was more energy demanding and tiring compared with gestures. The ICU nurses also assisted the participants to communicate their needs through the "try and error questioning" where the nurses asked participants close ended questions with participant nodding head in agreement or disagreement. Seven of the participants stated that they had received help through try and error questioning with two participants reporting that they did not receive help from the nurses concerning

communication. Lip reading was another nonverbal communication method used by participants while they were in the ICU. 44.4% (n = 4) of the participants mentioned that they used lip reading and head nods to communicate with the ICU nurses. The participant mimed the words while the healthcare providers watched her lips to make out the words formulated by the lips.

Another theme that emerged from the data analysis was 'Feelings of the participants concerning voice loss'. Participants reported feeling isolated and miserable. They felt secluded and 'caged' as a result of their inability to express themselves vocally. Others stated that they were depressed but all these emotions were not noticed by the ICU nurses.

Some participants also reported feeling anxious due to loss of voice. Participants were anxious basically because they thought their inability to speak was permanent. They recounted that they were unable to seek an explanation to their voice loss because they could not speak. Others also were anxious because they thought they were dead. Frustration and anger were also reported by participants. Some participants recounted that they were angry to the point that they wanted to remove the ET tube to enable them speak.

Perceived disregard of nurses to participants' concerns also emerged as a theme during data analysis. Participants described the ICU nurses as impatient and who appeared to have made up their minds that trying to understand the nonverbal cues of intubated participants was a waste of time. Thus the nurses rarely watched the nonverbal signs initiated by the participants.

Challenges faced by intubated participants also emerged as a theme during data analysis. Participants were not given orientation to their environment and the reason why they were unable to speak after they had regained consciousness in the ICU. Most of them were also physically restrained at the time they regained consciousness. They did not know

why they were 'tied' to the bed. This led to agitation, attempted extubation and confusion. There was no call system in the ICU probably due to the close proximity of the ICU nurses to the participants. However, the intubated participant who was unable to use her voice needed a method to attract the nurses' attention. Participants reported that there was no agreed method of attracting the nurses' attention. Each participant had to device her own way of attracting the nurses' attention.

Participants also recounted that the inability of the ICU nurses to understand nonverbal communication methods was one of their biggest challenges while they were on admission in the ICU. Most participants had to give up their needs because they were unable to communicate those needs to the nurses.

Participants also believed if nurses were a bit patient, they could understand the nonverbal communication cues of patients. A few of the participants thought gestures are very important method of communication between intubated patients and care givers. ICU nurses must develop an acceptable meanings of common gestures and let patients use those gestures instead of allowing the patients to invent their own gestures.

6.2 Implication for Nursing

Findings from this study confirms that communication is important to patient care no matter the condition of the patient. Since nurses spend more time with patients than any other professionals in the health care team, the results of this study is significant to nursing practice, education, research and policy.

6.2.1 Implication for Practice

Findings show that there may be a discrepancy between what patients' value and what nurses also value. While the ICU nurses are preoccupied with nursing interventions

that promote recovery and prevent deterioration of the ICU patient, the ICU patient prioritize quality communication with the nurses.

The study has revealed that there is the need for ICU nurses to immediately give orientation to patients who have regained consciousness in the ICU. This might reduce anxiety and patient agitation and might probably limit the need for restraints. One of the findings from this study is that patients who were given orientation prior to the ICU admission were less anxious about their inability to verbally communicate. Where possible, ICU nurses must meet both patients and significant others to tell them what to expect in the ICU before the ICU admission.

The primary nonverbal communication method used by the intubated patients, according to the findings in this study, was gestures. The alienation, isolation, fear, anxiety, and other negative emotions experienced by participants emphasise the importance of effective communication by nurses to promote psychosocial well-being of intubated patients. Most of the participants reported that their gestures were misunderstood by the ICU nurses and hence the needs they wanted to communicate were not met. Since patients admitted to the research setting speak different languages, and gestures may mean different things in different languages, it is necessary for the ICU nurses to agree with intubated patients how to signal for certain basic things such as pain, thirst, change of position etc. There is also the need for ICU nurses to show intubated patients how to attract the attention of the ICU healthcare team.

ICU ward heads and departmental heads might also organize in-service training for newly recruited ICU nurses on nonverbal communication to enhance the nurse-patient communication within the ICU.

6.2.2 Implication for Nursing Education

Findings from this study indicated that ICU nurses had difficulties understanding nonverbal communication. Curriculum of Registered Nursing programmes must include interpersonal communication. Student nurses must have clinical internship on interpersonal communication before graduating. Similarly, Post Diploma programmes in Critical Care Nursing and other programmes intended to train physicians for intensive care must have nonverbal communication in their curriculum.

6.2.3 Nursing Research

This study has revealed two main literature gaps that need further studies. First, findings in the current study indicated that when patients' gestures are misunderstood by intensive care nurses, patients might extubate themselves to enable them verbally communicate their needs. Most literature extracted by the current researcher attributed unplanned extubation to discomforts associated with the ET tube, inexperience nurse and inadequate sedation. There seemed to have been no studies that investigated the reasons of self-extubation from the perspective of the intubated patient. Further studies might help to uncover the reasons of self-extubation from the patients' perspective and might help to control unplanned extubation

Second, findings from this study also revealed that participants who had second experience of being intubated and its associated voice loss had lesser negative emotions when their nonverbal cues were misunderstood. Again there appeared to have been no studies that investigates whether patient who had once experienced endotracheal intubation with voice loss have lesser negative emotions when their nonverbal communications were misunderstood by the ICU nurses.

Finally there is the need to further investigate if preadmission counselling reduces anxiety and disorientation after the patient regains consciousness in the ICU.

6.2.4 Nursing Policy

The Ministry of Health, the Nursing and Midwifery Council of Ghana, the Ghana Registered Nurses Association and the Critical Care Nurses Association must come out with guidelines concerning the nurse patient ratio in the ICUs so that nurses can have enough time to attend to clinical needs as well as psychosocial needs of the ICU patient.

6.3 Recommendations and Conclusion

On the basis of the findings in this research study, it is recommended that:

There should be periodic training of nurses working in the ICUs in nonverbal communication.

Orientation of ICU patients after regaining consciousness, including methods to attract the nurses' attention is of great importance and all ICU nurses must do it. Methods of attracting the nurses' attention must be uniform and must not be different from one nurse to another. ICU nurses must develop accepted meanings for common gestures which would be used by patients while on admission.

The nurse: patient ratio in the ICU must be reviewed to allow enough time for nurses to try and understand nonverbal communication efforts by patients.

6.4 Limitations of the Study

The exploratory descriptive approach to qualitative research, allows the use of small sample size even though it generates rich data. As a result findings in this study cannot be generalized to larger population. This is because the sample may not be

representative of diverse patient groups, for example when considering gender, age, and religion.

Only intubated participants were studied. A more holistic approach would have been to study nonverbal communication between intubated ICU patients and nurses from the perspective of both patients and nurses.

Some of the interviews were conducted in the local languages and later translated into English. The emotions attached to certain expressions may be lost during translation even though member checking was done by the researcher. In addition, some potential participants who could not speak English had to be dropped since there was nobody to interpret the purpose of the study and the interview in their dialect.

6.5 Researcher Reflection.

Even though I am a critical care nurse and known in the research setting I was not directly involved in the care of any of the participants and this enabled them to speak to me freely during the interview.

The recorded audio interviews were listened to and compared with the transcribed data by a colleague to ensure that the data was devoid of the current researcher's prejudices. Field note, recording facial expressions and other emotions expressed by the participants during the interview were referred to during data analysis to ensure that participants' experiences were accurately reported.

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APPENDICES

Appendix A: Interview Guide

Appendix B: Ethical Approval Letter

Appendix C: Information Sheet

Appendix D: Introductory Letters