

A Study of Critical Care Nurses' Verbal and Non-verbal Communication with Mechanically Ventilated Patients in an Intensive Care Unit in Bahrain

By

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A study of critical care nurses' verbal and non-verbal communication with mechanically ventilated patients in an intensive care unit in Bahrain.

Abstract

Background

Communication with others is essential for the comfort and well-being of any human being (Ashworth 1987). In an intensive care environment, the majority of patients are unable to communicate normally, because of their being sedated, paralysed and intubated or due to mechanical ventilation (Hagland 1995). Hence, in an intensive care unit communication between nurses and patients is likely to be as vital as it is difficult (Ashworth 1981). This study was a partial replication of Ashworth's (1980) study, investigating critical care nurses' verbal and non-verbal communication with mechanically ventilated patients in an intensive care unit (ICU) in Bahrain.

Objectives

The general aim of this study was to investigate critical care nurses' verbal and non-verbal communication with mechanically ventilated patients in an intensive care unit in one hospital in Bahrain. The particular objectives of the study were to describe the verbal and non-verbal communication and to explore the nurses' perceptions and attitudes towards this communication. The research questions of the study were 'What is the content of nurses' communication with mechanically ventilated patients and how much time is spent in this communication'? The second question was 'What are the attitudes and perceptions of nurses on verbal and non-verbal communication with mechanically ventilated patients'?

Method

This research study was descriptive-exploratory in nature using both quantitative and qualitative approaches. Observation and interviews were the two methods that were used to conduct this research. A non-probability convenience sampling method was used and ten nurses were observed and interviewed. The data from observation was analysed using the Statistical Package for the Social Scientist version 10.0 (SPSS 10.0) for windows and Microsoft excel version 2002. The data from the interviews was analysed by using a method of thematic content analysis, suggested by Burnard (1991).

Findings

Analysis indicated that the minimum time spent in verbal communication was 35 seconds and the maximum time 4 minutes and 33 seconds in a 2-hour observation. A great part of this communication involved informing the patients about the immediate procedure being performed, providing reassurance and request or command. Touch was used by only seven nurses and the maximum times touch used was 4 times during a 2 hour observation period. The barriers to communication identified by nurses were the condition of the patient, language barrier, nurses' emotional status and their workload and finally emotional status of the patients. All the nurses felt frustrated with difficult communication and reported that communication with patients, particularly touch, is influenced by their religious and cultural beliefs. Most nurses felt that communication is important in the intensive care unit.

Conclusion

This study has evaluated an area of practice that was not previously investigated in Bahrain. Findings of this study may increase awareness about communication in the intensive care unit and improve practice in Bahrain.

Chapter 1

Introduction

In this chapter, focus of the study is described highlighting the importance of the area investigated. A brief background of the country is presented where data collection was carried out. The reasons for investigating this area of nursing are discussed and finally, the aims and objectives of the study are outlined.

1.1 Focus of the Study

Critical care nursing is a highly technical speciality of health care which aims to assist people to survive life threatening conditions (Elliot and Wright 1999). Patients admitted to critical care areas like intensive care unit (ICU) are critically ill and they are at the most vulnerable period of their life. They are not only faced with the prospects of life and death, but they are subject to the fearful procedures and often can not make sense of them (Hagland 1995).

Critical ill patients often have multiple organ failure, so their bodies are invaded by tubes and wires which are connected to medical equipment such as monitors (Albarran 1991). Most of these patients are also mechanically ventilated, or sedated. One major psychosocial problem of mechanically ventilated patients is their inability to speak because of cuffed endotracheal or tracheostomy tube obstructing the larynx and airflow (Connolly and Shekleton 1991). Patients can experience fear and panic when attempting to communicate (Bergbom-Engberg and Haljamae 1989). The intensive care unit is a highly specialized and technical environment which is unfamiliar to the patients admitted, which increases their feeling of insecurity.

At this stage, they fully depend on the nurses for their physical, psychosocial and social needs (Bergbom-Engberg and Haljamae 1989). Hence, in an intensive care unit communication between nurses and patients is likely to be as vital as it is difficult (Ashworth 1981). Pearce (1988) emphasizes that effective and therapeutic communication is a key element of caring for sedated, ventilated patients. It is a first step to establish communication in treating the patient as a unique human being (Zori 1984). The communication process is central to the provision of a therapeutic relationship (Rundell 1991). According to Montgomery (1993) communication can be an integral part of the healing process, as it establishes a relationship at the level of the mind, body and spirit. Personal contacts, being called by name, being talked to and being cared about may increase the level of consciousness while sedation, fatigue, and negative emotional situations may lead to a decreased level of consciousness (Podurgiel 1990).

Heath (1989) suggests that most nurses and medical staff believe that patients have few memories of the intensive care unit after discharge. A number of retrospective studies have shown that many patients do remember their experiences in intensive care units (Chew 1986, Bergbm-Engberg and Haljamae 1988, Turner et al 1990, Hafsteindottir 1996, Holland et al 1997 and Russell 1999). Heath (1989) stated paralysed, unconscious patients being ventilated in an intensive care unit may have perfect and acute hearing. Baker and Melby (1996) stress that it is the duty of the intensive care nurses to ensure that they provide care and attention which prevents discomfort and distress to these patients.

This research is a partial replication of Ashworth's (1980) study, and focuses on critical care nurses' verbal and non-verbal communication in the intensive care unit in Bahrain. Most studies conducted on the issue of nurses' communication in intensive care units are from European countries such as Great Britain, United States of America and Sweden (Ashworth 1980, Sayler & Stuart 1985, Glick 1986, Schoenhofer 1989, Turnock 1989, Weiss 1990, Bergbom-Engberg & Haljamae 1993, Leathart 1994, Baker and Melby 1996, Hall 1996, Elliot and Wright 1999, Wojnick-Johansson 2001). The aim of replicating Ashworth's (1980) study is to investigate the issue of communication in a Bahraini culture and to investigate whether a difference in culture affects nurses' communication with patients.

1.2 Background of the Country

This study was conducted in an intensive care unit in a large government teaching hospital in Bahrain. The Kingdom of Bahrain is an archipelago of thirty-three islands situated midway in the Persian Gulf close to the shore of the Arabian Peninsula (Metz 1993). The total area is 665 square kilometre with a population of 667,238 including 235,108 non-nationals. There are 63% Bahrainis, Asians 19%, other Arabs 10%, and Iranians 8% (World fact book 2003). Non-Muslims foreigners include 7.3% Christians and 7.7% Hindus and others (Metz 1993).

Arabic is the official language although English is widely used and understood. Islam a system of religious beliefs is practiced by 85% of the population. Muslims believe that God (Allah) revealed to the Prophet Mohammed the rules governing society and the proper conduct of society's members. Therefore, it is the duty of the individual to live in a manner prescribed by the revealed law. Islam recognises no distinction

between the religious institution and the state. The impact of religion on daily life in Muslim countries is extensive, usually greater than that found in the West (Metz 1993).

The discovery of oil in 1930s enabled Bahrain to develop a sophisticated education and Health system (Ministry of Health 2000). There are currently two systems for healthcare delivery in Bahrain. The government of Bahrain finances 75% of the national health care system through public hospitals and health centres, while the private system (25%) is provided through private hospitals, clinics and polyclinics. The government of Bahrain provides free primary, secondary and tertiary health care for all nationals and at vastly subsidized rates for non- nationals. In Bahrain, the Ministry of Health is the major provider of health services and it is considered a major source of health financing (Ministry of Health 2000).

1.3 Rational for the Research Project

I am a teacher teaching in the General Nursing Program in Bahrain. My role makes me responsible for teaching theory as well as clinical teaching. To acquire clinical experience, students are allocated to medical and surgical areas as well as speciality areas depending on the course objectives. One of the speciality areas is the intensive care unit, where students practice different skills. As a teacher, I have to accompany students to the clinical area.

Communication skills are a part of undergraduate nursing education. However from a personal perspective and from personal observation, I am concerned that graduate nurses working in the intensive care unit may have ineffective communication with

mechanically ventilated patients as there is no specific education or training given to students regarding this issue. Having taught in the intensive care unit, I observed that communication in intensive care unit is difficult and different than in general wards.

Education by itself may not be enough to improve practice. Teaching communication skills without knowing the actual practice in the intensive care unit and the attitudes and perceptions of Bahraini nurses will not be sufficient to bring about change. Thus, an understanding of the factors influencing the communication and barriers to communication is very important. Research findings, knowledge from science, and clinical knowledge are all considered as 'evidence'. However practice which is based on research findings can result in desired patient outcome across a range of settings and geographic locations (Youngblut & Brooten 2001). There is no research carried out in Bahrain about communication in the intensive care unit or in the general wards. Generally, nursing research is very limited in Bahrain and therefore there is a need to investigate the communication process in Bahrain hospital.

Selection of this investigation is considered relevant to the advancing nursing practice. Advanced nursing practice is centred on the core therapeutic nursing role of caring and nurturing (Mac Alistor 1995). Advanced nursing practice includes evaluating current practices and identifying deficiencies in the service and patients' unmet needs. The results of the evaluation should be used to determine the goals of practice development (Goodman 1998). Advanced nursing practice is also about developing the scope of nursing practice to provide high quality nursing care based on evidence and clinical effectiveness (Woods 2000). By investigating this issue, the researcher is evaluating the current practice in the intensive care unit and the findings

of this study will present evidence that can advance and improve practice. Conducting this research will also advance researcher's practice by increasing knowledge and skill in the process of conducting research.

1.4 Aim of the Study

The aim of this study is to investigate critical care nurses' verbal and non-verbal communication with mechanically ventilated patients in an intensive care unit in Bahrain. This study is a partial replication of Ashworth's (1980) study that was carried out in the North-West of England in five intensive care units. Ashworth's (1980) study was replicated partially by Leathart (1994) in one intensive care unit in England. Baker and Melby (1996) also replicated Ashworth's (1980) study, focusing solely on verbal communication with unconscious patients in an intensive care unit in Northern Ireland. Most of the studies, investigating the issue of communication in intensive care units were carried out in Western cultures. In the absence of any such study in a Bahraini hospital or the Arabic world the aim of replicating Ashworth's (1980) study is to investigate the issue of communication in a Bahraini culture, different from Western cultures in many aspects.

The particular objectives of the study are to describe the verbal and non-verbal communication and to explore the nurses' perceptions and attitudes towards verbal and non-verbal communication with mechanically ventilated patients in the intensive care unit. Thus the research questions of the study are outlined as:

- What is the content of nurses' communication with mechanically ventilated patients?
- How much time is spent in communication?
- What are the attitudes and perceptions of nurses on verbal and non-verbal communication with mechanically ventilated patients?

The objectives and research questions are quite similar to the Ashworth's (1980) study's research questions but Ashworth (1980) also studied the patients' perception about communication which took place between nurses and patients in intensive care units.

Triangulation of quantitative and qualitative approaches was used to meet the objectives and answer the research questions of the study. The aim of the non-participant observation is to investigate critical care nurses' communication content with mechanically ventilated patients and the time spent on this communication. The purpose of using interview is to explore nurses' perceptions and attitudes toward verbal and non-verbal communication with mechanically ventilated patients.

1.5 Outline of the Study

Chapter two reviews the literature related to communication. This chapter includes a discussion of the process of communication in general and in critical care environment. It also describes the influence of the intensive care environment on patients. Studies related to communication in the intensive care unit are also evaluated.

Chapter three discusses the rationale for research method used in this study describing the use of observations and interviews. It also includes description of the research setting, selection of sample and ethical issues relating to this research.

Chapter four and five discuss the findings of the observations and interviews. The findings are compared and discussed in relevance to study replicated and previous literature regarding the communication.

Chapter six discusses the key findings of the quantitative and qualitative elements of the study, within the context of the aims and the research questions of the study. The implications of the findings for advanced nursing practice are highlighted. This chapter also includes the limitations of the study and recommendations for future research. Chapter seven presents the conclusion of the study.

Chapter 2

Literature Review

2.1 Introduction

A Literature review can serve a number of functions in the research process. Firstly, it helps the researcher to create ideas or focus on a research topic. Secondly, it ascertains what is already known about a problem of interest and thirdly, it is important for developing a broad conceptual context in which a research problem will fit. Finally, it can be useful in pointing out the research strategies, measuring instruments and statistical analysis that might be productive in pursuing the research problem (Polit and Hungler 1995).

Based on the research questions and aims of the study, the review will focus on four main areas of the existing research. The literature review is presented under these broad themes.

- The process of communication.
- Intensive care environment.
- Communication in the critical care.

2.2 Literature Search

The literature search was conducted using a range of databases (see table 2.1). The search was limited to published articles from 1980 to 2003. References of each article and study were reviewed also.

Table 2.1: Data bases

Medline
CINAHL
Premed line
EMBASE
Journals @ ovid full text.

The key words entered in to the databases are outlined in table 2.2. Key words were combined to obtain the relevant literature. The following inclusive criteria were considered for the review.

- The study was based on verbal and non verbal communication of critical care nurses.
- It had observation technique, interviews, or questionnaires as data collection methods.
- It was published in English.

Table 2.2: Key words

Communication Touch Nursing	Verbal communication Mechanically ventilated patients Communication skills	Non- verbal communication Intensive care unit Critical care
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The studies included in this research were carried out mostly in Western countries like Great Britain, United States of America and Sweeden. No research regarding communication in intensive care units or in general wards in Bahrain was identified. Generally, nursing research in Bahrain is very limited.

2.3 The Communication Process

Communication is the foundation of society and the ability to communicate is vital to human functioning and well being. By nature humans are social and human relationship helps to meet not only their physical needs but also the psychosocial need for love; belonging and self esteem (Taylor et al 2001). Adler and Towne (2003) emphasize the importance of communication by suggesting that its presence or absence can affect physical health.

Kozier et al (2000) state that the term communication has a variety of meanings, depending on the context in which it is used. However, many authors agree that communication is a process in which people affect one another through sharing and exchanging information, ideas and feelings. It is also considered to be a process of generating and transmitting meanings as information is produced and has meaning before it can be shared (Potter and Perry 2001, Kozier et al 2000, Taylor et al 2001). In addition the dynamic process of communication can be viewed as a vehicle for establishing a relationship (Saundeen et al 1998). In a similar vein, Adler and Towne (2003, page 12) define communication as, “ a continuous, transactional process involving participants who occupy different but overlapping environment and create relationship through the exchange of message, many of which are affected by external physiological and psychological noises”.

The basic components of communication are sender (encoder), message, channel and receiver (decoder) (Ellis et al 1999, Taylor et al 2001). Potter and Perry (2001) describe these components of communication. The sender is the person who encodes and delivers the message, and the receiver is the person who receives and decodes the message. The message is the content of communication which may contain verbal, non-verbal and symbolic language. Channels are means of conveying and receiving messages through visual, tactile and auditory senses. Feed back is the message returned by the receiver (Potter & Perry 2001).

Adler and Towne (2003) state that there are factors that can affect the components of communication such as external noises and other kind of distraction. They further add that physiological noise involves biological factors in the receiver and sender that interfere with reception, such as illness and fatigue. A psychological noise involves factors within the communicator that interfere the ability to express or understand a message accurately.

Sending and receiving a message takes place through verbal and non- verbal means. French (1994) states that verbal communication involves the use of words in either spoken or written forms. It involves the physiological and cognitive mechanisms required for speech production and reception. The verbal level is mostly associated with the term communication, although it represents only a small segment of total human communication (Saundeen et al 1998). The majority of communication occurs on the non-verbal level. It includes all forms of communication that do not involve the spoken words (Saundeen et al 1998). Faulkner (1998) argues that non- verbal behaviour is unconscious and can be influenced by personality or mood at a given

time. Many authors agree that non-verbal communication includes touch, eye contact, facial expression, posture, gait and physical appearance (Smith & Bass 1982, French 1994, Taylor et al 2001, Potter & Perry 2001).

Touch and physical contact are powerful ways of communicating relationships and emotions (French 1994). However it is considered a sensitive means of communication (Smith and Bass 1982). Similarly Taylor et al (2001) emphasize that touch is one of the most effective non-verbal ways to express feelings such as comfort, love, affection, security, frustration and excitement. Touch tells a lot about the relationship between two people (Ellis 1999) and it expresses personal behaviours and means different things to different people (Taylor et al 2001). In a similar vein, Faulkner (1998) state that the use of touch in interaction is influenced by cultural norms and it is also influenced by individual differences.

Eye contact is an essential element of facial communication (Kozier et al 2000) and is frequently the first message before the spoken words (Smith and Bass 1982). Eye movements communicate feelings and emotions. Readiness to communicate is showed by eye contact. Maintaining eye contact during conversation shows respect and willingness to communicate. Lack of eye contact may indicate anxiety and a lack of confidence in communication and it is culturally determined (Potter and Perry 2001).

Facial expressions are considered a strong form of non verbal communication, as Kozier et al (2000, page 435) state that, “no part of the body is as expressive as the face”. People distinguish one another by their faces. A person’s face is their identity.

The face is a vehicle for many different types of information (Porritt 1984). Feelings of surprise, fear, anger, happiness and sadness can be conveyed by facial expressions (Kozier et al 2000).

Posture and body movements can also convey messages to others. The manner in which a person moves in any given situation tells an observer a lot about a person (Smith and Bass 1982). The way a body is held gives an indication of confidence, attention, boredom and confrontation (Ellis 1999). However, posture like any other form of non verbal communication can be wholly unconscious (Faulkner 1998).

Potter and Perry (2001) state, that personal appearance includes physical characteristics, facial expressions, manner of dress and grooming. These factors help communicate physical well being, personality, social status, religion, culture and self concept (Potter and Perry 2001). Taylor et al (2001) have a similar view that a person's clothing and grooming practices carry a non verbal message. Healthy people with good self esteem pay more attention to their general appearance, whereas those with low self esteem show less interest in their dressing and grooming.

Non verbal behaviour is often more revealing of true feelings than verbal behaviour as verbal communication is much more deliberate. Verbal response can be controlled by hiding true feelings, whereas non verbal communication is usually spontaneous (Harnes and Joseph 1986). Many factors influence the communication process. Some of these are developmental, gender, social differences, roles and responsibilities, values and perceptions, environmental, physical, mental and emotional state, and socio cultural elements (Taylor et al 2001, Potter and Perry 1999, Kozier et al 2000).

Culture includes the person's socio-economic, educational background, and the geographic area (Saundeen 1998). Culture is shaped by values, beliefs, norms and practices that are shared by members of the same culture group (Giger & Davidhizar 2002).

People from different cultures interpret eye contact, facial expression, body posture, gesture and touch differently (Grossman 1999). Eye contact is among the most culturally variable non-verbal behaviours (Andrews and Boyle 1995). Some Asians, Native Americans, Indo-Chinese, Arabs and Appalachians consider direct eye contact impolite and they may avoid eye contact when communicating with nurses and others whom they perceive to be in the position of authority. In some Arab, Hispanic and African American groups, modesty for both men and women is interrelated with eye contact. For Muslim-Arab women, modesty is achieved by avoiding eye contact with males, except for one's husband and keeping the eyes down when encountering members of opposite sex in public situation (Andrews and Boyle 1995).

Physical contact with clients can convey different meaning cross-culturally. Some women of Middle Eastern origin do not shake hands with men, nor do men and women touch each other outside the marital relationship (Andrews and Boyle 1995). In Hispanic and Arab cultures male health care providers may be prohibited from examining certain parts of the female body. It may also be inappropriate for females to care for males (Smeltzer and Bare 2000). Adolescent girls may prefer female health care providers or may refuse to be examined by a male (Andrews and Boyle 1995).

Beliefs about the way people talk also differ from one culture to another. In the Western world, silence is looked at as a negative sign. It is viewed as unwillingness to

communicate, hostility, anxiety, or a sign of interpersonal compatibility. In Eastern cultures, expression of thought is avoided and silence is valued (Adler and Towne 2003).

Anthropologist Edward Hall (cited in Adler and Towne 2003) identifies low context communication style and high context communication style. Low context cultures, such as United States of America and Canada, value using language to express ideas and feelings clearly and sensibly. It tries to find meaning of a statement in the spoken words. In such cultures, verbal fluency and self expression is admired. However, high context cultures, such as Japan and Saudi Arabia, value the use of language to maintain social harmony. They look for meaning from the context in which the message is delivered, that is non-verbal behaviour of the speaker, the history of the relationship, and the social rules that maintain interaction between people (Adler and Towne 2003).

2.4 Intensive Care Environment

The increase in technology in general clinical areas as well as specialized units such as intensive care units influence the delivery of nursing care (Randle 2001). The environment in intensive care units has become increasingly sophisticated with the use of highly specialized equipment (Stanton 1991). Many authors agree that intensive care is arguably the most stressful setting in the hospital (MacKellaig 1987, Hafsteindottir 1996). Hudak and Gallo (1994) suggest that patients in today's critical care units are surrounded by advanced technology, that is necessary to save life, but may at the same time create a strange environment.

The intensive care unit is full of a variety of sensory disturbances. In an intensive care unit, the patient can be exposed to sensory overload. When an excess of sensory stimuli occurs, sensory overload can be experienced (Glide 1994). Noises from machines and equipment, constant artificial light, acute illness and often potential treatments, the close proximity of patients to each other, all of these are considered to contribute intensive care unit syndrome or psychosis (Noble 1979). Long-term exposure to high level noise can result in increase tension and anxiety. Consultants, doctors, anaesthetists, physiotherapists, visitors and nursing staff, create a potential source of noise and disturbance to patients (Glide 1994).

In addition, the quantity and quality of noise can be a significant factor in a patient's recovery (Hudak and Gallo 1994). If environmental stimuli exceed the limits to which a human being can adapt, the coping systems fail. If this occurs, sensory imbalance can result in the patient experiencing anxiety, panic, confusion, hallucinations and depression (Hudak and Gallo 1994, Hagland 1995).

In an intensive care environment, the majority of patients are unable to communicate normally due to being paralysed, intubated or due to mechanical ventilation (Hagland 1995). A mechanical ventilator is a positive or negative pressure breathing device that can maintain ventilation and oxygen for a prolonged period. It may be required to control the patients' respiration during surgery and during treatment of severe head injury, to oxygenate blood when the patients' ventilatory efforts are inadequate, and to rest respiratory muscles. If a patient has low arterial oxygen levels, increased arterial carbon dioxide levels and a persistent acidosis, mechanical ventilation may be necessary (Smeltzer and Bare 2000).

Clients who need mechanical ventilation require an artificial airway. The most common is the endotracheal tube. If the client requires an artificial airway for longer than 10 to 14 days, a tracheostomy is performed to avoid mucosal and vocal cord damage (Ignatavicius et al 1995). A tube in the mouth or tracheostomy makes it impossible to talk. Mechanical ventilation can profoundly change a patient's self image. A previously independent patient may be devastated to have to depend on a machine to breathe (Zori 1984). Critically ill patients also experience restricted self identity because they are unable to communicate verbally or non-verbally. Thus, following key factors affect the critically ill patient's freedom of self expression. These are:

- Reduced ability to communicate
- The distracting nature of the technical equipment
- Altered physical appearance
- Lack of personal belongings.

(Calne 1994, page 31)

One of the greatest challenges in nursing critically ill patients is to attempt to compensate for sensory deprivation or overload by helping each patient to make sense of this unfamiliar and frightening environment. However, perhaps as a result of high technological nature of intensive care units, this psychological support is often neglected, coming lower down on a list of medical priorities (Hagland 1995).

In a similar vein, Zori (1984) emphasizes that in a busy intensive care unit, nurses can easily fall in to a trap of nursing the machine and not the patient. Perhaps the greatest challenge in caring for the mechanically ventilated patient is to help him feel whole

and unique, despite his attachment to a machine. Ashworth (1985) states that it is evident that effective use of all communication channels require the physical, emotional and intellectual capacity to send signals which convey their intended meaning and to receive them. But in the intensive care units, patients are restricted in their ability to express themselves by their body movements and personal appearance. Nurses working in intensive care units are also under pressure in anxiety provoking situations and this may affect their use of interpersonal skills (Ashworth 1985).

2.5 Communication in the Intensive Care Unit

Communication is the foundation of nursing and the art of caring holistically for patients (Anthonypillai 1993). Meaningful communication is a vehicle for the caring process used in meeting psychosocial needs of the patients (Hudak and Gallo 1994). Ashworth (1980) defines four main aims of nurse-patient communication:

- To establish a relationship in which patients recognize nurses as friendly, helpful, competent and reliable.
 - To try to determine patients' needs as perceived by them, and help them to recognize their other needs, as perceived by the nurse.
 - To provide accurate information by which patients can structure their expectations.
 - To assist patients to use their own resources and information provided to them to meet their own needs.
- (Ashworth 1980)

Communication with others is necessary for the comfort and well-being of any human being, but its need becomes more evident for a suffering human being in a strange

environment (Ashworth 1987). It is the most important aspect of nurses' work in caring for patients in the intensive care environment (Ingham 1989). However, interacting with critically ill patients is a challenge for nurses, as many of these patients are intubated or have a tracheostomy and are attached to ventilator or under the effect of sedation. Critically ill patients often have multi-organ failure, so they are attached to tubes and wires which are attached to medical equipment such as cardiac monitors and pulse-oximeters. (Albarran 1991).

In a similar vein, Anthonypillai (1993) states that communication should have no barriers, but in an intensive care unit patients' ability to communicate effectively is disrupted due to disease and treatment. Although, the equipment is used to maintain and sustain life, it may also restrict interaction with nurses or family members (Albarran 1991). Ashworth (1985) outlines the barriers to nurse patient communication in an intensive care unit. A summary of these barriers originating in patients as sender and receivers of message are outlined below:

- *Physical factors* – limited movement, lack of facial expression and eye contact, impairment of sensory reception and cerebral function impairment.
- *Psychosocial factors* – Anxiety, lack of information, impaired intellectual function, impaired self-concept, sense of helplessness and sensory deprivation.

Ashworth (1985) also summarises the barriers originating with nurses as sender and receivers of the message, which are outlined as;

- *Physical barriers*- such as wearing a mask which makes speech less distinct and hides facial expression. Also the nurse's characteristics such as the personality and behaviour.
- *Psychosocial barriers* – preoccupation with task, sense of frustration, difficulty of talking to an un-responsive patient, anxiety, stress and tiredness.

However, nurses can have a greater impact than anybody else on whether patients are helped by communication or not, as nurses are present constantly and affect the patients most directly (Ingham 1989). Nurses hold the key to improving communication with patients (Hagland 1995). Communication with intensive care patients is not easy and may be frustrating for both patients and staff (Ashworth 1987).

2.6 Non-Verbal Communication - Touch

Non-verbal communication is very important in any interaction, and it is more so with seriously ill patients (Routasalo 1990). One important form of communication in any health care setting is touch (Hudak and Gallo 1994). Physical touch is an integral part of nurse-patient interaction in all nursing situations (Routasalo 1990). Touch is also an integral part of human behaviour, and in the nursing context it can be used to perform a nursing intervention, such as washing a patient, or as an intervention itself, such as comforting a patient without words (Routasalo 1990). Hudak (1994) states that the need for touch is intensified during stress and can not be totally met by other forms of communication. Similarly, Ingham (1989) emphasizes that mechanically ventilated patients may depend on touch, tone of voice and speech characteristics for communication. However, this view has very western perspective.

The patient may be exposed to sensory deprivation, if sensory stimuli are diminished significantly. Sensory deprivation is a term used to identify various symptoms that occur after a reduction in the quantity and quality of sensory input. These symptoms include loss of sense of time, restlessness, boredom, depression, delusions and illusions (Hudak and Gallo 1994). The most considerable sensory deprivation that patients experience is lack of human touch (Glide 1994).

Communication with intensive care patients is very important, especially communicating with a critically ill patient who is sedated and ventilated and unable to speak. In these circumstances, touch is a valuable means of conveying messages (Verity 1996). Hudak and Gallo (1994) state that the benefits of touch are that touching improves the sense of well-being of the patient as well as physical recovery from disease. It also has a positive effect on perceptual and cognitive abilities and can influence physiological parameters such as respiration and blood flow. Touch is a means of giving and gathering information, but this is a fact that people are individuals, and interpretation of tactile communication can differ from person to person (Verity 1996). Touch may be used to increase the meaning of verbal and other body language such as eye contact (Ingham 1989).

Different types of touch may have varying psychological and social implications (Weiss 1986). The nurses' touch may be procedural that is used in performance of tasks, or non-procedural when nurses use their hands spontaneously to touch patients to communicate (Ingham 1989). In the critical care environment, most touching is task oriented; that is, it involves physical and technical procedures that have curative or rehabilitative purposes, or it strives to comfort the patients, where the motive is to

ease the individual's psychological and physical distress (Weiss 1986). Procedural touching is done to diagnose, monitor, or treat the illness itself; its intent focuses on the end result of curing the illness or preventing further complications (Weiss 1986).

Touch that is non-task related is a powerful therapeutic intervention that communicates caring (Hudak and Gallo 1994). Comforting touch is for the purpose of assisting the patient to cope with illness and related stressors. The intent of comforting touch is to attend to the immediate affective and cognitive needs of the patient, which can in turn influence physical response (Weiss 1986). In contrast to procedural touch, more comforting types of touch have been associated with decreased stress (Weiss 1986). Verity (1996) states that task related touch constitutes the majority of touch within the intensive care unit which emphasizes its importance.

If elements of comfort and affectionate touch are incorporated in this, it would be more meaningful; and as a means of communication this needs to be encouraged as a part of patient care and included in the care plans. Thus, there is an increased need for touch in the critical care environment, where technology contributes to depersonalization of the patient (Hudak and Gallo 1994).

Studies into nurses' communication with patients in the intensive care units are divided in to studies that have looked at verbal communication only, both verbal and non-verbal communication, and non-verbal communication concentrating on touch (Table 2.3). A summary of the studies is given in tables 2.4, 2.5 and 2.6.

Table 2.3: Studies in to communication

Verbal communication	Verbal and non-verbal communication	Non-verbal communication
Baker and Melby (1996)	Ashworth (1980)	Schoenhofer (1989)
Elliot and Wright (1999)	Bergbom-Engberg and Haljamae (1993)	Glick (1986)
	Hall (1996)	Weiss (1990)
	Leathart (1994) (1)	
	Learhart (1994) (2)	
	Sayler and Stuart (1985)	
	Turnock (1989)	
	Wojnicki-Johansson (2001)	

2.7 Verbal Communication

Two studies that have investigated the intensive care nurses' verbal communication with patients were conducted in Northern Ireland and in England. Elliot and Wright (1999) utilized a non-participant observation method, while Baker and Melby (1996) incorporated non-participant observation and structured interviews. In both studies nurses were observed for 4-hour episode and all patients were unconscious or sedated. Observations carried out by Baker and Melby (1996) were structured incorporating six categories of communication, while Elliot and Wright (1996) used an unstructured observation and the observations were transcribed.

Data obtained were analysed quantitatively and qualitatively in both studies. Both studies are considered to have small sample size, however Baker and Melby (1999) observed only five nurses, which is a very small sample. Baker and Melby (1996) found that the maximum time spent in verbal communication was 19 minutes, while the minimum time spent was 5 minutes. The majority of this communication constituted of short-term informative content and reassuring noises. The factors that affected the amount of verbal communication included the patients' level of consciousness, the amount of physical care being given and the presence of relatives.

On the other hand, Elliot and Wright (1999) revealed that maximum time spent in verbal communication was 9 minutes and 45 seconds and the minimum time was 48 seconds. The participants used seven categories of verbal communication that included procedural / task intention, orientation information, reassurance, apologies / recognition of discomfort, efforts to illicit a response, intentional and unintentional distraction, social conversation with colleagues while recognising the patient's presence. Elliot and Wright (1999) also identified as a major disturbance, the type of medical intervention and investigations carried out during the observation period, although Baker and Melby (1996) did not identify this.

2.8 Verbal and Non-verbal Communication

Most of the studies reviewed are from the United Kingdom (Ashworth 1980, Leathart 1994 (1and2), Turnock 1989). Two studies were carried out in Sweden (Bergbom-Engberg and Haljamae 1993, Wojnicki-Johansson 2001) and two studies in the United States of America, (Hall 1996, Sayler and Stuart 1985). Bergbom-Engberg and Haljamae (1993) and Sayler and Stuart (1985) used a qualitative approach, while the

studies by Leathart (1994) (2), Turnock (1989) and Wojnicki-Johansson (2001) are qualitative in nature. The remaining studies used both approaches (Ashworth 1980) and (Leathart 1994) (1). Hall (1996) used an analytical, cross sectional experimental design.

Most of the studies used a participant or non-participant observational method for data collection (Ashworth 1980, Hall 1996, Leathart 1994 (1), Sayler and Stuart 1985). However the time used for observation varied among these studies. Ashworth (1980) observed nurses for 4 hours, Hall (1996) for 30 minutes, Leathart (1994) (1) for two hours and Sayler and Stuart (1985) observed twenty 5- minutes of nurse-patient interactions. In addition to observation Ashworth (1980) interviewed staff and patients, Leathart (1994) (1) carried out structured interviews of nurses. Remaining studies conducted semi-structured interviews with nurses.

The sample of Ashworth (1980) study includes 39 patients and 112 nurses. Bergbom-Engberg and Haljamae (1993) 27 nursing staff, Hall (1996) 30 registered nurses, Leathart (1994) (1) 8 nurses and 8 patients. Leathart (1994) (2) six neophyte nurses. Sayler and Stuart (1985) 20 patients, Turnock (1989) 10 nurses, and Wojnicki-Johansson (2001) 22 patients.

The studies by Ashworth (1980) and Leathart (1994) (1) demonstrated that most of the nurses' communication consisted of short term informative, request or command, and questions. Touch and eye contact was used in most of the communication. The findings of interviews showed that the responsiveness of the patient was seen as;

being a major factor on the amount of their communication with patients and it was easier to communicate with a conscious intubated patient.

Hall (1996) found significant correlations between the nurse's perception of the patients' degree of responsiveness and the number of positive and negative interactions with the patient and length of the time the nurse had cared for the patient and the number of positive reactions from nurse to patient. Similarly, Sayler and Stuart's (1985) study revealed that positive nurse actions tended to yield positive patient reactions and negative nurse actions tended to yield negative patient reactions. Work overload was considered a limiting factor for communication and stress evoking for (82%) of the nurses. Bergbom-Engberg and Haljamae (1993) found that nurses felt frustrated when unable to understand the patient and 74% of the nurses were selective in information giving with an unconscious patient.

Turnock (1989) found that intensive care units nurses perform physical and technical tasks before the tasks that relate to the patient psychological needs and nurses tried to provide the patient with information to help orient them to time, place, their condition and process. Nurses employed two strategies to comfort patients, either verbally or by touching patient. Wojnicki-Johansson (2001) found that thirteen of the twenty-two patients reported that the registered nurses were able to understand their needs and wishes during the ventilator treatment. Body language and lip reading were reported as the most frequently used methods by the nurses.

2.9 Non-verbal Communication

Three studies included in this literature review are studies of touch in the intensive care units. There is a dearth of research studying the non-verbal communication such

as touch, eye contact, facial expression and body language. The studies included in this literature review can not be compared with each other as the aims are quite different.

The first study included is by Schoenchofer (1989) who examined factors involved in affectional touch, in two hospitals in the intensive care units. Study included a convenient sample of 24 nurses and 30 patients. Six nurses were observed in two dyads. Findings revealed that in 30 one-hour sampling period, a total of 84 instances of affectional touch occurred. The number of instances of affectional touch given by any one nurse ranged from zero to seventeen. There were six 1-hour periods in which no instances were observed. The majority of instances of affectional touch were of short duration and low intensity.

Two studies examined the effect of touch on physical parameters (Glick 1986, Weiss 1990). Glick (1986), in a quasi-experimental research studied the relationship between the type of touch and anxiety experienced by the myocardial infarction (MI) patients in the intermediate cardiac care unit. In this study, one group received procedural touch for 3-5 minutes, and the other group received caring touch for 3-5 minutes. State anxiety was measured both pre-touch and post-touch using the State-Trait Anxiety Inventory. Caring touch did result in a lower post-touch State anxiety mean score in the experimental group compared to the procedural touch in the comparative group; however the difference was not statistically significant.

Weiss (1990) examined the effects of a standardized protocol of tactile stimuli on the nervous system arousal of patients, hospitalised with cardiac disease as measured by

their cardiovascular reactivity and state anxiety. The sample consisted of 59 patients who were hospitalized at a major medical centre for diagnoses, observation, or treatment of coronary disease, valvular disease, or both. Subjects ranged from 24 to 80 years of age with a mean of 57 years. There were 47 male and 12 female subjects. All types of touch evoked heart rate deceleration in contrast to both base line and verbal conditions. However, there were no differential effects related to either the neural properties or procedural nature of the touch. Diastolic blood pressure and state anxiety were also lower as a result of the touch. No changes were observed for systolic blood pressure or heart rhythm. In general, findings suggested that touch served to reduce arousal rather than to produce negative psycho physiological consequences for recovery.

Table 2.4: Summary of research in to verbal communication.

Source	Aims	Setting / Sample	Method	Findings	Comments
Baker & Melby (1996)	To investigate the attitudes and practices of intensive care nurses towards verbal communication with unconscious patients.	Five staff nurses working in an intensive care unit in a major teaching hospital in Northern Ireland.	Non-experimental and descriptive-exploratory research design incorporating non-participant observation and structured interview. Each nurse was observed for a 4-hour period. The data obtained was analysed quantitatively and qualitatively.	The maximum time spent in verbal communication was 19 min (7.9%) and the minimum time spent was 5 min (2.1%). Most of this communication was concerned with informing patients about procedures and providing reassuring noises. The factors that affect the amount of verbal communication include the patients' level of consciousness, the amount of physical care being given and the presence of relatives.	Small sample size. Reliability and validity of observational categories and interview guide is not mentioned.
Elliott & Wright (1999)	To explore the quantity and content of the verbal	Sixteen nurses working in a general adult intensive care unit in a south London hospital.	A non-participant observation method.	Nurses who cared for patients that had a major disturbance or an investigation communicated verbally for a mean of 5 minutes and 30 seconds.	The study did not use structured observational approach. (Continued)

	communication that critical care nurses use to care for sedated or unconscious patients.		Data analysed quantitatively and qualitatively. Each nurse was observed for only a 4-hour period.	Other nurses communicated for a mean of 3 minutes and 15 seconds. Seven categories of verbal communication emerged: Procedural / task intention. Orientation information. Reassurance. Apologies / recognition of discomfort. Efforts to illicit a response. Intentional and unintentional distraction. Social conversation with colleagues while recognising the patient's presence.	The categories of verbal communication emerged after data analysis.
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Berbom-Engberg & Haljamae (1993)	To evaluate the experience of ICU nurses and their reaction to limitations and obstacles in the communication process with ventilated patients.	27 nursing staff working day shifts in ICU at Sahlgren's Hospital, Goteberg, Sweden.	Quantitative. After completing the questionnaire about demographic data, nurses were interviewed for an hour. The questions were designed to assess	The content of patient communication contained 6 % social content, 69 % informative content, 12 % request for physical care, 2 % request for information and 11 % others. Interview findings showed that nurses saw the patients' responsiveness as an indicator of general communication. Patients that were interviewed remembered the verbal communication.	Obtaining consent from the nurses is not mentioned in the study. (Continued)
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			21 aspects related to communication and each question contained 7 sub questions. The entire data was statistically analysed using SPSS, Chi-square, t-test, and Fisher's exact test were used for the significance.	or an interesting challenges (7%). Nurses with limited ICU experience thought patients' need for communication was dominated by information about the condition and nursing care activities while experienced nurses (>5years in ICU) thought social factors were important ($p<0.01$). Work overload was considered a limiting factor for communication and stress evoking for 82% of nurses. 93% of the nurses felt frustrated when unable to understand a patient. 74% of the nurses were selective in giving information to an unconscious patient.	
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Hall (1996)	To examine the interactions between nurses and patients on ventilators and the relationship between characteristics of these nurses and their communication with patients.	The study was conducted in a 450-bed, university affiliated hospital. Sample: 30 registered nurses, assigned to a patient on a ventilator, not oriented, and without communication handicaps.	Analytical, cross sectional experimental design. Nurses were observed for a 30-minute interval and communication was measured by the Categories of Nurse-Patient Interaction Content Tool.	Significant Correlations were found between the nurse's perception of the patients' degree of responsiveness and the number of positive and negative interactions with the patient and length of the time the nurse had cared for the patient and the number of positive reactions from nurse to patient ($r = .37$, $p < .05$).	It is not clear from the study whether participant or non-participant observation was used.
Leathart (1994) (1)	To determine the state of nurse-patient communication in an ICU, by the partial replication of Ashworth's (1980) study and to explore the nurses' attitudes towards and knowledge of nurse-patient communication.	Sample: 8 nurses and patients. A patient was selected according to the entry criteria that all patients must be conscious, oriented, intubated and able to communicate without using their voices.	Quantitative and qualitative. Participant observation of all nurse-patient interaction continuously for 2 hours using a prepared observational chart.	Observational chart results: Nurse initiated interactions ranged from 74-85%. The greatest proportion of interactions (35-77) were conducted in less than 30 seconds. The nurses' communication was dominated by short-term informative content (28-40%), questions (9-39%) and	Small sample size. Exact time of observation is not specified. Results are presented in a tabular form which makes it difficult to follow. (Continued)

			Structured interview of nurses.	commands and request (3-14%). The patients' communication consisted mostly of informative content (49-81%) in reply to nurses questions. Eye contact was used by nurses in 71-100% of the interactions. Touch was used in 15-64% of the interactions. Interview results: All nurses agreed that it was easier to communicate with a conscious intubated patient as the patient was able to provide some feed back.	
Leathart (1994) (2)	To develop inductively a theory about how the process of socialisation influences the attainment of communication skills by the neophyte nurses	Six neophyte nurses either currently working, or who had recently ceased employment in an ICU in the North of England, and had between 2 months and 2	Through the use of semi-structured interviews, the researcher intended to obtain information about the categories	The findings suggest that the current mentoring practices in the ICU do not adequately prepare the new nurses to practice independently without experiencing fear and anxiety and concern about their social	Obtaining consent is not mentioned in the study. The exact place and length of interview is not mentioned. (Continued)

	in an ICU.	years experience of working in an ICU.	identified during the pilot interview. The use of simple counting techniques in the analysis to count emergent themes, combined with quantitative methods to enhance the qualitative analysis.	inclusion in to the ICU team. In response to these, neophyte nurses develop coping strategies that reduce the amount of time spent communicating with the patient. The nurses describe a pattern of observation, experimentation, and evaluation of different communication techniques that they negotiate, before choosing which technique suit both nurse and patient.	Small sample size.
Saylor & Stuart (1985)	Hypothesis: There is no contingency between the type of nurse action and the type of patient reaction. There is no contingency between the type of	The patient sample included 20 patients who were intubated for the purpose of having mechanical ventilation. No comatosed, sedated patients or patients receiving neuromuscular	Quantitative. A total of 20 5-minute period of interactions were observed with the investigator serving as the co-observer.	The first hypothesis tested by means of chi-square was rejected. Positive nurse actions tended to yield positive patient reaction and negative nurse actions tended to yield negative patient reactions. The second hypothesis was	For this study, positive communication was defined as the transmission and reception of a message that was indicative of acknowledgement, <i>(Continued)</i>

	patient action and nurse reaction.	blocking agents were included in the sample. The nurses observed include any registered nurse or licensed practical nurse assigned to care for a patient who met the above selection criteria. Nurses were employed in a medical intensive care of a state-supported general hospital and in a similar unit in a Veterans Administration Hospital.	To describe the content of interaction, categories of Nurse-Patient interaction were developed by means of content analysis.	analysed by means of Fisher's exact test. Data analysis indicated $p=0.06$. due to the small number of interactions, the investigators could not tentatively conclude that apposite patient action tended to elicit apposite reaction.	reassurance or affirmation. Negative communication was defined as the transmission and reception of a message that expressed rejection, refusal, denial or negation. Ethical consideration and obtaining consent from patients or nurses is not mentioned. Study results are not presented clearly.
Turnock (1989)	To examine how ICU nurses perceived the psychological needs of	10 nurses with different grades from two intensive care units.	Qualitative.	Two overall themes were identified.	(Continued)

	their patients, what strategies were used to meet these needs, and the factors which interfered with this process.		Data was collected through the use of semi-structured interviews. Each interview was structured on a series of themes. Data was analysed using a modified grounded theory approach.	Organisation of work: ICU nurses perform physical and technical tasks before the tasks that relate to the patients psychological needs. Nurse-patient relationship: Nurses perceive the aim of their care was to treat the patient as a person. Nurses tried to provide the patient with information to help orient them to time, place, their condition and process. Nurses employed two strategies to comfort patients, either verbally or by touching the patient.	
Wojnicki-Johansson (2001)	To study communication between registered nurses (RN) and patients on a ventilator in an ICU setting.	The patient sample was consecutive subjects who were artificially ventilated for a minimum of six hours at a general ICU in a county hospital in South- central Sweden.	The study used a follow up design. For each consecutive patient, the RN in charge completed a	Thirteen of the twenty-two patients reported that the RNs were able to understand their needs and wishes during the ventilator treatment.	The age range of the sample is wide, which may affect the results. <i>(Continued)</i>

The specific aims included: How do RNs and patients evaluate the communication established during ventilator treatment? How patients evaluated the extent of functional communication? What communication methods are employed by the RNs to establish a functional communication? Do nurses and patients agree to the above communication issue?	Twenty two patients were interviewed at base line and 19 participated in all three interviews. The age range of patients was 8 to 78 years. The RN included were those in charge of ventilated patients who met the inclusive criteria. 22 nurses who were all women, ranged in age from 29 to 57 years of age.	protocol that contained questions about the patient and actions taken to establish functional communication with the patient. The patients included by the RNs were interviewed on three occasions. The first interview was done as soon as possible after the ventilator treatment was completed and the second occurred after another week. The third interview was conducted two months after the second interview.	The RNs, however reported functional communication in nineteen patients. A functional communication was typically related to the use of effective communication methods, while a lack of communication was associated with compromised medical status of the patient. Body language and lip reading were reported as the most frequently used methods by the RNs. The methods preferred by patients were body language, and touch, stated by 12 patients with 7 patients preferring paper and pen. 5 patients preferred yes-no questions. Combinations of various methods were identified as favourable by 8 patients.	Inclusion criteria, admission history, and diagnoses of patients are elaborated clearly in the study.
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Table 2.6: Summary of research in to non-verbal communication

Source	Aims	Setting & Sample	Method	Finding	Comments
Schoenhofer (1989)	To describe selected qualitative and qualitative factors involved in affect ional touch.	Three intensive care units in two large Midwest hospitals. One medical and one surgical intensive care unit were sampled in one hospital and a combined unit in the second hospital. A convenient sample of 24 nurses and 30 patients were selected.	A descriptive observational study. Observations were made intermittently over a span of 6 weeks with 57% of the observations were made at one of the hospitals and 43% at the other. Volunteers were sought from nurses working during the times selected for data collection. Patients of volunteers were those contacted for inclusion in the study. Observations of target nurse and patient behaviour were made for a one hour period.	For the 30 one-hour sampling period, a total of 84 instances of affect ional touch occurred. The number of instances of affectional touch given by any one nurse ranged from zero to 17, with a modal frequency of two instances for a one hour period. There were six one hour periods in which no instances were observed. The majority of instances of affectional touch were of short duration and low intensity.	Definitions of terminology and literature review are discussed in detail. Informed consent was obtained. However both nurses and patients were informed that the purpose of research was to study nurse-patient interaction, but were not told that touch was the specific focus. Results and discussions are presented clearly. However no conclusions are drawn.

			Six nurses were observed in two dyads.	Almost three fourth of the instances were accompanied by visual regard and two third by vocalization.	Face validity of the instrument was established by a panel of six nurses with expertise in critical care and psychiatric nurses. Time period of one hour of observation seems to be very short for non-verbal communication.
Glick (1986)	To determine the relationship between the type of touch and anxiety experienced by the myocardial infarction (MI) patient in the intermediate cardiac care unit.	Intermediate cardiac care units in a moderately large county hospital, a moderately large suburban hospital and a large urban hospital. Forty male and female patients of any presenting age having sustained an	A quasi-experimental study. A comparative group received procedural touch for 3-5 minutes, while the experimental group received caring touch for 3-5 minutes. State anxiety was measured both pre-touch and post-touch using the State-Trait Anxiety Inventory.	The results were in the direction of hypothesis but not at the level of significance. Caring touch did result in a lower post-touch state anxiety mean score in the experimental group compared to procedural touch in the comparative group.	Exact age and sex of patients are not mentioned in the study. Results are not presented clearly. Small sample size. Systematic assignment rather than random <i>(Continued)</i>

	The hypothesis was that there would be a greater reduction in anxiety in patients receiving caring touch and comforting verbal stimuli than in those patients receiving procedural touch and comforting verbal stimuli.	acute MI who were transferred from the coronary care unit to the intermediate cardiac care unit. A total of 33 patients were included in the data analysis, as seven patients did not meet the criteria at some point between the pre-test and post-test. The subjects were systematically assigned to the study group to control for the variables: age and sex.		However the difference was not statistically significant	assignment.
Weiss (1990)	To examine the effects of a standardised	The sample consisted of 59 patients who were	A within-subjects, counterbalanced, experimental design was used where	All types of touch evoked heart rate deceleration in contrast to both base line	(Continued)

	protocol of tactile stimuli on the nervous system arousal of patients hospitalised with cardiac disease as measured by their cardiovascular reactivity and state anxiety.	hospitalised at a major medical centre for diagnoses, observation, or treatment of coronary disease, valvular disease, or both. Subjects ranged from 24 to 80 years of age with a mean of 57 years. There were 47 male and 12 female subjects.	subjects served as their own controls. tactile stimulus conditions, each of procedural versus comfort focus condition, and (2) two verbal effects of non-tactile interactions -arousing on the bases of their	and verbal conditions. However, there were no differential effects related to either the neural properties or procedural nature of touch. Diastolic blood pressure and state anxiety were also lower as a result of the touch. No changes were observed for systolic blood pressure or heart rhythm. In general, findings suggested that touch served to reduce arousal rather than to produce negative psycho physiological consequences for recovery.	
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2.10 Conclusion

Both quantitative and qualitative studies have been carried out in to verbal and non-verbal communication of critical care nurses in an intensive care unit. Most researchers have studied the verbal and non-verbal communication issues in their research. Two studies (Baker and Melby 1996, Elliot and Wright 1999) studied only verbal communication included in this literature review. With regard to non-verbal communication there is little research carried out in this issue. No study was found that evaluated non-verbal behaviours such as eye contact, touch, facial expression and body language. These behaviours are difficult to be observed except touch that can be readily observed. Three studies (Schoehofer 1989, Glick 1986, Weiss 1990) regarding touch were included in this literature review.

Evidence presented in this literature review suggests that there is limited use of verbal communication in the intensive care unit by the nurses (For example, Ashworth 1980, Elliot and Wright 1999, Baker and Melby 1996). The content of communication in most studies was related to describing procedures to patients, asking questions and providing reassurance to patients (Leathart 1994, Ashworth 1980, Baker and Melby 1996, Hall 1996). In most of the studies different barriers to communication were identified by critical care nurses who affected their quantity of communication (Ashworth 1980, Baker and Melby 1996, Bergbom-Engberg and Haljamae 1993).

There is a dearth of literature examining the issue of culture on the communication processes. Most of this literature is from Britain and few studies are from United States of America. There is no research carried out in Bahrain that studied the communication issues in the intensive care unit or in the hospital in general. Nursing

research is generally absent in Bahrain. This chapter has presented the literature review regarding the issue of communication. First communication process in general was discussed. Second intensive care environment and its affect on patient were described. Third, communication in critical care was discussed and finally studies in to verbal and non-verbal communication were appraised. Next chapter will discuss the research design and the process used in this research study.

Chapter 3

Method

3.1 Introduction

The aim of this research is to investigate the critical care nurses' verbal and non-verbal communication with mechanically ventilated patients in an intensive care unit. In this chapter, the research methodology will be discussed and reasons for the research design will be outlined. The research setting and the selection of sample will also be described, as well as data collection and analysis procedure will be discussed, considering the validity and reliability of the instruments used. Finally, ethical issues relating to the study will be outlined.

3.2 Research Design

This study is a partial replication of an earlier study by Ashworth (1980) that investigated the communication between nursing staff and patients in intensive care units. The study was carried out in the North-West of England in five intensive care units with 5-11 beds each. It was a non-experimental descriptive study and observation of nurse patient interactions as well as interviews with nurses and patients were the main method of data collection. The analysis of the findings was done by using quantitative approach, although this is not mentioned clearly in the study.

Ashworth's (1980) study was also partially replicated by Leathart (1994) in England. Most of the studies, investigating the issue of communication in intensive care units were carried out in Western cultures. In the absence of any such study in a Bahraini hospital, the aim of replicating Ashworth's (1980) study is to investigate the issue of communication in a Bahraini culture.

This research study is descriptive-exploratory in nature using both quantitative and qualitative approaches. There are two assumptions that underline social research: the positivist and interpretive paradigm and these are considered the basis of quantitative and qualitative research (Holloway and Wheeler 1996). The description of these two approaches is considered necessary in explaining the selection of these methods for this study. According to Duffy (1985) quantitative research is a descendant of positivism and natural science and this type of research seeks to confirm facts and causal relationship in existing theories. The quantitative research tends to stress upon deductive reasoning, logic and measurable attributes of the human experience (Polit and Hungler 1995). Burns and Grove (1997) state that quantitative researcher strives for accurate measurement methods, representative sample and controlled design.

Qualitative research enables the researcher to make sense of reality by describing and explaining the social world and in developing explanatory methods and theories (Morse and Field 1996). According to Clarke and Jack (1998), qualitative research is an approach of describing an event in its context and is useful for investigating new and complex unexplored areas. The basic aim of qualitative research is to explore people's experiences, feelings and beliefs in their natural setting (Pope and Mays 2000, Holloway and Wheeler 1996).

According to Parahoo (1997) the essential difference between both approaches lies in their philosophical assumptions, which in turn guide the data collection and analysis process. However, both qualitative and quantitative methods can be appropriately used within any research paradigm (Guba and Lincoln 1994). According to Silverman (1993) neither school of thought is superior to another. There are no principle grounds

to be either qualitative or quantitative. Not all quantitative research is concerned with hypothesis testing and many surveys are straight forwardly descriptive in nature (Hammersley 1992). The decision over whether to use qualitative or quantitative is based on the suitability of a method to a particular research problem (Bryman 1988). For nurse researcher seeking to improve practice, a pragmatic approach is necessary to research (Pearon 1997).

The broad aim of this study is to investigate critical care nurses' verbal and non-verbal communication with mechanically ventilated patients in an ICU in one hospital in Bahrain. The integration of qualitative and quantitative method is considered as the design of this study, based on the objectives and research questions of the study (Figure 3.1).

Figure 3.1: Research objectives and research questions.

Objectives • To describe the verbal and non-verbal communication of critical care nurses with mechanically ventilated patients in the Intensive Care Unit. • To explore nurses, perceptions and attitudes toward verbal and non-verbal communication with mechanically ventilated patients in an intensive care unit. Research questions • What is the content of nurses' communication with mechanically ventilated patients? • How much time is spent in this communication with mechanically ventilated patients? • What are the attitudes of intensive care nurses on verbal and non-verbal communication with mechanically ventilated patients?
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Observation and interview are the two methods that were selected to conduct this research. The purpose of observation was to describe the actual communication content of nurses communicating with the patients and the time spent in that communication. The aim of using interviews was to explore nurses' perceptions and attitudes towards verbal and non-verbal communication. Triangulation of these approaches was used to meet the objectives and answer the research questions of the study.

Triangulation is used when a single method is inadequate and to ensure that the most comprehensive approach is taken to answer a research question (Morse 1991). Polit and Hungler (1995, page 655) define triangulation as "the use of multiple methods or perspectives to collect and interpret data about some phenomenon, to converge on an accurate representation of reality". Integrating qualitative and quantitative approaches offers the opportunity of overcoming the weaknesses of a single method and it enhances the validity of the study findings (Polit and Hungler 1995). According to Thurmond (2001) triangulation requires an increased amount of time and produces a large amount of data.

The literature review concerning nurses' communication with mechanically ventilated patients, shows that both quantitative and qualitative approaches have been used. There are many researchers who have used the integration of both strategies to study the critical care nurses' verbal and non-verbal communication with mechanically ventilated patients.

3.3 Research Setting

The study was carried out in an 11 – bed, general adult, intensive care unit in a large teaching hospital in Bahrain. It is a Government hospital and operates under the Ministry of Health of Bahrain. The Ministry of Health is the major provider of health services in Bahrain and is considered as a major source of health financing (Ministry of Health 2001). The hospital meets secondary and tertiary health care needs of the citizens and residents of Bahrain. The treatment is provided free of charge to Bahraini Nationals and with minimal charges to non- Bahraini population. The hospital's bed capacity is 888.

In the Ministry of Health hospitals, 60 % of the nurses are Bahraini. The total nurses working in the hospital are 1,925. The number of, Bahraini and non-Bahraini, nurses working in the hospital is given in table 3.1.

Table 3.1: Number of Bahraini and non-Bahraini nurses in the hospital
(Ministry of Health 2001)

	Total	Female	Male
Bahraini Nurses	1,158	1,031	127
Non-Bahraini nurses	767	730	37

There are 20 Bahraini and 27 non-Bahraini nurses working in the intensive care unit. There are only 3 Bahraini male nurses in the intensive care unit. The first language for Bahraini nurses is Arabic but English is widely spoken by nurses in the hospital. All Bahraini nurses are graduates of School of Nursing, College of Health Sciences where the medium of teaching is English. College of Health Sciences is the only provider of

nursing and allied health education in Bahrain. The religion of Bahraini nurses is Islam and all female nurses included in the study were covering their heads with “Hijab” (a piece of cloth to cover hair on the head).

In all the hospital including the intensive care unit male nurses are assigned to take care of male patients only, as in Arabic culture it is considered inappropriate that male nurses care for female patients. However, doctors are allowed to treat and provide care to female patients in the presence of a female nurse. Doctors are not present with patients all the time as they come for rounds in the wards and examine female patients in the presence of a female nurse. However, female patients prefer female doctors and wherever possible female doctors care for female patients but due to shortage of female doctors, male doctors can care for female patients.

On the other hand, female nurses are obliged to provide care for male patients in the hospital. Female nurses are assigned to take care of male patients as a routine. Most non-Bahraini nurses in the intensive care unit are Indians and a few are from Philippine. Arabic is a second language for these nurses. Nurses who are residents in Bahrain for a long time can understand Arabic. Patients from different nationalities and cultures are admitted in the intensive care unit and they speak different languages. The patients are admitted with medical, surgical and different diagnosis. The nurse to patient ratio is one nurse per patient.

3.4 Populations and Sample

Sampling is the process of selecting a subset of a population, in a way that represents the entire population (Woods 1988). Population is the entire group to whom the study results are expected to be able to generalize. The sample is the small portion of the population that the researchers are studying in a particular setting (Roberts and Burke 1989).

In this research, a non-probability convenience sampling method was used for both the observations and interviews. Convenience sampling entails the use of the most conveniently available people for use as subjects in a study (Polit and Hungler 1995). Non-probability sampling uses the judgement of the researcher to select subjects who knows the most about a phenomenon (Roberts and Burke 1989) On the other hand, non-probability sampling does not assure that each aspect in the population has the same chance for inclusion in the sample (Woods 1988).

The nurses comprising the sample were selected based on the inclusion criterion, which are Bahraini nurses assigned to a patient on mechanically ventilation. Only Bahraini nurses were selected to participate in this study as the purpose of replicating Ashworth' (1980) study was to investigate the issue of communication in a Bahraini culture. Non-Bahraini nurses were not included as their religion and culture is different from Bahraini nurses. Only ten nurses could be included in the study, due to shortage of the time for data collection period of three weeks. The nurses who met the inclusion criteria were approached on the day of observation and were asked to participate in the study. Two nurses refused to participate in the study.

3.5 Non-participant Observation

The aim of the observation was to investigate critical care nurses' communication content with mechanically ventilated patients and the time spent on this communication. Observation is an effective method of collecting both quantitative and qualitative data and is vital when exploring issues like non-verbal communication (Lynes 1999). The reason for using observation method was to check whether what people say they do is the same as what they actually do (Mulhall 2003). Observational research relies on the researcher acting as the research instrument and documents the world she or he observes. This requires not only good observational skills but also good memory and systematic recording (Pope and Mays 2000). Observation produces especially great rigor when combined with other methods (Adler and Adler 1994).

For this study, a non-participant observation method was chosen. The participant observer becomes a member of the group under observation. The non-participant observer retains the role of onlooker and does not become a member of the group (Lynes 1999). In non-participant observation, the observer identifies that he or she is conducting research and provides subjects with information about the type of data collection (Nieswiadomy 1993). The researcher does not interfere in any of the activities during the observation period.

A structured observational table was drawn up that had two parts, a verbal communication and non-verbal communication. In structured observation, the observed phenomena are described first and a structured observational schedule is prepared to record the data (Bowling 1997). Verbal communication content was observed using the eight categories of communication, which was used by Ashworth

(1980) (Appendix 1). The time spent in verbal communication was also noted. Non-verbal communication included the observation of frequency of touch, time spent in touching, the part of body touched, and the frequency of eye contact. Ashworth (1980) did not study the time spent in touch and the body part touched by the nurses. It was considered important to include these aspects in this study as to see the effect of culture on the use of touch.

Ashworth (1980) observed nurses' verbal and non-verbal communication content and the time spent in communication. Ashworth also observed patients' communication content and method of communication. Ashworth (1980) recorded various non-verbal techniques including touch, vocal paralanguage, facial expression, mutual gaze used by nurses but only touch and gaze were analysed. Leathart (1994) replicated Ashworth's study and due to practical reasons only touch and eye contact were recorded and analyzed. In this study only nurses' verbal and non-verbal communication content and time spent in this communication was observed. Patients' communication was not observed, as the aim of the study was to investigate only critical care nurses' verbal and non-verbal communication with mechanically ventilated patient.

On the day of observation, participants were approached if they met the inclusion criteria. The purpose of the study was explained to the participants by using the participant information sheet (Appendix 2). If willing to participate, they were asked to read, sign and date the consent form for participation in research study (Appendix 3). They were also asked if they were willing to be interviewed. Participants were

requested to continue their work as usual and avoid talking to the researcher during the observation period.

Observations were carried out in close proximity to the participants in the patients' cubicles. Each participant was observed continuously for a two-hour period. Ashworth (1980) carried out observation for four-hour period. Longer observation period was not possible in this study, due to busy environment of intensive care unit, doctors' rounds and patients being posted for surgery and different investigational procedures. It was also considered that researcher will not be able to concentrate continuously for four hours. So two-hour time was considered suitable for observation.

During observation researcher was near to the participant so every word could be heard clearly. Verbal communication was recorded by using the categories identified by Ashworth (1980). The number of 'bits' of verbal communication was recorded. According to Ashworth (1980, page 47) a 'bit' is defined as "a sentence or part of a sentence which stands for as a unit of communication. For example 'Hello' would count as one 'bit' even though it is only one word and 'Would you like tea, coffee or --?' would also count as one even though the sentence is incomplete". The 'bits' were classified according to the categories. Researcher had to familiarize accurately with the categories to avoid any mistake while sorting the content of verbal communication in to categories. Non-verbal behaviour (touch and eye contact) was recoded on the observational table.

Four observations were carried out in the morning time and six observations were carried out in the evening time. It was not possible to carry out all the observations in the morning due to two reasons. First, relatives of some patients were not available in the morning to give the verbal consent. Secondly, sometimes there were no Bahraini nurses assigned to mechanically ventilated patients in the morning. So the researcher had to carry out six observations in the evening. The time for morning observations was from 8am till 10am. This time was chosen as to avoid disturbance from doctor's rounds, which usually starts at 10 am. The observations during evening time were carried out from 4pm to 6pm.

3.6 Interviews

The interview is a well-established research technique (Clarke 1999) and is one of the most common ways to understand human beings (Fontana and Frey 1994). In this study the purpose of using interview was to explore nurses' perceptions and attitudes toward verbal and non-verbal communication with mechanically ventilated patients in an intensive care unit. To conduct interviews, structured interview guide was adopted from Ashworth (1980) without any modification. The interview guide has 15 questions that include open as well as closed ended questions (Appendix 4).

Structured interviews include strategies that give increasing amount of control to the researcher over the content of the interview. There is very little flexibility in the way questions are asked or answered in a structured interview setting (Fontana and Frey 1994). However, in some cases, the interviewer is allowed to further explain the meaning of the question or modify the way in which the question is asked so that the subject can better understand the question (Burns and Grove 1997).

The nurses who were observed were also interviewed. The permission to participate in interviews was obtained before starting observation but all interviews were conducted after the observation. Interviews were carried out in the office of nurse-in charge of the intensive care unit, depending on the convenient time for the participant but on the same day of the observation. After carrying out observation, researcher left the intensive care unit and returned to conduct interviews at a convenient time for nurses. The nurse in-charge was informed about the interviews taking place so as to avoid any disturbance during interview period.

Although nurses' first language is Arabic, the interviews were conducted in English. It was decided to conduct interviews in English due to various reasons. First, conducting the interviews in Arabic and a subsequent translation by researcher could have lead to incorrect meaning of responses of the interviews. Researcher intended to write the nurses' responses in the research as participants said these, during the interviews. Secondly, the interview guide contained simple structured questions, which were easy for the participants to understand. Thirdly, all nurses understand and speak English fluently.

Permission was obtained to tape record the interviews, but three nurses refused to be tape-recorded. Their responses were recorded on the paper. This approach of data collection is not very common in Bahrain and it was the first time that during this study, nurses were interviewed by using tape recorder. According to Holloway and Wheeler (1996) tape-recording is the best form of recording interview data. The interviewer can have eye contact and attention to what participant says. All the tapes

were labelled with interview number. The researcher later transcribed all the interviews.

3.7 Validity and Reliability

For structured observation to have validity, the observer must observe what she is supposed to observe. The operational definitions of the phenomenon must be clear and precise, and the categories or units must represent the phenomenon. To ensure content validity, the observational schedule can be given to a panel of experts for review (Parahoo 1997). Unfortunately, in this study observational schedule was not given to panel of experts in Bahrain. However, the researcher familiarized her with the categories and their operational definitions before the observational period. A pilot study was also conducted to check the reliability of the observational table.

Observers rely on their perception and this can reduce the validity. However, using multiple observers can enhance the validity of the observation as researchers can cross check each other's findings (Adler and Adler 1994) but this was not possible in a busy intensive care environment. Only researcher performed all the observations alone. Observer's presence can also affect the validity of the data (Parahoo 1997). Hawthorne effect is a major draw back, but once the initial stage of entering the field is past most professionals are too busy to maintain behaviour that is different from normal and this effect seems to reduce over time (Pope and May 2000, Mulhall 2003). To prevent this effect, purpose of the observation was explained to the participants. They were asked to ignore the researcher and continue their work as routinely. However, this was not fully controlled, as some of the participants were the previous students of the researcher.

Reliability in structured observation refers to the consistency with which the observer matches a behaviour or activity with the same way each time it happens. Intra-observer reliability is the consistency with which one observer records behaviour in the same way as on different occasions (Parahoo 1997). Same observation schedule was used for all the observations. However, all observational time was not consistent due to reasons mentioned earlier. Four observations were carried out in the morning time and six observations were carried out in the evening time.

Structured interviews have a higher degree of reliability, as all the questions are asked in the same way. However, interviewers may have difficulty in ensuring the amount and type of clarification they give to respondent in a more or less uniform fashion, but this can be resolved to some extent by through interviewing training (Parahoo 1997). Similarly, Clarke (1999) states that quality of the data obtained by the qualitative interview, depends on the interpersonal skills of the interviewer.

A pilot study was conducted to improve the skill of interviewing by the researcher to overcome this problem. Another threat to validity is the interview bias as the presence of the interviewer can introduce a number of biases. Respondents may give socially desirable answers or at least mould their responses to fit the occasion (Parahoo 1997). Personal characteristics of the interviewer, such as age, race, sex and social distance during the interview can also affect the respondents' responses (Britten 1995). However, the interview bias may be present as the researcher is a teacher and the participants were familiar with her. The researcher attempted to ensure reliability and validity throughout study.

Many authors agree that triangulation of both methods can increase the reliability and validity of the study (Burns and Grove 1997, Mays and Pope 1995, Polit and Hungler 1995). In this study, two methods of data collection were used, which is considered to have increased validity and reliability of the study. Morse (1991) emphasizes that methodological triangulation is a method of obtaining balanced findings that strengthens research results and contribute to theory and knowledge development.

3.8 Ethical Considerations

The term ethics is derived from the Greek *ethos*, meaning custom or character (Kozier et al (2000). Taylor et al (2001) define ethics as a system dealing with standards of character and behaviour related to what is right and wrong. Bauchamp and Childress (2001), identify major ethical principles as autonomy, non-maleficence, beneficence and justice. Each of these principles is important and the researcher must value each. However, different researchers will emphasize one principle over the others and will rank order them according to their importance in a particular piece of research (Brink and Wood 1994).

Autonomy

Autonomy refers to the right to make ones own decisions (Kozier et al 2000). The principle of autonomy gives rise to the rule of informed consent (Hudak and Gallo 1994). This principle underlines several research issues. First is the issue of obtaining consent from the subjects by providing adequate information. The second research issue is that the subject must feel free to make the decision whether to participate in a research project (Brink and Wood 1994). However, it does have difficulties in terms of practice when patients cannot express themselves (Melia 1996).

In this research, informed written consent was obtained from the nurses, before starting the observation. Before signing the consent, adequate information was provided for the nurses to decide for participation in the study. Two nurses refused to participate in the study and three nurses refused to be tape recorded during interview. Their decision was respected and they were not forced for this.

The study involved observing only the nurses verbal and non-verbal communication. The aim of the study did not include observation of patients' communication. However, patients are directly observed, so verbal consent was obtained from the patients' next of kin or relative. The purpose of the study was explained to the relatives. Consent could not be obtained directly from patients as patients were all intubated, and were receiving mechanical ventilation. According to National Health and Medical Research Council (2002), it is impossible for the researcher to inform such patients about research or determine their wishes due to their incapacity for cognition or communication. Others, including statutory authority, on that patient's behalf must give agreement. Such patients should not be included in at all, but the most minimally invasive observational research, due to their extreme vulnerability.

Non-maleficance

The principle of non-maleficance stresses on an obligation that is not to conflict harm on others (Bauchamp and Childress (2001). Harm can mean deliberate harm, risk of harm and unintentional harm (Kozier et al 2000). Non-maleficance requires that the researcher does not do, direct harm although indirect and unexpected harm may occur. This principle reaffirms that no research shall be undertaken that has direct harm to the research subjects (Brink and Wood 1994). There was no major risk anticipated for

the participants except inconvenience and time required for the interview. Participants were also assured that they could withdraw from the study at any time.

Beneficence

This principle refers to a moral obligation to act for the behalf of others (Bauchamp and Childress 2001). Beneficence means doing good and it also involves taking deliberate steps to benefit another person (Hudak and Gallo 1994, Kozier et al 2000). This principle underlines the determination of what good this study is going to do anyone. Is it going to benefit the research subjects directly or any one else will benefit from the research findings? This determination is very important, as good must outweigh the harm (Brink and Wood 1994). This study is the first research carried out in Bahrain about communication. It is hoped that nurses and patients will benefit from this research findings by identifying the issue of communication in the intensive care unit.

Justice

According to this principle, the subjects have right to fair treatment before, during and after their participation in the study. Researchers also need to ensure that their research is not more than intrusive and the subjects' privacy is maintained throughout the procedure (Polit and Hungler 1995). It is difficult to ensure entire confidentiality for nurses. They were assured that their participation would be anonymous. However, researcher had all the information including their names. The names of the participants are avoided in the research, but nurses can identify themselves by reading the findings of the study.

In the United Kingdom, local ethical committees exist for examining the ethical implications of such studies and for granting permission. The panel members usually have a range of expertise to carry out this task (Parahoo 1997). However, in Bahrain there is no research committee, so a letter was sent to the Chief of Nursing Services at the hospital to ask for the study to take place in intensive care unit in the month of April (Appendix 5). A copy of the research proposal was also handed in. The Chief of Nursing Services gave the researcher permission to carry out the study.

3.9 Pilot Study

Pilot study is a smaller version of the proposed study, which provides a trial run, before conducting the actual study (Cormack 2000). A pilot study was conducted with two nurses. The first purpose of the pilot study was to examine the efficiency of observational schedule and categories. The second purpose was to check the time schedule for observation. The third aim was to check the reliability of interview guide and the final purpose was to become familiar with performing the observations and interviews. After the pilot study, the period of the observation was changed to two hours, due to doctors' rounds, patients being posted for surgery and other investigational procedures. The interview time was changed from the scheduled time and it was decided to conduct interviews at the time convenient for nurses.

3.10 Data Analysis

Data from the observation was entered in to database using the Statistical Package for Social Scientist version 10.0 (SPSS 10.0) for windows. Descriptive Statistics was used to answer the research questions. Microsoft excel version (2002) was used to illustrate graphs. Descriptive statistics allows the researcher to organize the data that

gives meaning and facilitate insight, and examine the phenomenon from a variety of angles. For some descriptive studies, descriptive statistics will be only approach to analysis of the data (Burns and Grove 1997).

The researcher transcribed the interviews verbatim. According to Hollaway and Wheeler (1996) the fullest and richest data can be gained from transcribing all interviews verbatim. However, the problem with transcribing interviews is that it is time consuming (Bryman 2001). Transcribed interviews were analyzed by using method of thematic content analysis, suggested by Burnard (1991). The stages of this method are outlined in Appendix 6. Thematic analysis involves the identification of common threads that extend throughout entire interview or set of interviews (Morse and Field 1996).

In Ashworth's (1980) study, interviews were transcribed but the findings were categorised and presented quantitatively. In this study thematic approach is used as researcher felt that this method would better present the findings of the study. It was felt that the finding could be described better by identifying themes and categories, than quantifying the responses. Hammersley (1992) states that the main goal of qualitative research is to document the world from the view of people study. The qualitative researcher seeks to understand the perspective of the people studied and it is essential that their behaviour is described and explained effectively (Hammersley 1992).

3.11 Conclusion

In this chapter, different stages of research process are discussed within this study including, research design, research setting, population and sample, data collecting procedure, ethical consideration, pilot study, and data analysis. In the next chapter, demographic findings and findings of the observation are presented.

Chapter 4

Findings

4.1 Introduction

This chapter will present the findings of the data collected for this study in two sections. The first section of this chapter will describe the sample's demographic details. The second section will present the findings of the structured observations. All data will be presented in the forms of tables and bar charts. This chapter will also present the discussion of the quantitative findings.

The findings of this study are consistent with those of Ashworth's (1980) study. However, this study examined nurses' communication with mechanically ventilated patients, whereas, Ashworth's (1980) study included patients' communication component also. Furthermore, Ashworth's (1980) study was conducted in five intensive care units, and the sample consisted of 112 nurses and 39 patients. The observation period differed as well. In this period observation was carried out in 2 hours continuously, while Ashworth (1980) observed nurse patient communication for 4 hours continuously. Therefore despite the findings being consistent, they can not be compared.

4.2 Demographic details

The demographic details of the sample include gender, age, education degree, grade, intensive care unit work experience and length of employment in the hospital.

4.2.1 Gender and Age

70 % (n = 7) of the sample were female, and 30 % (n = 3) were male. The minimum age of the sample was 23 years and the maximum was 48 years with the mean of 26.90. 30 % (n = 3) were the age of 23 years. 30 % (n = 3) were the age of 24 years. 20 % (n = 2) were 27 years old. 10 % (n = 1) was 26 years and also 10 % (n = 1) was 48 years old.

4.2.2 Educational Degree

The majority of the sample 80 % (n = 8) had an Associate degree in General Nursing. Only 20 % (n = 2) had a Bachelor of Science in Nursing (BSN).

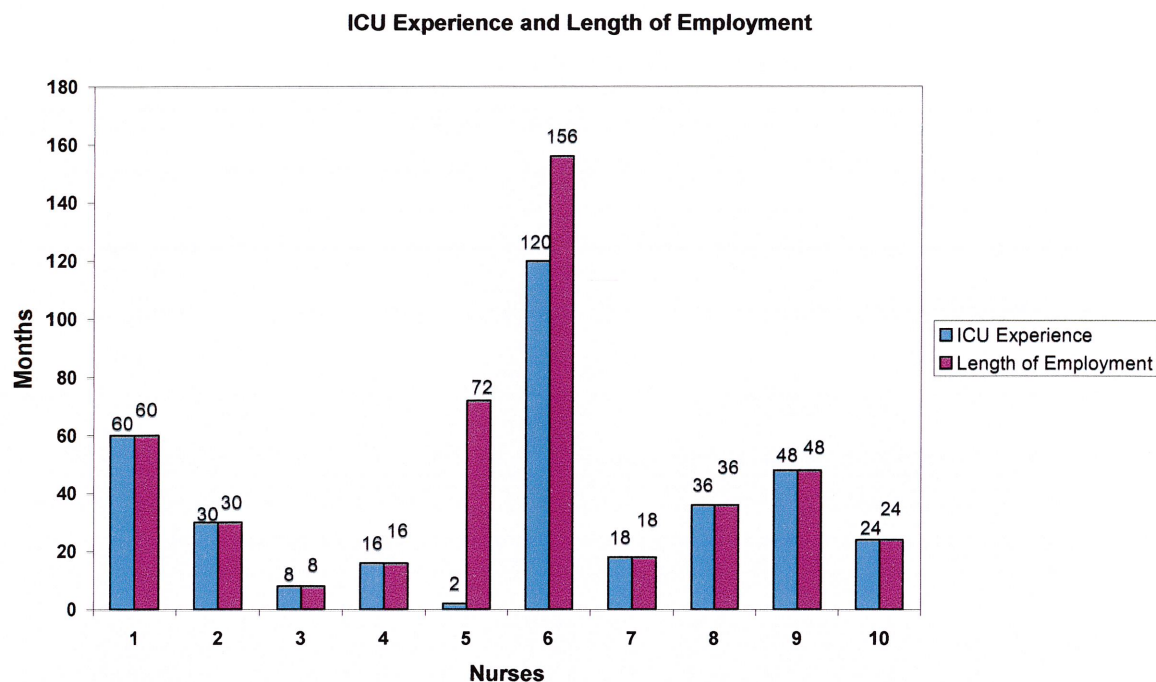
4.2.3 Professional Grade

70 % (n = 7) were having grade 6 and 30 % (n = 2) were having grade 7. Newly appointed nurses in the hospital start working with grade 6. After gaining experience, they are promoted to grade 7. The number of years of experience differ between nurses before they are promoted to grade 7.

4.2.4 Intensive Care Unit Work Experience and Length of Employment in the Hospital

The range of the sample's ICU work experience was 2 to 120 months with the mean of 36.90. The range of the length of employment in the hospital was 8 to 156 months with the range of 47.50 (Figure 4.1).

Figure 4.1: Length of ICU experience and length of employment.



4.3 Findings of the Observation

The purpose of the observation was to investigate the verbal and non-verbal communication of intensive care unit nurses with mechanically ventilated patients.

4.4 Total number of nurse bits

The number of 'bits' ranged from 11 (observation 7) to 68 (observation 8) (Table 4.1). According to Ashworth (1980, page 47) "a 'bit' is defined as a "sentence or part of a sentence which stands for as a unit of communication. For example 'Hello' would count as one 'bit' even though it is only one word and 'Would you like tea, coffee or - --?' would count as one even though the sentence is incomplete".

Table 4.1: Total number of nurse ‘bits’.

Observations	Total number of ‘bits’
1	46
2	31
3	38
4	30
5	21
6	24
7	11
8	55
9	33
10	68

4.5 Nurses’ Verbal Communication Content

The content of nurses’ verbal communication is presented in the bar charts (see figures 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8, 4.9, 4.10, 4.11) for all ten observations. Most of the nurses’ verbal content was composed of short-term informative content (26-57 % of all the content), reassuring noises (13-26 %), request or command (12-24 %). The remaining were categories of social superficial (0-18%), social concerned (0-8%), long term informatives (0-15%), questions (0-12%) and others (0-23%).

Key: Categories of communication

- 1- Social superficial
- 2- Social concerned
- 3- Short-term informative
- 4- Long-term informative or orientation
- 5- Questions
- 6- Reassuring noises
- 7- Command or request
- 8- Others

Figure 4.2: Observation 1

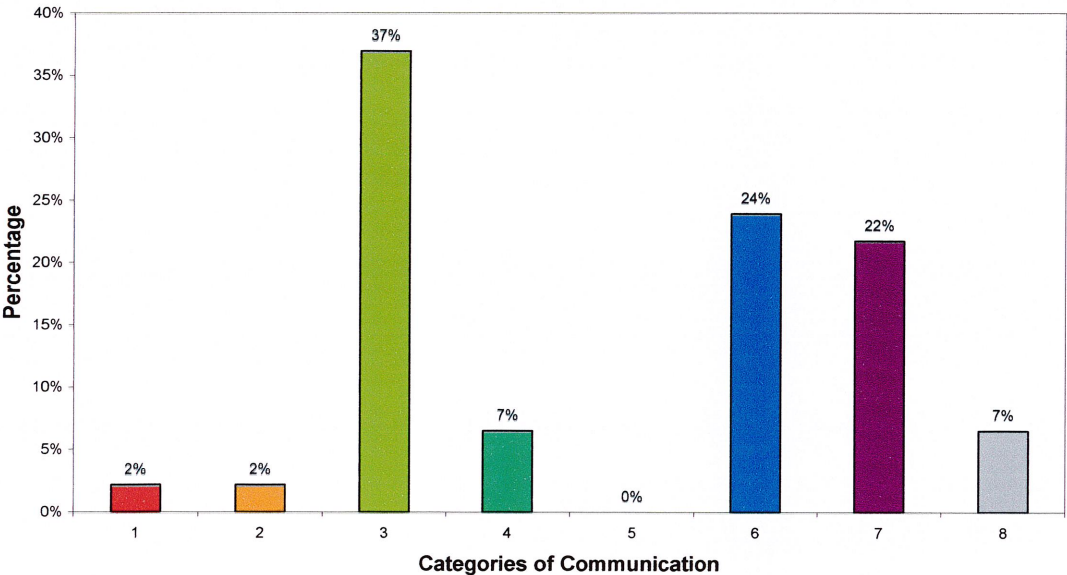


Figure 4.3: Observation 2

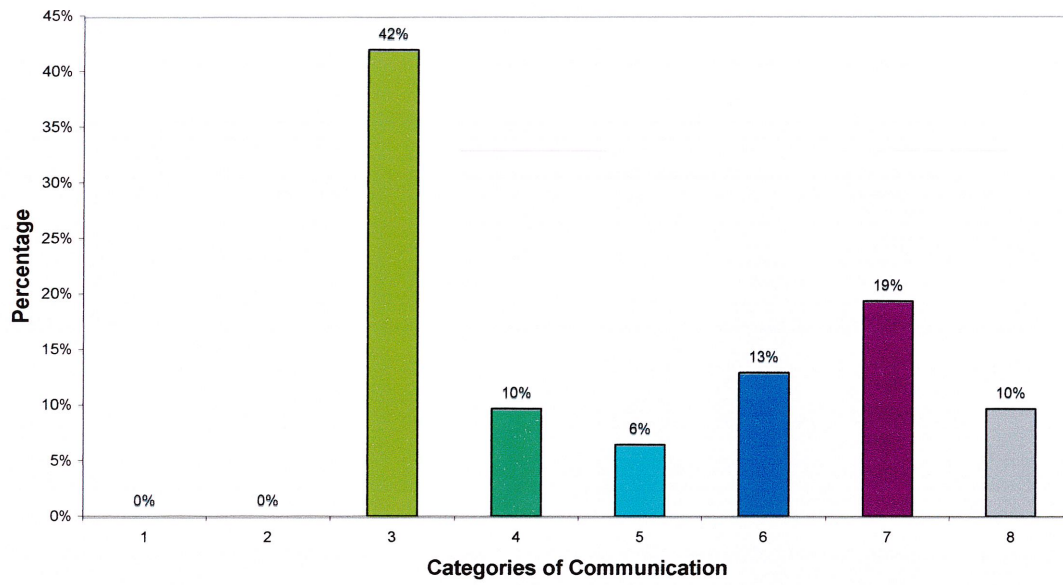


Figure 4.4: Observation 3

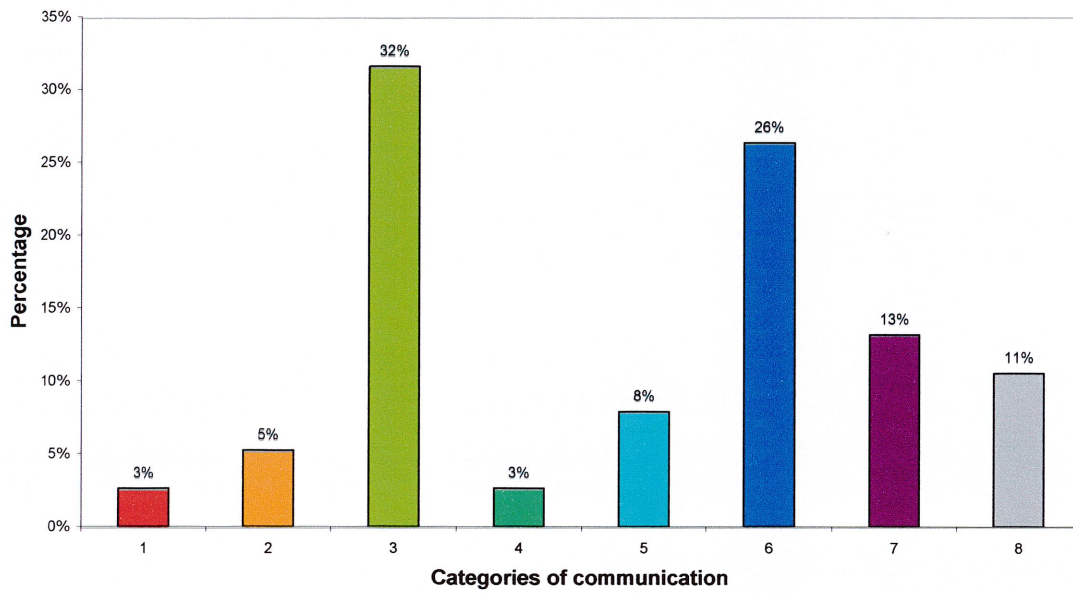


Figure 4.5: Obsevation 4

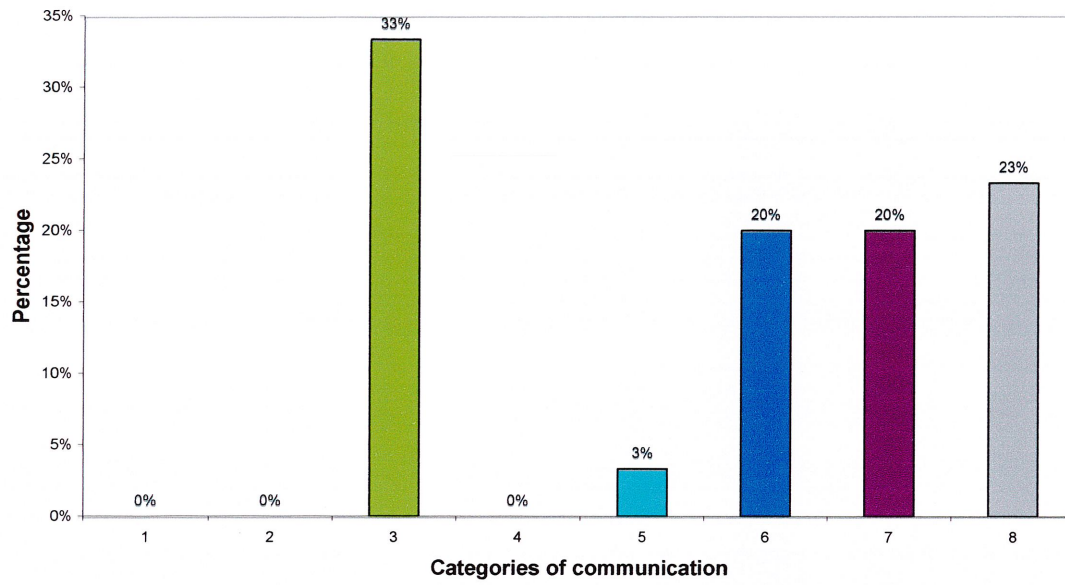


Figure 4.6: Observation 5

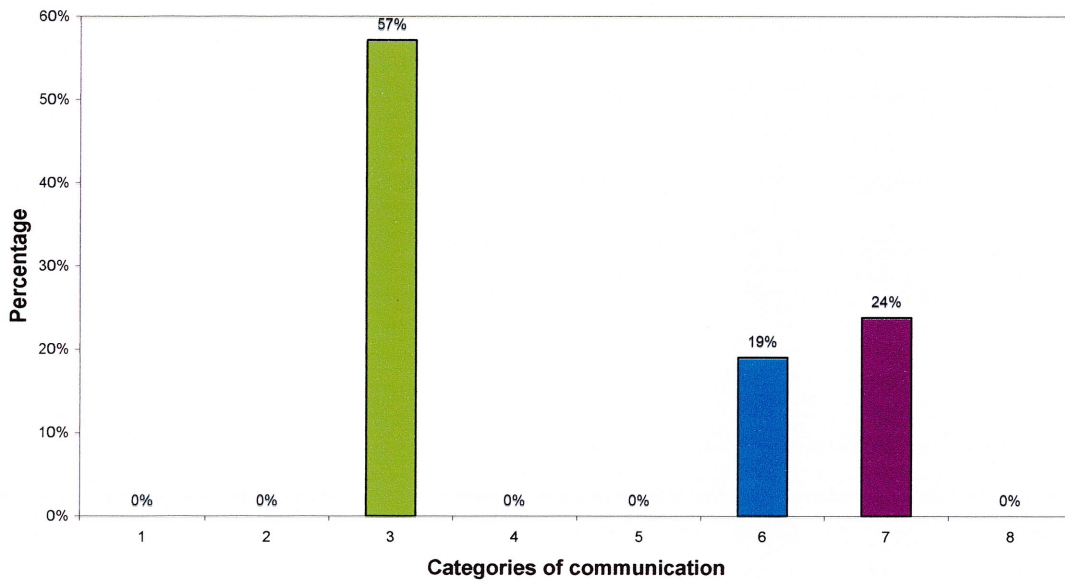


Figure 4.7: Observation 6

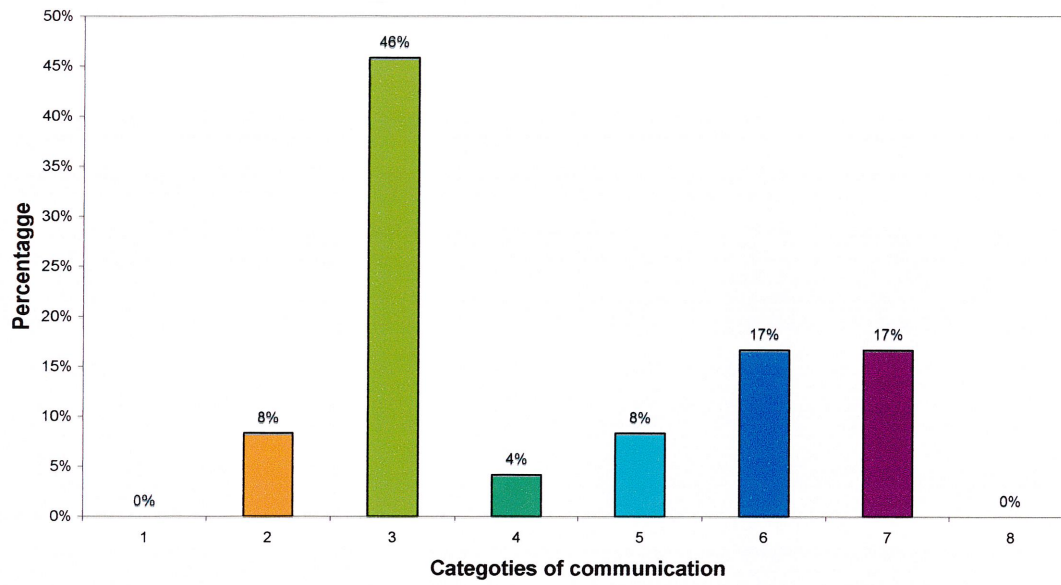


Figure 4.8: Obsevation 7

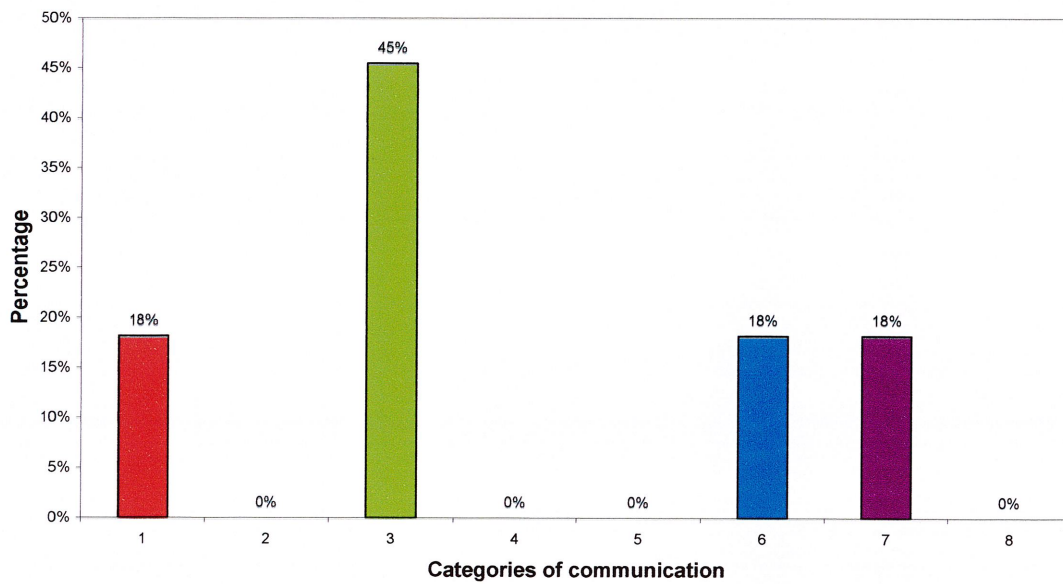


Figure 4.9: Observation 8

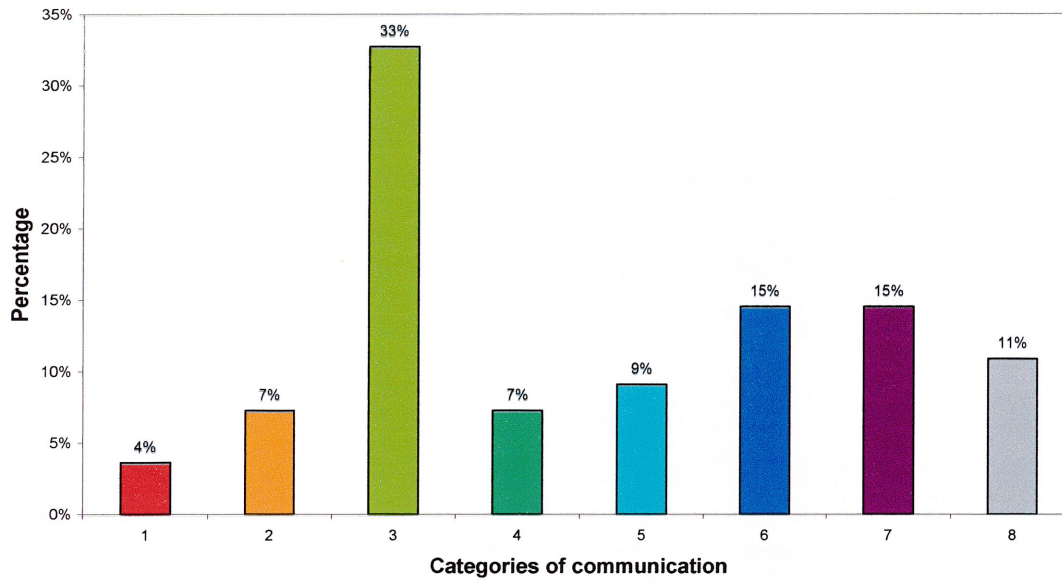


Figure 4.10: Observation 9

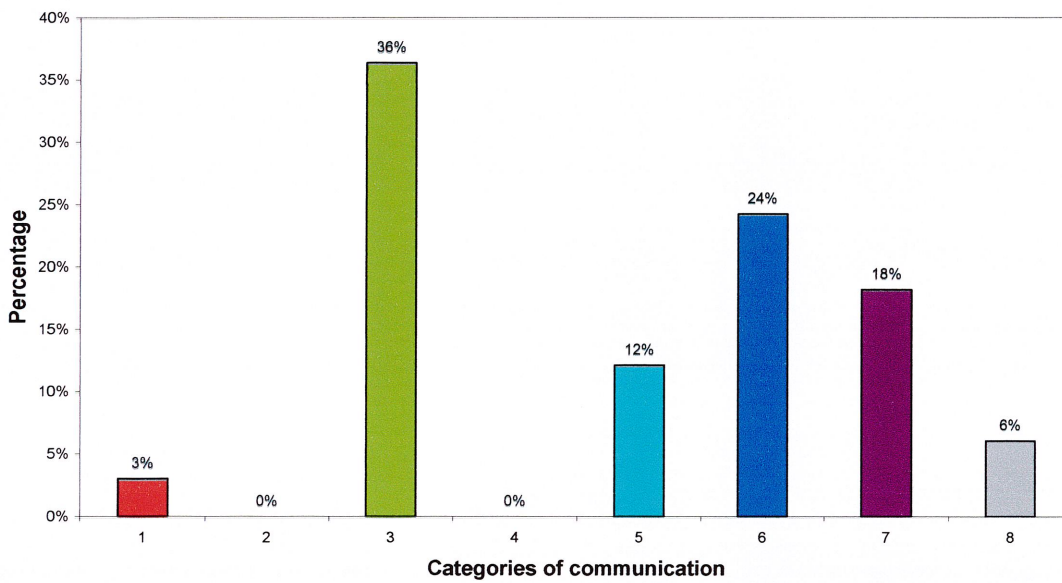
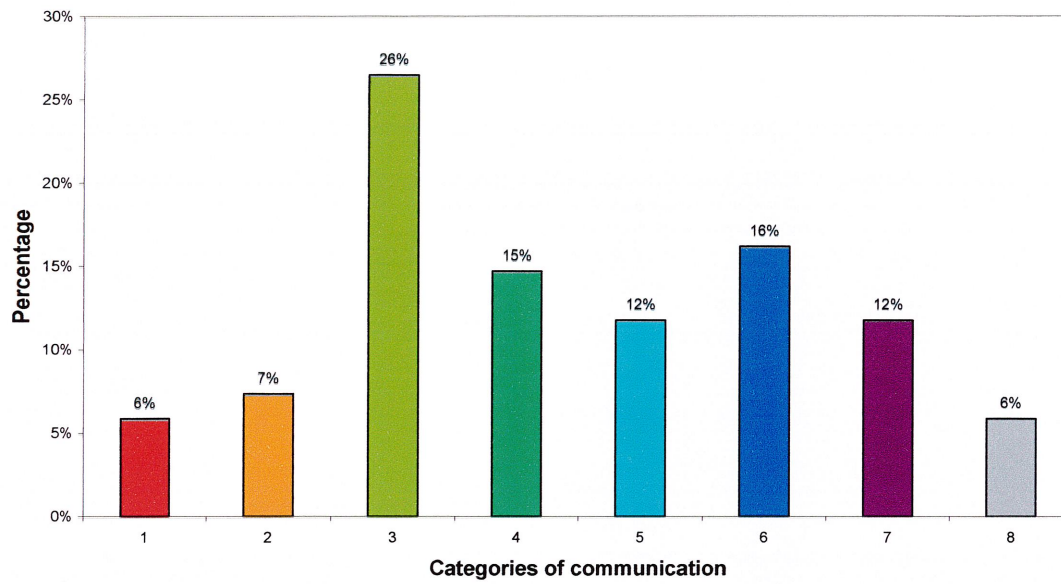


Figure 4.11: Observation 10



4.6 The Quantity of Verbal Communication

The total amount of time spent in verbal communication in each 2-hour observation is illustrated in Table 4.2. The minimum time spent in verbal communication was 35 seconds and the maximum time spent was 4 minutes and 33 seconds in two hours observation period.

Table 4.2: Total time spent in verbal communication

Observation number	Total time spent in verbal communication in 2-hour period in minutes (min) and seconds (s)
1	3 min 9 s
2	1 min 42 s
3	2 min 11 s
4	1 min 32 s
5	1 min 3 s
6	1 min 25 s
7	35 s
8	3 min 55 s
9	1 min 36 s
10	4 min 33 s

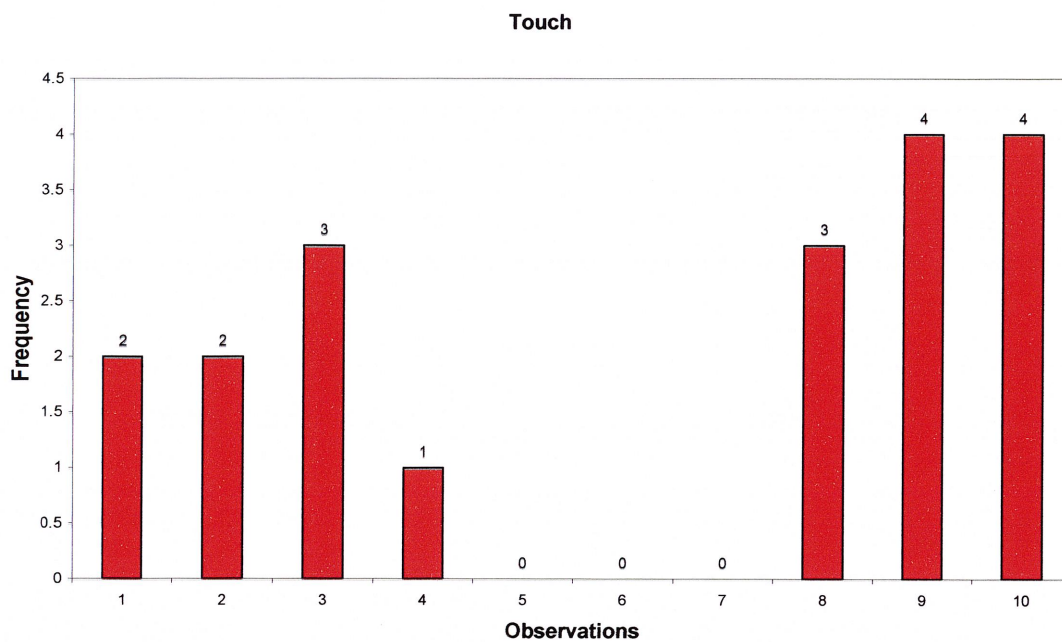
4.7 Non-verbal Communication

The purpose of observing non-verbal communication was to investigate the non-procedural touch and eye contact used by nurses.

4.7.1 Touch

Touch was observed to be used by only seven nurses. The minimum number of times touch was used was 0 and the maximum times touch used was 4 times during 2 hour observation period. During observation 5, 6, and 7 no touch was used.

Figure 4.12: Number of occasions touch used during 2 hour period.



4.7.2 Total Time Spent in Touch and Place of Touch

The minimum time spent using touch (using touch not associated with a procedure) was 0 seconds (observations 5, 6, 7) and the maximum time spent using touch was 182 seconds (observation 10) (Table 4.3). The parts of body where nurses applied touch were head, shoulder, hand, arm, and chest (Table 4.3).

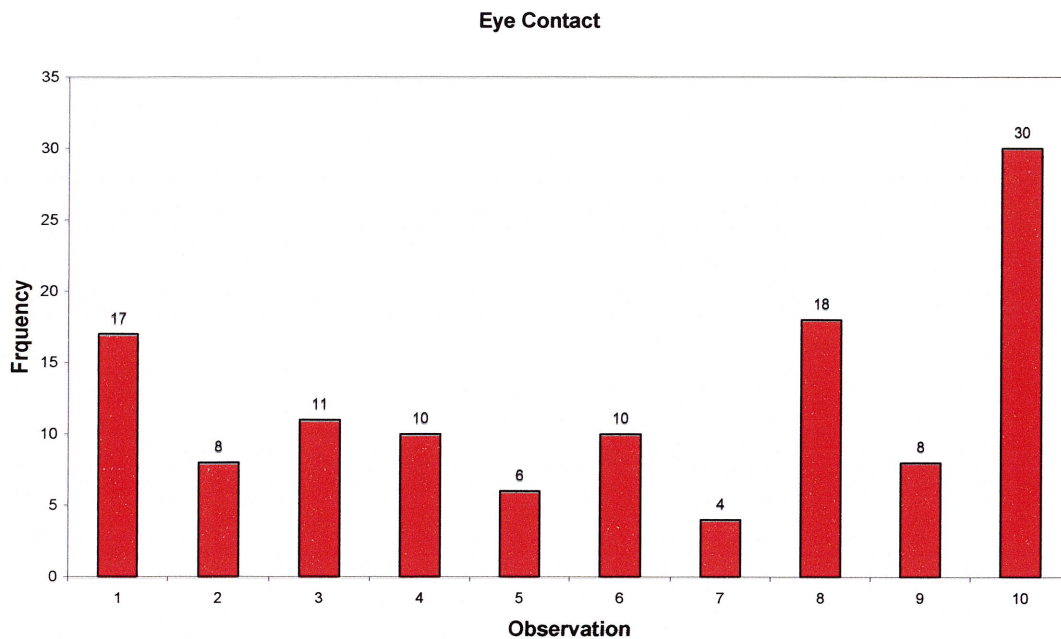
Table 4.3: Total time spent using touch by nurses and place where touch used.

Observation number	Total time spent using touch in seconds (s)	Parts of body touched
1	10 s	Shoulder, head
2	30s	Head
3	18 s	Hand, shoulder
4	5 s	Arm
5	No touch used	No touch used
6	No touch used	No touch used
7	No touch used	No touch used
8	20 s	Hand
9	180 s	Hand, head, shoulder, chest
10	182 s	Chest, hand, shoulder

4.7.3 Eye contact

Eye contact was observed to be used during all observations. The minimum time when there was eye contact was 4 times and the maximum time, when there was eye contact was 30 times during 2 hour observation period (Figure 4.13)

Figure 4.13: Frequency of eye contact.



4.8 Discussion of Quantitative Findings

In this study, the number of ‘bits’ ranged from 11 to 68 in a 2 hour observation period. In Ashworth’s (1980) study total bits ranged from 46 to 157 per 4 hours observation period. However, Leathart (1994), replicating Ashworth’s (1980) study investigated the nurse-patient communication in an intensive care unit. It was found that nurses’ communication bits ranged from 52 to 205 in two hour observation period. The result of this study is different from Leathart (1994), as in Leathart’s (1994) study, all patients were intubated but conscious and oriented and were able to communicate without using their voices. In this study, patients were mechanically ventilated and they were in different levels of consciousness.

In this study, most of the nurses’ verbal content was composed of short-term informative content (26-57 % of all the content), reassuring noises (13-26 %), request

or command (12-24 %). The remaining were categories of social superficial (0-18%), social concerned (0-8%), long term informative (0-15%), questions (0-12%) and others 0-23%). These findings are partly consistent with Ashworth's (1980) study, where most of the communication was short term informative, questions, and request or command. Much difference lies in the category of reassuring noises. In Ashworth (1980) these were only 9% in all units. The study findings are also partly consistent with Leathart (1994), where nurses' communication was dominated by short-term informative content (28-40%), questions (9-39) and command and request (3-14%).

Baker and Melby (1996) explored the nurses' verbal communication with unconscious patients and the results showed that short term informative and reassuring noises constituted the majority of the content of the communication. However, the study sample was very small and observation was done for 4-hours continuously and all patients were unconscious. The findings are also consistent with an American study (Hall 1996) that examined the interaction between nurses and patients on ventilators. The results demonstrated that most (31%) of the communication was related to explaining the procedure performed.

In this study, the minimum time spent in verbal communication was 35 seconds and the maximum time spent was 4 minutes and 33 seconds in two hours observation period. The minimum time spent in verbal communication in this study is consistent with Ashworth's (1980) study, which showed minimum time of one minute spent in verbal communication. However, the maximum time is contradictory to Ashworth's study (1980) that had maximum time of 131 minutes in 4-hour observation period. The result of this study can also be considered consistent with Elliot and Wright

(1999). They explored how much and what types of verbal communication critical care nurses use when caring for unconscious or sedated patients. The results revealed that the minimum time spent in verbal communication was 48 seconds and the maximum time was 9 minutes and 45 seconds in 4-hour observation period. However, the results are contradictory to Baker and Melby (1996), where the minimum time was 5 minutes and the maximum was 12 minutes in 4-hour observation period.

The result of quantity of verbal communication appears to indicate that the condition of the patient or the medical intervention might have reduced the amount of communication used by nurses. During observation 7, where 35 seconds were spent in verbal communication, the patient was re-intubated and was semi-conscious and under sedation. While in observation 10, where most communication took place (4 minutes and 33 seconds) the patient was conscious but intubated.

Another notable difference was observation 8, where 3 minutes and 55 seconds were spent in verbal communication and the patient was semi conscious and under sedation. Ashworth's (1980) study found a positive relationship between the amount of physical care a patient received and the amount of communication provided. In units where there was more physical care, there was also more communication.

4.9 Conclusion

In this chapter demographic findings and findings of observation were presented. The main findings constituted verbal and non-verbal communication. The findings were presented by using figures and tables. The findings of the interviews will be presented in the next chapter.

Chapter 5

Findings of the Interview

5.1 Introduction

The purpose of the interview was to explore nurses' perceptions and attitudes towards verbal and non-verbal communication with mechanically ventilated patients. In this chapter findings are compared and contrasted with the observation part of this research. The findings are also compared with other research and literature to elaborate the significance of the findings.

The findings of this study are consistent with those of Ashworth's (1980) study. However, this study examined nurses' communication with mechanically ventilated patients, whereas Ashworth's (1980) study included the patients' communication component also. Furthermore, Ashworth's (1980) study was conducted in five intensive care units, and the sample consisted of 112 nurses and 39 patients. Ashworth (1980) interviewed nurses as well as patients.

The themes and categories arising from the structured interview are shown in Table 5.1.

Table 5.1: Themes and categories arising from the structured interviews

Themes	Categories
Nurses' preferences of ICU work	New procedures Total patient care
Cause of nurses' frustration in ICU	Non-nursing jobs Unnecessary procedures
Barriers to communication	Condition of the patient Language barrier Nurses' emotional status, personality and workload Emotional status of the patient
Frustration with difficult communication	
Content of ICU nurses' verbal communication	
Patients awareness of nurses' behaviors	
Influence of culture and religion	
Importance of communication in ICU	

5.2 Nurses' Preferences of ICU Work

This section relates to the intensive care unit work preferred by the nurses. The work that nurses liked to do most in the intensive care unit was total patient care and new procedures. This theme is considered important because it shows the type of work nurses like in an intensive care unit. This shows nurses' job satisfaction, which can affect the care provided to the patient and indirectly the communication process of nurses with their patients.

5.2.1 New procedures

Most of the nurses liked new or different procedures in the intensive care unit that are not carried out in general wards. They also liked the procedures that are not carried out on a daily basis. Nurses liked procedures such as bronchoscopy, insertion of central lines and intubation, which are not taught in the General Nursing Programme. They liked these procedures as they are not carried out on a routine basis and some of them are performed only in the intensive care unit. By learning new procedures nurses felt they are updating their knowledge. It also shows their job satisfaction in this respect, as illustrated by the following comments.

2): *“New procedures. Which are not routine, like lumber puncture, bronchoscopy, or bone marrow aspiration.”*

(10): *“I like actually different things in ICU ... For example if I say giving medicine or changing position, we are doing these things outside ICU as well, but the most special thing in ICU is that we are doing the procedure, for example inserting swang-ganz, or inserting, for example, central lines ... central line or arterial line. As well as intubation. As well as sharing doctor while on rounds, because I think this gives me more experience and more knowledge about patients' conditions.”*

This finding is consistent with Ashworth (1980), as 27 nurses liked working with renal patients, ventilator patients, and general intensive therapy. Fourteen nurses liked technical or theoretical aspects as these gave them opportunity to learn.

5.2.2 Total patient care

Another category that emerged from this theme was total patient care. Three nurses liked performing total patient care the most. Nurses liked meeting patients' needs, taking care of ventilated patients, and performing their work during the shift. These

tasks are considered the main jobs of nursing care. In an intensive care unit care is provided on a one to one basis. One nurse is assigned to take care of only one patient during the eight-hour shift. They provide total patient care to the patient. This is different from the general wards where nurses are assigned to take care of six patients. The following comments are typical:

(4): *"I like to do total patient care...including changing patients' position, and monitoring, haemodynamically, care of IV fluids. That's all."*

(6): *"Observation, meeting patients' needs, medication, following doctor's orders, suctioning, and chest physiotherapy. Preparation for central venous pressure and arterial pressure."*

In this study the majority of nurses liked performing new procedures and only three nurses liked providing total patient care. In Ashworth's (1980) study, 58 nurses liked patient contact and basic nursing, 'total patient care'.

Le Blanc et al (2001) conducted a survey on work and well being of 2,000 intensive care unit nurses in 13 different European areas. The Le Blanc et al (2001) study revealed that operational tasks (medical care/technical nursing activities, psychological support of patients, physical care) were perceived by nurses as most demanding, but also most satisfying. Organizational tasks (contact with the head nurse, with physicians and with colleagues from your own team) were perceived as least demanding, whereas preparatory tasks (replenishing work supplies, collecting equipment) were perceived as least satisfying.

5.3 Cause of Nurses' Frustration in ICU

All nurses agreed that there is some work that they do not like or prefer not to perform.

5.3.1 Non-nursing Jobs

The majority of nurses disliked work that they considered was not their responsibility and which they are forced to do. Nurses disliked the work that they considered to be wasting their time, as the work is not related to patient care. They are doing this work due to lack of hospital attendants or auxiliary nurses. The type of work included inventory checking, replacing things after each shift, transferring patients and going to other departments. If nurses are performing these jobs they cannot provide quality patient care and it can affect their time spent in communicating with patients. This is illustrated by the following comments.

(1): "Some jobs we are doing that are not in our job description, like cleaning the ventilator."

(5): "Like everything, all the suction bottles and emptying urine. My job is to take care of the patient only. And replacement of things, each shift, after each shift, I have to replace all the things ... Like syringes, needles and all these ... Gloves. I think this is not my job ... replacing. Somebody else has to do it. This is all wasting time."

(3): "Something not related to patient care may be ... that is not a nursing task. Like lifting heavy oxygen cylinders, but sometimes, due to lack of hospital attendants, we have to do it ...ok... Transferring patients, pushing beds, cleaning works, inventory checking ... That's work I do not like."

These findings are different from Ashworth (1980), as most of the nurses disliked emotional demands, such as long term care of renal or other patients, especially if the end results are poor. Only seven nurses disliked administrative or servicing work. However, in this study most of the nurses disliked these types of jobs. This different may be due to different setting. In Bahrain, it is expected from nurses to do this type of job. Nurses in the United Kingdom, would not do portering or domestic tasks.

As mentioned earlier, Le Banc et al (2001) found that preparatory tasks (replenishing work supplies, collecting equipment) were perceived as least satisfying. They discuss that perhaps nurses perceive this type of job as ‘peripheral’ to their jobs. Another reason for disliking these jobs is that they are not directly visible to nurses and satisfaction can only be derived from the performance of operational tasks.

Two nurses felt that doing work that is not related to patient care causes stress for them. Performing non-nursing work increases their workload and tension. Nurses’ stress can affect the care provided to patients.

(9): “The things that are not part of nursing, patient care ... like some inventory checking, this and that checking. Sometimes, it would be little stressful. Even if you have a very demanding patient, still you have to do it. You cannot ask anybody to do it, so you have to do it.”

5.3.2 Unnecessary procedures

Two nurses did not like the work that they thought was unplanned and doctors were forcing them to do these tasks. These tasks interfered with the care they provided to their patients.

(6): *“Sometimes, there is no need for some procedures like chest x-ray and ambulation order. I feel patient can’t tolerate, but doctor forces me to do. I do not like, as patient is still sick and he can’t tolerate it.”*

5.4 Barriers to Communication

All nurses felt that they have difficulty in understanding what patients wanted to say. The major factors considered by nurses as a barrier to communication were the condition of the patient, language barrier, nurses’ emotional status, personality and workload and emotional status of the patient.

5.4.1 Condition of the patient

Most nurses felt that level of consciousness of the patient affected the amount of their communication with the patient. Two nurses felt that they only explain procedures to the unconscious patient, while with conscious patients they could talk more. This is evident from the following comments.

(8): *“Condition of patient ... talking more ... Conscious. Unconscious – while giving care, we talk.”*

(1): *“If unconscious we will explain to him the procedure, sometimes we feel that he is hearing us, but if he is conscious we will be talking to him more. We will reassure him explain procedure sometime patient will call to talk to him more than unconscious patient.”*

(3): *“Otherwise working with unconscious patients ...myself ...I can not guarantee that I meet a patient’s needs because I will not be able to know what he needs. Communication is not there at all; maybe I fully depend on a monitor ...ok. So this is communication with a machine not with the patient.”*

Another factor that was considered to be a barrier by most of the nurses was mechanical ventilation. Nurses responded that it is difficult to communicate verbally with patients who have nasal, oral intubation or tracheostomy.

(6): "Unconscious, intubated. Patients on mechanical ventilation or tracheostomy. Condition of the patient."

Nurses responded that they could not understand a patient as they had intubation. They could not follow a patient even if a patient tried to communicate.

(5): "Once a patient is intubated for a long time, there will be laryngeal edema or something there ...their vocal cord will be interrupted. So it is hard to understand the patient."

Nurses reported that they have difficulty in communicating with a patient who was under sedation. They felt that if the patient is under sedation and he has other limitations, like an altered level of consciousness, it caused a greater barrier to their communication. The majority of patients in an intensive care unit will have an altered level of consciousness. This could be related to trauma or, more commonly, is a result of drug-induced sedation (Hagland 1995). The following comments are typical:

(10): "Actually, the restless patient or if he is under sedation. He will be drowsy. I think my communication will be useless, even when I communicate, he will not understand what I am saying."

(3): "Second thing he is on a ventilator but is a confused, hallucinating patient, confused patient, especially under sedation or head injury, confused. They imagine things, like an oxygen cylinder, they may imagine an oxygen cylinder like cup of tea."

In this category nurses' comments are in keeping with literature. Anthonypillai (1993) states that communication should have no barriers, but in an intensive care unit patients' ability to communicate effectively is disrupted due to disease and treatment. Similarly, Albarran (1991) emphasizes that interacting with critically ill patients is challenging for nurses, because patients are intubated or have tracheostomies. Air enters and leaves the tracheobronchial system via a nasotracheal, orotracheal or tracheostomy tube, but air does not come into contact with the larynx, which produces the sound element of speech (Ashworth 1980).

These findings are consistent with Ashworth's (1980) study, which revealed that the nurses most frequently saw the responsiveness of the patient as being a major influence on their communication to patients. Nurses found it difficult to understand patients with a tracheostomy or endotracheal tubes and patients being ventilated.

Leathart (1994), investigating the nurse-patient communication in an intensive care unit, found that all nurses agreed that it was easier to communicate with conscious intubated patients because the patient was able to provide some feedback. Baker and Melby (1996) explored the nurses' verbal communication with unconscious patients and the findings revealed that four of the five nurses interviewed saw the level of consciousness of the patient as being a major influence on the amount of communication.

On the other hand, findings of this study are contradictory to the Bergbom-Engberg and Haljamae (1993) study, which studied the perception of nursing staff of the communication process with ventilated patients in an intensive care unit. It was revealed that work overload was considered the most important factor limiting

effective communication with the patients. However, a majority of the nurses also considered the patients' condition and severity of medical condition as limiting communication.

5.4.2 Language barrier

All nurses felt that the language barrier was the most common factor that influenced their communication with the patient. This is obvious from the following comments.

(2): *"Language barrier, if a patient does not understand you and you do not understand him."*

(4): *"Language barrier, patient does not understand Arabic or English."*

There can be many forms of language barriers but the most obvious is that of language difference (Johnson 1999). The Bahraini population is 667,238 and it includes 235,105 non-Bahrainis. Most patients admitted in the Government Hospital are Asians, like Indians, Bangladeshi and Pakistanis. Some of these patients do not understand English or Arabic. The participants speak Arabic and English, but they had a problem in communicating with patients mostly from the Asian origin.

Most nurses mentioned that they call on Indian nurses to translate for them. They mentioned that, occasionally, they get a patient whose language is not known by anybody as, in India alone, there are many languages spoken.

(8): *"Especially if a patient is non-Bahraini, speaking another language. We speak English fluently. We have Indian patients. We can't understand a patient's language that is not used in Bahrain."*

(9): *“If the same language it would be little bit easier. But some other Asian language like Indian or Bangladeshi, who don’t know English or Arabic, it would be very difficult. Sometimes, even our staff ... they don’t know. You have to call some other nurses to translate. You will be like struggling and nobody can understand him.”*

Within the Indian sub-continent there is a diversity of languages and within these language groups there are variations of culture and religion (Johnson 1999). This can also be an issue, as calling on another nurse for translation can affect the care of patients, as a nurse will have to leave her patient and go to another patient. The language barrier can have serious consequences. It can delay the care provided for the patient and can affect the emotional and psychological status of the patients.

There is very little research investigating the language barrier of patients. Narayanasamy (2003) conducted a study to explore how nurses respond to the cultural needs of their clients in Britain. One of the themes that emerged from the findings was that of the language barrier. Participants perceived that language difficulties stood in the way of providing good nursing care. In Ashworth’s (1980) study only seven nurses mentioned that one of the factors why they did not understand patients was that the patient did not understand the nurse (non-European nurses).

5.4.3 Nurses’ emotional status, personality and workload

Two nurses felt that nurses’ emotional status will affect their communication also along with other factors. However this can also interfere with the care provided to patients.

(4): *“For example, when I am with a sick patient ... I am under stress that leads me not to talk much to the patient. Just I want to concentrate on my work ... what I have.”*

(3): *“Depends on one’s emotional and psychological status ... ok ... If I am in a good mood ... ok ... because I believe that communication with conscious or unconscious patients is therapeutic ... ok ... but sometimes I do not feel easy to tell patients that I’ll do suction for him, as he is unconscious, so I just do it.”*

Personal problems and worries were considered by seven nurses to affect their own stress and their ability to communicate with the patients in the study of Bergbom-Engberg and Haljamae (1993).

Only one nurse felt that workload is a barrier to their communication with patients. Nurses mentioned that they do not like performing non-nursing jobs that are not in their job description. This extra work increases the workload of nurses and it can affect the time spent in communication.

(7): *“Work does not let us talk with the patient. Sometimes if we’re busy we do not talk.”*

One nurse felt that it also depends on the personality of the nurse.

(4): *“I feel I talk too little with patients, because I am a quiet person. This is part of my personality. I do not talk too much.”*

This is evident in the literature. Nurses working in the critical care environment are faced with an increasing amount of work-related stress together with the

organizational constraints. This can affect not only nurses' emotional stability but also jeopardize the quality of patient care (Yam and Shin 2003).

This finding is consistent with Ashworth's (1980) study, where another common factor considered by nurses to limited communication was nurses' forgetfulness or preoccupation with other things. Nurses' quiet mood, tiredness or not being naturally talkative was also recognized as important barriers to communication.

5.4.4 Emotional status of the patient

Another barrier to communication identified by nurses was the emotional status of the patient. Two nurses felt that the personality of the patient also affects the amount of communication. This finding is important as it also reveals the psychological status of the patient and they may require psychological therapy or counseling after discharge from hospital. For example:

(7): "Sometimes patients do not like to talk, depending on the personality of the patient. They are quiet."

(2): "Sometimes patients are fully conscious but they do not like to communicate, but sometimes patients like to communicate."

In addition, the Bergbom-Engberg and Haljamae (1993) study revealed that the personality of the patient was also considered to be one of the factors that affected the establishment of good communication.

In this study, nurses have mentioned the personality of the patient but in fact this highlights the effect of the intensive care unit environment on the patients. Non-

research literature emphasizes the psychological status of the patient in an intensive care unit. Being a patient in a critical care setting is potentially frightening, confusing, and dehumanizing (Hudak and Gallo 1994). Mechanical ventilation can change the patient's self image. A patient's loss of control over his own body can force the patient to reach for control in other ways, such as patients often making excessive demands (Zori 1984).

Russell (1999), in an exploratory study of patients' perceptions and experiences, found that poor communication, lack of privacy, fear and noise were the main causes of psychological problems faced by patients in an intensive care unit.

Two nurses felt that communicating with the patient can affect the patients' physical status, so they try to avoid communication.

(9): *"There are some patients, if they are ventilated actually, if you talk with them they will be very sensitive, they will even ask for something you will see their BP ... shoo ... Just shooting up and they will be ... there only ... liked nervous ... Very sensitive. This we will try to avoid ... too much talk, because their vitals will be only like getting up, especially that intracranial ICP, it is very high and they are conscious."*

Calne (1994) states that a sudden rise in a patient's heart rate would lead most nurses to expect that a patient may be in pain, uncomfortable or frightened. However, there is an equal chance that these changes are as a result of other pathological conditions.

(8): *"Sometimes a patient is restless, upon experience, the patient wants to remove tubes, and if a patient has tachycardia we reduce talking."*

The comments of the participants are in keeping with the literature. Many authors agree that the mental and emotional status of the nurses as well as patients is a barrier to communication (Taylor et al 2001, Potter and Perry 1999, Kozier et al 2000). Noble (1979) states that the patient may be lucid for the first few days in the Intensive Care Unit but later patients become disoriented, frightened, uncooperative and combative to the point that it can interfere with the treatment.

5.5 Frustration with Difficult Communication

Six nurses described how being unable to communicate with patients in an intensive care unit could affect the way they felt about care. Other nurses had mixed feelings of frustration, disappointment and helplessness, as well as depression and lack of self-esteem, such as:

(7): "I feel I do not know ... the feeling is very bad. Especially an old woman or man and I do not understand, and they are trying and trying. I feel guilt."

(3): "Frustrated and helpless. Otherwise I call somebody else if the patient is not a native Arabic speaker. I feel frustrated."

These comments are similar to those in the Ashworth (1980) study, where most nurses had feelings of frustration, inadequacy, uselessness or helplessness and of being uncomfortable. The findings of this study are also similar to those in the Bergbom-Engberg and Haljamae (1993) study, which revealed that most of the nurses (93%) felt frustrated and sometimes even considered themselves to be incompetent and felt powerless. Strong feelings such as despair, sorrow and distress were also experienced.

When asked about the methods of communication used by intensive care unit nurses to communicate with patients who have difficulties in communication, it was found that all nurses used different methods or communication aids to help them in communication with patients and help them in overcoming the problems of communication with different types of patients. The most common methods used by nurses were paper and pen and the 'alphabetical board'. Other methods used by nurses were sign language, lip reading and the drawing board. The following comments explain this. Nurses use methods to facilitate communication depending on the patients' condition and age.

(3): *"If a patient's condition permits him to write and read, then we use writing ... paper and pen. Sign board for pediatric patients. We used to have pediatric patients ... ok ... there is sign board, so he can refer, what he wants ... Water or he feels hot."*

(1): *"Geriatric patients, they cannot write and read in Bahrain. So it will be difficult, we try to understand from their lips. For educated patients ... alphabetical board."*

These methods are similar to those found in Ashworth's (1980) study, however, lip reading and writing material were used by most (69) nurses. Other methods employed for communication were sign language, pictures, words or an alphabet chart, which the patient can point to. Leathart (1994) found that nurses used picture boards, paper and pen and use of non-verbal communication to facilitate communication with patients.

5.6 Content of ICU Nurses' Verbal Communication

When asked about the sorts of things nurses talked of with their patients, eight nurses reported that most of the time they explain procedures before carrying them out. This

is interesting because these findings are consistent with observation findings, as during observation most of the nurses' verbal content was composed of short-term informative content (26%-57% of all the content), that is information related to the next activity, such as "I am just going to give you an injection". For example:

(4): *"For example, when I want to do suction, I will tell that I will do suction for you. Just help me and try to open your mouth. It will be a little painful but try to tolerate it."*

(10): *"Ya ... actually, first of all if I want to do any procedure, I should explain to them, because they will feel panic."*

Two nurses told that along with explaining procedures they also reassured patients. Observational findings are contradictory with these comments. Reassuring noises (13%-26%) was the second most categories observed to be used by nurses. This is likely, due to the participants' knowledge of the objectives of the observation and the presence of the researcher. However, during interviews participants were more relaxed and they expressed what they actually believed. The following comment explains this:

(5): *"Eh ... Like I want to do something for the patient. I will explain the procedure. And if the patient is conscious on a ventilator, he will be depressed, so I encourage the patient ... reassuring the patient."*

Two nurses told that along with explaining procedures, they would also orient the patient.

(9): *"We will tell patients this is time now, you can sleep. They will tell what is the time now? Because in our environment, it will not be known if it is morning or night."*

Four nurses reported that they also explain to the patient about his condition. This is consistent with the observational findings as during observation only 15% communication contained long-term informatives. For example:

(1): *"We will explain to him his condition. Why ET tube is there, why he cannot talk, especially just intubated patient. Just now getting up from sedation."*

These findings are contradictory to those of Ashworth (1980), where 89 nurses mentioned that they talk to patients about a patient's personal interests. Sixty-one mentioned about the weather, topical events, radio or news. Fifty-eight nurses talked about present treatment or care. Twenty nurses talked about time, day and date and only 16 nurses talked about orientation to surroundings, and description of the machine.

Elliot and Wright (1999), in a qualitative study, explored how much and what types of verbal communication critical care nurses use when caring for unconscious patients. The method used was non-participant observation. The study showed that verbal communication on the whole centered on describing a procedure or task, or aspect of physiological care. The second and third category that emerged was orientation information and reassurance respectively.

Turnock (1989) studied the views of intensive care nurses on the psychological needs of their patients. When considering nurse-patient communication the nurses outlined

two areas of communication. Firstly, they tried to provide the patient with information to help orient them to place, time, their condition as well as warning the patient about procedures and providing explanations about procedures.

The main reasons for communication identified by ICU nurses were to provide psychological support, reassurance and to reduce anxiety. These comments were typical:

(1): "No, really we will talk with him to reassure him to make him feel better, to improve his psychological side and especially in ICU. They cannot see their family all the time; they do not know what is happening to them, they will be critically ill."

(7): "So to reduce anxiety. Patients see many strange things and new things. Patients sometimes are afraid of the monitor."

5.7 Patients' Awareness of Nurses' Behaviors

When asked whether nurses think that patients notice how nurses look and behave, all nurses mentioned that patients notice nurses' behaviors more than their appearance. Most of the patients notice nurses' negative behaviors or actions and patients complained later on after passing through the critical stage or even after discharge. The following comments are typical.

(10): "Ya ... actually, they can recognize the behaviors of staff. They will complain outside ... ICU they are punishing us, they are beating us. We are not beating. Sometimes while changing position, we are doing chest physiotherapy. They feel the opposite way."

(2): *“Patients are human beings. If they do not know nurses’ name they ask ... for example nurse with glasses or fat nurse. Behaviour like if staff has an angry personality. Patients notice like Indian or Bahraini nurse.”*

In Ashworth’s (1980) study 61 nurses stated that patients notice their interest in them, and their kindness and patience. Forty-eight nurses mentioned personal appearance, whether smart and having tidy physical characteristics. Twenty-five nurses told that patients notice the behaviors with other staff and patients in general, whether professional, irresponsible or ignoring the patient. In this study nurses’ behaviors was noticed most by the patients.

Holland et al (1997) studying the patients’ recollections of critical care found that most patients are aware of their nurses’ attitudes. Receiving care from a nurse who communicated warmth, caring and personal closeness made the experience less stressful and enhanced these patients’ senses of well being. Impersonal and distant behaviors on the part of nurse made the experience more stressful and the recovery period more difficult.

5.8 Influence of Culture and Religion

One important theme that emerged from the discussion of non-verbal communication is the influence of religion and culture on nurses’ use of touch in the intensive care unit for critically ill patients. Giger and Davidhizar (2002) state that culture is a behavioral response that develops over time as a result of imprinting the mind through social and religious structures. All the participants in this study were Muslims. In the hospitals, in all wards male nurses are not assigned to female patients and are not allowed to provide direct care to them, although male doctors can treat and provide

care for female patients in the presence of a female nurse. Similarly in the intensive care unit male nurses are assigned to male patients only. However, there are no prohibitions for female nurses' assignment to male patients. Female nurses are obliged to work with male clients. All the male nurses mentioned that they use touch but only two male nurses were observed to be using touch during observation before the interviews. A particular comment was given by the sixth interviewee.

(6): "Yes. When we first come on duty, we will talk and greet patients. But female patients, I do not touch, because of religion and culture."

This comment of the participant is consistent with the literature. In Arab cultures, male health care providers may be prohibited from examining certain parts of the female body (Smeltzer and Bare 2000). Andrews and Boyle (1995) state that adolescent girls may prefer female health care providers or refuse to be examined by a male.

The place of touch was mentioned by one male nurse only. For example:

(10): "Usually we will use touch, for example, touching his hand or his chest to make him feel comfortable."

All female nurses told that they used touch, but it depends on the type of patient. Five nurses mentioned that they would not touch male patients. All female nurses expressed that they would touch female patients comfortably. The following comments express the nurses' values and beliefs.

(4): *"I don't like frankly to give bath for conscious male patients ... it is difficult for me. According to our custom, patients feel shy to expose themselves to a female nurse. I don't consciously touch male patient. It is difficult to do it with male."*

(5): *"Not for all types of patients. It depends. For example, we are Muslims. We are not supposed to touch men ... young men. Conscious patients we do not touch."*

These comments are in keeping with the literature. People from different cultures interpret touch differently (Grossman 1999). Touch is considered a sensitive means of communication (Smith and Bass 1982). Faulkner (1998) states that the use of touch in interaction is influenced by cultural norms and it is also influenced by individual differences. In the Arab culture, it may be inappropriate for a female to care for males (Smeltzer and Bare 2000).

Three nurses mentioned that touching male patients depends on age. The following comments express these feelings.

(2): *"Consciously, I do not touch young male patients but old age it is ok. Women I can touch. Comfort touches, caring touch, especially for children."*

(7): *"Sometimes, old age, we touch them and sometimes we will hug them. We will tell them everything will be ok. This is not the same. Young men I touch or hug ... This is wrong in our religion and our values and beliefs ... do not allow for these things. But old ok, young there are boundaries."*

This is obvious in the literature. Physical contact with a client can convey different meanings cross-culturally. Some women of Middle Eastern origin do not shake hands with men, nor do men and women touch each other outside the marital relationship (Andrews and Boyle 1995).

When asked about the reason for using touch. Most nurses mentioned that they touch the patients to reassure them.

(1): *“Therapeutic touch, to relax the patient, to let him know that he is in safe hands and he is ok.”*

(8): *“Reassurance that you are fine, even very critically-ill patients. We reassure patients as much as we can.”*

The nurses' responses for this part are consistent with the results of observation. With regard to touch, it was observed to be used by only seven nurses. The maximum time touch was used was four times only by two nurses. During observations five, six, and seven no touch was observed to be used in a two-hour period. The parts of the body where nurses applied touch were the head, shoulder, hand, arm, and chest. The shoulder and hand were touched more frequently.

These findings have an important implication on practice. Limited use of touch or not using touch at all with different genders can have a major influence on the care provided to patients. Nurses acknowledge the importance of using touch and they understand its use but their cultural values and norms affect their use of touch with patients. Findings of the observation revealed that maximum time spent in verbal communication was 4 minutes and 33 seconds and the minimum time spent was 35 seconds during a two-hour observation time. This shows that there is limited verbal and non-verbal communication with mechanically ventilated patient. Nurses do not compensate for lack of touch with increased verbal communication. This can affect the care provided to patients and it can also influence the recovery of the patient.

The literature reveals that use of touch is considered important in the critical care environment. Communication with intensive care patients is very important, especially communicating with a critically ill patient who is sedated and ventilated and unable to speak. In these circumstances, touch is a valuable means of conveying messages (Verity 1996). Physical touch is an integral part of nurse-patient interaction in all nursing situations and it is more so with seriously ill patients (Routasalo 1990). Hudak and Gallo (1994) state that the need for touch is intensified during stress and cannot be totally met by other forms of communication. Similarly, Ingham (1989) emphasizes that mechanically ventilated patients may depend on touch, tone of voice and speech characteristics for communication.

In an intensive care environment a patient may be exposed to sensory deprivation. Sensory deprivation is a term used to identify various symptoms that occur after a reduction in the quantity and quality of sensory input. These symptoms include loss of sense of time, restlessness, boredom, depression, delusions and illusions (Hudak & Gallo 1994). The most considerable sensory deprivation that patients experience is lack of human touch (Glide 1994).

Hudak and Gallo (1994) state that touch improves the sense of well-being of the patients as well as physical recovery from disease. It also has a positive effect on perceptual and cognitive abilities and can influence physiological parameters such as respiration and blood flow. Touch may be used to increase the meaning of verbal and other body language such as eye contact (Ingham 1989). Touch that is non-task related is a powerful therapeutic intervention that communicates caring (Hudak and Gallo 1994). Comforting touch is for the purpose of assisting the patient to cope with

illness and related stressors. The intent of a comforting touch is to attend to the immediate affective and cognitive needs of the patient, which can in turn influence physical response (Weiss 1986).

5.9 Importance of Communication in ICU

Seven nurses viewed that it is more important to communicate in an intensive care unit than in a general ward. The main reason given was the environment of the intensive care unit and the condition of the patient.

(8): "ICU is a strange environment for them. They are connected to monitors. In ICU, they need more communication."

(2): "Because of the ICU environment, they need more communication."

(1): "In ICU they will be separate from other patients; they cannot see each other. They will only see nurses. In a general ward all nurses are open together, even the family can talk with them more and they can even sleep with them."

The environment of the ICU is sophisticated with the use of highly specialized equipment (Stanton 1991). Many authors agree that intensive care is arguably the most stressful setting in the hospital (MacKellaige 1987, Hafsteindottir 1996).

Four nurses viewed the importance of communication to be the same in general wards and in the ICU.

(7): "Because in both, these are patients. Both require that we talk with them, care for them. I think both same. If I was in general ward, it will be the same."

(3): *“Both the same. For me a patient is a constant concept. No matter where he is. I did not work in a general ward but I still think both the same.”*

5.10 Conclusion

In this chapter, findings of the interview were analyzed. The aim of the interview was to explore nurses' attitudes and perception about communication with mechanically ventilated patients in an intensive care unit. Different themes and categories emerging from the transcribed interviews were presented. The findings were compared and contrasted with the findings of the observation part of the research. The findings were also compared with other researchers and literature. Nurses identified their work likes and dislikes in the intensive care unit and this can influence on communication and care provided. Different barriers to communication with mechanically ventilated patients were identified. Nurses' content of verbal communication is described and the influence of culture and religion is discussed. The next chapter will discuss the key findings from the quantitative and qualitative elements of the study, within the context of study's overall aims and research questions. The implication of this research to advanced nursing practice will be highlighted. Limitations of the study will be discussed and recommendations for future research will be presented.

Chapter 6

Discussion

6.1 Introduction

In this chapter, the key findings from the quantitative and qualitative elements of the study will be discussed within the context of study's overall aims and research questions. The significance of this study for advanced nursing practice will be discussed. The limitations of the study will be outlined and finally, recommendations will be presented for future research in Bahrain.

6.2 The Key Findings

The particular objectives of the study were to describe the verbal and non-verbal communication and to explore the nurses' perceptions and attitudes towards verbal and non-verbal communication with mechanically ventilated patients in the intensive care unit. The first question was 'What is the content of nurses' communication with mechanically ventilated patients'? The second question was 'How much time is spent in communication'? The third question was 'What are the attitudes and perceptions of nurses on verbal and non-verbal communication with mechanically ventilated patients'?

This study revealed that there is limited communication in the intensive care unit. The total number of 'bits' ranged from 11 to 68 in a two hour observation period and most of the communication was related to procedures. Observation findings showed that nurses' verbal communication content was dominated by short-term informative content, which is information related to next activity. Similarly, nurses reported in the interviews that most of the time they explain procedure before carrying them out.

The minimum time spent in verbal communication was 35 seconds (observation 7) and the maximum time spent in verbal communication was 4 minutes and 33 seconds (observation 10). During observation 7, the patient was re-intubated and was semi-conscious and under sedation. While in observation 10, where most communication took place, the patient was conscious but intubated. Another notable difference was observation 8, where 3 minutes and 55 seconds were spent in verbal communication and the patient was semi conscious and under sedation. The time spent in verbal communication generally was influenced by the level of consciousness of the patients. Most nurses felt that level of consciousness of the patient affected the amount of their communication with the patients. Nurses felt that they only explain procedures to the unconscious patient, while with conscious patient, they tend to talk more.

The purpose of observing non-verbal communication was to investigate the non-procedural touch and eye contact by nurses. There was limited use of touch and it was observed to be used by only seven nurses. The maximum time spent using touch (using touch not associated with a procedure) was 182 seconds. The parts of body where nurses applied touch were head, shoulder, hand, arm, and chest. Eye contact was observed to be used during all observations. The minimum time when there was eye contact was 4 times and the maximum time eye contact was used was 30 times during 2 hour observation period.

This study revealed that, the nurses' use of touch in the intensive care unit is influenced by their religion and culture. During interviews, nurses mentioned that they can touch female patients comfortably. They can not touch male patients, but some nurses mentioned that they touch male patients depending on their age, such as

children and old age patients. The results of interviews justify the findings of the observations, regarding the use of touch. During observation, very limited use of touch was observed. This is due to the religious and cultural believes of the participants. This finding is different from the studies conducted in the Western countries. The findings of this study can have great implications in the practice and education in Bahrain.

The findings of this study revealed that there is limited verbal and non-verbal communication with mechanically ventilated patients in the intensive care unit in the hospital in Bahrain. The majority of verbal communication content, by nurses contained information regarding the procedures performed for the patients as shown by the results of observations and interviews. However, there were various factors identified by nurses for this limited communication. The main barriers to communication were condition of the patient, language barrier, nurses' emotional status, personality and workload and patients' emotional status. Patients' condition such as their level of consciousness, being connected to ventilator, and being sedated, were considered major factors that influenced the amount and content of nurses' communication. Nurses also had frustration with difficult communication. However, all nurses perceived the importance of communication in the intensive care unit, because it is a strange environment and all patients are critically ill.

6.3 Implications for Advanced Nursing Practice

The aim of advanced practice is to achieve excellence either directly through the care that is delivered or indirectly through development of colleagues and the practice development (Fullbrook 1998). According to Hamric (1989) the sub roles of advanced

nursing practice are expert practitioner, educator, researcher and consultant. The implications of this study for advanced nursing practice are discussed through these sub roles.

6.3.1 Practice

The advanced practitioner should evaluate current practice and identify deficits within service and patient's unmet needs and should use this to determine objectives for practice development (Goodman 1998). The findings revealed that nurses disliked the jobs that they considered were not their responsibility and they were forced to do due to a lack of hospital attendants. This caused stress for nurses and increased their work load and one of the solutions would be the recruitment of more hospital attendants.

The language barrier was considered a major factor by all nurses for lack of communication with patients who do not speak English or Arabic. Professional interpreters should be employed with different languages in the hospital. At present, there are no professional interpreters in the hospital.

One of the rationales, for carrying out this research was my concern that graduate nurses working in the intensive care unit may have ineffective communication with mechanically ventilated patients as there is no specific education or training given to students regarding this issue. This research has revealed the actual practice of communication in the intensive care unit and nurses' perceptions and attitudes about communication with mechanically ventilated patients. This research has implication for change in practice and in education.

To improve practice change is necessary. According to Garside (1998) all improvements require change and it involves changing the way that things are done, change in the process and in the behaviour of people. The advanced nurse practitioner should be a good communicator, change agent and leader of nursing (Castledine 1998). To improve practice, one of the most important stages is to utilize evidence (Joyce 1999). Process of change requires actions, reactions and interactions of various stakeholders (Pettigrew et al 1992).

6.3.2 Education

According to Castledine (1998) the advanced nurse practitioner should act as a consultant and educator relating to their particular chosen field and role. To change practice education is essential. Although the communication process is taught in the General Nursing Program, more emphasis is needed on communication issues in the critical care setting where there are barriers to communication as identified by this study. Students are taught communication issues during their studies but the actual practice regarding communication has not been identified. This study showed a great influence of religion and culture on communication in the hospital in Bahrain.

Teaching is based on the text books from western countries which gives a western perspective of communication issues. This study has highlighted a need for incorporating the religion and cultural issues from an Arabic and Islamic perspective. To make nurses aware of research finding, an oral presentation of the research and publication of the research in Bahraini Medical Bulletin is considered necessary by the researcher.

6.3.3 Research

Advanced nurse practitioners should be researchers and evaluators of care. One of the main areas of advanced nursing practice is to conduct research and evaluate various areas. Advanced nursing practice involves using nursing theory and research to analyse problems (Castledine 1998). This research is the first research conducted on the issue of communication in an intensive care unit in Bahrain. This leads a path for others to follow to explore the communication issue in intensive care unit or in general wards. One of the implications of this research is the requirement for further research in Bahrain. This research has made me question whether, I should apply research findings from different cultures to Bahraini culture. Education of nurses emphasizes the use of touch for patients to be therapeutic, but there is no research conducted in Bahrain to find the views of patients regarding touch. There is a need for a research to study the patients' perceptions about verbal and non-verbal communication.

Dissemination of this research through presentation at the researcher's work place and at the hospital is important to increase awareness about the issues identified in this research. Research that is inaccessible or that is never widely applied to practice is useless (Hickey and Ouimette 2000). To increase awareness about research evidence, it is crucial that research methods are taught in the General Nursing program and not just in the Bachelor of Science in nursing courses. The research process can be facilitated by nurse teachers by developing research awareness and the application of research findings in to practice (Autar 1996).

6.3.4 Consultant

The researcher can act as a resource person with regard to communication issues in the intensive care unit. I am a teacher who teaches the communication process and conducting this research has broadened my knowledge in this issue. According to Manley (1997) the content of the consultancy is withdrawn from all sub roles including nursing practice, practice development, education in practice, research methodology, the nature of knowledge and theory development in nursing and consultancy skills.

6.4 Limitations of the Study

Based on the design of this study, the time is considered a limiting factor. This study utilized two methods of data collection and data analysis involving both the quantitative and qualitative approaches. However, there was limited time for data collection and data analysis and due to the fact that this dissertation was only part of a Masters degree in Advanced Nursing Practice over one year, time was very restricted.

The homogeneity of the sample in this study restricts any generalisation to a wider population, which includes non-Bahraini nurses. However, in keeping with the objectives of the replicating study, it was necessary to include only Bahraini nurses, as to study the influence of culture on communication between this study and replicated study. Observation was carried out by the researcher alone. Two observers might have been better to assure the accuracy of data collected. However, in a busy intensive care environment it was impossible.

The quantitative data obtained was checked and analysed only by the researcher. Similarly, the qualitative data was also coded and categorized by the researcher only and this reduced the validity of the analysed data. According to Burnard (1991), to increase the validity of the categorised method and to prevent research bias, it is advised that two persons other than the researcher generate category systems independently and come up with one list.

However, in this study the method was not carried out. This is due to two reasons. Firstly, I was in Bahrain only for three weeks undertaking my data collection, this time constraints prevented me from undertaking my data analysis in my home country. Secondly, I was unable to locate anyone with appropriate communication skills to aid my research. Perhaps, if I had undertaken the research either fully in the United Kingdom or in my own country, that would have been a viable option. However, my research supervisor authenticated the themes and categories arising from the interview.

The nurses' knowledge of the purpose of the study in advance might have influenced the amount and content of their verbal and non-verbal communication during the observation period. I had limited experience in conducting research which could have influenced the quality of data collection and data analysis. I am familiar with most of the participants and this could have influenced their participation in the study and their communication during observations and during interviews.

Ashworth (1980) observed nurses for 4-hour periods. However, in this study observation was carried out only for two hours due to busy intensive care

environment. The interviews were not conducted in the native language of the participants due to shortage of time for conducting research. Translation requires an expert translator which the researcher was unable to find, and also translation requires a considerable amount of time, so research interviews were conducted in English. All the participants understood and spoke English.

6.5 Limitations of the Research Method

The methods of observation and interview enabled different aspects of communication issues to be explored. With observation, the actual content and amount of communication used in the real situation was revealed, whereas interviews enabled the exploration of nurses' attitudes and perceptions about communication with mechanically ventilated persons in intensive care units.

- The major limitation with observations is the potential change in behaviour in the setting, because of the presence of the researcher (Morse and Field 1996). However, this change was reduced after some time of observation.
- The accuracy of data collected through observation is questionable, as observation was carried out only by the researcher. Presence of two persons for observation was desirable, as large amount of data was collected during observation including verbal and non-verbal communication. However this was not possible in a congested intensive care environment.
- With the use of a structured interview guide, limited information about attitudes and perceptions of nurses was obtained. Semi-structured interviews

would have been better in exploring the attitudes and perceptions. However, this study was a replication of Ashworth's (1980) study, so the same interview guide was used.

- Data collected by interviews was not recorded by one method. Three participants refused to be tape recorded, so the researcher had to take notes.

6.6 Areas for Future Research

More research is needed in to communication, particularly including non-Bahraini nurses, to compare the amount, content of communication and attitudes and perceptions of Bahraini and non-Bahraini nurses in an intensive care unit. Since the Majority of nurses in the intensive care unit are non-Bahrainis, it is important to know their perceptions and barriers to communication. Further research is recommended to explore the different types of non-procedural touch used by the nurses. This research has not involved patients, so it is considered important to conduct research in future exploring patients' perceptions and experiences in the intensive care unit that will give a detailed insight in to communication in this critical area. The findings of this research revealed that the nurses' religious and cultural beliefs influence the communication process in the intensive care unit. There is also a need for a study to identify Bahraini and non-Bahraini patients' beliefs about verbal and non-verbal communication in the intensive care unit in Bahrain. The evidence from these studies can improve or change practice.

6.7 Conclusion

This chapter discussed the key findings from the quantitative and qualitative elements of this study, within the context of study's overall aims and research questions. The significance of this study for advanced nursing practice was highlighted. The limitations of the study and the research method were outlined and finally, recommendations were presented for future research in Bahrain. The next chapter will present the conclusion of the study.

Chapter 7

Conclusion

The intensive care unit is a highly specialized and technical environment. Patients admitted to an intensive care unit are critically ill and they are at the most vulnerable period of their life. Most of these patients are also mechanically ventilated, or sedated. Patients require endotracheal tube or tracheostomies for mechanical ventilation which interferes with their ability to speak. At this stage, they fully depend on the nurses for their physical, psychosocial and social needs (Bergborn-Engberg and Haljamae 1989). A number of retrospective studies have shown that many patients do remember their experiences in intensive care unit. Hence, in an intensive care unit communication between nurses and patients is likely to be as vital as it is difficult (Ashworth 1981).

There are many researchers who study communication issues in the intensive care unit, but most of this research is carried out in Western culture such as United Kingdom, United States of America and Sweden. No research has been conducted regarding this issue in Bahrain. Therefore it was important to investigate critical care nurses' communication in the intensive care unit.

The major aim of the study was to investigate critical care nurses' verbal and non-verbal communication with mechanically ventilated patients in an intensive care unit in Bahrain. The particular objectives of the study were to describe the verbal and non-verbal communication and to explore the nurses' perceptions and attitudes towards verbal and non-verbal communication with mechanically ventilated patients in the intensive care unit. The research questions were 'What is the content of nurses'

communication with mechanically ventilated patients and how much time is spent in this communication? The second question was ‘What are the attitudes and perceptions of nurses on verbal and non-verbal communication with mechanically ventilated patients?’

This study was a partial replication of Ashworth’s (1980) study that was carried out in the North-West of England in five intensive care units. In the absence of any such study in a Bahraini hospital, the aim of replicating Ashworth’s (1980) study was to investigate the issue of communication in a Bahraini culture, different from Western culture in many aspects.

A descriptive-exploratory design was chosen using both quantitative and qualitative approaches. The integration of the qualitative and quantitative methods was based on the objectives and research questions of the study. Observation and interview were the two methods that were selected to conduct this research. The purpose of observation was to describe the actual communication content of nurses communicating with the patients and the time spent in that communication. The aim of using interviews was to explore nurses’ perceptions and attitudes towards verbal and non-verbal communication.

Ten Bahraini nurses were selected for observations and interviews using non-probability convenience sampling method. Descriptive statistics were used to analyze data from the observations. Transcribed interviews were analyzed by using a method of thematic content analysis suggested by Burnard (1991). The findings of the observation revealed that most of the nurses’ verbal content was composed of short-

term informative content (26-57 % of all the content), reassuring noises (13-26 %), request or command (12-24 %). The minimum time spent in verbal communication was 35 seconds and the maximum time spent was 4 minutes and 33 seconds in the two hours observation period. The barriers to communication identified by nurses were the condition of the patient, language barriers, nurses' emotional status and workload and emotional status of the patients. All nurses felt frustrated with difficult communication. All nurses reported that communication with patient, particularly, touch is influenced by their religious and cultural believes. Most nurses felt that communication is important in the intensive care unit.

The implication of this research is that, more research is needed in Bahrain. The research findings from Western countries can not be applied to Bahrain, because of the cultural differences. What is decided in United Kingdom and United States of America can not be blindly accepted and taught in nursing education. This study has shown results that are different from Western cultures, such as use of touch and influence of religion and culture.

Dissemination of this research through presentation is important to increase awareness about the issues identified in this research. More research is needed in to the communication issues in the intensive care unit. This research has not involved patients, so it is considered important to conduct research in future exploring patients' perceptions and experiences in intensive care unit that will give a detailed insight in to communication in this critical area. This research has highlighted the need to increase awareness about research and research based practice in Bahrain.

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Appendix 1

Observational Communication Categories

Category name	Definition
1- Social Superficial	Such as 'Hello' or other social remark that does not relate to patient as an individual.
2- Social concerned	Communication regarding patient's family, home or personal interests, or sympathetic remarks such as apologies for causing discomfort.
3- Short-term informatics	Information related to next activity, such as "I am just going to give you an injection".
4- Long-term informative or orientation	Such as, "machine is helping you to breath now but soon you will be able to breath on your own"
5- Questions	Queries by the nurse to try to confirm what the patient had tried to communicate.
6- Reassuring noises	All non-specific reassurance, such as "every thing is all right" or "do not worry" which may convey a sense of human concern without providing any specific information.
7- Command or request	Such as, "hold your arm please".
8- Others	Any thing that does not fit in to any other category, such as calling patients name to look for a response.

Source: Ashworth (1980)

Appendix 2

Participant information sheet

Research Study: A study of critical nurses' communication with mechanically ventilated patients in an ICU in one hospital in Bahrain.

This study is being carried out as a part of Master in Advanced Nursing Practice in School of Nursing, University of Nottingham, United Kingdom. My name is Rukhsana Kothar Naser. The aim of the study is to investigate critical care nurses' verbal and non-verbal communication in ICU.

It is expected that findings of study can improve effective communication in ICU. I would like to observe your communication (verbal and non-verbal) interaction with mechanically ventilated patient for two hours that is divide in to two sequences (8am to 9am and 12noon to 1pm). I will also interview you to explore your perceptions and attitudes towards verbal and non verbal communication. I will also inform you that interviews will be tape recorded.

If you are willing to be part of this study, please sign the consent form and return it to me. You are free to withdraw from study at any time even you give the consent. The information from observation and interviews will be strictly anonymous. I hope the findings of study will be used for better understanding of communication in ICU.

Please do not hesitate to contact me if you have any inquiries. The contact address is:

(Bahrain)

Tel: 9664299

E-mail: ahmed295@yahoo.com

(United Kingdom)

129 Beeston road

Dunkirk

NG7 2JQ

Nottingham

U.K

E-mail: ntxrkman@nottingham.ac.uk

Appendix 3

Consent form for participation in research study

- I agree to participate in study titled ‘A study of critical care nurses’ communication with mechanically ventilated patients in an ICU in one hospital in Bahrain.

Yes----- No----- (Please tick as appropriate)

- I have been given information about the study, and I understand it.

Yes----- No----- (Please tick as appropriate)

Registered nurse signature: -----

Date: -----

Researcher signature: -----

Date: -----

Appendix 4

Staff Interview Guide (Ashworth 1980)

Nurse code..... Sex.....Age.....Grade.....

ICU Experience.....Length of employment.....

Academic preparation.....

- 1- What part of ICU work do you most like?
- 2- Is there any thing you dislike or would rather not do? Or like less?
- 3- Do you ever find it difficult to understand what patients want to say? Under what circumstances?
- 4- How do you feel if you cannot understand him/her?
- 5- What methods and/ or communication aids do you find most useful in helping patients to express themselves?
- 6- Do you think you tend to talk to patients a lot, a moderate amount, not too much?
- 7- What circumstances, if any, influence how much you talk to a patient?
- 8- Are there any circumstances under which you find it difficult to talk to a patient? If so what are these?
- 9- What sort of things do you talk to them?
- 10- Why do you talk about these things? Do you ever talk about any thing else for a particular reason? (What?)
- 11- Do you ever feel you talk too much or too little to patients? If yes, can you say why?
- 12- Do you think patients notice how nurses look and behave, or any thing about them?
- 13- What do you think they notice? What makes you think this?
- 14- Do you ever consciously use touch to convey something to a patient? How do you use it? What do you think you are conveying?
- 15- Do you think it is more important to talk to and communicate with a patient:
 - a- In an ITU.
 - b- In a general ward.
 - c- Both the same. Why?

Appendix 5

Letter for permission to conduct study

19 February, 2003

Ms. Badria Kuwaiti
Chief of Nursing Services
Nursing Services
Salmaniya Medical Complex
Bahrain

Dear Madam,

I am a lecturer in Nursing Division at the College of Health Sciences, Bahrain, currently undertaking MSc in Advanced Nursing Practice at the University of Nottingham, United Kingdom. As part of the course, I am conducting a research in to communication in critical care setting. The research objective is to describe and explore nurses' attitudes and perceptions towards verbal and non-verbal communication in Intensive Care Unit. The research method involves observation and interviews with twelve nurses.

I request for your permission to collect data for the study in the Intensive Care Unit in Salmaniya Medical Complex. I want to commence collecting data from 7 April, 2003 to 25 April, 2003. A letter from the course director is attached herewith.

Sincerely,

Rukhsana Kothar Naser
66 Kimbolton Avenue
Lenton
NG9 1PT
Nottingham
UK

Tel: 07817793665

Email: ntxrkman@nottingham.ac.uk
Ahmed295@yahoo.com

CC: Dr. Mouza Suwaileh
Chairperson Nursing Division
College of Health Sciences

Appendix 6

Burnard's (1991) stages of thematic content analysis

(Adapted from Glaser AND Strauss 1967 grounded theory approach and work on content analysis by Babbie 1979; Berg 1989; and Fox 1982).

Stage 1: Notes are made after each interview regarding the matters talked about and 'memos' are written about the ways of categorising the data.

Stage 2: Transcripts are read thoroughly and notes are made on general themes. This allows researcher to become more aware of the 'life world' of the respondents.

Stage 3: Transcripts are read through again and as many headings are written down to describe the content. The headings should describe for almost all of the interview data. This is known as 'open code'.

Stage 4: The list of categories is surveyed, grouped together, and reduced in to broader categories.

Stage 5: The new list of categories is worked through and repetitions are removed to produce a final list.

Stage 6: Two colleagues generate category system independently, without seeing the researcher's list. The three lists of categories are discussed and as necessary adjustments are made. This process enhances the validity of the categorising method and protect against researcher bias.

Stage 7: Transcripts are read again alongside the finally agreed list of categorized and sub-headings to establish the degree to which the categories cover all aspects of the interviews. Adjustments are made as necessary.

Stage 8: Each transcript is worked through with the list of categories and sub-headings and coded. Coloured pens can be used to distinguish between each piece of transcript allocated to a category and sub-heading.

Stage 9: Each coded section of the interview is cut out of the transcript and all items of each code are collected together. Various photocopies of the transcript are used here to ensure that the context of the coded sections is maintained. The purpose is to allow for either side of the section to be cut out with the coded area.

Stage 10: The cut out sections are pasted onto sheets, with the appropriate headings and sub-headings.

Stage 11: Selected respondents are asked to check the appropriateness of the category system.

Stage 12: All of the sections are filed together for reference when writing up the findings. Copies of the interviews and original tape recording are kept to hand when writing.

Stage 13: At this stage, the writing up process begins. First section is started by selecting the various examples of data that have been filed under the section and offering a commentary that links the example together.

Stage 14: There are two options for this stage. Either finding is written up along side references to the literature or a separate section which links those findings to the literature.