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A phenomenological study of clinical decision making by flight nurse specialists in emergency situations

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A Phenomenological Study of Clinical Decision Making by
Flight Nurse Specialists in Emergency Situations

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Abstract

Clinical decision making is an integral, multifaceted phenomenon fundamental to nursing practice. The domain of flight nursing practice is unique in terms of knowledge, structure, clinical presentations and environment. The uniqueness and diversity of patient scenarios and the advanced practice level of the flight nurse role blend to provide a potential rollercoaster flight mission.

At the time this research was conducted nursing standards to guide clinical decision making were being developed. Medically orientated clinical guidelines were in place, but they were designed to highlight a specific, well defined clinical scenario or skill. It has been argued that guidelines for nursing practice do not always parallel the complex clinical situations in which advanced practitioners may find themselves (Malone, 1992b).

Flight Nurse Specialists (FNSs) with greater than two years flight nursing experience employed by the Royal Flying Doctor Service (RFDS) – Western Operations were interviewed regarding their experiences of clinical decision making in emergency situations. Using a phenomenological methodology, indepth interviews were audiotaped and transcribed. The interviews were analysed using the method described by Colaizzi (1978). Data was described and interpreted, common themes were extrapolated and analysed. A Gestalt of Knowing was identified by the interconnection and interrelationships of the extrapolated themes. The three themes are: Ways of Knowing the Patient, Context of Knowing and Reflective Practice. Ways of Knowing the Patient is constructed with the sub-themes intuitive knowing,

experiential knowing and objective knowing. The second theme, Context of Knowing, is made up of the sub-themes aviation environment, non or minimised involvement in triage, knowing colleagues, solo practitioner, experiential level and practice guidelines. Self-critique and change in practice formed the theme Reflective Practice. Findings provide a significant contribution to the knowledge of clinical decision making in nursing and to the practice of flight nursing in the Western Australian context.

Several recommendations arose from the findings in relation to further research, policy making, standards development and practice developments. Further research is needed into the themes and sub-themes. FNSs need to be allowed to undertake the role of triage for those flights that they will undertake as the solo health professional. The development of standards for flight nursing would benefit from the consideration of the findings of this study and other qualitative studies of clinical decision making. Reflective practice should be considered as a mechanism for not only evaluating practice but as a mechanism for identifying stressful events.

Declaration

"I certify that this thesis does not incorporate without acknowledgment any material previously submitted for a degree or diploma in any institution of higher education; and that to the best of my knowledge and belief it does not contain any material previously published or written by another person except where due reference is made in the text."

Signature: ███████████

Date: _10 august 1999._

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CHAPTER ONE

Introduction

"We cannot practice what we do not know" (Chinn, 1988, p 8).

The role of the flight nurse can be viewed not only as an extension of hospital emergency and critical care nursing practices, but also as unique in terms of the myriad of patient populations and presentations, and working environments. This phenomenological study investigated the experience of clinical decision making by Flight Nurse Specialists (FNSs) in emergency situations.

Background

Flight nurses care for a variety of patients with an assortment of illnesses and injuries in diverse, dynamic and unfamiliar environments, for example, the aircraft, pre-hospital environments and situations, unfamiliar hospitals, ambulances, and in extremes of weather and terrain. The flight nurse may have to manage with limited resources and a sometimes narrow database of patient assessment details (National Flight Nurses Association Standards, 1995). It is not uncommon for flight nurses to attend to aero-medical retrievals unaccompanied by a Medical Officer or other health professionals. In Western Australia, less than 12% of flights are Medical Officer accompanied (Edwards, 1988), and in Queensland, flight nurses attend to 50% of patient missions without a Medical Officer (D'Alessio, 1995). Anderson (1998) reports that flight nurses in the New South Wales Air Ambulance service undertake

94% of the flight missions without a Medical Officer being in attendance. Shields (1998) asserts that the flight nurse is required to implement management in the isolation of the aircraft at altitude.

The flight nurses' scope of practice addresses both the medical needs of patients and the alleviation of their life threatening problems. It is not unusual for a flight nurse to perform life saving interventions independent of direct medical officer's orders (Eastes, 1989; Malone, 1992a). Within the scope of flight nursing practice of the Royal Flying Doctor Service (RFDS) – Western Operations, it is sometimes not possible to communicate with a Medical Officer. Though pre-designated medical orders and clinical guidelines may exist, they may not always relate to the individuality of the emergency situation, thus flight nurses must be proactive in the area of clinical decision making and implementation of appropriate interventions.

The flight nurse may have to care for undiagnosed patients, seriously ill patients, and those in an evacuation setting, for example remote area retrievals of road side and mine site accidents (Barclay, 1995). Furthermore, job expectations and responsibilities are not always clearly defined, and the role itself requires a great amount of autonomy and self-direction (Eastes, 1989). Shields (1998) defines the role of the flight nurse as a "specialist in flight nursing but a generalist in patient care" (p. 8). There may be a sudden or unexpected deterioration of the patient's condition that requires the flight nurse to make decisions and implement management beyond the usual scope of the general nurse (Edwards, 1992).

The aviation environment incorporates the aircraft, the hangar environment

and airstrips, and the physiological effects at altitude. The constraints of this aviation

environment may include a restrictive cabin in terms of size; the presence of

turbulence, noise, vibration, temperature extremes; and at times, a lack of radio

communication. Isolation from or a delay in medical assistance, a lack of trained

medical personnel and communication at airstrips, particularly at stations and mine

sites are potential constraints of the aviation environment. Cabin dimensions of

aircraft used within Western Australia are restrictive. Crew have to stoop, care for

the patient from a seated, sitting or kneeling position and sometimes for long periods.

Access to patients on stretchers is only available from one side and the positioning of

the patient and space limitations complicate procedural activities and resuscitation

(Edwards, 1988; Malone, 1992a).

Turbulence is not only a problem in stormy weather, but also in hot weather.

The presence of turbulence not only has physiological effects on patients and crew

but also dictates the securing of equipment and crew, and consequently the potential

inaccessibility of equipment. The visualisation and proximity of the patient may be

impeded (Edwards, 1988; Semonin, 1996).

Noise from the engines and from vibration impose limitations on the flight

nurse's ability to assess those parameters where hearing is necessary: airway status,

lung sounds; respiratory patterns and effort; heart sounds and manual blood pressure.

It is difficult to hear auditory cues such as the sound of the ventilator, monitors,

alarms, air leaks from equipment, radio messages including the transmission of

medical orders and speech in general (Edwards, 1988).

Vibration can impose difficulties with the use of medical equipment such as

vital sign monitoring machines and intravenous fluid delivering devices. Monitoring

equipment will sometimes not provide accurate data (Edwards, 1988). The limitation

of lighting, sometimes in the aircraft and frequently once on the ground, pose obvious

potential problems for the flight nurse as it can be difficult to assess skin colour,

respiratory effort, subtle swelling, rashes and seizure activity (Dopson, 1990;

Edwards, 1988).

The working environment of the Flight Nurse Specialist (FNS) includes the

physical aviation environment, the environs where the crew have to fly and where the

patient is to be collected from and the environmental changes at altitude. Patient care

and nursing practices have to be viewed differently and adapted to incorporate these

dynamic and challenging aspects of the aviation environment. The simplest of

nursing care cannot be taken for granted, it can not be assumed that the nurse can get

up and tend to a patient who is in pain, vomiting or anxious. Turbulence or imminent

landing can prevent the nurse from reaching the patient.

<div align="center">Significance of the Study</div>

Little has been researched or written about the characteristics, experiences,

significance and outcomes of aviation nursing (Bader, Terhorst, Heilman & DePalma

1995). Barclay, Malone and Cable (1997) assert that whilst the role of the flight

nurse as part of an aeromedical service requires varying degrees of autonomy,

accountability and independent decision making, limited amounts of data are

available that outline the requirements for flight nursing education and practice.

Barclay (1995) asserts that although flight nurses have been in practice within the Australian setting since the 1930s, there is a paucity of literature relating to this practice.

Fisher and Fonteyn (1995) argue that the ability of the nurse to reason and make wise clinical decisions under conditions of uncertainty is fundamental to practice. Cioffi and Markham (1997) emphasise that nurses often make clinical judgements when there is a paucity of 'knowns' and 'certainties' (p. 265). It has been debated that viewing clinical decision making as a purely cognitive function is short-sighted and that other dimensions of clinical decision making must be examined (Jenks, 1993). Hamers, Huijer Abu-Saad and Hafens (1994) assert that research is timely in examining factors that influence the decision making process in nursing. Bucknell and Thomas (1996) concluded after examining clinical decision making by a sample group of critical care nurses, that there is a need for further research of "real nurses making real decisions" (p. 17).

Clinical decision making takes on a new dimension when combined with the unique and highly challenging field of nursing in the aviation environment within the Western Australian domain. Though prescriptive standards for nursing practice are imperative, if they are to contribute to professional competence they must be based on the reality of the FNSs' situation, that is research based. This reality must therefore be identified; this study will become one avenue for achieving this.

The dimensions of caring for sometimes critically ill and undiagnosed patients, and the constraints of the aviation environment challenge the flight nurse and begs the question: What is the experience of clinical decision making by FNSs in

emergency situations? A deeper understanding of the structure and meaning of this experience will contribute to the knowledge of clinical decision making and flight nursing practice. The paucity of research in the area of flight nursing combined with the uniqueness and magnitude of the role and experiences of the flight nurse blend to highlight a need to research this aspect of flight nursing practice.

Purpose of the Study

The purpose of this study is to describe and interpret the lived experience of clinical decision making by FNSs in emergency situations. Through the sharing and analysis of the lived experience, the meaning of the phenomenon will be explicated and illustrated. This information will contribute to the body of knowledge related not only to the phenomenon of clinical decision making but also to flight nursing practice.

The Research Question

The following question underpins this qualitative study: What is the lived experience of clinical decision making by FNSs in emergency situations? A number of objectives are pertinent to this study.

Objectives

1. To describe the lived experience of clinical decision making by FNSs in emergency situations.

2. To interpret the lived experience of clinical decision making by FNSs in emergency situations.

3. To contribute to the body of knowledge of clinical decision making and flight nursing.

Definition of Terms

Flight Nurse Specialist: The title given to a Registered Nurse/Midwife employed by the RFDS – Western Operations who works in the aviation environment.

Aviation Environment: The actual aircraft, including the cabin; the environmental conditions relevant to the flight mission; the working environment of the flight nurse, for example the hangar, airstrips, remote locations (stations, mine sites, roadside), ambulances, unfamiliar hospitals, nursing posts and the physiological effects of flight and altitude.

Emergency Situation: An unexpected occurrence of any traumatic injury or sudden illness or condition that requires immediate intervention to prevent organ damage or death (Loed, 1991). For the purpose of this study the concept of emergency situation will include unexpected events or incidents that require

immediate interventions, for example an acute unexpected violent outburst by a patient where the patient may be aggressive and/or confused and at risk of harming themselves or others.

Clinical Decision Making: The process whereby subjective and objective clinical data is gathered and analysed to allow a decision to be made in terms of the provision of nursing interventions and care. (White, Nativio, Kobert & Engberg, 1992).

Structure of the Thesis

Chapter One introduces the reader to the research topic. An outline of the background of the phenomenon of clinical decision making in emergency situations and flight nursing is presented including the significance for conducting such research. The purpose, research question and objectives are identified. Chapter Two presents a review of the literature to critically examine the body of knowledge related to this phenomenon. Chapter Three examines the methodology, including descriptions of the study design, the sample, and the procedure for data collection and analysis. Study validity, limitations and ethical considerations are discussed. The findings and a discussion are described in Chapter Four. Chapter Five consists of a conclusive discussion including implications and recommendations.

CHAPTER TWO

Literature Review

The purpose of this literature review is to position this study and the findings within the context of nursing knowledge related to clinical decision making. A review of related flight nursing literature is included to support the significance of this study and to shed light on the phenomenon.

A plethora of research exists in the area of clinical decision making (Baumann & Bourbonnais, 1982; Corcoran, 1986b; Fisher & Fonteyn, 1996; Hamers et al., 1994; Panniers & Walker, 1994). No published research was identified that specifically addressed the lived experience of clinical decision making by flight nurses, although varying qualitative studies on clinical decision making and related issues were identified and are subsequently discussed here and within the context of the findings.

The significance of clinical decision making to nursing is without question. (Bucknell & Thomas, 1996; Carnevali, Mitchell, Woods & Tanner, 1984; Cioffi & Markham, 1997; Hamers et al., 1994; Kostbade & Young, 1990; Tanner, Padrick, Westfall & Putzier, 1987). What is not agreed upon is a clear understanding of the processes nurses use to make clinical decisions and factors which impact on clinical decision making (Cioffi & Markham, 1997; Corcoran, 1986b; Crandall & Getcher-Reiter, 1993; Westfall, Tanner, Putzier & Padrick, 1986).

Clinical decision making is a process nurses use to gather information, evaluate it and make a judgement to guide nursing care (White et al., 1992). Hamers

et al., (1994) state that although no unequivocal definition of clinical decision making exists, varying terms are used to denote clinical decision making such as: clinical thinking, clinical judgement, clinical inference, diagnostic reasoning and medical problem solving.

The use of varying interpretations of the components and process frameworks for clinical decision making further complicate attempts to define the concept of clinical decision making. Clinical decision making is a highly complex process that encompasses cognitive, intuitive and experiential processes (Jenks, 1993). Cognitive studies into clinical decision making have demonstrated that it is a complex and highly variable process. It has been identified that nurses will vary their cognitive approach to decision making because of this complexity and variability (Corcoran, 1986a, 1986b). Tanner (1987) states that research into clinical decision making is portioned to two theoretical perspectives, the rationalist and the phenomenological. These two domains will now be discussed.

The Rationalist Perspective

Those researchers who adopt a rationalist perspective believe that a clinical situation should be analysed, subsequent actions should be rational, logical and the nurse should be able to articulate their knowledge and judgement processes (Tanner, 1987). There are two models that are best aligned with the beliefs of the rationalist perspective: a statistical model and a cognitive model. The rationalist perspective presumes that decisions are arrived at using a logical sequence of cognitive processes.

Cognitive processes within clinical decision making have been researched extensively. The majority of these studies have been situated within the information-processing model (Hamers et al., 1994). Within the information processing model two sub-themes are identified. They are the stages in the decision making process and those factors which influence the process. Cioffi and Markham (1997) affirm that there are two main approaches to the examination of clinical decision making by nurses: prescriptive and descriptive. A prescriptive mode engenders how decisions ought to be made and a descriptive approach focuses on how decisions are actually made. It is important to note that the nature of the event, the process employed and the individuality of the nurse will influence the outcome.

Harbison (1991) states that the most appropriate representation of the rationalist perspective is that of decision analysis. Decision analysis is an applied theory of the statistical decision theory. A model of the problem at hand is constructed indicating the options available and the consequences of these options. A statistical probability is allocated to each option. Each option is then assigned a value to reflect the desirability of the outcome. This value should, where appropriate, represent the patient's expressed value. If this is not possible the nurse will assign the value. The probability and the value are combined, and the expected value of each option is then presented. The option with the highest expected value is the best option. This process is sometimes depicted pictorially, using a 'decision tree'.

Panniers and Walker (1994) state that whilst decision analysis is popular in the areas of medicine and engineering, there has been minimal research in nursing to identify its usefulness. Some researchers (Corcoran, 1986a; Grier 1976, 1984) state

that decision analysis is a promising method when paralleled with complex, deliberative decisions, for example a wound management plan. In the study by Panniers and Walker, a complex emergent problem was comparatively analysed using a decision analysis approach and intuitive processes. A convenience sample method was employed to identify 31 nurses employed in a community hospital in the United States of America (USA). The research method utilised was a hypothetical case description, using questionnaires and the Delphi method. Eleven nurses or 35% of the sample were able to demonstrate that their choices within the presented clinical problem were the same using the decision analysis approach and their intuitive decisions. Results indicated a significant disagreement between the two approaches when the relative ranking of the vector of five treatment choices obtained intuitively compared with the relative ranking when the decision analysis model was used.

Westfall et al., (1986) conducted an exploratory study to examine nursing inferences within a framework of information processing theory. The sample consisted of 28 students of nursing from a baccalaureate program and 15 practising nurses from a university hospital within the USA. The participants were provided with simulations of clinical scenarios that required diagnostic reasoning. Preliminary findings on one component of the diagnostic reasoning process indicated the following: that the activation of hypothesis is a component of the diagnostic reasoning process and was used by both groups of participants; the level of preparation did not influence the number of hypotheses activated, nor did the comprehensiveness, efficiency, proficiency or timing of activation; and the level of preparation paralleled the complexity of hypothesis activated.

A number of studies have focused on strategies for clinical decision making in nursing (Corcoran 1986a, 1986b; Gordon, 1980; Hughes & Young, 1990; Itano, 1989; Tanner et al., 1987; Pannier & Walker, 1994). Factors influencing the decision making process include knowledge, experience, contextual setting, experiential level, personal variability, and the diagnostic task (Benner, 1982; Benner & Tanner, 1987; Carnevali, Mitchell, Woods & Tanner, 1984; Corcoran, 1986a).

A study by Prescott, Dennis and Jacox (1987) undertook a qualitative analysis of the satisfaction of nurses of clinical decision making, the nature and involvement with clinical decision making and influencing factors. Factors identified which influenced decision making included: organisational factors, primary nursing and personal factors of the nurse, including relationships with physicians. Factors which enhanced the decision making process were identified in a study of decision making processes by expert nurses, midwives and health visitors in the United Kingdom by Orme and Maggs (1993). A significant factor which enhanced decision making was a "clearly defined philosophy of care within which practice takes place" (p. 273). Others factors were the preparation of the nurse for decision making, the actual process and support provided. Interestingly, permission to take risks was cited by the study participants as an enhancing factor. Hughes and Young (1990) contend that factors which influence decision making include: clinical experience, the clinical setting, subjective beliefs and preferences, short-term memory capacity and the effects of interpersonal conflict and causal ambiguity (p. 353).

A number of researchers contend that nursing is not amenable to the rationalist perspective, because of the intuitive and qualitative nature of nursing

(Benner, 1984; Oiler, 1986; Omery, 1983; Walters, 1994). Nurses have expressed

difficulty when asked to quantify their qualitative judgements (Baumann & Deber,

1989). The identified limitations of the rationalist perspective are augmented by the

relevance of a phenomenological perspective of clinical decision making in nursing.

Phenomenological Perspective

Researchers who ascribe to the phenomenological perspective assert that

action precedes rational analytical thought and there exists limitations to the use of

formal strategies of judgement. The practitioner at the expert level is able to identify

and use patterns within a broad framework, rather than identifying discrete elements

within the scenario (Tanner, 1987).

Those researchers who are proponents of the phenomenological perspective

have identified a number of themes within the phenomenon of clinical decision

making. Intuitive patterns and experiential patterns of knowing have been identified

and described in a number of studies related to clinical decision making and the

practice of nurses. (Benner, 1984; Benner & Tanner, 1987; Benner, Tanner &

Chesla, 1992; Pyles & Stern, 1983; Rew, 1988, 1990). A broader theme that has been

researched is the practice of the expert nurse and how this expertise is developed

(Benner, 1982, 1984). A number of sub-themes within the literature have emerged

which will be discussed in relation to this current research study.

Pyles and Stern (1983) undertook a grounded theory study of how 28 critical

care nurses from eight hospitals in Louisiana, USA assessed the early detection and

prevention of cardiogenic shock. A Nursing Gestalt for clinical decision making was identified. The gestalt was constructed with the linking of basic knowledge, past experience, identifying cues from patients and sensory cues or gut feelings of the nurse. These components of the distinguished Nursing Gestalt are identified in other studies related to clinical decision making.

Benner (1982, 1984) has studied the experiential level of nurses extensively. The more experienced the practitioner, then the more able they were to view the clinical scenario in a holistic state, quickly identifying the true nature of the problem without considering superfluous issues. In contrast, the novice practices within a framework of rules and guidelines, needing to consider all or most issues in each clinical situation. The novice experiences difficulty in integrating knowledge into the decision making event. Tanner (1983) posits that expert nurses use multiple cues and patterns which are cross referenced within the practitioner's repertoire to determine accuracy and appropriateness for the decision.

The themes of intuition and pattern recognition are demonstrated in a study by Smith (1988). Thirteen themes emerged from qualitative analysis of data provided by six experienced critical care nurses from two 300-bed hospitals in the USA. The thirteen themes are: an initial period of stability; subjective certainty; non-specific felt changes; reliance on gut feelings; search for confirming evidence; gradual pattern recognition; difficulty communicating with the physician; intervening factors; importance of context; the preventative role of the nurse; a sense of involvement with the spiritual realm and ethical decision making. Gradual pattern recognition is described as a process of closely searching for signs and symptoms. Significantly,

the nurses identified patterns in their patients' behaviour through prior knowledge of deterioration in these types of patients. Intuition is described in this study as non-specific felt changes and related to the need to rely on gut feelings. Respondents used the term premonition, identifying that something was going to happen to the patient, "I had a feeling that this guy was very sick" (p. 13). Though these nurses could not always articulate the specifics of the clinical scenario, it did not detract from the significance of the accuracy of their assessment of the situation.

Participants in a study by Orme and Maggs (1993) identified intuition as a component of clinical decision making by the study participants who were acknowledged as experts within their practice domains. The participants, nurses, midwives and health visitors with a United Kingdom hospital and community practice frequently considered gut feelings within their clinical decision making process and endorsed the significance of intuition.

Schraeder and Fischer (1987) studied clinical decision making of experienced nurses in a neonatal intensive care unit in a large university hospital in the USA. Four factors were identified that influenced the intuitive thinking of these nurses. Firstly, they were the most experienced within the clinical setting, possessing in-depth knowledge and clinical proficiency. Secondly, they verbalised that they 'knew' the patient. Thirdly, because of this 'knowing' they were able to detect subtle cues within the neonate's behaviour. Pattern recognition was identified as a component of intuition in the reported study. The nurse was able to link the present situation with past experiences and predict outcomes.

In a qualitative study (Fonteyn & Fisher, 1995), pattern recognition was also

identified as a factor within the phenomenon of clinical decision making. The study

was conducted in the neurosurgical intensive care and cardiovascular surgery

intensive care units at a 600-bed university hospital in California, USA. Strategies for

clinical reasoning by three neurosurgical and three cardiology nurses were examined.

Pattern recognition was identified as a theme and is defined as the identification of

similarities and difference in the patient's condition and problems and responses to

therapy with those encountered in previous cases. Critical care nurses in this reported

study were able to identify and interpret patterns within their patient's behaviour.

Benner's (1982, 1984) and, Benner and Tanners' (1987) work on intuition is

based on the research of Dreyfus and Dreyfus (1985). Their qualitative research

further support the key aspects of intuition identified by Dreyfus and Dreyfus. The six

key aspects of intuition are: pattern recognition, similarity recognition, commonsense

understanding, skilled know-how, a sense of salience and deliberative rationality.

Pattern recognition was identified as a perceptual ability of the nurses to recognise

configurations and relationships without identifying specific components of the

situation. Expert nurses were able to identify patterns of patient responses.

Similarity recognition refers to recognising fuzzy resemblances or where the nurse is

experiencing this patient as being dissimilar within the larger pattern of patients'

clinical scenarios. Recognising similarities and dissimilarities allows the

nurse to investigate the patient's clinical situation and emerging patterns of

behaviour.

A qualitative study using a phenomenological approach examined the practice

of experienced nurse practitioners (Brykczynski, 1989). The sample group was

drawn from four hospital based ambulatory practices in the USA. Three themes

emerged from the findings and are not dissimilar to findings of the research

conducted by Benner (1982). The themes are: "(1) discretionary judgement is a

central aspect of 'know-how'; (2) background knowledge is of considerable

importance in skill development; and (3) the nature of practical skills is experienced

based" (p. 82). Specific findings included the nurse practitioner being able to make

qualitative distinctions of the patient's behaviour, the use of intuition and pattern

recognition.

The identification of clinical cues emerged as a theme in a qualitative study by

Minick (1995). The phenomenon of the early recognition of problems in a critically

ill population by a convenience sample of 30 critical care nurses practising in several

hospitals in Georgia, USA was examined. The processes critical care nurses use in

the early recognition of problems was explored in response to a deficit in the

knowledge of such processes. The theme identified was making the connection

between knowledge and outcome practice, that is, caring. It is argued that caring

about the patient allows for heightened perceptions thus allowing for improved

assessment skills and early recognition of patient problems. It is speculated that

without the aspect of caring in these clinical scenarios, patient problems may have

been overlooked. Sub-themes within making the connection are advocacy,

presencing, identifying clinical cues and level of involvement. In comparison,

'missing the connection' was identified by some of the research participants. It

emerged that when nurses expressed that they could not recall situations of early

recognition of patient problems, it was also realised that they were detached or

distanced from the patient.

Knowing the patient as an adjunct and component of clinical decision making has emerged from a number of qualitative studies (Alexander, 1991; Evans, 1996; Henderson, 1997; Horvath, Secatore & Reiley, 1990; Jenks, 1993; Jenny & Logan, 1992; Radwin, 1995a, 1995b; Swanson, 1993; Tanner, Benner, Chesla & Gordon, 1993). Within the theme of 'knowing the patient' a number of sub-themes were distinguished, these being pattern recognition and intuition.

Tanner et al., (1993) used an interpretative phenomenological approach to identify specific themes regarding 'knowing the patient'. The research sample consisted of 130 nurses working in intensive care units at eight hospitals in (USA). Knowing the patient's patterns of responses was identified as a theme from the data. The relationship between knowing the patient and clinical decision making suggest that there exists a subjective intuitive synergy. Nurses in knowing a specific patient's pattern of responses verbalised that in the context of a particular clinical scenario they were able to identify specific and detailed behaviours, along with the patient's responses to therapeutic interventions, coping resources and mechanisms, physical capacities and ability to endure. Knowing the patient as part of clinical learning emerged as a second theme. This involves nurses knowing the qualitative distinctions within specific patient populations. Such knowing involves knowing particular individual patients and allows for an awareness of common issues, expectations and timeframes within the patient population group. As contact with the individual patient increases so does the nurse's experience with the nuances and qualitative differentiations within the patient population group.

In a study of the meaning of the term 'clinical judgement' using Ricoceurean hermenutics by Alexander (1991), 'knowing the patient' emerged as a central theme. This 'knowing' involved the nurses addressing the unique needs and situations of the patient. Two components of this theme were identified: firstly, time spent with the patient and secondly, the time spent as a nurse. In a study conducted by Horvath et al. (1990), 'knowing the patient' emerged as a theme from the data provided from studies of expert practice exemplars. Horvath et al., state that 'knowing' the patient involves "learning about and understanding a patient's response to his or her illness" (p. 264).

In a broader theme of 'knowing', Jenks (1993) examined the realm of patterns of personal knowing in the decision making process by nurses in surgical, medical, paediatric and rehabilitative areas. Twenty-three nurses, with at least one year experience in nursing practice, from a 700 bed university hospital in the USA were interviewed. The methodology was a descriptive field study which allowed for the emergence of data from the experiences of the nurse participants. 'Knowing the patient ' emerged as a prevalent theme. Nurses described that 'knowing the patient' made the decision making process easier and in situations where they did not 'know' the patient, then the decision making was undertaken with a degree of trepidation.

The research of Baumann and Bourbonnais (1982) parallels the context of this current research study most closely. Baumann and Bourbonnais studied nursing decision making associated with cardiology patients, examining the nature of rapid decision making in crisis situations. The sample was 50 nurses from critical care units in three urban hospitals in the USA. Semi-structured interviews were

conducted, data were analysed and coded using an inductive approach. Their

findings suggest that knowledge and experience are the most important factors that

influence rapid decision making and though the nurses made an appropriate decision,

they were not able to provide a theoretical rationale for the chosen decision.

The review of the literature identifies that clinical decision making is

governed by both rationalist and phenomenological perspectives. At the level of the

advanced nurse practitioner or expert, the approach navigates further from a rational,

linear and structured approach, to a holistic framework where the experiential

knowledge base of the nurse, including the concepts of intuition and pattern

recognition, are incorporated.

The review of the preceding qualitative research studies provides an

illustration of the current knowledge related to clinical decision making. The

limitation of this review is that it is representative of areas of nursing practice other

than flight nursing. As already stated no specific research related to clinical decision

making and flight nursing was identified. A review of the literature pertaining to

flight nursing is now presented.

Flight Nursing

Bader et al., (1995) state that although flight nursing originated in the 1930s,

little has been written about it. The majority of the literature is anecdotal or case

study reviews (Dopson, 1990; Kirschke, 1987; Malone, 1992a; Nimmo, 1987; Shea,

Adamzczak & Flanagan, 1987), education orientated material (Anderson, 1987;

Lorraine, 1991; Semonin, 1993) reviews of practice domains (Anderson, 1998; Edwards, 1988, 1992; Malone 1992a) and historical accounts (Lee, 1987; Ravella, 1995; Sheehy, 1995). A limited number of studies have attempted to identify the role of the flight nurse in the North American context (Bader et al., 1995; Batterman & Markel, 1986; Eastes, 1989).

Bader et al., (1995) identified characteristics of flight nursing practice, specifically a description of roles, levels of responsibility, and the backgrounds of the flight nurses in 80 flight programs in the USA. The study design was a retrospective questionnaire. Bader et al., argue that defining the practice of flight nursing is important because it challenges flight nurses to become more autonomous and subsequently responsible by allowing the profession to define the educational and performance standards. Results from this study indicate that the flight nurse frequently performed invasive procedural skills, including intubation, needle thoracostomy and the insertion of central lines. Flight nurses were primarily responsible for the administration and titration of medications compared to the paramedic, in flight nurse/paramedic crew configurations. The flight nurses were also responsible for the physical examination of the patient, including history taking, documentation and follow-up care. Findings indicated that flight nursing practice involves advanced decision making, skills and training. A recommendation from this reported study incorporated the need to focus on identifying practice patterns of individual flight nurses. Within the Australian context, Malone (1992a) describes the role of the flight nurse as one of diversity and the management of emergencies in professional isolation.

Eastes (1989) states that one method for defining the flight nurses' scope of practice is through a retrospective review of documentation relating to the care of the patient. This method was identified as being advantageous in that concurrent peer review is sometimes difficult in the aviation environment because of the limitations of space for a non-essential person to be on board. The main limitation of Eastes's study for the purposes of this research is that only assessment actions and skills were researched rather than processes and associated thinking.

Hensleigh (1987) describes flight nursing as a "combination of an expanded role of practice and back to basics nursing" (p. 197). Hensleigh highlights an aspect of the flight nurse's role in the USA with the following illustration. In the absence of technology, symmetrical chest rise and condensation in an endotracheal tube become imperative indicators of the patient's clinical status in the noisy aviation environment. This is illustrative of how the aviation environment can impact on the flight nurse's ability to assess clinical parameters.

Krupa (1997) asserts that for "flight nurses to build a scientific body of knowledge" and to have practice guidelines that are research based, rather than "based on traditions, intuitions and habits" (p. 827) then all flight nurses must be involved in research. The need for research in aero-medical settings is augmented by the fact that the domain of flight/transport care is growing in complexity and flight nurses are expected to practice at an advanced level.

Summary

The review of the literature indicates that clinical decision making has a significant qualitative component. Clinical decision making by experienced nurses is not just a linear, isolated practice. Clinical decision making is a dynamic, complex, multi-factorial phenomenon that requires further examination and articulation. The practice of flight nursing is not well defined in terms of content, process and outcomes. It is evident from the review of the literature that further research into all aspects of flight nursing is imperative. Based on the literature review, this phenomenological study of clinical decision making by FNSs in emergency situations is timely and appropriate.

CHAPTER THREE

Methodology

Design

The method selected for this research is phenomenology. In essence, this interpretative method is suited to researching the FNSs' lived experience of clinical decision making in emergency situations, in that the structure, description and meaning of the phenomenon are sought. The purpose of phenomenological inquiry is to explicate the structure and essence of the lived experience of a phenomenon in search for the unity of meaning which allows for identification of the essence of the phenomenon in everyday practice (Rose, Beeby & Parker, 1995).

The Qualitative Paradigm

The shift from the traditional quantitative framework to a qualitative one has developed as an important strategy for identifying and understanding the complex world of the lived experience, from the perspective of those who live it. The need to utilise qualitative research methodologies to address nursing phenomenon developed from previous attempts to marry phenomenon like pain, anxiety, sleeplessness, fatigue and nausea to a positivist approach (Oiler, 1986; Omery, 1983, Walters, 1994). It is argued, specifically, that a quantitative approach in researching such phenomena is inappropriate because both the patient's and nurse's subjectivity are

viewed narrowly, causing a lack of wholeness and a minimisation of the significance

of the experience (Oiler, 1986). Omery (1983) argues that a natural science approach

to the study of nursing phenomena is far too simplistic and demeaning, and that it was

devised to "explain specific scientific phenomena, not the human experience" (p. 54).

It is well argued that qualitative approaches to research and knowing in the

nursing context are an appropriate and acceptable philosophy and methodology

(Cohen, 1987; Oiler, 1986; Omery, 1983; Salsberry, 1988; Walters, 1994). Nursing

and phenomenology both reflect the belief that humans are whole beings, who create

their own meanings and are therefore well suited. Omery (1983) emphasises that it is

not the intention of the qualitative researcher to validate any one theoretical

framework, but rather to understand both the cognitive and subjective perspective of

the person and the effect that perspective has had on the lived experience or

behaviour of that individual.

Phenomenological research is a systematic method of inquiry that enables the

researcher to answer important questions about phenomena of concern to nursing.

Such qualitative research is appropriate for generating nursing theory for further

testing and application in nursing practice (Fawcett & Downs, 1986).

Participant Selection

A purposive sample of six FNSs with greater than two years flight nursing

experience employed by the RFDS-Western Operations from a population of 10 was

used. Those FNSs with greater than two years experience were invited to participate

because it was considered that this amount of experience would allow the participant to draw upon a range of emergency situations. This proved to be the case for all participants.

FNSs are registered in Division One of the Register with the Nurses Board of Western Australia by virtue of general and midwifery education and qualifications. The essential selection criteria for employment as a FNS includes: extensive post-graduate experience and/or qualifications in critical care/emergency nursing and/or obstetrics/paediatrics /neonates. The FNSs were or had worked at country bases in Western Australia.

Sample size in qualitative studies is dictated by factors like subject availability, limits on time available to collect the data and the complexity of describing the phenomena by one subject (Burns & Grove, 1993). Sandelowski (1986) confirms that a sample size in a qualitative study may be small because of the large amounts of verbal data that require transcribing and analysing but is not without criticism (Patton, 1990). It is argued that choosing a purposive sample presents a biased representation of the participants and the phenomenon, though in fact, it is this bias that makes the sample purposive and imperative to the nature of phenomenology. In qualitative research, sampling is purposive. Participants are chosen to provide rich descriptions of the experiences that are being studied (Wilson & Hutchinson, 1991).

Procedure

Permission was sought from the Director of Nursing and Primary Health Care

for RFDS – Western Operations to undertake the research (Appendix A). The six

FNSs were contacted initially by telephone to introduce myself as a researcher, the

research project and intent. All six FNSs agreed to participate, and allowed me to

send them an information letter (Appendix B) and a consent form (Appendix C).

Confirmation of agreement to participate was obtained once the consent form was

completed and returned to me utilising the pre-paid, addressed envelopes.

The interviews were all conducted at a time and a venue that were selected by

the participant. The interview was tape-recorded. The interview commenced after

confirmation of the participant's understanding of the research statement and

interview style. The participants were aware that they could withdraw from the

interview at any time if they did not feel comfortable with the content or proceedings.

I had known all the participants for a minimum of 18 months at the time of

data collection. Significant rapport already existed and therefore the interviews were

non-threatening and relaxed. General conversation that occurred pre and post

interview, was not audiotaped. The interview proper commenced with thanking the

participant and then asking them to describe an emergency situation (either involving

life or limb) and the clinical decision making undertaken and experienced by them for

that emergency situation. They were encouraged to talk about any aspects of the

event that they wished.

The primary role of the researcher in the phenomenological interview is to

obtain insight into the experience of the participant through an engaged, profound

approach to listening. This active listening shapes the researcher's interpretation of

what is happening during the interview (Sorrell & Redmond, 1995). Sorrell and

Redmond further assert that the interviewer and interviewee share a unique intimacy,

information shared may evoke strong emotions and memories. I was cognisant of the

potential for this and allowed for it during the interview by utilising active listening,

timely periods of silence, acknowledgment of emotions and encouraging participants

to continue at their own pace. Interviews occurred (in all cases except one), in the

homes of the participants at a time convenient to them. The one interview that

occurred in the work place was at the participant's suggestion and did not hinder the

interview or pose a confidentiality issue.

To maintain the flow of the interview I utilised two types of probes,

recapitulation and the silent probe (Sorrell & Redmond, 1995). Recapitulation allows

the researcher to lead the participant back to the original statement. A silent probe or

purposeful silence allows for the re-establishment of a comfortable pace during the

interview. Clarifying questions were also asked, for example: 'Tell me more about

that?' 'How did that make you feel?' 'Could you give me an example of that?' and

'Can you tell me what else you were thinking about?' I maintained a connection with

the participant by utilising eye contact, nodding, appropriate facial expressions, and

confirmation of questions and dialogue with verbalisation of such. Field notes were

taken directly after the interview.

The interview times ranged from 40 to 75 minutes. The length of time for the

interview was guided by the participant being content that they had provided an

indepth description of the experience and that I had asked a range of appropriate questions based on the account given.

The audiotapes were transcribed verbatim by a professional typist. The typist agreed to maintain confidentiality of the information obtained from the participants (Appendix D).

Data Analysis

The purpose of data analysis in a phenomenological study is to preserve the uniqueness of each lived experience of the phenomena while permitting an understanding of the meaning of the phenomena itself (Parse, Coyne & Smith, 1985). The data generated from this research study were analysed utilising the method described by Colaizzi (1978). The Colaizzi framework is a suitable method for this research study as it follows the Husserlian tradition of phenomenological methodology. This method is based on the processes of decontextualisation and recontextualisation (Koch, 1996). The analytical procedural steps were:

1. The audiotapes were listened to, to confirm completeness and accuracy of the verbatim transcripts;

2. The audiotapes were listened to a number of times and the transcripts read a number of times to gain a sense of the 'whole', until a level of significant familiarity had been obtained;

3. Significant statements and phrases were identified and extracted from the data, which were directly related to the phenomena being studied;

4. Meanings were extrapolated from the significant statements and phrases, and clustered into sub-themes;

5. Sub-themes were clustered into themes;

6. An exhaustive description of the phenomenon was written integrating the significant statements, sub themes and themes;

7. The description and original transcripts were taken back to the research participants for verification of the written experience versus their experience of the phenomenon being researched. (Colaizzi, 1978).

Trustworthiness

The issue of validation of qualitative research has received much criticism and commentary (Bailey, 1997; Burns and Grove, 1993; Kahn, 1993; Rose et al., 1995; Salsberry, 1988; Sandelowski, 1986; Walters, 1994). It has been viewed by some authors that the transfer of validity criteria from a quantitative to a qualitative paradigm is inadequate (Bailey, 1997). Bailey further argues that the authenticity of qualitative research is determined by the adjudication of researchers and by those who have experienced the phenomenon.

Guba and Lincoln (1981) propose four criteria for ensuring the concept of trustworthiness within a qualitative research study, (a) credibility, (b) applicability, (c) consistency and (d) neutrality. Trustworthiness is measured using these criteria.

Credibility

Faithful descriptions and interpretations of the phenomenon represent

credibility. The phenomenon must be easily recognised by those who have

experienced it, or it can be recognised by those who have read about it. The study

findings must be representative of what the research intention was (Sandelowski,

1986). Strategies for ensuring the credibility of this study were to ensure that the

descriptions, explanations and theories about the data contain within them the typical

and non-typical elements of the data. Deliberate attempts to discount or disprove a

conclusion drawn from the data were employed. Validation is obtained from the

participants in relation to the meaning of the data (Oiler, 1982; Sandelowski, 1986).

This technique was utilised in this study to ensure that the data were truly

representative of the original experience. The descriptions of the experience were

taken back to each participant. They were asked to read them, remembering the

initial statement at the interview, and make notations if they wished. These

additional comments were then incorporated into the data.

Sandelowski (1986) states that the significant threat to credibility is the close

proximity of the researcher to the participant and subject matter. This closeness was

evident in two ways, firstly by the nature of the interview process (Sorrel &

Redmond, 1995) and at the time of data collection I was also a FNS. Sorrel and

Redmond explain that there exists a dual effect when conducting a phenomenological

interview, both the interviewer and the interview are shaped by each other. The

interview is participated in by the researcher rather than conducted by. Bracketing

was utilised to identify extraneous intrusions such as researcher bias and presuppositions about the data.

Bracketing.

Bracketing is the term coined by Husserl (1931). He used this term interchangeably with Epoche` and phenomenological reduction. Patton (1990) and Rose et al. (1995) agree that bracketing is a necessary step in qualitative research. The researcher holds the phenomenon up to analysis for personal bias and to eliminate personal involvement with the subject matter.

It has been argued that phenomenological research by the nature of interest and involvement at an indepth level by the researcher does not allow for the researcher and the data to be detached (Heidegger, 1964) and paradoxically the close relationship between the researcher, participant and data both negatively and positively impact on the data (Oiler, 1982). Whilst acknowledging this, Oiler clarifies this paradox by stating that the aim of bracketing is not to deny the existence or relevance of the researcher's perspective but rather to make it explicit. Crotty (1996) asserts that it is necessary to lay aside all ideas, judgements, feelings, assumptions, connotations and associations of the phenomenon. Omery (1994) explains that bracketing involves the researcher viewing the phenomenon naively. Drew (1989) contends that it is the researcher's responsibility to identify their reasons for choosing the phenomenon and the way that they experience the person being interviewed.

I have acknowledged pre-existing concepts and experiences of clinical

decision making in emergency situations as a FNS (Figure 1). At the time of data

collection I had been a FNS for approximately eighteen months. I made a conscious

effort to allow the participants to tell their own stories and not guide their recollection

by my experiences. On reflection whilst undertaking the bracketing phase of this

study, it became evident that it was my close relationship to the phenomenon that

allowed for its identification as a research topic.

| 1. That FNSs engage in caring for critically ill and injured patients at times in unknown environments, in physical and professional isolation and with limited objective data. |
| 2. That such experiences are exemplars within their flight nursing practice and in turn shape their practice and outlook on flight nursing. |
| 3. There is little formal support for FNSs within the current framework of practice to address critical incidents or to provide a critique of their practice and outcomes. |
| 4. The aviation environment can impact on the ability of the FNS to provide nursing care that is appropriate or timely. |

Figure 1: The researcher's presumptions about the experience of clinical decision
making by FNSs in emergency situations.

Applicability.

The defining criteria for determining applicability of a qualitative study are

not without difficulty (Sandelowski, 1986). It is suggested that fittingness is the

criteria to be measured to ensure that applicability is met. Fittingness is present when

the findings fit into contexts outside of the study, and the intended audience can

identify that the findings are relevant and meaningful to their own experiences. The

study findings can be married to the data. Each FNS was provided with the transcript

of the interview and a summary of the themes and sub-themes. The FNSs were asked

to comment on the transcript and the themes and sub-themes to determine if they

were representative of their experience of clinical decision making in emergency

situations. I also discussed my findings with the FNSs to gauge their response to the

themes and sub-themes. There existed general consensus that the findings from the

data did illustrate the phenomenon of clinical decision making in emergency

situations by the sample FNSs. This applicability may be addressed in presentations

of the findings at professional forums for flight nurses in the future.

Consistency.

It is proposed that auditability is the criteria of rigour related to

consistency (Sandelowski, 1986). A clearly defined audit and decision trail was

maintained. The purpose of this is to allow for another researcher to replicate the

study design. This study incorporates how I became interested in this phenomenon;

how the participants were identified and contacted; and the effects of the relationships

between myself as a researcher, the participant and the subject, the procedure, data

collection and analysis.

I had known each of the participants for a minimum of eighteen months.

Though this factor allowed for ease of interviewing, there existed a potential for a

perceived bias. The population of FNSs in Western Australia is small, therefore it is

not unreasonable to know the potential participants. Morse (1992) comments that it

is difficult to imagine undertaking a phenomenological study without knowing

something about the phenomenon.

Neutrality.

Neutrality or confirmability is achieved when credibility, applicability and consistency have been achieved (Sandelowski, 1986). Neutrality was achieved by addressing these domains.

The qualitative researcher is obligated to ensure that the methodology in data collection and analysis is such that the reader is able to judge the quality of the resultant product (Patton, 1990). Rigour is also addressed by the credibility of the researcher who is an integral part of the study because the researcher is the instrument and the pivotal point of analysis.

Limitations of the Study

Though valuable insight has been achieved into the phenomenon of clinical decision making by FNSs in emergency situations, certain limitations exist by the nature of the methodology and findings. This study was confined to the only flight nursing practice arena in Western Australia, therefore it is representative of the experiences of the study participants within this practice domain. The findings are not necessarily representative of other flight nursing practice domains or other FNSs. Further research is appropriate to determine if similar findings would exist within other flight nursing practice domains.

The significant limitation of the phenomenological method is that the recounted experiences of the participants are dependent on remembering and can be influenced by the passage of time and the accumulative effects of experience. FNSs

were asked to recall their experience of clinical decision making in emergency

situations. It cannot be assumed that the findings are an indication of clinical

decision making in routine flight missions. Again, further research within the context

of routine flight transfers would provide data to compare and contrast the experience

of clinical decision making in both contexts.

Ethical Considerations

This research study conformed to the policy for conducting ethical research

involving human subjects stipulated by the Edith Cowan University. Written

permission was granted by the Committee for the Conduct of Ethical Research

Involving Human Subjects at Edith Cowan University. Once this permission was

obtained, then permission was sought from the Director of Nursing and Primary

Health Care and the Chief Executive Officer of the RFDS-Western Operations to

undertake the research as an Ethics Committee or policy for research did not exist.

They were provided with a copy of the research proposal and an introductory letter

(Appendix A). After addressing and clarifying a number of questions, permission was

granted to contact the pre-selected sample of FNSs.

Informed consent was obtained from the participants before commencing the

data collection phase. The participants were given a consent form (Appendix C) and

an information letter (Appendix B). Information provided in the consent form and

letter included an explanation of the research, its purpose and a statement explaining

why they were approached as a potential participant, an explanation of the research

process and timeframe, a statement acknowledging risks and/or benefits, assurance of confidentiality in the conducting and reporting of the study. The participants were encouraged to ask questions at any stage of the study. They were informed that they could withdraw unconditionally at any time.

Research data will be kept for a period of five years under lock and key in my home, then destroyed by incineration. The audiotapes will be erased after completion of the research. Those persons having access to the data include myself, the designated supervisors and the professional typist. The participants were advised that they will have access to the final report.

CHAPTER FOUR

Findings and Discussion of the Study

This chapter presents the findings and a discussion of the findings. The results from the analysis of the data generated from the interviews are reported. A description of the research participants is included. The research participants and their corresponding statements are identified by the numbers one to six.

It was an objective of this study to describe and interpret the lived experience of clinical decision making by FNSs in emergency situations. The extrapolated themes and sub-themes are discussed in relation to the relevant literature and nursing theory. The aim is not to 'fit' the experience to any one theory, but rather to situate it in the nursing world.

Three themes were identified that represent the lived experience of clinical decision making by FNSs in emergency situations. No research was identified that examined the experience of clinical decision making by flight nurses in emergency situations, therefore the following discussion of the findings incorporates a number of studies relevant to the identified themes and sub-themes.

The Research Participants

The participants were eager and happy to share their experiences with me. The telling of these stories proved to be cathartic in some instances: "I'm telling the story now, it's good for me" (4). In response to introductory communication, most of

the participants had already chosen an experience they wanted to share. Some of these experiences had been with them for some time and were viewed as either exemplars or critical incidents within their professional histories. A few participants initially sought my 'approval' of their chosen experience. They were reminded that they could talk about any emergency situation they wished.

A research participant verbalised at the beginning of the interview that there was a case that she would like to describe but felt that she couldn't because of the strong emotions and unresolved issues that this case had created. I informed her that she should only discuss a situation with which she felt comfortable. Interestingly, after describing another case, the participant made reference to the case that had caused her to experience these strong emotions, and then proceeded to talk about it. There was no encouragement or coercion to continue with this story. Talking about this case did prove to be upsetting, though she stated that she was glad to have talked about it.

The interview transcripts were examined for significant statements and commonalities. These statements were then clustered into sub-themes. The sub-themes were examined for connecting commonalities and a theme identified.

Themes and Sub-themes

An exhaustive analysis of the data revealed three themes and eleven sub-themes. The themes and sub-themes are depicted in Figure Two. The emergent themes and sub-themes demonstrated that the experience of clinical decision making

for these FNSs in emergency situations is a detailed interconnection of Ways of

Knowing the Patient, the Context of Knowing and Reflective Practice. The themes

are linked by their content and existence within the recounted experiences. The fact

that these themes and sub-themes are linked denotes a connection, although this

connection exists in varying degrees of clearness, it provides evidence that the

components identified make up the phenomenon of clinical decision making in

emergency situations. The themes and sub-themes are now discussed.

Themes

Ways of Knowing the Patient	Context of Knowing	Reflective Practice

Sub-themes

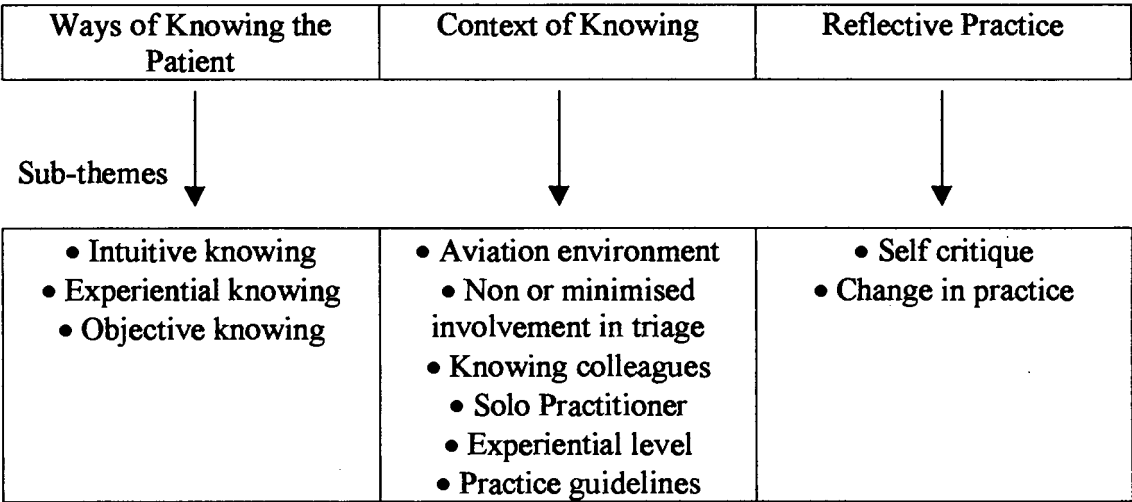| • Intuitive knowing • Experiential knowing • Objective knowing	• Aviation environment • Non or minimised involvement in triage • Knowing colleagues • Solo Practitioner • Experiential level • Practice guidelines	• Self critique • Change in practice

Figure 2. The experience of clinical decision making by FNSs in emergency situations: Themes and sub-themes.

Theme One: Ways of Knowing the Patient

Ways of Knowing the Patient emerged as a theme within the experience of

clinical decision making by FNSs in emergency situations. The sub-themes that

comprise this theme are: intuitive knowing, experiential knowing and objective

knowing.

The participants provided descriptions that demonstrate the use of the theme Ways of Knowing the Patient which interface with the collective assessment of the patient. No one way of knowing was identified as dominant to the others, which suggests that FNSs use multiple approaches to interpret what is occurring for the patient. The complexity of clinical decision making in these emergency situations is demonstrated with the following discussion of the sub-themes.

Intuitive Knowing.

Intuition was identified as the first sub-theme within the theme Ways of Knowing the Patient. The statements provide rich illustrations of the acknowledgment of the presence and use of intuition within the recounted experience and within the collective experience of the FNS to assist in the interpretation of what was occurring within the clinical situation. Intuition has been identified as a way of knowing within the broader domain of nursing knowledge (Benner, 1984; Benner & Tanner, 1987; Pyles & Stern, 1983; Rew 1990).

FNSs provided exemplars and narratives that demonstrate varied existence of intuition, interpretations and use within the recounted clinical situation. Assorted terms and examples are articulated that, in turn, construct a portrait of intuition within the practice of flight nursing for the study participants.

The word intuition is derived from the Latin, 'in tueir', to see within (Rew, 1987). Intuition in its simplest form is defined as "instinctive knowledge of or belief about something without conscious reasoning" (Krebs, 1997, p. 446). FNSs

described intuition using various terms: "alarm bells", "a feeling", "gut instinct",

"extra sensory perception", "instinct" and "intuition". Similar terms identified in the

literature include perception, instinct, sixth sense, premonitions (McCormack, 1992)

and creative thinking, insight, gut reaction or right-brained thinking (Unimker, 1989).

Research participants expressed difficulty in clearly stating exactly what

intuition is, although they were able to identify and predict that something was 'not

right' within the clinical situation presented to them:

> I have thought about intuition a lot and I have spoken to you about that
> [intuition] before but I don't know whether that comes from because you've
> seen someone look that awful before and they died, or this happened, or they
> look that awful and you think something must be going to happen, I don't
> know where that comes from. It's like ESP or something, because its
> intuition isn't it? And very rarely it's wrong. Intuition is obviously based
> on knowledge as well, because if their pulse is 100 and their blood pressure is
> 100 and their oxygen saturations are 100%, then you shouldn't get too
> worried about them. Whereas, if their numbers are not right then you are
> stupid if you don't worry about them, aren't you? (6)

FNS (6) acknowledges the major difficulty that she has in describing intuition and

that is, what intuition is specifically and where does realising that you are having an

intuitive thought about the patient originate? The correlation between intuition, past

experience, objective data and an undefinable element, like ESP is introduced. FNS

(4) further articulates the complexity of intuition:

> I wish I could come up with more wisdom on intuition for you. Only I know
> that no amount of training and guidelines are going to give it to you. It is the
> education of experience, the sights, smells, gut reactions you encounter, that,
> added to your clinical knowledge add up to more than the measurable clinical
> picture before you. (4)

Another FNS when asked to elaborate on identifying that there was

something 'not right' with the patient, provided the following statement and in

doing so makes the connection with a 'gut feeling':

> You can't describe it. It is obviously a gut feeling. You just know that there
> is something not right. It's not their observations, it's not the colour of their
> hair or the way they smile, it's just something not clicking and I don't know
> what it is. (3)

This notion of 'something not being right', identified by FNS (3) was also

identified in a qualitative study of six critical care nurses from two hospitals in the

USA by Smith (1988). The study examined the nurses' experiences of their ability to

determine the deterioration of the critically ill client. Nurses in the initial

identification of the deterioration of the patient were not able to articulate specifically

what was occurring, though commonly stated "he just didn't look right'.

Narratives provided by FNS (4) demonstrates that something was not right

within the clinical situation and although she is not able to express the specificity of

the clinical problem, she attempts to connect it to the atypical presentation:

> I was doing all the clinical stuff but there was that element of what is it? I
> don't know really, I just don't know what it is. I think probably maybe
> because he had atypical chest pain and nobody knew what it was about, and
> nobody could put a finger on it. (4)

The difficulty expressed by the FNSs about the origins of their intuitive

'knowing' of the patient before them is in keeping with Field (1987) who asserts that

expert nurses are not always able to explain the origin of their knowing and actions

because of the internalisation of their complex knowledge base. The illustration of

intuition within the preceding description indicates that it cannot be divided into

parts, but rather indicates the sense of the whole. Benner and Tanner (1987) describe

this as a sense of salience, that is, the ability of the nurse to view the situation as a

whole and then differentiate those elements that are pertinent, rather than evaluating

every element. Research participants in the study conducted by Orme and Maggs (1993) interestingly assert that it is impossible to "analyse or quantify" intuition because to do so would "make intuitive behaviour conscious thought and therefore no longer intuitive" (p. 274).

In a descriptive study by Rew (1990) of intuitive experiences of critical care nurses, it was identified that the participants too had difficulty in expressing the specifics of their intuitive experience, not unlike the preceding comments by the FNSs. A critical care nurse in Rew's study stated, " an elderly female patient's vital signs were stable, but she didn't look right" (p. 34). FNS (2) parallels this thinking: "there are probably lots of things that can go to add up to something being not quite right".

An informant in the study by Benner and Tanner (1987) in describing an intuitive situation uses the term suspicion, " I wanted to investigate. I had a suspicion that there was something wrong with him" (p. 6). A nurse informant in a study by Young (1987) makes reference to having a "funny suspicion" about a patient (p. 59). It is suggested that all these nurses identified an uncertainty within the situation which consequently prompted them to further examine the situation.

In the next description, the term 'suspicion' is used by FNS (3):

> The suspicion factor was there obviously, because nothing was documented about this man's head injury, and when I asked him why he had been brought in by the ambulance first time, he said oh I think I just fell over. He thought he'd hurt his ankle or something, but he hadn't. (3)

Other descriptions of intuition provided by the FNSs identify the following as being fundamental to the formation of intuitive knowing that is, a comparison of what

they have been told about the patient and what they are now observing, and an

obvious incongruence with the two domains, in that the expectation identified in the

receiving of patient assessment data, has not been met. This concept highlighted in

the following comments by the FNSs demonstrates a direct relationship between a

past experience of a similar clinical situation and the current situation, which, in turn,

allows for a prediction of potential outcomes. The FNSs are alerted when it becomes

apparent that this expectation may not be met:

> It is a comparison between my previous experience and the current situation
> and the projection of possible scenario outcomes which leads to clinical
> decisions...The diagnosis does not fit with the observations that I am seeing,
> there is information missing or the information that is provided to me is
> vague. (1)

> I suppose it's like little alarm bell going off in the back of your head. I mean
> you think something's not right here...It's probably like walking into a room
> (and how do you explain it), it's really like you have a certain expectation of a
> certain scenario and those expectations aren't met. (2)

> Maybe you are expecting something different and the picture that comes to
> you is not what you are expecting, so your expectations are not being met.
> That can be the first instance of what you would call your gut instinct.
> You know that this isn't right because you can try and give a reason for a
> while and then you just think I'm not comfortable with it. (3)

FNS (3) provided the following statement which typifies what Pyles and Stern

(1983) describe as a discrepancy between 'what is and what should be':

> If in the assessment, assessment data at the top does not really answer to the
> bottom of the assessment, there is something missing in between...I think
> what I do sometimes is, you know the normal range and acceptable range, and
> if you see something, hear something or read something which is not within
> the normal or acceptable normal range, then you will want to understand
> why. (3)

The preceding descriptions provided by the FNSs demonstrate a notion that

intuition is concomitant (in part) on a previous experience of the clinical situation that

is presented to the FNSs. The FNS compares what is happening with what should be happening, as well as situating it within the broader framework of past experiences. Benner and Tanner (1987) state that intuitive knowing is based on the nurse's background of understanding and ability to recognise patterns, as well as the skilled clinical observation set in the context of the nurse's expectations of the unfolding clinical situation. FNSs provided descriptions of intuition in terms of incongruence between what they had been informed about the patient, what they were seeing and what they were subsequently expecting. The identification of this incongruence allowed for the identification of patterns of behaviour or a falling out of the expected pattern.

The preceding comments also demonstrate that the FNSs were identifying a pattern in what was being observed, or more aptly a 'falling out of the pattern'. This pattern recognition has been identified in a number of qualitative studies (Benner & Tanner, 1987; Benner, Tanner and Chesla 1992; Dreyfus & Dreyfus, 1986; Fisher & Fonteyn, 1995; Pyles & Stern, 1983; Schraeder & Fischer, 1987; Smith, 1988). Pattern recognition is the ability of the nurse to recognise relationships of cues and missing cues within a clinical situation without necessarily pre-specifying the individual components.

Schraeder and Fischer (1987) also identified this notion of a mismatch in expectations and actual events. They state that a factor in making and acting on intuitive judgements, was the ability of the nurse to make a connection of the current experience with the anticipated future.

Sometimes expectations are met and actually go beyond what was anticipated. An example from the narratives illustrating pattern recognition in terms of a specific expected behaviour for a patient in pre-term labour, rather than the overall look of the patient is contained in the following description:

> The patient looked really uncomfortable, she was vomiting. It was actually the vomiting that bothered me more than the labour business, because, not just me, but talking to others we had a run of carrying 24-28 weekers that were fully dilated and we had no problems at all with them, you know they just sat at a 9-10 cm cervix [cervical dilation], so that didn't scare me at all, it was the vomiting, she was really uncomfortable, it was the vomiting that bothered me. (6)

FNS (6) was able to identify that the vomiting indicated that the patient was more than likely progressing rapidly in the second stage of labour, rather than assuming that the vomiting was related to another cause. The patient was demonstrating a pattern of behaviour that the FNS had observed in past encounters.

An ethnographic study by Schraeder and Fischer (1987) identified the nurses' use of qualitative distinctions in behavioural and clinical cues in the assessment of critically ill neonates. Nurses used intuitive thinking and the ability to link current perceptions with previous similar situations so that they were able to perceive qualitative distinctions in the neonate's behavioural cues, including subtleties like colour, activity level, tone and posture. Similarly FNS (2) stated" the baby had a high pitched cry, which was not normal for a baby". The sound of the cry was matched to the FNS's repertoire of 'baby cries'. This neonate was diagnosed with ventricular tachycardia secondary to hyperkalemia which led to an eventual diagnosis of a congenital renal disease. A finding in the qualitative study by Smith (1988) also identified that nurses described subtle physiological changes, such as the blood

pressure beginning to rise and the pulse beginning to drop when talking about the emergence of a pattern.

The descriptions of intuition by the FNSs indicate an element of subjectiveness: FNS (3) stated that she did not "feel comfortable" when her expectations within the situation were not being met; FNS (4) makes reference to intuition being a very "powerful experience" for her; FNS (6) describes gut feelings as "usually good feelings" and as "funny feelings"; and FNS (2) acknowledges that intuition may be some sort of "sensory cue" and also a "perception". The actual use of the word 'feeling' implies that the recognition of intuition is subjective. This subjectiveness within the descriptions of intuition has been identified in the literature. Polge (1995) identified that nurses made judgements based on subjective feelings as well as objective data. Pyles and Stern (1983) state that the nurse's sensory judgement of a patient is an important element to clinical judgment. Critical care nurses felt "that something was going to happen even though everything about the patient looks the same" (p. 54), they were usually correct. Schraeder and Fischer (1987) in their definition of intuition identified the 'sense' that nurses had when caring for neonates (p. 46).

FNSs do not necessarily have to physically assess the patient to develop intuitive knowing about them. Although the objective data provided by the Medical Officer who assessed the patient was within normal limits the FNSs still felt uneasy with the situation:

> I can think of times when I have just looked at the assessment and I have read the observations and I have read the clinical details and I have still requested a doctor, and I can't at the time give a really good reason why I want them [the

Medical Officer] on board. (6)

Before I went to the hospital to have a look at this guy I decided to telephone the hospital just to sort of make sure that I was happy because there was something about the story that I didn't like. On the phone, 'guts', it hit me! I should have really said no, no, no. Anyway I went into the hospital. (4)

Interestingly both these FNSs had 'determined' that something was not quite right, but neither had physically assessed the patient. It is not clear at what exact moment, what documented evidence or what part of the story had prompted the FNSs to realise that something was amiss within the clinical situation. The question that exists here is how did the FNSs still 'know' that there was something wrong when the physical assessment and vital signs were within the 'normal range' and they had not yet seen the patient? It may well be that although both FNSs were not able to articulate a specific component within the patient assessment data, they still identified a subtly, a cue or a falling out of the pattern that prompted them to express concern. No literature or research was identified that examined intuitive knowing without actually seeing or speaking with the patient. Pyles and Stern (1983) identified an element of intuition known as 'nurse intuition', where the nurse had an intuitive feeling about the patient situation that was not based on clinical cues. This does not however, explain how these FNSs have intuition without actually seeing the patient.

FNSs emphasise the implications of ignoring their intuition. The significance of intuition in their own perspective of nursing and in a specific patient scenario is described:

There is a lot to be said about gut feelings and I don't think they are something that can be ignored. For example, if you see a patient, he's had a shocking mechanism of injury and the numbers are just OK, but they are just a bit funny, just a bit weird, and you think something's not right here. So I

> think it just alerts you. You have a heightened awareness to know that, you've got to keep an eye on this fellow, this could be something wrong here, and from your experience you just have to realise that something is not right. (5)
>
> It's very odd thing because I have thought about it often. Intuition is something that really is very strong in my line of work and is such a very powerful experience for me, and yet it is so vague, it's unpinpointable. It is just something that's there, and if you don't act on it by God you'll regret it because it always right, I have never had an instance where I had such a strong feeling that it hasn't come up. (4)

Likewise, research participants in the study by Smith (1988) also assert the

significance of intuition and an unwillingness to ignore their feelings by stating:

" we ignore a real strong cue when we don't respond to our intuitive feelings" and

" I'd rather rely on my gut feelings and be proved wrong than ignore it" (p. 13).

Research participants in the qualitative study of clinical decision making by Orme

and Maggs (1993) endorsed the importance of intuition within their broader

framework of clinical decision making.

FNS (1) recognised the presence of intuition in a patient scenario but did not

'listen' to it:

> Looking back now I should have followed my gut instinct on the ground, which was what the doctor was telling me and what I was seeing weren't computing with me, but as I said, the idea of a psychological problem for the patient was planted there. (1)

FNS (1) contends, however, that the presence of intuition is not her primary

style of clinical decision making and states that it is not always present but agrees that

it is pertinent to clinical decision making. The presence of a gut feeling is confirmed

as being related to a past experience. The idea that an intuitive thought about a

patient is a precursor for further exploration of objective data to guide clinical

decision making, rather than intervention choices:

> It [intuition] is not my main driving factor [in clinical decision making]. I mean there will be times where I will only get a slight assessment and there will be no gut instinct so there is nothing I have to consider outside of the data I've been given. Gut instinct probably comes into some decision making but it does not contribute any more to my direct emergency treatment. After a number of years down the track in flight nursing a gut feeling would be based on I'd been there before and I had had that scenario so I know the patient's name changes and the location changes but I've been in that scenario before. (1)

Within the recounted experiences the following FNSs demonstrate not having intuitive knowing, having intuition though it was not prominent, and having intuition but not listening to it. FNS (3) provide some suggestions as to why this may have occurred though no definitive reasons are described. It is not clear what, if at all subsequent assessment strategies were employed to address these deficits.

> I don't know why I didn't have intuition with this one. As I said, perhaps it was because I was concentrating on somebody else, maybe it was night shift, maybe I wasn't thinking straight, maybe I was so concerned about this other patient that we had picked up. (3)

The presence of intuition became obscured for FNS (4) because of other things that were occurring: "So my intuition was there and it was telling me stuff but I let it be clouded because I had this other stuff to think about." (4)

In telling their stories these FNSs express consternation at the time of the event and in retrospect, that they had somehow 'missed the boat'. Missing the boat is a colloquial term, evident, anecdotally at least within the practice of nursing when an individual fails to identify accurately the illness trajectory or acuity of the patient's illness. The following reported studies provide commentary and possible suggestions as to why intuition or an accurate grasp of the clinical situation may not have been

present for these FNSs.

Pyles and Stern (1983) and Rew (1990) states that critical care nurses differ in their observational ability and what may be significant for one nurse will not be significant for another. FNSs made reference to not having intuition in some situations and stated though it was present it was clouded for reasons unknown. FNS (1) directly comments that intuition is not her primary style for making decisions. It may be that she was still able to differentiate significant signs and symptoms without necessarily labelling what she was observing and interpreting as intuition.

Munhall (1993) describes 'unknowing' as a pattern of knowing. Unknowing is the "knowing that one does not know something" (p. 125). The FNSs were able to articulate their inability to make 'sense' of the clinical situation. Though the data from this current research study does not directly make reference to unknowing, it could be argued that in fact the FNSs were experiencing an 'unknowing' pattern of knowing. Orme and Maggs (1993) assert that the potential for intuition may be stifled for nurses.

Further to FNS (4) illustrating the existence of intuitive knowing in the assessment of an emergent patient, she experiences difficulty in 'convincing' the Medical Officers of her interpretation of the acuity of the situation based on her intuition:

> I went out with him and I said to him, you know there's something I don't like about this guy, I really would like it if you could come with me. And he understood it, but he wanted to stay home and look after his patients in Carnarvon. We talked about it, and we talked so long, that in the end I thought I can't actually rationalise why I want you to come with me, I can't give a reason, I just want you there, but clearly I was not winning. (4) [The Medical Officer did not come on the flight, the patient arrested and died in flight].

Pyles and Stern (1983) assert that nurses in their study were confronted with the problem of attempting to convince the physician that something was wrong with the patient. Critical care nurses in Smith's (1988) study also described difficulty in communicating to the physicians their "subjective sense of change in the patient" (p. 13). Research participants (Orme & Maggs, 1993) claim that students and junior nurses are sometimes criticised for voicing their intuitive feelings. Unfortunately the concept of intuition has attracted an interpretation by some that it is a non-scientific almost whimsical, magical notion because of the use of some terms and the associated vague descriptions (Benner & Tanner, 1987; King & Appleton, 1997).

Intuition as a way of knowing was evident within the phenomenon of clinical decision making in this current research study. The extent to which it existed for these participants ranged from an obvious acknowledgment in the clinical scenario to a blurring of its presence. It was not the aim of this current research study to define intuition or the extent or specific use of it within clinical decision making, but rather it emerged as a sub-theme within the experience of clinical decision making in emergency situations.

Experience is frequently viewed as a necessary component of intuition (Agan, 1987; Benner, 1982, 1984; Benner & Wrubel, 1989), though Moch (1990) clearly categorises intuitive knowing and experiential knowing separately. Statements made by the FNSs make a delineation between knowing from experience and the concept of intuition. Knowing based on experience is discussed in an attempt to critically examine the concept to provide a more thorough basis for the argument that intuitive

and experiential knowing are or are not separate sub-themes.

Experiential Knowing.

FNSs provide narratives which identify knowing based on experience, without

necessarily the mention of intuition, or they make a clear distinction between

intuition and experience. The preceding descriptions situate intuition within an

experiential framework, and some literature supports this notion (Agan, 1987;

Benner, 1982,1984; Benner & Wrubel, 1989). Though to remain true to the data,

knowing based on experience has been identified as a separate sub-theme within the

theme Ways of Knowing the Patient.

The following narrative from FNS (6) contributes to the discussion of the

sub-theme experiential knowing. She makes a notable argument for the consideration

of intuitive knowing and knowing based on experience to be viewed separately.

When providing this narrative, she was quite firm that they were 'different'. A

distinction is made between the two in the following narrative, though the specifics of

their composition and links are not demonstrated. The difference in the origins of

both types of knowing demonstrated by FNS (6) is that experiential knowing for her,

comes from the head [ie brain] and intuitive knowing is a gut feeling originating from

the gut area:

> I think it's a mixture, because certainly past experience has got to be up in
> here [pointing to her head], but I don't know where the gut feeling comes
> from, because as I said you can do that on the telephone, someone can tell
> you about something and alarm bells ring. That experience thing is if you
> have had a patient with that history. So I guess a lot of it is experience. But
> that gut feeling, [pointing to her stomach area] that real gut feeling, see I
> didn't have a gut feeling on the patient at all, nothing, absolutely nothing, so

you have to wonder. I am not sure where that [gut feeling] comes from. You hear other people talking about it as well, oh I just had a gut feeling about it right from the start. I don't know where my gut feeling comes from but it's different to that experience thing. (6)

Within the preceding comment there is an indication [for this FNS at least] that the 'gut feeling' experienced in relation to a clinical situation precedes the actual physical assessment of the patient. Similarly, a nurse in the study by Agan (1987) describes two types of knowing, that which comes from her head and that which comes from her heart. The knowing from the head is described as a "conscious awareness" and the knowing from the heart is described as a "feeling" (p. 67).

FNS (1) comments on the difference between intuitive knowing and experiential knowing. She states that the ability to assess a patient is dependent on more than just intuition:

I think it [knowing something is wrong with the patient] is more than that [intuition], I think it is previous knowledge, compared to the current picture you are being given. (1)

Is what FNS (1) and (6) describing in fact intuition, and they have not realised it is, or is what they are describing purely knowing based on previous encounters with similar situations and the use of the term intuition is not appropriate for what is being described by these participants? I suggest that experiential knowing may form the basis from which intuitive 'thinking' arises. This notion is supported by Benner and Wrubel (1982) who state that experiential knowing is linked to constructing intuitive clinical judgements in the context of predicting the likelihood of an event.

A difference noted between the descriptions of intuitive knowing and experiential knowing, was the ease with which the participants were able to

distinguish knowing based on experience rather than intuitive knowing. The FNSs were more confident in expressing when they knew something because of a past experience. This may be the qualifying distinction between knowing based on experience or intuition.

Importantly, Moch (1990) supports this tenet. Moch describes three components of personal knowing: experiential, interpersonal and intuitive knowing. Experiential knowing is the "becoming aware through participation or being in the world" and intuitive knowing is "immediately knowing something without the use of reason" (p. 156).

These FNSs articulate an awareness of the clinical situation based on their past experiences of similar situations and consequently the ability to predict what may occur based on this experience:

> I think from prior knowledge and experience of similar situations you can say oh well I remember that, and that, and that happened to that person, so perhaps it might happen here. (3)

Moch (1990) argues that experiential knowing is more than the mere participation, but it the ability to connect the current experience to past experiences, as demonstrated with the preceding and following comments:

> I think it's probably more of a thought that there is something not quite right and therefore you go and investigate it a little further and you know it's not quite right because of your learned experiences. (2)

The next comment discusses knowing based on experience within the context of actually assessing the patient:

> The major ways [for me] of comparing and contrasting patient presentations is from previous experience and the previously learned knowledge base gained from my nursing education. (5)

Nurses in the study conducted by Pyles and Stern (1983) described

"the knowledge gained from experience as the key ingredient to skilled assessment".

A nurse provides this example, "after you've been in nursing a while, you can go in

and just look at a patient and absorb fifteen times as much as another person just by

casting an eye over him" (p. 53). FNS (5) in making the next comment demonstrates

her ability to make an immediate summation of the patient's condition by her initial

glance:

> Often I think your first impression of a patient is really important in that you
> know how you get that initial feeling, when you see somebody it tells you a
> lot of things. They look pale, they are not smiling, they are breathing heavily,
> they are screaming, and it just tells you so much, and you know, you look at
> their eyes and they are just filled with terror and immediately it tells you a lot
> and you think how am I going to treat this patient initially. (5)

It is evident from the narratives that the research participants were able to

identify the existence of knowledge based on previous experiences of a clinical

situation which proved an impetus to engaging in a deeper understanding of the

patient's clinical situation. Though the link between intuitive knowing and

experiential knowing exists, the link is not clearly defined and requires further

examination. The use of the label intuition may in fact be misrepresentative of the

phenomenon or not accurately reflect the basis of one domain of nursing knowledge.

The distinction between experiential knowing and intuitive knowing has to lie within

the significant statements from the data of this current research study. The difficulty

some FNSs had in describing intuition and the clear distinctions made between

experiential and intuitive knowing by the study population only serves as a further

catalyst for the examination and discussion of these nebulous phenomena.

FNSs revealed 'knowing' that was situated within a framework of experience and intuition. Though there were able to formulate impressions based on the look of the patient, they also demonstrated knowing based on obtaining, reviewing and interpreting objective data. The third sub-theme that was identified is objective knowing.

Objective Knowing.

The third sub-theme identified is objective knowing. FNSs engaged in assessing the patient using objective data, that is vital signs and clinical signs and symptoms. Few FNSs directly made reference to the objective assessment of the patient though the sub-theme emerged within the recounting of the experiences.

FNS (2) in describing her encounter with a multi-trauma patient identifies assessment strategies that she employed and subsequently demonstrated objective knowing. These strategies were specific for this patient and exist within the expected frameworks for the nursing management of a trauma patient. The description provides an indication of the 'putting together' of the data to obtain an impression of the acuity of the patient's clinical condition and specifics of the situation, that is, the patient had hypovolaemic shock and significant neurovascular compromise of his leg:

> I found him to be tachycardic, hypotensive and he had a palpable bladder, he hadn't voided since the time of the accident which was at midnight. I assessed his limb and found a sock on the foot of the fractured femur. I found that he had a pulseless, cold, numb foot. He had a large wound over his femur and that had compounded, there was blood that had soaked through dressings. When I did his vital signs he was very, very tachycardic, which is what I would have expected from somebody who had been in pain and was shocked with a fractured femur. (2)

The following description further demonstrates the actual assessment

processes used by FNS (3):

> I think what I do sometimes is, you know the normal range and acceptable
> range, and if you see something, hear something or read something which is
> not within the normal or your acceptable normal range limit, then you will
> want to understand why. You will look at the patient as a whole from top to
> toe, you've got to look at the monitor it might be something as simple as the
> leads going off, or it might be a bit more than that. So yes, the first instance is
> if there is a deviation from normal, second instance is what do I think
> is going on here. (3)

The following comment describes part of the assessment process for

FNS (6) though she also indicates that 'the look of the patient' is an important

'assessment parameter as well'. In verbalising her clinical decision making

'style', the ability to assess the patient by the overall look and by using a more

specific framework is evident:

> I don't think I have a step-by-step process. Except, I suppose I do, but I don't
> know where it comes from, it's I mean, certainly you know you get your
> numbers when you do the base line observation, because I am a bit fastidious
> about doing that because I find that when I don't do that I invariably do a
> blood pressure on the plane. It's 210 over 60, or 170 on 140, and I think oh,
> and we are about to take off, you know. I guess I use those a lot and you just
> know the look of the patient, obviously. So that must be the style of my
> clinical decision making. I don't know where it goes from there. (6)

The putting together of data to assist with the decision making within a

clinical scenario is demonstrated with the following comment. FNS (5)

demonstrates the realisation when her experiential knowledge base is inadequate for

the particular situation:

> I think your initial assessment, like you do a primary survey and that's part of
> your primary survey and you take that in when it's part of your assessment of
> a patient…If a patient falls outside of my experiential knowledge base, I will
> consult someone else who has a handle on what may be going on. (5)

The preceding comments illustrate the continued necessity to objectively assess or measure those clinical cues that can be measured and subsequently interpret them within the larger framework of what is happening for the patient. The taking of the patient's vital signs although seemingly 'basic' is still a pertinent way to knowing the patient. Those patients who present with an emergent problem have to be assessed according to the principles of primary and secondary assessment. The FNSs demonstrated appropriate nursing practice for the emergency patient.

The identification of the three sub-themes intuitive knowing, experiential knowing and objective knowing strategies combine to construct the theme Ways of Knowing the Patient. The identification of the sub-themes demonstrated the ways FNSs use to obtain a degree of knowing the patient in order to facilitate nursing care. The sub-themes do not exist in isolation, and the use of each sub-theme for a particular clinical situation will varying according to the individuality of the situation and of the FNS. The FNS's scope of practice and the nature of the emergency situation, when linked with the context of flight nursing practice dictates the need to 'know the patient' as a matter of urgency and as a foundation for the provision of timely and appropriate nursing care when situations exist that do not necessarily correlate to practice guidelines.

Summary of Theme One.

The findings of this study suggest that FNSs utilise different ways of knowing to obtain a degree of knowing the patient within a framework of clinical decision making in emergency situations. Ways of Knowing the Patient proved an integral

component of the phenomenon of clinical decision making and emerged as a theme

with the identification of the sub-themes intuitive, experiential and objective

knowing. The data indicates that no one way of knowing exists in isolation and that

clinical decision making for these FNSs is a complex interconnection of these sub-

themes.

Knowing the patient has emerged as a significant theme within the qualitative

perspective of the clinical practice of nurses (Alexander, 1991; Evans, 1996;

Henderson, 1997; Horvath et al., 1990; Jenks, 1993; Jenny & Logan, 1992; Radwin,

1995(a), (b); Tanner et al., 1993). The concept of knowing the patient is situated in

the context of past experiences of a particular group of patients with similar

presentations, and the detailed knowing of an individual patient.

A significant theme from the literature related to knowing the patient, is the

time the nurse has spent with the patient to obtain a sound degree of knowing them as

an individual. The nurse participants in the qualitative study by Jenny and Logan

(1992) frequently alluded to the process of 'knowing the patient'. This 'knowing the

patient' referred to a process where the nurse acquired and utilised a particularistic

clinical knowledge. Emphasis was placed on having continued contact with these

patients. The time spent with the patient was considered a significant factor in

obtaining a degree of 'knowing a patient', identified in this reported study and other

studies (Radwin, 1995a, b; Tanner et al., 1993). FNSs do not have in all situations

the luxury of time in order to get to know the patient as an individual. The FNS is not

always able to obtain a detailed history for patients in terms of their current

presentation, let alone their life history. This provides significance to the element of

knowing the patient when the nurse has never met the patient as in the practice of flight nursing and particularly in the context of an emergency situation. There is reliance on past experiences which allows the FNS to match the cues from patient to patient. This strategy appears appropriate for the context of flight nursing. I suggest that in fact FNSs 'know their patients' as situated within a broader domain of patterns specific to groups of patients, though they do attempt to obtain a knowing of the patient as an individual.

The following narrative provides an example of how FNS (4) attempted to obtain a knowing about her patient, particularly as an individual, to determine if his behaviour was 'normal' or not:

> The child had paradoxical respirations, he had a mewling cry, and he was a bit clammy. His oxygen saturations were about 75%, I sucked him out, but it didn't make any difference, but you know, when I looked at this child, I felt he is not well. I looked at the Mum sitting there quite non-concerned at the end of the stretcher and she was quite clearly, (you know how you know) she obviously knew what was going on with her child. I said to the nurse [from the hospital] is this paradoxical chest movement, and she said yes that's how he breathes. And I said, and his cry? and she said oh yes, that's what he does, you know, total non-concern. I thought OK. (4)

Despite the attempt to obtain information from the nurse and the mother to allow her to situate the child's clinical behaviour within his 'normal' patterns or if the clinical cues should be alerting her to the occurrence of something else, the child continued to deteriorate and die. The apparent 'non-concern' from the mother and nurse from the hospital swayed her to 'think' that what she was observing was acceptable, despite the very low oxygen saturation levels and obvious concern with the situation.

The review of the literature related to the sub-themes within the theme Ways of Knowing the Patient suggests in many instances that they do not exist in isolation.

For example, the literature related to intuition, posits that pattern recognition is a characteristic within intuitive knowing by nurses (Benner & Tanner, 1987) and in turn pattern recognition is a significant element within the concept 'knowing the patient' (Tanner et al., 1993). The relationship between intuition and experience has already been discussed. The identification of intuitive knowing, experience, use of pattern recognition, knowing the patient and the subsequent level of engaged practical reasoning are identified characteristics of the practice of the expert nurse (Benner et al., 1992).

The nature of the emergency situation and domain of flight nursing does not allow time for the nurse to know the individual patient in any great depth. Despite this constraint, the participants provided descriptions which indicated that they knew the patient in relation to patterns of patient behaviour and clinical cues based on past experiences. Physical cues and behavioural cues of the patient were compared and contrasted to those cues within the FNS's repertoire. It is speculated that the FNSs develops a 'knowing' of the patient by observing and assessing them within a broader framework of past experience. The optimal situation of knowing the individual patient in great detail is offset by knowledge obtained by experiencing other patients with similar diagnosis or presentation, and then being able to identify patterns within the objective and subjective behaviours of the patients.

The theme Ways of Knowing the Patient is situated within the context of flight nursing practice, and specifically within an emergency situation. Context of Knowing was identified as another theme from the narratives of FNSs' experiences of clinical decision making in emergency situations. A number of sub-themes emerged

from the interviews, which demonstrated the context of flight nursing for the study population. Ways of Knowing the Patient is influenced by the contextual setting and in turn shaped by it.

Theme Two: Context of Knowing

Context of Knowing was identified as a theme from the recounted experiences of clinical decision making in emergency situations. This theme is constructed of the following sub-themes: aviation environment, non or minimised involvement in triage, knowing colleagues, solo practitioner, experiential level and practice guidelines (Figure Two).

Context is defined as "the circumstances relevant to an event or fact" (Collins Compact Australian Dictionary, 1997, p. 180) and as "a particular set of conditions or location of events within which the action strategies are taken to manage the phenomenon" (Strauss & Corbin, 1990). The context of knowing will be impacted upon by the uniqueness of the practitioner and the situation, which in turn will shape the context of practice for the FNSs.

Aviation Environment.

The aviation environment emerged as a sub-theme within the theme Context of Knowing. The aviation environment can be divided into two levels, the actual physical structure and the physiological stressors, and the associated constraints on the flight mission. Aspects of the aviation environment posed problems for the FNSs.

The FNSs acknowledge the impositions and implications of the aviation environment though incorporate it into their clinical decision making, rather than isolating it as a separate factor. This impact and awareness is demonstrated in the following narratives.

Aspects of the aviation environment proved to impede the FNSs' clinical decision making as this participant describes:

> The patient was actually out of the ambulance when I arrived there. [It is usual for the Ambulance Officers to leave the patient in the back of the ambulance until assessed by the FNS] It was dark, there was no privacy to separate the patient from the family to assess her properly. (1)

This situation was particularly difficult for FNS (1). As stated, it was dark and the patient had already been taken out of the ambulance. As time was a factor, she may not have determined it appropriate to place the patient back into the ambulance to assess her. There was a lot of attention and concern from the family members toward the patient and the FNS was inhibited in physically reaching the patient to assess her in the first instance and determined that getting her into the aircraft was the appropriate choice.

Flight nursing practice encompasses a large component of safety practices for obvious reasons. FNSs receive education and training in the area of safety. Safety aspects within the aviation environment and the difficulty experienced by FNSs in maintaining them are described. The clinical situation was such that FNS (1) was unable to observe these safety requirements. The FNSs were cognisant of the implications of breaching such expectations:

> Obviously landing in an aircraft environment, the pilot wasn't too keen about the fact that I was sitting on top of the equipment kit at the back of the aircraft

hanging onto someone when I was meant to be sitting in the seat with the seat belt on. (1) [Safety protocols dictate the an individual should be fastened in their seat on landing and takeoff.]

The turbulence was another huge factor and the fact that I was feeling unsafe drawing up ampoules of drugs, on my knees, leaning on a patient, in turbulence. I mean it's again completely against what you are always taught as safety principle. (3)

The size of the cabin, limits of space for storage and the inability to array

emergency equipment and drugs can inhibit the access to equipment in a timely

matter. At times there is a lack and inaccessibility of equipment as illustrated in these

comments:

You can't get any other gear if you need it and not being able to put your gear out so that you have your drugs here and your intubation gear there can prove difficult. Sometimes you are poring through stuff because you have only got the seats or floor to place your equipment on. (4) [The floor space is limited].

This comment indicates that once equipment is left behind then there is no turning

back: "I didn't have a bag and mask to resuscitate the baby." (6)

Semonin (1996) emphasises that nursing a patient in the aviation environment

is significantly different to nursing the patient in the security and stability of a

hospital. Air medical transport may not always be conducive to performing all

the components of patient assessment and preparation that are necessary.

Aspects of the physiological effects of flight in relation to the patient's

clinical status and impact on crew are described:

There was the noise. I think if someone is feeling agitated anyway, and obviously this gentleman was agitated not by means of his own, and the noise in the aircraft would have contributed, and probably to me and my coping mechanisms as well. (3)

Kennedy (1991) discusses the effects of the aviation environment on the

aggressive patient. Loud noise, lights and vibration coupled with the strange environment may cause or exacerbate a patient's agitation and confusion. The preceding comment illustrates that FNS (3) was cognisant that the noise may have contributed to her patient's agitation. The limited space within the cabin and the difficulties with restraining the patient are further problems, which may contribute to a patient's anxiety level.

A further example of noise as a factor in the status of a patient is described. FNS (4) acknowledges that the presence of noise and vibration may have been a causative factor in the clinical condition of this patient:

> The noise can be a factor in some situations. Who knows if the vibrations of flying around in an aircraft might have exacerbated his thoracic aneurism. The altitude hypoxia, (we were in an unpressurised aircraft), so we were certainly contributing to his hypoxia. (4)

Edwards (1992) explains that patients and staff alike are exposed to an altered physical environment and an altered working environment. The physiological considerations are altitude hypoxia, dysbarism, vibration, turbulence, pressurisation, de-pressurisation, noise, thermal stresses, vestibular disturbances, fatigue and motion sickness. Edwards continues by saying that the effects of aviation physiology on the patient will determine the choices of nursing care and specific medical management.

The ability and appropriate timing of the FNSs in communicating with Medical Officers is sometimes impeded as these participants articulate:

> It was over the radio and contact wasn't very good, I didn't get much more than that she was an Aboriginal patient. (6)

> By the time I was able to speak to the doctor, and have his reassurance as well as his medical orders, the major incident was over, it had been dealt with then and there. (3)

The lack of flight crews and distances travelled and the subsequent impact on

a clinical situation are identified with the following description:

> One situation that sticks in my mind is when I was tasked out to a nursing post
> which is 200 kms east of our base to pick up a patient who had been involved
> in a motor vehicle accident and at that stage had a fractured femur. The flight
> request came in, in the wee small hours of the morning, but the night crew
> were not tasked due to Port Hedland night crew being off sick, and the day
> crew were called at about 7 am to go and pick him. This meant a delay of
> approximately 8 hours. (2)

The following description was provided by FNS (2) in response to being

asked about the aviation environment and its relationship with her clinical decision

making. Reference is made to working in isolation and the limitations of space:

> The main thing aspect of the working in an aviation environment is the
> isolation, isolation from other medical staff. The space is extremely limiting,
> it is 'intensive care nursing in a telephone box'. The turbulence and the noise
> can cause difficulty in assessing your patient. Environmental stressors in
> general can be quite inhibiting. (2)

Interestingly FNS (6) comments that she in fact prefers the smallness of the

cabin environment:

> I find it good because I actually like being in a confined space where you can
> only do so much and there is no running around and people panicking around
> you. I actually like that where you can focus totally on what you are doing...I
> will operate much better and in a closed environment with no outside people
> speaking to me. (6)

An extensive amount of literature exists in relation to specific components

and effects of the aviation environment, specifically the physiological stressors. The

stressors of flight, both physiological and psychological and their effects on crew and

patients have been commented on by numerous authors. Minimal research was

located that addressed crew performance of a specific task within the aviation

environment (Eastes, 1993), though no literature was identified that addressed the

phenomenon of clinical decision making by flight nurses in the context of the aviation environment.

Although some aspects of the aviation environment are unchangeable, the FNSs demonstrated that there existed an awareness of this in the framework of the phenomenon of clinical decision making. Other aspects of the aviation environment though arguably changeable, proved at times difficult for the FNSs to do anything about because of their perception that they were disempowered or pressured in these scenarios:

> There was pressure from both the RFDS doctor and the doctor on the ground who said – that is what is wrong with the patient and it [the clinical condition] will settle. (4)

The aviation environment poses difficulties in terms of the restrictive cabin dimensions, mobile environment, decreased access to equipment, limited communication and a lack of peer interaction. The narratives provided by the FNSs indicate that the aviation environment can pose problems in terms of the assessment and provision of nursing care. FNSs identified that noise, vibration and a lack of space can constrain nursing practice and impact on the patient. The scope of this current research study did not seek to identify specifically, what factors inhibit clinical decision making, though the findings indicate that the aviation environment shapes clinical decision making and the subsequent nursing actions.

It is by virtue of the aviation environment and the need for evacuation and transfer of patients using an aircraft that the role of the FNS is one of professional and physical isolation. The aviation environment not surprisingly was identified as a sub-theme. In view of the imposition the aviation environment has on flight nursing

practice and unarguably outcomes, then practice for the adequate assessment of the patient warrants discussion. The question, how best to provide a framework for the assessment of the patient must be asked? Patients are initially assessed, in the majority of situations over the telephone or radio by the RFDS Medical Officer or by the RFDS Medical Officer attending the patient in person. The starting point for the provision of appropriate care, that is triage, was identified as another sub-theme from the narratives.

Non or Minimised Involvement in Triage.

The next sub-theme to be identified is the minimised or non-involvement in the triaging of the patient in the initial instance by the FNS. The concept of triage originates from the French verb trier, which means 'to sort'. The word has been utilised in a medical sense to denote the prioritisation of medical care, treatment and transportation of patients. The principle of triage is to assess and treat the patient in a timely fashion, according to their injury or illness to provide the best possible outcome for the patient (Semonin, 1996).

FNSs provided comments that suggest that the assessment details were inadequate, missing or failed to reflect the acuity or urgency of the clinical situation. Subsequently they were placed in a compromised position when caring for these patients without the presence of another health care professional.

FNS (2) discusses a clinical situation where a patient eventually had his leg amputated because of the trauma he sustained and the subsequent neurovascular injury. The Medical Officers or nursing staff at the Nursing Post had not adequately

assessed the patient's neurovascular status:

> I was feeling a little bit angry that the situation hadn't been managed better. It hadn't been assessed properly, it hadn't been tasked properly, also the information on the assessment wasn't adequate, and certainly the advice given to the treating doctor wasn't adequate. (2)

> On follow up, this man actually had a sub-dural haematoma. So, it was a head injury. He actually had fallen during or prior to his fit. I believe he had been drinking and had fallen and hit his head. The story we had been given had not mentioned any of this...Probably to say that I was a bit disappointed in the assessment. I was annoyed for a couple of reasons, because I don't really understand why he [the Medical Officer from the hospital] didn't choose to give us all the information. He certainly said there was no reason for the fit, it hadn't been identified that this man had actually hurt his head in the first instance. (3)

The next two comments identify and describe the impact on clinical decision making, by the non-involvement of the triaging of patients. These FNSs articulate that the policy of Medical Officers conducting the triage of the patient does not allow them to 'get a feel' for the clinical situation:

> One of the problems I find now is because you don't talk to the nursing staff direct, normally you just get a piece of paper [assessment details], and sometimes when we were doing assessments [triage] before it came down to talking to the other nurse and finally saying to her, what do you reckon actually about this patient and they'll go, you should have a doctor, or they would say, I know she doesn't sound that good but she's been like this for 48 hours and I've nursed her the whole time and I haven't had a problem with her. So that part of my clinical decision making has actually gone. (1)

> If you have a bad feeling about how a patient presents, even with the assessment over the telephone [then you could act on it], when we used to do them and now we can't because this part of the role has been removed. (5)

FNS (4) continues with the theme of not getting 'a feel for the situation' because she was and is not able to triage the patient. She also mentions that she does not feel as if the Medical Officers' intuition is as 'honed' as the FNSs' in these situations:

> That's where I really think we are missing out in these instances because the
> doctors will only give you the clinical stuff. I don't think their clinical
> intuition has been honed as much as ours has. That may be a generalisation,
> maybe in fact there have been times when I have done the assessment
> and I didn't like the story but I couldn't convince anybody. The situation was
> the same for the patient who died from the thoracic aneurism. Certainly if you
> can do the assessment you get a much better feel for the situation. (4)

FNS (4) in describing her concern over not being involved in the triage of the

patient indicates that the assessment should include more than just the clinical

information. There must be a consideration of the subjective essence that the illness

or injury is having on the patient and the nurses subjective responses to their patient.

It is routine practice for the RFDS Medical Officer to assess the patient by

either speaking with the Medical Officer or Registered Nurse from the referring

health care agency. Alternatively in towns where there is a RFDS base, the patient

may be visited and assessed by the RFDS Medical Officer. Though the FNS can

telephone the referring health care agency and speak to the staff caring for the patient,

it is not routine practice.

In the majority of situations FNSs have no or minimal input into the initial

assessment and triage of the patient as demonstrated with the narratives provided by

the FNSs. Not being involved in the triage of the patient or minimised involvement

in this process proved to be of great consternation for the research participants. In

previous times this process was the role of the FNS. This allowed the FNS to liaise

with the referring Medical Officer or Registered Nurse to obtain the relevant

assessment data so as to allocate a priority for the flight and advise on appropriate

care. The FNS was able to determine details of the patient history, current

management and specifics of the assessment data, objective and subjective, which

allowed the flight nurse to determine whether the flight was appropriate, the crew

configuration, equipment and aircraft requirements (Edwards, 1988). Triage is now

the role of the Medical Officer. The Medical Officer assesses the patient and assigns

a priority; the assessment form is then faxed to the FNS undertaking the flight.

A significant amount of literature and research exists related to triage

(McDonald, Butterworth & Yates, 1995), though the majority of this is in hospital

emergency department and disaster settings. A review of the literature revealed

minimal studies related to the practice of flight nurses in the assessment and

subsequent triage of the patient. A study by Campbell (1987), comparing flight

nurses' and emergency physicians' pre-hospital assessment of trauma patients

revealed a high rate of agreement for a number of specific injuries. For example

there was a 94% agreement for head injuries, 83.3% for burns and 87.5% for shock.

Flight nurses and physicians disagreed with a number of preliminary diagnoses. The

actual diagnosis of the patient after extensive assessment in the hospital setting is not

indicated, therefore the accuracy of either the flight nurses' or physicians' assessment

is not measured.

Triage is part of the role of Registered Nurses in hospital emergency

departments, nursing posts and those in rural and remote area. There is currently a

Registered Nurse-run telephone triage service for the metropolitan community at

large in Western Australia which is protocol driven. Nurse-run triage systems have

proved effective in a number of studies (Blythin, 1988; Burgess, 1992; Nuttall, 1986).

Telephone triage is notably is more difficult and poses more inherent risks than the

being able to triage the patient using visual cues and physical assessment (Edwards,

1994). Although the inherent risks of telephone triage are acknowledged, it is timely to assess the appropriateness of it as an adjunct to patient assessment by the FNS particularly for those flight missions that they will be attending to as a solo practitioner. Practice guidelines must be in place to provide guidance in some situations and to provide an element of professional protection, but the advanced nurse practitioner should be allowed to guide each assessment situation, so as to tease out the subjective and objective data to evaluate what is happening for that patient. The literature does not present a sound argument as to why FNSs should not participate in the triaging of patients and importantly this sphere of flight nursing practice requires further examination.

Not being involved in the triage of the patient can hamper the ability of the FNS to obtain an accurate assessment of the patient. Accurate assessment is also dependent on knowing the other health care practitioners they are communicating with to obtain patient information. Knowing colleagues was distinguished as another sub-theme within the theme Context of Knowing.

Knowing Colleagues.

The degree of knowing of colleagues, specifically Medical Officers and nursing staff emerged as a contributing factor in the phenomenon of clinical decision making. Participants describe the 'knowing' of these persons and the degree of 'knowing' in terms of providing for a more positive experience of clinical decision making. Though the FNS works in physical isolation, there exists consultation with other health professionals. In the majority of situations these are the Medical Officers

and FNSs within the RFDS, and other health care professionals from regional, rural

and remote health care facilities.

The degree of knowing a colleague and their ability is identified as a factor

within the phenomenon of clinical decision making for the following FNSs:

> It certainly does depend on, if it is someone you have worked with before, and
> know or if it is someone new to the system who perhaps hasn't done that
> procedure before, so that would influence my decision making. (1)

FNS (2) agrees that knowing a colleague does impact on her clinical decision

making: "I think that probably knowing the people makes a difference to my

decision making." (2)

To impact in a positive way on decision making, however, a 'relationship'

needs to be established as explained by FNS (4):

> I hadn't been there very long so I didn't know many of the doctors very well.
> We use to do clinic runs twice a week so we would sort of get to know them a
> bit that way and so eventually developed a relationship with them. (4)

Knowing, specifically if to trust a General Practitioner's ability to provide an

accurate assessment is based on the FNS's experiences with him. FNS (1) makes

reference to trusting someone based on if they have been 'honest' with her in the past:

> I was obviously very careful whenever I dealt with that General Practitioner in
> the future and I have to say that a pattern emerged that he was not particularly
> good. I always went into that particular place with deep wariness...It could
> probably come down to a trust factor with the people you are getting your
> information form. Has this person dealt with me honestly before? (1)

Jenks (1993) states that nurses perceived knowing physicians as an important

influencing factor in the process of clinical decision making. It was acknowledged

that although not all clinical decision making requires collaboration with physicians,

a 'personal relationship' with a physician facilitated the decision making process

when the input of the physician was required. FNS (4) acknowledges that she

eventually developed a 'relationship' with the Medical Officer that she had

experienced difficulty with in communicating her assessment of a patient and this

helped in him 'respecting' what she had to say. A nurse in Jenks's study

acknowledged the existence of trust in each party's perception and judgement of the

situation. FNS (3) commented on the identification and presence of trust in the

working relationships with colleagues. FNS (1) talks of not trusting a particular

Medical Officer because of her past experiences with him. Further to this discussion,

FNS (4) makes the statement that she did not know the Medical Officers very well

and was therefore placed in a position of attempting to 'convince' them of her

interpretation of the acuity of the patient being transferred to a tertiary health care

facility. It is suggested that because of the lack of 'personal' relationship between the

FNS and the Medical Officer, communication of the severity of the patient's clinical

status went unheeded.

The way in which FNS (1) ascertained the accuracy and quality of what she

was being told by another nurse [over the telephone] is described in the following

narrative. Emphasis is placed on balancing the information provided on the

experiential level of the other nurse and whether they know the aviation environment

or not:

> I guess too of prime importance is the actual experience of the nurse you are
> talking to. If you get a junior nurse, they are probably not going to be the best
> gauge always on what the flight environment is, so their action might be she'll
> be fine because they are basing their advice on the fact that they can get a
> doctor there if things go wrong. So you cannot totally base your decision on
> what another nurse is saying unless they know the flight environment...I think
> it is, I mean for a start I want to know that this is someone who has actually

stood by the bed and nursed the patient, not a nursing supervisor that has eye balled the patient once on her afternoon shift and has been told to request a flight. That's not what I want. (1)

The following comment provides an illustration of how FNS (6) determines the value of what they are being told by another nurse and if to 'trust' the nurse or not. The similarity within this comment and the preceding comment is that both FNSs needed to know that the nurse they were talking to was actually looking after the patient. They did not want second hand information. It is as if the FNSs were 'using' the other nurse as their eyes and ears:

> It must be the tone of the voice, and the fact that she probably say, oh I'll just go and get their paperwork, or I'll just ask so and so because I don't like that three way conversation. Actually asking them a question and they answer it promptly, but often, especially because you get a feel for that nurse as well, but if you think that she's competent enough, you actually ask her what do you think? (6)

Jenks (1993) identified that personal relationships with peer nursing staff were established to facilitate group decision making and to assess the usefulness of information given by other nurses. The significant difference between Jenks's study and the current research study is that the health professionals encountered by these FNSs are not frequently known to them. The question must be pondered as to how does the FNS come to 'know' peer nursing staff through a telephone call of a sometimes minimal timeframe? FNS (6) stated that she interpreted the tone of other nurse's voice in determining the value of what she was being told and assessed their ability to provide first hand information about the patient.

FNS (3) asserts that actually knowing a colleague provides for a situation where knowing their ability is clearer. If she doesn't 'know' them, then she has to

engage in assessing their knowledge based on what she expects or knows the answer

to be:

> If you 'know' [as in previous experience with them as an individual]
> colleagues, then that makes knowing their ability easier. If you don't know
> them, then you have to spend more time establishing common ground. You
> have to ask them questions you know the answer to and then match their
> answer with what you know and make decisions based on the matching or
> discrepancies provided. (3)

The ensuing comment emphasises the need for FNS (4) to speak directly

with the nurse caring for the child. The need to speak with the nurse caring for

the patient has been emphasised by FNS (1) and (3). Interestingly FNS (4),

like FNS (3) articulates the importance of asking the other health care professional

the 'right question' as a means of determining what is significant within the

information being provided:

> With children, always ask the nurse, always try to talk to the nurse and if they
> get the doctor first, always ask to be put on to the nurse, because they are the
> ones that you can and even if it is a nurse who can't tell you what is going on
> or they haven't dealt with many sick children, then you can ask them the right
> questions to get to the gut of the matter. (4)

The degree of knowing a colleague and the subsequent degree of

modification of her practice is discussed by FNS (5). Specifically this FNS's

practice is dependent on [to a degree] if she 'knows' the other practitioner or not:

> It depends on who the health professional is in the pecking order of our own
> [ie the RFDS] hierarchy, it places some weight on the degree of modification
> of my practice. (5)

The comments provided by the research participants are similar to a finding of

trusting other health care professionals identified by Stohler (1998). Stohler identified

a theme of mutual respect and trust within the domain of a high performance team

situation. Flight nurses identified sub-themes of "confidence in their partner",
"clinical competence", and "knowing one's practice limitations" (p. 118). Findings
from this current research study demonstrate that FNSs refer to trusting their nursing
peers and Medical Officers.

Jenks (1993) cites that nurses recognise that 'knowing' their peers and
physicians was a significant influencing factor in the decision making process. It was
acknowledged that clinical decisions of informants were influenced by the
relationship between nursing staff. Physicians and nurses enter the relationship with
a poor understanding of the role of each other, which may lead to conflict. FNSs in
this research study identify the significance of knowing those health professionals
that they encounter. No literature was identified that specifically addressed knowing
colleagues in the context of flight nursing.

Knowing colleagues may be an easy or difficult task one for the FNS. In most
instances, FNSs would not know the health professional with whom they were
liaising and therefore they have developed strategies to determine the value of what
they are being told by someone that they do not know. FNSs in some instances were
able to identify patterns of behaviour which provided them with a framework for
managing the situation when they were unsure of the details given to them or the
accuracy of the information. The use of purposeful questioning was evident as a
strategy in obtaining pertinent information. FNSs depend to a degree on 'knowing'
colleagues to facilitate the clinical decision making process. The scope of this study
did not allow for this 'degree' to be identified with any specificity. The majority of
flight missions are conducted with the FNS as a solo practitioner which provides

significance for accurately knowing the assessment details of the patient before

embarking on the flight missions.

Solo Practitioner.

The solo practitioner status emerged as another sub-theme within the theme

Context of Knowing. The role of the FNS is that of solitary practitioner in 88% of

flight missions (Edwards, 1988). There is engagement with other health

professionals and volunteers, though the time of contact can be minimal. The FNS is

viewed as being the 'expert' or leader within these encounters. Contact with a

Medical Officer is undertaken by radio or mobile telephone. Research participants

refer to liking this aspect of the role and also acknowledged it as a negative influence

on their role. The following statements demonstrate 'the good and the bad' of

practising as a solo practitioner:

> I think that's what attracted me to the role. Whereas with this company
> [RFDS], working in the air on my own, it is up to me, I feel I can make a
> difference...There is good and bad in being a sole practitioner. I mean, in a
> busy emergency department for example, you've always got somebody to
> throw your thoughts past, working on your own you sometimes don't have
> that, so you have to go sometimes with your first instinct, which isn't always
> right. (3)

> So you do what you can and everything else is, you know, you just do what
> you can do...I will operate much better with no outside people speaking to
> me. If someone talks to me when I am trying to concentrate I lose my
> concentration. (6)

Specific problems that are encountered during a flight mission without

another health care practitioner being presented are discussed. The inability to access

other health professionals as a negative aspect of working as a solo practitioner is

further demonstrated in the following account:

> Whereas in an emergency situation, say in an emergency department [as compared to an emergency situation in the aircraft by myself], there is always access to other pairs of hands, there is access to immediate medical. (1)

The next comment illustrates a consequence of working as a solo practitioner when a patient becomes acutely agitated and attempts to get out of the aircraft. She does manage the situation adequately ensuring an appropriate outcome, though the potential existed for a negative outcome for both the patient and the crew:

> He undid his seat belts and said he just wanted to get off the plane. I said, look we are at 26 000 feet it's only an hour and twenty minutes until we'll be down, how about I get you a drink of water? No I just want to get off this plane. He then pushed me back on to the door of the aircraft and that's when I realised that I was in trouble. This man was about 110 kilos and I immediately had the headset on luckily, and hit the button and just screamed at the pilot to get me help, get me a doctor as quick as you can this man is trying to get out of the aircraft. I think with sheer fear I 'threw' him back on the stretcher and he retaliated and 'threw' me back against the aircraft. But he had his hand at my throat so I couldn't really push him back on the stretcher. When I 'threw' him back on the stretcher he landed on his left side so he was facing away from me and I grabbed the seat belts and just wrapped them around his hands... We were also in mild turbulence, because we were descending down into Geraldton and we were probably about 10 000 feet when the guy suddenly fell asleep. I was a nervous wreck. I was shaking like a leaf. (3)

The sense of responsibility felt in being a solo practitioner is illustrated in the following comments:

> You have a greater responsibility if you are out there by yourself and you certainly feel the weight of that responsibility when a situation is not quite as you were led to believe by the nature of the assessment...and I think that if you are out there by yourself you tend to shoulder that responsibility more because you can't lighten the load by having a colleague around. (2)

Similarly another participant emphasises the potential 'buck stops here'

notion when she was working without the support of other health professionals:

> Clearly I couldn't call for help, for a start, that's the biggest thing for me that you can't call for help. There is nobody there to help you. (4)

No research was identified that addressed specifically, the role of the FNS as a solo practitioner. Malone (1992a) states that flight nurses experience a reasonable amount of isolation at altitude. Edwards (1988) makes reference to professional isolation within the role of flight nursing. Flight nurses work alone in the aircraft on a day to day basis, without the presence of other health care professionals. There is not the benefit of peer review after a difficult or stressful flight. The nature of the work of flight nursing is entwined with certain aspects like working as a solo practitioner and in a unique and dynamic environment. Though FNSs know that the majority of flight missions are undertaken by the nurse alone, it does not remove them from an awareness of the significance of this practice or of the potential implications of this. Coupled with the significance and consequence of working as a solo practitioner is the actual experiential level of the FNS.

Experiential Level.

The next sub-theme within the Context of Knowing theme was identified as the experiential level of the FNS. Experience is defined as "direct personal participation or observation of something" (Collins Compact Australian Dictionary, 1997, p. 292) and is not necessarily dependent on the mere passage of time (Benner, 1982). Watson (1991) affirms that experience can be portioned to three categories: a passage of time, gaining skills or knowledge and exposure to an event. The variance

of the concept of experience for these FNSs includes the experience of specific

clinical situations and their actual collective experience as a nurse/midwife and as a

FNS.

FNS (3) articulates the impact of her experiential level, in the telling of a

situation where she was unsure of the clinical picture that was being presented to her.

Her ability to make some inferences was evident, though her diagnostic choices were

not necessarily accurate. The following exemplar demonstrates this:

> He seemed a little agitated, fidgeting, and I asked him if he was all right and
> he said he was dying for a smoke and I said I could pretty much oblige with
> most things, but unfortunately not a smoke. Eventually we smoothed out to
> normal at probably about 23000-24000 feet and this man's agitation became
> worse. I felt that the more I asked him as to why he was fidgeting about
> on the stretcher the worse he became, so I chose for 5 minutes just to observe
> him. His heart started racing – it was about 130-40 and there was no actual
> reason for this when you spoke to him – he said he was fine. I asked him if he
> drank alcohol, thinking it might be alcohol withdrawal, to which again he
> said no. I asked him again did he have pain, did he feel uncomfortable, was
> there a problem, to which he undid his seatbelts and said he just wanted to get
> off this plane. On follow up this man actually had a sub-dural haematoma. (3)

Though she demonstrated some attempt at determining the clinical situation, it may

be argued that had she experienced this type of scenario before, then nursing actions

may have been implemented to prevent or minimise the acute agitation of this patient

in a more timely manner. She does demonstrate that it was her interpretation from

experiencing patients not dissimilar to this patient, that agitation might have been

caused by alcohol or tobacco withdrawal. This notion is similar to the finding by

Benner et al., (1992) who analysed the experiential levels of 130 nurses and identified

the corresponding practices within each of these levels. The findings demonstrated

that until nurses had cared for patients with various illnesses they have difficulty

understanding the patient's current status in a larger perspective. The nurse's ability

to comprehend the clinical situation is confined because they focus on a particular

detail of the patient's condition and do not necessarily achieve a grasp of the salient

clinical issues at hand.

Research participants speak directly to their level of experience within the

specific clinical situation and the subsequent clinical decision making and nursing

care delivered. The following FNSs clearly identify that a lack of experience was

present:

> Because of my inexperience, in fact if I had more experience I would have gone ahead and given her more Haliperidol, and knowing now what I know about sedating psychiatric patients, and also sedating old people. But at the time it was pure inexperience that made my clinical decision a bad one. But yes, the other options counted, but really I could have done something much nicer for her I had been more experienced, so that bit wasn't an option for me because of my inexperience. (6)

> I think in the end I would say inexperience for a start. There was the pressure of the fact that we'd already done quite a lot of flying so basically if you don't load the patient now, we are not going to be able to go…I have to say I was very out of my depth. Even coming from an emergency background, it was a new location and environment. (1)

The next comment is from the same FNS when asked if she 'knew' that the

low blood pressure was not related to the hysteria?

> I think I probably did, which is why not questioning this I put down to a lack of confidence, and the other external pressures of we've got to get going, had influenced my decision making and shouldn't have…At the time I thought he [the Medical Officer] was being courteous and I thought he was coming out because there was no nursing staff free to come out with the patient, or because he really wanted to convey to me the cultural side of things, those were all the things that were going through my mind at the time. I basically thought he was being polite. Because I was fairly new then, now I would have known that a medical practitioner escorting a patient out to the airport is fairly significant. (1)

Interestingly, now, the presence of a Medical Officer at the scene presents to the FNS a 'red flag' in the situation. This is not always indicative that the patient is much sicker than initially thought, but an experienced FNS will 'know' that the vision of the Medical Officer getting out of the ambulance, is reason for concern. In a study conducted by Styles (1983) "nurses described the knowledge gained from experience as the key ingredient to skilled assessment" (p. 53). Therefore it can be argued that a lack of experience will diminish the nurse's ability to make a comprehensive assessment. FNSs were cognisant of the impediment a lack of experience had on their clinical decision making and subsequent actions:

> My lack of experience then and my experience now wouldn't let me sit back and put up with it [inappropriate orders from the Medical Officer]. (5)

The following comments continue the concept of having the experience to now view and act upon the clinical situation differently:

> Certainly, now my experience allows me to view clinical situations very differently compared to when I first started as a flight nurse. (4)

> When I first started a flight nurse I was very intimidated by the whole thing, but now being more experienced my style of nursing is very different, as is my decision making. (3)

The structure of experience within the framework of nursing has been researched and described in the main by Benner (1982, 1984), Benner and Tanner (1987) and Benner et al., (1992). Benner's 'Novice to Expert' model (1982) depicts the movement of a nurse who is acquiring and developing skills through five levels of professional development. These levels are novice, advanced beginner, competent, proficient and expert. This framework 'Novice to Expert' posits that beginners have no experience of the situations in which they are expected to practice. Even though

FNSs may enter the domain of flight nursing as experienced Registered Nurses and Midwives they are still 'novice' flight nurses. The novice flight nurse may have to practice according to rule like instructions, lacking an understanding of the practice domain within the contextual meaning. The limitation of practicing according to 'rules' is that the rules do not always indicate the relevant tasks and decisions that are necessarily concomitant with the actual situation. In contrast the expert practitioner does not necessarily have to rely on analytical principles, that is rules, guidelines or maxims to make the connection between the interpretation of the situation and appropriate nursing actions. The descriptions provided by the FNSs articulate that their professional behaviour as a 'novice' compared to a significant length of time as a flight nurse demonstrates a fit to the 'novice to expert' framework.

Minimal literature was identified that directly reflects the experiential level of flight nurses. Dunn and Burns (1998) conducted a qualitative study in a North American setting, examining the relationship between the flight nurse's experience and actual practice. A finding supports Benner's (1982) model, 'Novice to Expert', in that experience is prerequisite for advanced practice.

FNSs commented that because of their inexperience they possessed a limited scope of choices or now would make a difference choice, suggesting that an increase in experience had increased the repertoire of choices and that the experience allowed them to view clinical situations differently. FNS (4) provides an illustration that experience now has on her practice, "I now have the confidence not to be rushed into taking someone on the aircraft that I wasn't happy with". The findings indicate that there is a relationship between the experiential level of the flight nurse and processes

and outcomes of clinical decision making. They acknowledge that their inexperience

in some clinical scenarios impeded the clinical decision making process. They also

identified that the because of the inexperience they were less empowered to influence

aspects of the flight mission or were not experienced enough to identify the 'red

flags' in Medical Officers' behaviour or the patient's behaviour. This concept

presents problems in terms of how to adequately prepare the novice FNS for

competent solo practice. The usual timeframe for orientation is two to three weeks.

It is not difficult to appreciate that a representation of potential problems cannot be

demonstrated, experienced or talked about in such a limited time.

The use of prescriptive standards for nursing care can be used by the less

experienced practitioner to guide practice in specific scenarios. FNSs reported the

minimal and purposive use of practice guidelines and this consequently was

identified as another sub-theme. FNS (2) succinctly defines the use and relevance

that practice guidelines have within this flight nursing domain:

> Guidelines are reference tools appropriate if you are confronted with an
> unfamiliar situation or to back up your assessment or interventions already
> made. (2)

Practice Guidelines.

The last sub-theme within the theme Context of Knowing was identified as

the use of practice guidelines. FNSs stated that a part of their clinical decision

making is directed by practice guidelines. These practice guidelines are the

recognised 'building blocks' for some elements of clinical decision making and the

undertaking of flight nursing tasks. Practice guidelines incorporate both what is

expected within the specific practice domain and what is expected by the RFDS –

Western Operations.

In the first interview only one participant used the terminology 'training and

guidelines' which was interpreted as practice guidelines, which incorporated formal

education, prior knowledge and employer initiated standards for practice. This

sub-theme was further clarified by requesting the participants to comment on this

during a second level of questioning.

The following statement describes the use of practice guidelines by FNS (1) in

a specific situation and within the broader domain of her nursing practice. She makes

reference to these practice guidelines as her 'professional tools':

> Once on board I did what I had been trained to do, that is blood pressure of
> course, respiratory rate …I'll have to say training and guidelines, I know that
> in this situation this is what you would expect, they are my professional
> tools that help me make a decision. (1)

The statements from the FNSs indicate an element of innateness with the use

of practice guidelines. It is believed that because these FNSs are practising at an

advanced level, then the use of guidelines would be intricately assimilated into their

knowledge base and actual practice of the FNS. Their comments are provided here

and demonstrate that practice guidelines have been assimilated into the knowledge

base of the FNS as tools for practice:

> I'd like to be able to say that I do incorporate training, guidelines and
> protocols into my clinical practice. Every now and then these guidelines do
> change and we must adapt our practice accordingly. Likewise new technology
> and equipment become available and we are given training and then we are
> expected to adapt our practice to incorporate our new technology. (5)

Selective use of the guidelines is demonstrated in the next statement. FNS (4)

makes reference to the of the use of guidelines as a basis for interventions but asserts

that experience and intuition are more significant components of clinical decision

making:

> Practice guidelines are there to prompt you in certain situations, but they can
> not cover every scenario. I think our [meaning the RFDS] guidelines are all
> there to cover 'normal' situations, but the medical officer and nurse team are
> there to look after them. The guidelines should always be the basis of your
> interventions when no Medical Officer is present. A sound clinical
> knowledge base is essential as a basis for the independent role FNSs' play. (4)

FNS (6) articulates that whilst she uses practice guidelines, they do not

necessarily impact on her clinical decision making. This comment suggests that

such guidelines are not conducive to assessing holistically what may be occurring for

the patient and are more appropriate once a decision has been made to facilitate the

undertaking of specific interventions:

> The guidelines that I use are mostly once I have made a clinical decision on
> the patient's condition. Mostly for drug infusions, ecetera, I would consult
> the guidelines if I were to do something new, for example the insertion of
> an intraosseus device. We now have new guidelines and I will certainly be
> more likely to use them, but as I said a clinical decision is pretty much already
> made. My decision making takes the assessment, the patient's condition, gut
> feeling and ongoing treatment into account and it is only when I think what
> am I going to do next that I may need the help of guidelines for a practical
> procedure [if new] or to check RFDS protocols on drugs. (6)

> Guidelines [protocols and policies] are tools which the nurse has to use as a
> measure of performance and reference if confronted with an unfamiliar
> situation or back up for assessment and interventions. (2)

> I use guidelines to clarify drug or infusion doses. I use these guidelines
> regularly but if I did not have them I could still give good nursing care. I see
> them as a safeguard. I am aware of their role in my clinical decision making,
> giving me parameters to work from. I consult the guidelines when I am
> tired or stressed to clarify my decisions. (3)

> The preceding comments demonstrate that although these FNSs use practice

guidelines, the use of them is associated with the administration of medications and drug infusions, where the FNS is not familiar with the protocols for interventions or in beginning practitioner situations. The practice guidelines are a safety net in unfamiliar situations.

Malone (1992b) presents a significant argument for the examination of the usefulness of prescriptive standards for flight nursing practice in the North American context. There exists a trend within the profession to develop "explicit, rule-like standards that we can apply to any similar situation, diagnosis or symptom" (p. 187). Malone argues that such standards devalue clinical knowledge and results in expert clinical decision making being made even more problematic. Decision making by expert nurses must include a caring grasp of the situation and a component of experiential knowledge to make informed judgements. Benner (1982) asserts that acute care nursing has become so complex that the standardisation of nursing practice is not possible. Bader et al., (1995) identified that flight nurses in the USA in one study demonstrated decision making independent of protocols. Despite this, the National Flight Nurses Association of America has developed standards for the practice of flight nursing. These do not address the specifics of patient groups but are based on the nursing process. The Flight Nurses Association of Australia and the RFDS – Western Operations are currently developing standards for flight nursing practice. The use and appropriateness of using practice guidelines requires further examination in the context of the actual practice of flight nurses.

Summary of Theme Two.

Pratt (1996) asserts that nurses do not live and work in a vacuum. The practice of nursing is always situated within a particular context. This context is multifaceted and may critically influence the delivery of nursing care. It is therefore relevant and significant to identify the nature of the context for a specified area of nursing and the implications and subsequent impact.

Context within nursing can be viewed on a large scale, for example, a tertiary hospital or within a more specific sense, for example, an individual patient in an intensive care setting with specialised needs. Context can be dependent on the following factors: time, philosophical assumptions, political assumptions, financial frameworks, sociocultural issues and environmental issues (Pratt, 1996). Pratt argues that the environmental structure will influence the relationship a nurse has with a patient. This premise has been demonstrated with the descriptions provided by the FNSs in this current research study. No specific literature was identified that addressed the context of knowing related to flight nursing practice. The context within the studies of knowing reviewed for this current research study has received minimal attention. The theme, Context of Knowing, describes those sub-themes within the FNSs' practice arena that impact on clinical decision making and the nursing care that can be provided. These sub-themes are aviation environment, non or minimised involvement in triage, knowing colleagues, solo practitioner, experiential level and practice guidelines. At times, linking of these sub-themes was demonstrated, indicating that they do not exist in isolation and one sub-theme may be impacted by another sub-theme. Though the issues are context related, the FNSs

demonstrated problem solving and acceptance within these sometime difficult constraints.

Ways of Knowing the Patient coexist with the Context of Knowing and are constantly honed and developed for these FNSs by the process of reflective practice within a broader framework of flight nursing practice. The third theme identified, Reflective Practice is now described.

Theme Three: Reflective Practice

Reflective Practice emerged as a theme with the identification of the sub- themes self-critique and change in practice (Figure Two). FNSs demonstrated an ability to reflect on their practice during a flight mission and in relation to the subsequent patient outcome, either in the immediacy of the situation or in retrospect. Self-critique provided an impetus for change in practice in these situations.

A number of definitions, interpretations and associated research of reflective practice were identified (Boyd & Fales, 1983; Goodman, 1984; Mezirow, 1982; Schon 1991). The significant differences of the descriptions appear to be terminology and the degree of stages within the concept. For the purpose of this research study, reflective practice is the "process of internally examining and exploring an issue...triggered by an experience, which creates and clarifies meaning...which in turn results in a changed perspective" (Boyd & Fales, 1983, p. 99). In the broadest sense reflection is the way of thinking about and looking at something. The reflective process is where one looks back at an experience and then thinks about it in a new

way (Lumby, 1996). Three main stages of reflective practice were identified from the

literature and are depicted as follows.

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┌─────────────────────────────┐
│   Awareness of uncomfortable │
│     feelings and thoughts    │
└─────────────────────────────┘
               │
               ▼
┌─────────────────────────────┐
│      Critical analysis of    │
│     feelings and knowledge   │
└─────────────────────────────┘
               │
               ▼
┌─────────────────────────────┐
│                              │
│        New Perspective       │
│                              │
└─────────────────────────────┘
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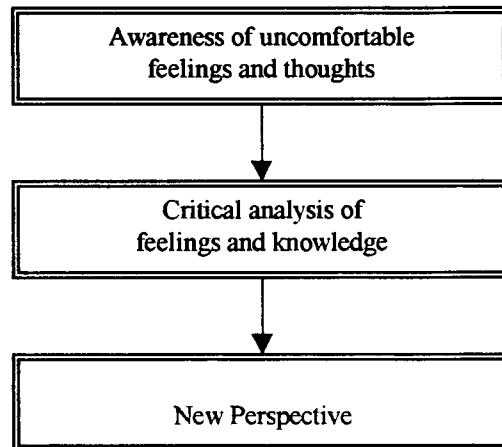
Figure 3: Reflective processes: a model.

Self-Critique.

Self-critique was illustrated in various ways and situations. The experiences

of these FNSs engenders insight into what they were thinking and feeling in relation

to their nursing practice in the recounted emergency situations. The narratives

provide descriptions, which demonstrated self-critique as a significant component

within their experience of clinical decision making. The recounting of the experience

is in itself demonstrative of self-critique.

FNSs were extremely cognisant of how they would be perceived or judged

because of their decisions and subsequent actions. Strong emotions emerged as part

of the sub-theme self-critique. Though the participants were 'critical' of their

practice, they were demonstrating reflection within their practice.

Participants discuss their shortcomings in the clinical scenario and in doing so

provide descriptions of the presence of a lack of confidence and self-doubt:

> I wouldn't say I was a hundred per cent confident with it, but I thought it was the best thing at the time to do. (2)

> I was beginning to feel quite doubtful and added to the fact that the intravenous line wasn't functioning, so I was already projecting what my outcome was going to be and that I wasn't going to be ready for it…If the outcome for the patient might have been different if your actions had been different that makes you feel you've missed the boat. Sometimes you can just be thinking back on things later that you think why didn't I do that, or why did I do that. (1)

When asked to elaborate on 'missing the boat' she stated:

> I know that I have missed the boat when, someone tells me, or you realise it yourself. Realising that I have missed the boat depends on the patient outcome, and how much that would be effected, though usually I would feel disappointed, vulnerable and less confident about my skills. (1)

Strong emotions, including guilt and fear, emerged from the recounted

experience of FNS (3) where a patient became extremely violent in flight and

attempted to get out of the aircraft. FNS (3) also acknowledges that she did not feel

that she had managed the patient particularly well:

> Not only was I going to die, but the pilot and the patients were going to die, and I suppose it was guilt, thinking should I have picked this up quicker, and what have I done wrong here and feelings that you haven't achieved what you set out to achieve and that you obviously hadn't assessed this patient properly, that he's got to this state, and that was probably one of my major fears…That really upset me because I think I was feeling inadequate in the first instance, as I didn't think I had managed the patient adequately at all. (3)

Self-doubt and the presence of an inner discomfort are described as the first

stage of reflective practice (Boyd & Fales, 1983). Schon (1991) refers to this stage as

the experience of surprise. These feeling of inner discomfort and self-doubt are

described by the FNSs in the preceding comments. Such feelings and self-doubt

arise from the realisation that the knowledge of the practitioner in the current

situation is inadequate.

Engagement in reflective practice in the immediacy of the situation is

demonstrated with the following statement by FNS (3). She attempts to analyse the

impact her interventions may have had on the patient's behaviour:

> I felt that the more I asked him as to why he was fidgeting about on the
> stretcher the worse he became, so I chose for five minutes just to observe him
> from the front of the aircraft. I suppose I just tried to be aware that I was
> making him agitated and so I needed to change something in the scenario. (3)

An acknowledgment of limitations in the clinical situation by FNS (5) and

consequently her potential inability to change the situation is illustrated with the

following comment:

> I was a 'bit' concerned that he might die. What was I feeling? Actually it
> was pretty scary not being able to do enough for him and that was really
> frustrating. (5)

The following narrative by FNS (4) illustrates a recall of intricate details

of the resuscitation attempt of a patient. She expresses her dismay and sense of

failure at not being able to successfully resuscitate him:

> We are about 25 minutes out of Carnarvon and I've got an arrested patient.
> He's on the monitor and he's got sinus rhythm, he's stopped breathing. So I
> put him down flat and start external artificial respirations, but I couldn't get an
> airway. He has got a bull neck, I couldn't feel if he had a pulse or not, he still
> has sinus rhythm. I use the demand resuscitator, I could not get any air in, I
> could not get any chest movement...I am trying to get an airway in this guy,
> the mouth to mouth and demand resuscitator were not effective, I thought I
> am not winning here, I grab the intubation gear, thinking this is the only way I
> am going to get anywhere, is to tube him...It was very, very traumatic to have
> to do a resuscitation on my own, and not to have assistance. If I could have
> got an airway I would have known that I had done my best. But I could not
> get any air into that man's lungs. So I felt pretty much a failure really, I felt
> pretty devastated about it all. (4)

The same FNS provides another critical analysis in relation to her

'performance' in the care of a neonate. This exemplar is powerful in its description of

a very honest account of the performance of this FNS:

> It was so obvious that I should have just well gone for the demand
> resuscitator, grabbed the little mouth and put it on its face and started bagging
> him because, as he said, [the Medical Director] and as I know from having
> done a paediatric emergency nursing course, babies arrest when they are
> hypoxic and maybe he would have been alive, and maybe I could have saved
> that little boy's life. So it was just revolting, a hideous thing. (4) [This infant
> had a congenital disease and had been given a very short life expectancy.]

FNS (6) portrays her potential shortcoming within a clinical scenario. The

significance of acknowledging that she did not have a bag and mask [for resuscitation

purposes] reflects that she was cognisant that delivery of the neonate was imminent.

The implications of a premature neonate being delivered without adequate equipment

was utmost in her mind as well as how she may be judged because she had not taken

the required equipment:

> I was scared, because I didn't have a bag and mask. That's what scared me
> [the most]. Not that she was going to have the baby but the fact that I didn't
> have a bag and mask and I felt that was very bad form. (6)

The ability to critically analyse the situation incorporating an examination of

the individual's feelings and knowledge is the second stage of reflective practice and

is demonstrated within the preceding narratives. Critical analysis is described as the

examination of the elements of the situation, identifying knowledge, challenging

assumptions and the examination and projection of alternatives (Atkins & Murphy,

1993). FNSs were able to critically examine what was occurring, their influence and

impact on the situation, and available options to engineer a change in the situation. It

is not known if the FNSs formally engaged in a critical analysis of their practice at

experiences where self critique was evident, including the challenging of the status quo and the identification and projection of outcome trajectories.

Description, a skill involved in the second stage of reflective practice involves the ability to recognise and recollect accurately, salient events and significant features of this situation (Boud, Keogh & Walker, 1985). The research participants were able to recollect prominent events through the telling of their experiences and specific exemplars within this experience demonstrated by the detailed exemplars provided within the interviews.

The FNSs engaged in self-critique of their nursing practice and the outcomes of the clinical situation in the immediacy of a situation and in retrospect. FNS (1) tells of the moment in a clinical situation where she was able to reflect on her actions and lack of knowing in he situation: "…so I was already projecting what my outcome was going to be and that I wasn't going to be ready for it". Although the descriptions of self-critique may be viewed as being linked with the other sub-themes, the fact remains that these FNSs engaged in self-critique. The influence of self-critique enabled the FNSs to reflect on their practice during the actual clinical scenario and in retrospect both resulting in a change in practice. This change in practice was identified as the second sub-theme within the theme of Reflective Practice.

Change in Practice.

The second sub-theme identified within the theme Reflective Practice is change in practice. FNSs described a change in practice within the current clinical

situation and in future situations. The FNSs identified that a change in practice was necessary in an attempt to provide a more positive outcome for the patient. The following statements reflect practice changes in response to specific issues from previous situations and in general terms:

> As far as the decision making, the sort of decisions I have been making now as opposed to then are, is this person stable enough to be moved onto the aircraft. My preparation for flights in terms of what equipment to bring and for getting ready for that specific scenario is completely different. (1)

> I never take an assessment as, they will be all right, that they are just for investigation. I suppose any mild head injury, I am now very aware of where they are situated in the aircraft. Every patient that gets on the aircraft that wants a cigarette has one before they get on the aircraft, and a patient who has a fit, an unconscious episode, I always speak directly to the patient on the ground, and I always ring the hospital prior to take off, I don't care if the assessment gives an inside leg measurement. (3)

The process of reflection is again demonstrated in the next comment. FNS (2) confirms that she 'learnt' from the situation, from actually experiencing it and from discussing it with the Medical Officer after the event:

> I learnt a lot from it. I certainly learnt a lot afterwards, because of what happened I spoke in depth about the situation with to the RFDS doctor who had spoken to the referring doctor about the mismanagement of the situation. (2)

FNS (1) discusses her level of assertiveness now as compared to when she first became a flight nurse. This level of confidence has developed through experiencing situations where there has been self-critique, clarification of the outcomes of the situation and change in practice:

> I think after being with the RFDS for quite a while now, I know for a fact that I have become a bit more assertive and if I think the patient's condition is being compromised I wouldn't sit back and put up with the situation, I would definitely have something to say. (5)

The following research participant talks about multiple aspects that have

changed in her practice:

> I don't think there is fear there. I think there is more a sense that I now have
> the confidence to not be pressured into an action if my instinct tells me that's
> not the right thing to, so there's a bit more confidence there...I would also be
> very careful that diagnosis are not a definite label on the patient. If what you
> see doesn't fit in with what you have been told is wrong, you should actually
> follow that through and not just think oh no that is what they've said is wrong
> so that must be what is wrong. (1)

Jarvis (1992) argues that reflective practice is more than thoughtful practice,

but rather it is a process where thoughtful practice is turned into a potential

learning situation. This notion is described in the preceding narratives where FNSs

firmly demonstrate that accumulative experiences have provided them with

reasoned and appropriate changes in practice.

FNS (5) describes how she evaluates her clinical decision making and in

doing so directly acknowledges the use of 'reflective learning' within her practice.

The concept that reflection is a cyclical process is introduced:

> I guess I evaluate my clinical decision making in terms of outcome and
> reflective learning. I follow guidelines and protocols and use the knowledge
> that I have gained from previous training and experiences and then review
> the outcomes of my practice to further increase my knowledge for the next
> clinical scenario. (5)

Summary of Theme Three.

There are two broad purposes of reflective practice within the nursing context:

to allow the individual practitioner to evaluate personal practice and to allow for

contribution to the theory of nursing knowledge (Jarvis, 1992). Reid (1993) states

that reflection influences practice in two ways: firstly by increasing what is viewed as

legitimate knowledge and secondly, by questioning why these outcomes occur. No

literature was identified that specifically addressed the use of reflective practice by

flight nurses. Qualitative research utilises 'reflection' in a broad sense as a

methodology. Benner (1982, 1984) identified that nurses learn from paradigm cases

by the recalling of past clinical situations when they were confronted with new and

similar cases. Certainly, the recounted experiences were paradigms within the

individual's professional histories and learning was demonstrated. Nurse participants

in the study by Orme and Maggs (1993) identified reflection as a stage in the clinical

decision making process. Reflection occurred during the process and on the outcome.

This finding is similar to the finding of this current research study.

Self-critique allows the individual FNS to situate their decision making and

practice within the current situation and within the broader framework of their

nursing knowledge and practice. This self-critique of performance proved a catalyst

for a change in practice in the immediate clinical situation and within future

situations. The reflective practice demonstrated by the FNSs was not undertaken

using a formal process, but rather it became evident through the recounting of their

experiences. Reflective practice is an integral component of the clinical decision

making phenomenon for the study population.

Summary of the Themes: A Gestalt of Knowing

The experience of clinical decision making by FNSs in emergencies was

identified with the recounting of an emergency situation that they had been involved

in and their experience of clinical decision making within this event. The experiences told, proved to be exemplars within the professional histories of these FNSs. The participants described situations and provided statements, which when critically examined were identified as having common themes. The themes identified were, Ways of Knowing the Patient, Context of Knowing and Reflective Practice. These represent the phenomenon of clinical decision making in emergency situations by the study participants. Intuitive knowing, experiential knowing and objective knowing were extrapolated as sub-themes of the Ways of Knowing the Patient theme. The theme Context of Knowing was manifested with the sub-themes of aviation environment, non or minimised involvement in triage, knowing colleagues, solo practitioner, experiential level and practice guidelines. The third theme Reflective Practice, is constructed of the sub-themes self-critique and change in practice.

The review of the literature revealed research studies and anecdotal information on qualitative aspects of clinical decision making, though there was no one study that fully incorporated the objectives or findings of this research study. Studies were identified and incorporated that addressed sub-themes and themes within critical care and other nursing contexts, which provided support to the research findings. The findings were discussed in relation to specific research studies and practice areas. The paucity of research of clinical decision making in relation to flight nursing did not allow for the findings of this study to be annexed to any one theory.

A relationship with the three themes and the sub-themes was identified which subsequently revealed a Gestalt of Knowing (Figure 4). The themes and sub-themes are related because they exist within the phenomenon of clinical decision making in

emergency situations and do not appear to be able to exist in isolation within this phenomenon. Gestalt is a German word, which means a 'form' or a 'whole'. Early in the nineteenth century a group of Germans developed an interest into how the human mind organised sensations into perceptions. Max Wertheimer (1880-1943), a German psychologist first used the term gestalt to describe whole systems in which the parts are integrated in such a way that the whole cannot be inferred from the parts taken separately (Pyles & Stern, 1983). The work of these Gestalt psychologists described principles by which sensations are organised into perceptions. The Gestalt principles are a clear example of the mind's interpretative powers. Sensation and perceptions blend into one continuous process (Myers, 1995).

I propose that there exists a synergy with and within the themes and sub-themes, which results in clinical decision making and subsequently impacts on future decision making and flight nursing practice. The schematic representation (Figure 4) illustrates the existence of the sub-themes within the themes and their relationships with each other. It was not an objective of this study to identify the relationships or processes the study participants used to make clinical decisions, though the emergence of the themes and sub-themes provided a glimpse of the processes FNSs use which in turn illustrates the relationships of the themes and sub-themes. For example, the context of flight nursing practice impacts on clinical decision making in a number of ways. For example, the ability of the novice flight nurse to make sound clinical decisions may be effected by environmental factors like the noisy environs of the aircraft, or a lack of experience. The sub-themes, working as a solo-practitioner, not being involved in the triage of the patient, her experiential level and the aviation
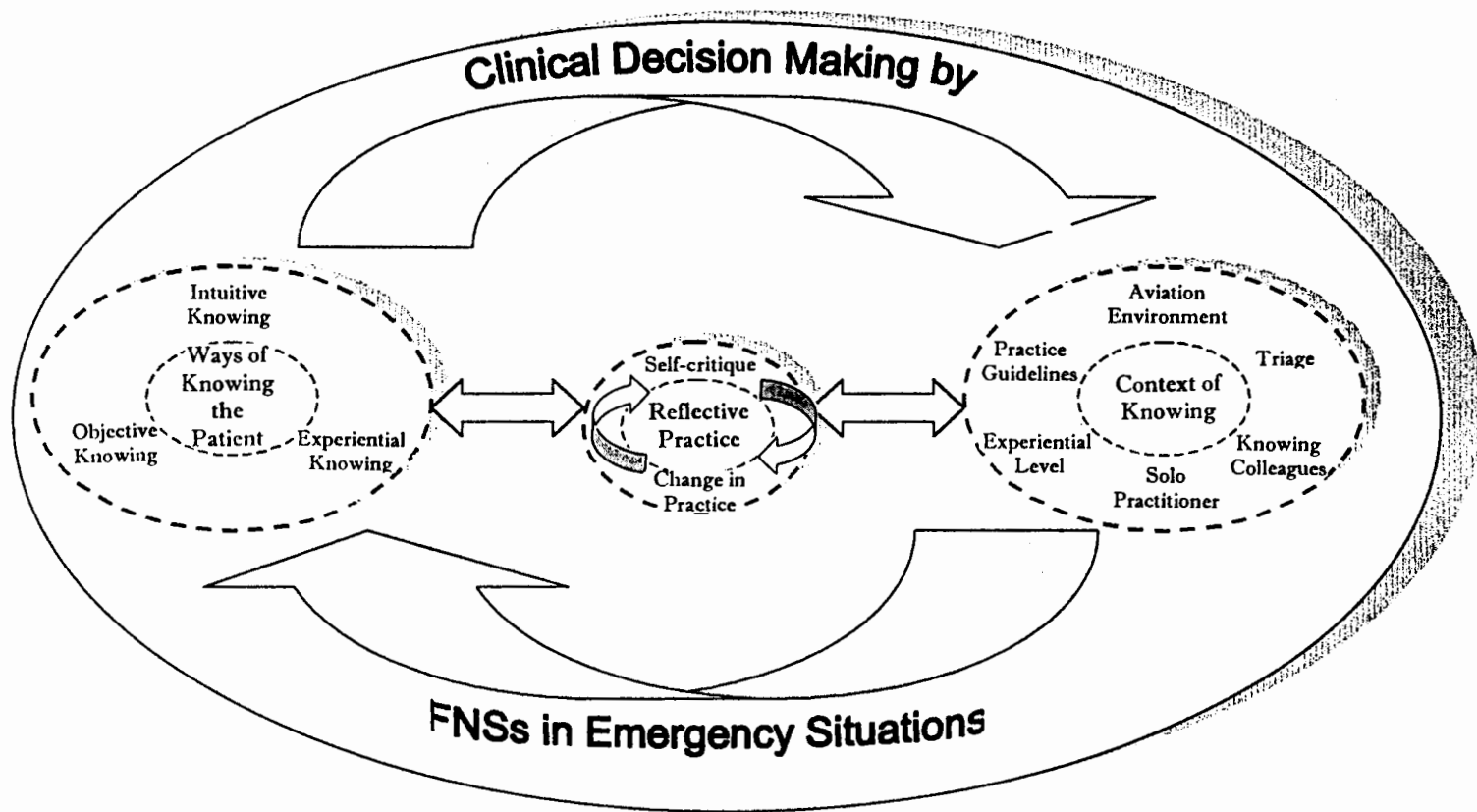
Figure 4: A schematic representation of the phenomenon of clinical
decision making by FNSs in emergency situations: A gestalt of knowing.

not being involved in the triage of the patient, her experiential level and the aviation environment each contribute to the moulage of flight nursing practice for the specific clinical situation and for the broader practice domain. The experiential level in turn impacts on the ways of knowing used by the individual FNS to obtain an accurate picture of what is occurring for the patient. FNSs identified that a lack of experience did in fact mean that they had a less of an awareness of what may be occurring for the patient. The machinations of clinical decision making and actual flight nursing practice are honed with the use of reflective practice. The theme Reflective Practice is situated in the schematic representation between the themes Ways of Knowing the Patient and Context of Knowing because the FNSs demonstrated the use of reflection to 'balance' and 'shape' the Ways of Knowing the Patient and the Context of Knowing for the individual situation and within their collective experience.

The study conducted by Pyles and Stern (1983) and the identification of a Nursing Gestalt is similar to the finding of a Gestalt of Knowing within this current research study. The main difference is that this current research study was not aimed at identifying how FNSs made clinical decisions, but rather the overall experience of clinical decision making. In this reported exploratory study using a qualitative data collection and analysis framework, Pyles and Stern (1983) conducted indepth interview of 28 critical care nurses to determine how they assessed the early detection and prevention of cardiogenic shock. The nurses were practising in medical intensive care units in eight large hospitals in Louisiana, USA. The significant finding of this study was a process called Nursing Gestalt. The Nursing Gestalt is a detailed matrix where basic knowledge, past experience, identifying cues from patients and sensory

cues or gut feelings are linked. This current research study identified knowing based on intuition, experience and objective knowledge. Nurses use this matrix to categorise and differentiate the assessment data to arrive at a diagnosis to base nursing care on. The knowledge of experience is the foundation for the Nursing Gestalt. The relationship between experience and the ability to make sound nursing diagnosis is undisputed. Pyles and Stern affirm that accumulated knowledge and experience is an essential part of assessment and interpretation of findings. Cues identified by these nurses in the detection of early signs of cardiogenic shock included "the look of the patient", "apprehension and restlessness", "a funny pasty colour", "slight increases in the rate of respirations and pulse" and "the coolness of the skin" (p. 53). These cues served as impetus in the decision making process. The nurses would make their final decisions based on more than one cue. Categorisation involves the acknowledgment and assessment of all the cues. The determination of cues and assessment parameters is highlighted as an important part of the decision making process. All nurses in the study expressed a sensory component to their decision making, a gut feeling. This gut feeling was described using three components. The first, "a falling out of the pattern", which is described as a discrepancy of what is and what should be. The second component was the presence and significance of the patient's intuition. The patients were able to describe a vague forewarning or verbalised that something was going to happen. The third component is the intuition of the nurse. This intuition was not based on specific clinical cues but rather the awareness of a feeling that something was going to occur. The findings of this reported study use terms, which are common to those studies, where intuition and

pattern recognition were identified.

This research has provided a detailed description of clinical decision making experience by the FNSs in emergency situations and in turn provides an illustration of flight nursing practice within the RFDS – Western Operations. The emergence of the themes Ways of Knowing the Patient, Context of Knowing and Reflective Practice from narratives of paradigm cases represent the phenomenon of clinical decision making by these FNSs in emergency situations.

CHAPTER FIVE

Conclusion

Flight nursing is very challenging and probably
because it is, is a part of why we love it. If it
was ordinary we wouldn't have the challenge. (4)

This chapter presents a conclusion of this study. The chapter identifies and

discusses the implications and recommendations from the findings and relevant

discussion of the study.

The demonstrated paucity of research and subsequent theory in the area of

flight nursing dictated a broader objective in the examination of the phenomenon of

clinical decision making in emergency situations by the study population. Thus, the

purpose of this phenomenological study was to describe and interpret the lived

experience of clinical decision making by FNSs in emergency situations. It was not

viewed appropriate at this stage to examine narrower fields of flight nursing practice,

for example 'how do flight nurses make decisions in emergency situations?' or 'what

is the influence of the aviation environment on the practice of flight nurses?' Future

research into the identified themes and sub-themes will now be more appropriately

situated within a broader framework of one area of flight nursing practice.

Implications and Recommendations

Clinical decision making is fundamental to sound nursing practice. It is

important to understand how and why nurses arrive at clinical decisions and the

impact of contextual settings on these processes. Hughes and Young (1990) suggest that clinical decision making is the nurse's most critical clinical function. This study has generated further understanding of the experiences of clinical decision making of one group of nurses within a particular context. The significant implications of this study are the generation of knowledge of clinical decision making for nursing practice, specifically within the context of flight nursing, whilst also contributing to the knowledge of flight nursing practice. Other implications are the recommendations for practice, education and research that have emanated from the findings and are now discussed.

Practice

Triage.

The finding of this study indicated that FNSs were not involved to an adequate level in the initial assessment of the patient. This non or minimised involvement in triage did not allow them to obtain a better 'feel' for the patient and the clinical situation, and subsequently the FNSs found themselves in a compromised position within the clinical scenarios. It is appropriate to consider triage as an integral component of the role of the FNS particularly where they are to be the sole health professional on the flight mission. Research into this role dimension would provide an avenue for evaluating this practice.

Practice Guidelines.

The findings of this study and similar studies be considered when developing practice guidelines for flight nursing. Current prescriptive standards for nursing care do not always allow for the complex clinical situations that are encountered, as well as the aspects of intuitive and experiential knowing and the scope of practice of the advanced practice nurse.

Reflective Practice.

Reflective practice although identified as a component of the phenomenon of clinical decision making, would be more appropriate and beneficial if formalised within practice. A reflective journal provides a framework for the practitioner to examine their knowledge, feelings and actions within their practice. The aim of keeping such a journal allows the nurse to reflect on descriptions of circumstances, motives, thoughts and the chronicling of events. This dialogue, over time, allows for the emergence of patterns and relationships (Holly, 1989). Heath (1998) states that reflective practice is aimed at enhancing patient care through the processes of professional development and subsequent expertise. A reflective journal is suggested as tool for reflective practice by and for FNSs.

There currently exists no formal framework for the evaluation of exemplar clinical scenarios for FNSs, though multi-disciplinary reviews of case studies existed. For reflective practice to be of value and encouraged within this flight nursing practice for everyday practice and exemplar cases, a structured review of those flight missions would be of enormous value to the novice and expert FNS.

FNS (5) in her account of her experience of clinical decision making in an emergency situation indicated that critical incident stress debriefing does not occur within this aero-medical practice and wanted to see it occur. This FNS cited that she had observed a colleague develop a fear of flying after a significant incident as one example of the need for such a program. All of the experiences recounted by the participants are clearly significant events within their experience as a flight nurse. A peer orientated clinical review and support framework and critical incident stress debriefing program be examined as appropriate frameworks for such reviews and support. Though this research was not aimed at identifying critical incidents, it is clear from the descriptions provided that the provision of critical incident debriefing may have proved beneficial for these FNSs.

Education

Orientation.

The findings from this study may be appropriate to form part of a framework for an orientation program for the novice FNS within the specific practice area of RFDS- Western Operations. Exemplar cases can be used as a framework for the review of appropriate flight nursing practice and to critique practice.

Research

Though the findings of this study do not represent the larger population of flight nurses, this study provides a beginning point for further research into an

extremely complex and significant phenomenon. Further research would provide a

greater understanding of this phenomenon and provide evidence of the significant

role FNSs play in the care of critically ill and injured patients in aviation settings.

Lumby (1996) asserts that more research is imperative into reflective practice, critical

thinking and practice based knowledge of nurses. Further research will allow for a

greater understanding of the complexity of these phenomenons. This research study,

though long over due within the flight nursing domain, is timely in instigating further

interest in the quest for theory and excellence for flight nursing practice.

Themes and Sub-themes.

Research into the sub-themes and consequently the themes would provide a

purposeful attempt to identify the components within the themes and sub-themes and

the relationships with each other. For example the links between intuitive knowing,

experiential knowing and subsequently the arriving at knowing the patient require

further research to provide for a clearer and more detailed understanding of their

structure and relationships and specifically the introduced idea of a synergistic

relationship between the themes and sub-themes.

Comparative Studies.

This study investigated clinical decision making within an emergency

situation, research into clinical decision making in 'routine' situations would allow

for a comparative framework. The undertaking of a comparative study of the aspects

of knowing the patient in an aviation settings versus longer term critical care areas

would provide for further illumination of not only the phenomenon of clinical

decision making in emergency situations, but also within comparative contexts. FNSs

care for patients in the majority of situations without knowing the patient as an

individual and for a limited time. A comparative study within the flight nursing

context and a longer term context, like an intensive care unit would allow for a

expanded knowledge base on aspects of 'knowing the patient' and patterns of

knowing within this sub-theme.

The essence of the experience of clinical decision making by FNSs in

emergency situations lies in a unique interplay of Ways of Knowing the Patient,

Context of Knowing and Reflective Practice. The findings of this study have

provided an opportunity to examine the science and artistry of one domain of flight

nursing practice and serve as an impetus for future imperative research.

> The doors slide shut. The three of us are sealed into this small, familiar space.
> After briefly glancing out to watch the crowd and chaos sink below me, I turn
> to the task at hand. Caught up in the rhythm of care, the last thing on my
> mind is the operation of this transport vehicle. My business is elsewhere. My
> mind in on patient care (Nimmo, 1987, p. 262).

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Appendix A

Letter to the Director of Nursing and Primary Health Care

Mrs Alison Liebenberg
Director of Nursing and Primary Health Care
Royal Flying Doctor Service (Western Operations)
3 Eagle Drive
Jandakot WA 6164

Dear Mrs Liebenberg,

I am writing to introduce my research study and seek permission to contact a number of Flight Nurses Specialists to request their participation in the study. I am researching clinical decision making by Flight Nurse Specialists during emergencies.

The aim of this research study is to examine the experience and meaning of clinical decision making of Flight Nurse Specialists in emergencies. The research will contribute to the body of knowledge related to clinical decision making but also to the practice of flight nursing. There are no foreseeable risks to the Royal Flying Doctor Service - Western Operations.

If this proposal is acceptable please contact me at your earliest convenience. I will contact each Flight Nurse Specialist individually to provide details of my study, and to request their participation and arrange an interview time. I am more than happy to answer any questions you may have.

Yours sincerely

Dale Pugh.

Enc.

Appendix B

Letter to Flight Nurse Specialists

Flight Nurse Specialist
Base
Royal Flying Doctor Service (Western Operations)

Dear Colleague,

I am undertaking a research study, looking at the experience of clinical decision making by Flight Nurse Specialists in emergencies. I am interested to know if you would consider being a participant in this study. I am undertaking this study to complete the thesis component of the Master of Nursing Degree through Edith Cowan University.

Your commitment in assisting me with this project is approximately one to two hours of your time so that I may undertake an indepth interview that will be audiotaped. I will require making further contact for clarification purposes, but this may be by the telephone. The interview will occur at a time and place convenient to you.

Though there are no foreseeable risks to you, the discussion of a situation where you were faced with an emergency by yourself may cause you to revisit a number of issues that may be distressing for you or cause you to reflect on the situation as a whole and related issues of self-judgment. I can assure you that this project is aimed at you describing the situation, there is to be no judgement on right or wrong decisions or actions made. If you were to feel unhappy about continuing the interview, it would cease immediately, and its continuation reassessed at a later time. If you decided that you required support to address any distressing issues, then I would assist you in making contact with a support service or speaking with your Supervisor.

The information that you provide to me will remain confidential; the information will

be maintained under lock and key. My Supervisors will see the data, though it will be coded to protect your identity. You have the right to withdraw from this study at any time, and this action will not prejudice you in any way. Whilst there are no direct benefits to you, this study will contribute to the body of knowledge of flight nursing and clinical decision making. I will be able to furnish you with a copy of my completed report.

If you are agreeable to my request please sign the attached form and return it to me in the pre-paid envelope. I will then contact you to discuss my study in further detail and to arrange an interview time and venue. At this time I will send you a consent form.

If you have any questions or concerns please do not hesitate to contact me. My telephone/fax number at home is (▮▮▮▮▮▮▮▮, and at work ▮▮▮▮▮▮▮▮ I can also be contacted on email – ▮▮▮▮▮▮▮▮ You can also contact my Supervisors Ms B Jones and Dr R Maltby at the School of Nursing Edith Cowan University on ▮▮▮▮▮▮▮▮

Yours sincerely,

Dale Pugh.
Enc.

Appendix C

Consent Form

A Phenomenological Study of Clinical Decision Making
by Flight Nurse Specialists in Emergencies.

Research Title: A phenomenological study of clinical decision making by Flight
Nurse Specialists in emergencies.

Researcher: Dale Pugh

Research Purpose: To research the phenomenon of clinical decision making by Flight
Nurse Specialists in emergencies, using a phenomenological approach.
(Phenomenology is a research method used to describe and interpret the life
experiences of persons. The individual describes their experiences and then the
researcher interprets these experiences into common themes).

Benefits/Risks To You: Although this study will not benefit you directly, it is aimed
at understanding the phenomenon of clinical decision making by Flight Nurse
Specialists in emergencies and contribute to the body of nursing knowledge. The
study procedure involves no foreseeable risks or harm to you. If the interview did
cause you to revisit distressing events, or cause you to reflect critically on decisions
and actions made, the continuation of the interview would be at your decision.
Continuation of your involvement as a research participant would be evaluated at a
later date. If you felt that you required support to address the reliving of distressing
events, then I would assist you to find a support service and or speak with your
Supervisor if you so wished.

Procedure Explanation: Participation in an in-depth face to face interview. The
interview will be audiotaped and the researcher will take notes. It is anticipated that

the interview will take approximately one to two hours. The interview will occur at a time and venue convenient to you. Participation in one or more follow up interviews for the purpose of clarification of issues. This secondary interview may be face to face, or via the telephone at a time convenient to you.

Research Participant Entitlements: Your participation in this study is voluntary, you are under no obligation to participate, and declining to participate will not prejudice you in terms of future working relationships or in your role as a Flight Nurse Specialist. You have the right to withdraw from the study at anytime, without prejudice. Your identity will not be revealed at any time whilst the study is being conducted, reported or published. The study data will be coded so that it will not be linked to your identity. All study data will be collected by myself, and stored in a locked filing cabinet for a five-year period, then destroyed by incineration. Ms B Jones and Dr R Maltby my supervisors at Edith Cowan University and examiners will have access to the study data, though it will be coded to protect your identity. You are encouraged to ask questions at any point during the study, and you may have access to a summary of my final report.

If you have read this and are happy with the content and understand it, please fill in the next section.

I have read the details concerning the study and voluntarily consent to participate in the study.

Name _____

Signature_____

Date_____

I have explained the study to the Research Participant and availed myself to answer questions.

Name_____

Signature_____

Date_____

Appendix D

Confidentiality Statement from Professional Typist

I _____ agree to keep the information on the tapes and

that transcribed confidential.

Signed:_____

Date:_____

Researcher's signature:_____

Date:_____