A Grounded Theory Analysis of The Knowledge and Skills Of Wound Care Nurses.

Student: Geraldine Crawley

Supervisor: Anne McKay

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Supervisor's Signature: ..... Date 25-11-97

Examiner's Signature: ..... Date 25-11-97.

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Definition of Terms.

Holistic wound Care: looking at the whole patient, not just the wound. Understanding that there are many factors pertaining to this person that will affect their wound healing. For example, concomitant disease, drug therapy, nutrition, lifestyle, psychological, spiritual and cultural aspects. Wound management decisions should be based on, and will directly be affected by these factors (Clarke 1995, 415).

Moist wound healing: A concept described by Winter more than 30 years ago, in which moisture is required to encourage epithelial cells to migrate across the wound bed, thus restoring the epidermis. It was in opposition with the thinking of the day: allowing wounds to dry out in order to heal (Winter 1962, 293).

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Abstract.

Major changes in wound care practices have occurred in recent years because of increased inquiry into the biology and physiology of wounds. Nurses are having difficulty keeping up with these changes which leads to knowledge being applied inconsistently in practice.

This study investigated what knowledge nurses use when practicing wound care, from a grounded theory perspective. By examining the social processes involved in nursing behaviour and the context from which these processes emerge, an explanation is given for the meaning of these experiences for nurses.

The substantive theory derived from this research informs nursing, its body of knowledge and future research.

1. CHAPTER ONE: Introduction.

1.1 Introduction and Need for Study

In recent years there have been major changes in relation to wound care due to increased inquiry into the physiological requirements of the healing wound. This has led to the development of a vast array of new-age dressings, and to the re-thinking of traditional practices such as the use of antiseptics (Carville 1993, 13). Keeping up to date with these and other changes requires continuous exposure to new developments and education, as well as the motivation to do so. However, in examining current practice it is seen that nurses apply knowledge inconsistently, and this leads to wound care becoming fragmented and ineffective with resultant poor outcomes for the patient (Davies 1994, 331).

There is much discourse in the literature concerning the barriers to incorporation of research into practice, some of which is related to wound care. Koh (1993, 86), in a small study of nurses in England, found that research findings were not being implemented, and further to this, that the benefits of utilising research were not even acknowledged. Moist wound healing, a well-researched and approved concept was unfamiliar to more than half the sample in Koh's study (1993, 84). Another small study, conducted by Bell (1994, 145) in Dublin, was aimed at examining nurses knowledge of wound healing physiology. This study revealed that nurses' knowledge levels of the topic were low, and also, that participants had difficulty in applying knowledge to practice. Specifically the healing process in venous leg ulceration was examined and several issues emerged. The participants had difficulty placing the stages of wound healing in the correct order, and also to identify some of the major factors

affecting the healing of venous ulcers. There were also problems in recognising an infected wound. Despite the limitations of the study the results were cause for concern, because many of the participants were considered to be proficient or expert in their field. The largest study, from England, examined educational levels using a randomised sample of community nurses (Turner and Cockbill 1994, 242). The findings indicated that knowledge base and training levels of community nurses varied, and recommendations were made for mandatory ongoing education programs.

1.2 The Problem defined.

The studies reviewed in the literature allude to the question: If nurses do not use research findings to guide decision making and assessment, then what knowledge do they use? There is little evidence that this has been investigated in any great depth in the literature, especially in relation to wound care. Allison (1995, 29) audited an education program in Australia for a small group of registered nurses. The findings indicated that education assisted nurses to incorporate theory and research into practice and engendered changed practice for the individual nurse. However, because the study was aimed at assessing the program being offered, it did not examine prior knowledge used, or how it was developed. Although education is seen to be the key (Bell 1994, 145; Koh 1993, 86), the problem is much more complex.

In providing a solution, it became prudent to examine the current situation, and the variables which affect it. This research sought to accomplish this by asking: What knowledge embedded in clinical practice influences registered nurses in holistic wound care? By knowing and understanding the knowledge embedded in clinical practice, the possibility exists for these elements to be incorporated into future professional

development programs. This would encourage the acceleration and expansion of research into practice. It was to this purpose that the aim of this study was directed, to discover what knowledge nurses use, where and how they obtain this knowledge, and how they apply it when making decisions and assessments in wound care. These findings are advantageous to nursing as a profession, to its body of knowledge, and to future research. As the concern of nursing is with the patient, then what is significant for nursing will also be significant for patient outcomes.

CHAPTER TWO: Literature Review.

2.1 Relationship of Literature Review to the study.

This chapter will explore knowledge, decision making and holistic care, as these three areas are components of the research question: What knowledge embedded in the clinical practice of registered nurses influences holistic wound care? Knowledge is explored from its philosophical origins, through the many theories that have been written about it and its application in wound management. Decision making is examined as it identifies the processes by which knowledge is incorporated into practice. Holistic care is defined in order to elucidate that knowledge, and its application in wound care practices, is important and indeed vital to providing optimal outcomes.

The nature of Grounded theory research dictates that a review of the literature would entail a brief, but extensive, look to determine if the subject has not been researched before. Then, throughout the data collection process the researcher consults the literature to explore the themes which emerge from the data (Glaser and Strauss 1967, 176). By consulting the literature too soon the researcher runs the risk of forcing the data and subsequently neglecting important concepts (Glaser and Strauss 1967, 34). The researcher, in writing this treatise has attempted to adhere to the correct method as much as possible. It should be noted, however, that no actual research was conducted, although data was obtained from the literature and anecdotally, and used as sources from which a Grounded Theory approach could be hypothesised.

2.2 Knowledge.

2.2.1 Embedded Knowledge.

Benner (1984, 1) has done a great deal of work aimed at uncovering the knowledge embedded in the clinical practice of nurses. However, in searching the literature it is evident that no research aimed specifically at the clinical practice of wound care nurses has been conducted. Embedded knowledge implies knowledge that is hidden from view. It is possible that this knowledge appears to be hidden as a result of the socialisation period that nurses experience in the clinical setting (Eyres 1992, 180). This is not deliberate, but has developed because nurses have not traditionally been good record keepers. Knowledge derived from practice has been passed on through word of mouth, procedure and observation. The concept of building a discipline of knowledge for nursing has only recently been addressed with the introduction of higher education levels to gain entry to, and study nursing. First attempts have created a theory-practice gap, as nurses in the clinical setting value experience and tradition, rather than developed theories, which they have difficulty relating to practice (Miller 1985, 420). Benner (1984, 1) concurs with this failure to chart and study nursing knowledge, which has accrued over time, and identifies its origin as a misunderstanding between the relationship of theory and practice. In order to encourage ownership of nursing theory, research derived from the practice setting has been advocated. There are many hurdles, as many nurses are still endeavouring to understand research, let alone conduct it. Those nurses brave enough for this enterprise into the world of research, find that while opportunities are presenting, they are limited (Lumby 1995, 9).

2.2.2. Philosophy of Knowledge.

Knowledge itself has been examined since ancient times, when philosophers first attempted to understand and explain the world in rational terms, since people first asked "What do I know?" and Socrates first eluded that recognising not knowing is the first step towards knowing (Urmson and Ree 1989, 300). Other questions have followed, such as "How do I know what I know?" and "Why is it important to know?" and it is these questions which equate to the purpose of this research. Recent inquiry, based upon the accumulation of information gained through the ages, still seeks to answer these questions. Previously, logical positivistic philosophy, which values cause and effect relationships, and an objective stance, has dominated the search. Of late, contemporary thinking, described as historicism, has sought to relate knowledge to its context, to explore phenomenon from different dimensions, and in its natural setting (Leddy and Pepper 1985, 108). These changes, regarding knowledge in general, are also influencing nursing knowledge.

2.2.3 Gender differences in Knowledge Development.

It has been identified that there are gender differences in the way that knowledge is developed and organised. Perry (1970, 58), in exploring intellectual development identified levels of progression in an all male sample. The first level is basic dualism, in which passive learners rely on authority to divulge the truth about right or wrong, black or white, good or bad, we or they. Then learners may advance to either multiplicity or relative subordinatism, multiplicity being a level in which personal opinion becomes valid because learners begin to view authority as not always having the right answer (Perry 1970, 72). Relative subordinatism, however, was found by Perry (1970, 100) to be the most common level to which learners progressed, at this

level opinion must be based on evidence and analytic evaluation must be cultivated. The final level of intellectual development being full relativism, here truth and meaning are relative to time and circumstance (Perry 1970, 153).

In analysing knowledge development in women, and how they organise knowledge Belenky, Clinchy, Goldberger, and Tarule (1986, 15) identified five categories, not necessarily sequential or similar:

1. Silence - the individual is perceived to be without mind or voice, and subject to the quirks of an outer authority.
2. Received knowledge - knowledge is received, and reproduced from an external authoritative source, but the individual is not capable of creating it alone.
3. Subjective knowledge - truth and knowledge are perceived as personal, confidential, subjective or intuited.
4. Procedural knowledge - an investment is made to learn and apply objective processes to receive and deliver knowledge.
5. Constructed knowledge - individuals become creators of knowledge. Knowledge is perceived as being contextual, both objective and subjective strategies are valued.

Knowledge explored from women's perspectives directly relates to nursing, as nursing is at present, and has always been predominantly female. It is interesting to note that historically, nurses have been voiceless in relation to decision-making. Another interesting correlation is that nursing involves doing, and when the knowing behind the doing remains hidden, it gives the perception of empty-headedness (Lumby 1995, 5). Much of the knowledge prior to the introduction of higher education in nursing has been received knowledge, derived from other disciplines, particularly the medical model. Subjective knowledge has been discounted in the past, and has only recently

been recognised as being reliable and valuable. This study may reveal that it is this type of knowledge that is embedded in practice and needs to be made visible. Polanyi (1958 cited by Smith 1992, 2) describes personal or subjective knowledge as a comprehension of "disjointed parts into a comprehensive whole...(which) is shaped by the knower's personal action". Smith (1992, 2) claims personal knowing to be primary to all knowledge. Procedural knowledge could be identified in nursing as making a commitment to higher education. The step for nurses to move from procedural to constructed knowledge represents the ideal, for all nurses to adopt. Constructed knowledge is the art of nursing, the response to a unique situation for which there is no single framework or set of rules to guide the practitioner. The position that women take regarding knowledge development then, can be seen to be applicable to nurses.

2.2.4 Patterns of knowing

As well as ways of knowing, dimensions of knowing have also been recognised. Carper (1978, 13) identified four fundamental patterns of knowing in nursing: Empirical, aesthetic, personal and ethical. Carper described these patterns as being essential for the teaching and learning of nursing, because they reflect the meaning of knowing and its importance for the discipline of nursing (Carper 1978, 13). Empirical knowledge is scientific knowledge which has been generated to describe, explain and predict human behaviour in health and illness. It is acquired through research, where statistical data provides evidence which can lead to the generation of theory (Guilding 1993, 712). Aesthetic knowledge is the art of nursing, involving the application of knowledge and skill (Danko, Hunt, Marich, Marriner, McCreary and Stuart 1986, 220). It is the perception of significance in the human experience that influences the nurse to design

care based upon a desired outcome. Such an action is creative, and sensitive to the needs of the individual, and can be equated with holistic care (Carper 1978, 17).

Personal knowing is described by Carper (1978, 18) as being the most difficult to learn, yet the most essential to nursing, as an interpersonal process. It is concerned with encountering and actualising self, which then allows a stand to be taken in relation to an encounter with another. Smith (1992, 2) describes it as an "awareness of the self, and an awareness with the self. Knowing is fused with being..." , and suggests that it is central and primary to other patterns of knowing. Ethical knowing involves the capacity to make choices within concrete situations involving particular moral judgements. "It includes all voluntary actions that are deliberate and subject to the judgement of right and wrong" (Carper 1978, 21). As health care becomes more complex, with the emphasis on efficient and economical services, this has become even more significant for nursing.

Guilding (1993, 716) specifically applied these dimensions of knowledge to wound care. Empirical knowing entails the integration of data from nursing and other disciplines to inform the nurse engaged in wound assessment, technique and product use. In aesthetic knowing the manner in which these empirical principles are applied, the creativity involved in the nurse's actions in dressing wounds is seen. Personal knowing in wound care entails the nurse's contribution from the context of an accumulation of personal experience. In ethical knowing competent practice is valued by staying abreast of change and development and by applying reflection and critical thinking to new practices before they are adopted.

2.2.5 Ritual and tradition in Place of Knowledge.

Other sources of knowledge located in nursing practice which are not clearly apparent are common sense, trial and error, ritual, intuition, authority and tradition. The difficulty with relying on these methods lies in the possibility that they are unpredictable and erroneous (Thomas 1990, 20). Historically, wound care abounds in the use of traditional practices which were widely accepted. For instance, it was common sense knowledge that scab formation protected the wound from infection and healing took place underneath, and so wounds were exposed as much as possible to promote drying out. Today, this is known to be incorrect, as scab formation prolongs the healing process. Trial and error was used to treat pressure sores with every conceivable substance thought of, no consideration was given to the ethics of such actions. Procedure manuals guided nurses in the correct authoritative method adopted by the institution concerned, with no thought given to accountability to the patient (Cuzzell and Stotts 1990, 53). Walsh and Ford (1989, ix) describe ritual as "carrying out a task without thinking it through in a problem-solving, logical way". Rituals are still being used by nurses to guide practice. It is possible that nurses have unwittingly incorporated beliefs into practice which have become "ingrained into the fabric of nursing and mistaken for facts" (Walsh and Ford 1989, 151). Intuition, it seems, does not fall into the same category as these other often unreliable sources of knowledge.

2..2.6 Intuition as a Source of Knowledge.

In the past intuition has been devalued, but is now increasingly looked upon in a more favourable light when it is used objectively and verification is possible (Correnti 1992, 91). It is described by Benner and Tanner (1987, 23) as "understanding without a rationale", and used by nurses who are considered to be expert, as a basis for holistic

care. It entails the integration of both knowledge and experience as elementary to decision making. "Intuition gives the nurse the ability to make decisions based not only on documented theory but also on hypotheses resulting from experience" (Guilding 1993, 714). Leddy and Pepper (1985, 108) describe the source of knowledge, in intuition, as internal to the person, drawn upon subconsciously. Knowledge embedded in practice is described by Polanyi 1967 (cited by Meerabeau 1992, 108) as tacit knowledge, similar to intuition. Cue assessment and skilled pattern recognition are terms used to describe methods in which intuition play a major role (Correnti 1992, 93). The significance is that empirical knowledge has been given prominent status in nursing in developing a scientific base for practice. This has lead to a tunnel vision approach to knowledge and the neglect of artistry and other sources of knowledge generation such as intuition. It is this area of practitioner knowledge which remains an untapped resource.

2.2.7 Reflection for Knowledge Development.

An increasingly popular tool for learning which can be used as a means for generating nursing knowledge is reflection. Reflection has been shown to have the potential for linking theory and practice (Atkins and Murphy 1993, 1188). When Johns (1995, 226) used Carpers ways of knowing as a framework for reflection on experience, reflection was shown to provide a means by which the contradictions between actual practice and ideal and desirable practice can be resolved. Whilst the literature regarding the types of reflection are complex, there are basically two types of reflection identified, these are reflection-on-action and reflection-in-action. Reflection-on-action involves thinking about practice situations in hindsight and is undoubtedly invaluable in improving practice. The methods recommended include journalling, discussion, and debriefing

(Darbyshire 1989, 28). In reflection-in-action thinking and doing are not separated. It occurs on the spot, the practitioner may or may not be aware, or able to articulate the knowledge used in performing the task at hand (Atkins and Murphy 1993, 1188). Schon (1983, 50) describes reflection-in-action as the core of professional practice, because it is "central to the art by which practitioners sometimes deal well with situations of uncertainty, instability, uniqueness, and value conflict". This is in direct contrast to the positivist view that professional practice apply the rigour of scientific theory to problem solving (Schon 1983, 21). Schon (1983, 50) adds that even when scientific theories and techniques are used the practitioner is still reliant on "tacit recognitions, judgments, and skilful performances" as there remain "indeterminate zones of practice" for which no theories can be applied (Schon 1987, 7). Reflection then can provide a means for nurses to explore their own knowledge base. It has the ability to "uncover the nature of knowing and the beliefs that underpin choice" (Cox, Hickson and Taylor 1991, 378). Reflection is a tool that can be used to uncover the knowledge embedded in clinical practice.

2.2.8 Research Knowledge for Practice.

Nursing is a relative newcomer to the world of research. Florence Nightingale advocated the use of observation and statistics in the 19th Century (Hardey and Mulhall 1994, 2), yet, research undertaken by nurses into patient care did not take off until the 1950s (Polit and Hungler 1991, 6). Polit and Hungler (1991, 4) state that the purpose of research is to continually develop a scientific body of knowledge which is central to professional practice. In doing so accountability and commitment towards the client is acknowledged. Rodgers (1994, 905) reviewed the literature on research utilisation for nurses in the United Kingdom and the United States of America and found that most of

the studies reported difficulties in research utilisation. Research knowledge is useless unless it is incorporated into practice. There are many explanations and reasons as to why research is not utilised. MacGuire (1990, 615) outlines these:

1. Nurses do not know about research findings.
2. There is an absence of relevant research to validate changes in practice.
3. There is a lack of synthesis of known research findings in a form appropriate for practitioner use.

In Wound Management there are many information gaps which exist, overgranulation tissue is one example. In contrast, there are information overloads, for instance, there is a great deal of information available about pressure areas. Yet, despite this information overload there is still difficulty reverting these findings into effective management programs (MacGuire 1990, 615). Rodgers (1994, 905) in examining research utilisation found that there are many debates concerning who is responsible for the dissemination and utilisation of research findings. Those implicated are nurses themselves, those doing the research, and organisations. There is no doubt that nurses are accountable to the patient and because of this have an obligation to be research aware (Walsh and Ford 1989, 151). This means that the barriers that exist must be overcome, whether that be lack of opportunity for the individual nurse to participate in research through awareness, support and generation (Nolan and Hazelton 1995, 195), or looking at how research findings are disseminated to make them more user friendly. Another method advocated in the literature is through support for change processes or models for research-based practice (Burrows and McLeish 1995, 245; MacGuire 1990, 617; Pearcey and Draper 1996, 714). In order to make explicit knowledge that is embedded in the practice of wound care nurses it is imperative that more nurses generate research and distribute research findings in more innovative ways.

2.2.9 Knowledge and Adult Learning.

Even though many of the early philosophers were teachers of adults many theories about learning have evolved through the observations of animals and children. Since the 1970's there has been much greater emphasis on andragogy and its different adaptation from pedagogy. The emphasis in the pedagogical model is dependence on the teacher for what will be learned, how, when, and if it has been learned (Knowles 1990, 54). Knowles (1990, 57) describes the andragogical model as:

1. The need to know - Before adults undertake learning they will first determine the significance of what it is they are going to learn, and how they will put this learning into practice.
2. The learners' self-concept - Adults have already arrived at a situation of independence. Their concept of themselves is that they are self-directed and responsible for their own decisions. When they enter a learning situation they may either expect a teacher response which is similar to their past childhood learning experiences, or when confronted by a pedagogical style of teaching they retreat because they resent having someone else's ideas forced upon themselves.
3. The role of the learners' experience - The quantity and quality of adult learners' lifelong experiences equip them as a source of experiential knowledge which will enrich teaching situations. The challenge is for teachers to access this contribution by helping adults to overcome biases and habits which can prevent them from maintaining an open mind.
4. Readiness to learn - Adults will seek learning opportunities in order to cope with real-life situations. This may be to meet present needs or for future goals.

5. Orientation to learning - Adults are highly self-motivated to learning when they perceive the benefits to be directly related to personal performance or problem-solving skills.
6. Motivation - The best motivators for adults are job satisfaction and self-esteem. Often knowledge development can be blocked by negative influences such as limited time or opportunity to learn or through negative self-concepts.

It is interesting to note that this model does not take on the flavour of any particular gender, it is totally adult orientated. Unfortunately, knowledge development in nursing has not always used an andragogical model. Prior to the transition from hospital training to university, theory was presented in a didactic form with practical skills assessed under supervision. The emphasis was on knowing how as opposed to knowing why. Many Registered Nurses fall into this category while others with university degrees or diplomas may have experienced the andragogical model but may not have had the maturity or clinical support to fully benefit from it. Nurse educators today are seen more as resource persons, it is the student who is seen as being responsible for developing an individual knowledge base (Bruni 1991, 183). For Registered Nurses interested in Wound Management formal opportunities for adult education have been limited. It is only in recent years that a degree in Wound Management has become available in Australia. Regardless, nurses interested in using research-based practice in wound management are motivated to do so because they see the benefits to be gained. This could be further enhanced when adult learning principles have been given more time to engender exploratory thinking in nurses and also through the strategic employment of the positive elements of self concept and experience. These methods have the potential to unmask the knowledge embedded in the clinical practice of nurses.

2.2.10 Knowledge through Mentoring.

Knowledge can be acquired from others, in nursing this is often hidden from view. When new graduates are employed they are "buddied" with another, more experienced nurse often termed a preceptor. O'Shea (1994, 98) describes the preceptor role as one of teacher, mentor and colleague. The teacher role is described as a formal way of providing information and rationale for practice. The mentor role "supports the development of the learner, shares experiences, provides advice, and serves as a role model". The colleagiality role is informal, and involves mutual respect and recognition of strengths and weaknesses (O'Shea 1994, 98). It is the mentor role which provides much more opportunity for knowledge development as it expands the boundaries of learning for both mentor and learner. Hamilton (1981, 164) asserts that "mentors are different things to different people. No two mentorships are the same". Mentorship has long been valued in male working domains, with the emphasis being on competition and achievement, on the other hand, it has developed differently for women with the emphasis being more on sharing and collaboration (Hamilton 1981, 168). DeMarco (1993, 1242) supports this by stating that mentorship is based upon reciprocity, empowerment and solidarity. The alternate tradition to mentorship in nursing has been role modelling. Hamilton (1981, 169) claims there is a difference between the two as mentorship implies a relationship, but with role modelling a relationship between the role model and the learner may not exist. However, Davies (1993, 635) investigated clinical role modelling as a means of uncovering hidden knowledge and found that aesthetic and ethical knowledge, in particular, were shared between role models and students. Which ever way it is labelled, mentorship is invaluable for facilitating the sharing of knowledge in nursing. There are difficulties with this sharing of knowledge, however, because of the socialisation of women and nursing. DeMarco (1993, 1242)

sums it up beautifully by saying "knowing always has its limitations, since we, the inquirers, are only able to come to understand through the ways we have been shown to ask questions or where to ask them". Nursing knowledge, it seems, has developed in limited ways and has remained hidden because of the socialisation of women and nurses.

2.3 Knowledge as a Variable for Decision Making.

Critical thinking, problem solving skills, clinical judgement are all related terms in decision making. Nurses make decisions every day in wound management, they assess patients and their wounds, make judgements about dressings and other interventions, and evaluate the care they give, just to name a few. Drummond (1993,20) states that there are many decision models and decision trees that nurses and others can use to assist decision-making. The nursing process ie. assessment, planning, implementation, and evaluation, is one such model, however, being systematic and logical are only a part of decision making, an appreciation for ethical, aesthetic and personal components are also required (Drummond 1993, 23; Birx 1993, 22). Several factors which influence decision-making process have been identified by Hamers, Abu-Saad and Halfens (1994,157), these are the complexity of the task, and the experience, knowledge and personal variability of the decision maker. Critical thinking could be seen as a component of decision making, one that also influences the process in varying degrees depending on the knowledge, experience and intuitive characteristics of the decision maker. Not only is it important then, to determine what knowledge is embedded in the clinical practice of wound care nurses, it is also important to determine how that knowledge is transmitted in the decision making skills of nurses. Knowledge and decision making are intertwined in the fabric of nursing care.

2.4 Knowledge as a Facilitator for Holistic Wound Care.

There is no clear definition of holism, or from where the term originated, however, the principles of holism have been promoted from the ancient Greeks to Nightingale (Owen and Holmes 1993, 1688). Further to this, there are many interpretations of what the term actually means, the most central being "that living organisms are unified and indivisible units, the parts being both interdependent and interrelated. The interdependent parts critically determine the nature of the entire unit, and cannot be understood by isolated examination of the parts..." (Owen and Holmes 1993, 1690). Holism, when pertained to wound care entails the use and application of relevant knowledge from the biological, psychological, and social sciences (Clarke 1995, 415). The aim of holistic wound care is to provide high quality care for patients and is dependent on valid and reliable research and theory (Rodgers 1994, 904; Bree-Williams and Waterman 1996, 49). In holistic assessment the factors affecting wound healing are considered in order to plan and implement appropriate strategies, this is particularly important in the management of chronic wounds (Dealey 1994, 28). Nurses have claimed holistic practice to be a central feature of their care, it is facilitated through the use of personal, aesthetic and ethical dimensions of knowing being applied to the human beings they nurse and the human interactions involved in that process (Wilkes, 1991, 230). Uncovering the knowledge embedded in clinical practice then is uncovering knowledge essential to delivering holistic wound care.

2.5 Summary.

This chapter explored knowledge, decision making and holistic wound care as components of nursing practice. Knowledge was investigated as it has evolved over

time and factors were revealed that have impinged upon its development, such as gender, ritual and tradition. In contending with these conditions nursing has drawn upon aesthetic, ethical, personal and intuitive dimensions as sources of knowledge. Mentoring and andragogical models were seen to be positive influences on knowledge development. Barriers relating to the dissemination of research findings were also identified. Knowledge is an important component of decision making skills and is essential in ensuring that holistic wound care is delivered.

CHAPTER THREE: Research Design.

3.1. Research Design.

The Grounded Theory method of research was selected in order to discover what knowledge is embedded in clinical practice. This inductive approach was appropriate for the purpose of this study, since very little was known about the processes by which nurses obtain knowledge in wound care, and no previous studies had been conducted on this topic. Grounded Theory focuses on psychological, social and interactional aspects of meaning and behaviour (Streubert and Carpenter 1995, 180). The purpose of Grounded Theory is to develop a theory by analysing the data obtained about specific social phenomena (Hutchinson 1993, 183). As nursing practice takes place in a social setting this method was deemed to be appropriate for discovering what processes occur in the practice setting.

The Grounded Theory method was developed by Glaser and Strauss (1967, 1) who are sociologists. The method is derived from the tenets of symbolic interactionism, which is both a theory and a way of looking at human behaviour. Baker, Wuest and Stern (1992, 1356) describe symbolic interactionism as focusing on "the meanings of events to people and the symbols they use to convey that meaning". They go on to say that these meanings determine the response or behaviour people exhibit. In Grounded Theory it is these processes, meanings and symbols that are discovered by exploring the participant's world and how they interact in it, and by understanding their interpretation of those interactions (Baker et al 1992, 1357).

During the 1970's doctoral students in nursing were offered the opportunity to learn about Grounded Theory from social scientists versed in the method at the University of California, San Francisco. These nurses, in turn, became mentors to other nurses, all of whom have generated knowledge through the Grounded Theory method for the practice of nursing (Benoliel 1996, 409). The method is not without controversy, its increasing popularity has raised concerns about its diffusion to researchers who learn its application from a book, and the subsequent quality of that work (May 1996, 310). However, there are those who oppose this view (Melia 1996, 369). As well as this, a dispute has arisen between the originators of Grounded Theory, Glaser and Strauss, who seem to be both purporting different methods for the same thing (Melia 1996, 369). This presented a dilemma for this researcher concerning which strategies to adopt when conducting this study. It was decided that the original work by Glaser and Strauss (1967) would guide the research. A later book by Glaser (1978) giving further explication about the strategies required for coding was also used. The combination of these two books provided the researcher with sufficient information to conduct a rigorous and clearly delineated study. As well, operational advice provided by Miles and Huberman (1994, 13) in conducting qualitative analysis has also been resourced. In utilising the Grounded Theory method for this study the researcher has, as other nurses have, endeavoured to contribute to nursing's body of knowledge.

The procedures used in Grounded Theory are the constant comparative method, theoretical sampling and theoretical coding. They occur concurrently and are interlocking. Definitions of these procedures are provided here in order for the study design to be more fully understood. Theoretical coding is a complex strategy aimed at generating theory. When categories and their properties emerge from the data they are

coded. These codes provide the link between data and theory, it conceptualises the "underlying pattern(s) of a set of empirical indicators (or incidents) within the data" (Glaser 1978, 55). Codes are central to and the building blocks for generating theory, they provide the researcher with ways to think about the data. Glaser (1978, 74) provides researchers with 18 coding families from which empirical patterns can be derived, but states that there are many more that can be developed. In general, codes can be divided into two types: substantive and theoretical (Glaser 1978, 55). Substantive codes are conceptualised from the categories, and their properties, which emerge from the data. Theoretical codes conceptualise substantive codes, by formulating hypotheses about their relationships with other substantive codes which are then integrated into theory (Glaser 1978, 55). Theoretical sampling is concerned with where the data is sourced. Emerging themes and categories from the initial data collection control the direction of subsequent sampling and data collection (Glaser and Strauss 1967, 45). In theoretical sampling saturation occurs when no additional data is forthcoming that further develops the properties of a category (Glaser and Strauss 1967, 61). Multiple sources of data required in theoretical sampling give the researcher different perspectives from which to "understand a category and to develop its properties" (Glaser and Strauss 1967, 65). The constant comparative method is a systematic combination of explicit coding procedures with concurrent analysis and theory development (Glaser and Strauss 1967, 102). Glaser and Strauss (1967, 105) describe four stages:

1. incidents or indicators are compared from each category.
2. categories and their properties are integrated.
3. the theory is expanded and densified through reduction (Baker et al 1992, 1358).

4. the theory is written up.

These strategies are described in further detail in relation to the methodology of this study.

Grounded Theory method has inherent reliability since the theory is derived from the data. In this study, the data is grounded in nursing practice, therefore, the theory is derived directly from the natural setting: nursing practice. This provides an explanation for nurse behaviour and identifies strengths and weaknesses. Validity was established by asking the study participants to evaluate and confirm the findings. The theory developed from this research may be used to predict processes in similar situations (Glaser and Strauss 1967, 2). This would provide further verification that the study is valid and reliable.

Prior to becoming involved in the natural setting of the participant, awareness of personal values and beliefs were acknowledged and put aside by the researcher, so that personal bias did not influence the research outcomes (Hutchinson 1993, 187). For this purpose a journal was kept by the researcher. The contents of this journal revealed that the potential for bias existed if the researcher allowed a closed-mind and negative attitude to obscure other possibilities. It was recognised by the researcher that many valid and discrete social processes could be embedded in nursing practice and an open mind and non-judgemental attitude was necessary in the quest to discover them, and this rationale was embraced by the researcher. Miles and Huberman (1994, 38) describe it as being "ecumenical".

3.1.2 Sample.

The sample was a theoretical sample of Registered nurses working on a plastic surgical ward in a major teaching hospital in Sydney, Australia. These nurses were knowledgeable about the phenomena under investigation as their work experiences provided exposure to both acute and chronic wounds. It was for this purpose that they were selected. Inclusion criteria required the participant to be a Registered Nurse, currently employed at the time of the study, and through their work came into contact with surgical patients or patients with wounds. Each nurse had varying amounts of experience ranging from first year of registration to Clinical Nurse Consultant. This provided the researcher with the diverse sample necessary in Grounded Theory in order to facilitate theoretical sampling. Theoretical sampling differs from statistical sampling as the data collected from the participants is controlled by the emerging theory in order to discover categories and their properties. The emphasis in theoretical sampling is on control of the sampling by the emerging categories; sampling areas are not selected by the researcher (Glaser and Strauss 1967, 45). Statistical sampling seeks accurate information based on distributions and would have been ineffective, in this study, in providing comprehensive information about social processes (Glaser and Strauss 1967, 62).

The sample size was determined by saturation of the analysed data, and included ten participants. Saturation refers to the situation in which data collection and analysis produces repetitious information and no additional elements concerning categories and their properties are forthcoming (Glaser and Strauss 1967, 61). The literature provides a guide of 10 to 20 participants as being adequate for qualitative research (Brockopp and Hastings-Tolsma 1995, 240). The Grounded Theory method does not require a

random sample to be obtained nor does it necessitate coverage of the whole practice setting, as the aim of the researcher is to generate theory which explains the behaviour relevant to the topic of interest (Glaser and Strauss 1967, 30).

3.1.3 Ethical Considerations.

In conducting this study the researcher, at all times, adhered to the ethical policies and guidelines set by the institution. Participant's rights were protected in several ways. They were informed of the study's purpose and process, and what their involvement would be, both verbally and through information sheets. Participants were advised of their right to withdraw at any time during the conduct of the research, even though they had signed a written consent form, none withdrew. Written information also provided assurances about confidentiality and anonymity. There were no risks or chance of harm to the participants as the study was non-experimental. The participants were enthusiastic and viewed their involvement as collaboration with the researcher in order to contribute to an issue that had relevance for them. The researcher was attuned to the potential for conflict between nursing intervention and data collection, in which case nursing would always take priority, but none occurred. It was anticipated that patient consent may become necessary during the field study, but the researcher did not conduct any observations associated with patients.

3.2 Summary.

In this chapter the background and processes involved in the Grounded Theory method of research and its implications in the study design were presented. Grounded Theory is an inductive method which explores the meaning of phenomenon and the responses to it, as such it was found to be appropriate for the purpose of this study. A theoretical

sample of registered nurses, involved in wound care, were used as they were knowledgeable about the phenomenon concerned. Ethical considerations were also presented.

CHAPTER FOUR: Proposed Research Method.

4.1. Data Collection.

4.1.1. Field Research.

Field research in a wound care setting was employed by the researcher to collect data from multiple sources. Participant observation and interview were the most substantial of these sources. The diversity of the sample allowed the researcher to obtain data from these different sources which were used in comparison with one another. Glaser and Strauss (1967, 68) state that this comparative method results in a balanced view of the phenomenon where bias and its underlying cause may be identified and reconciled. Initially, observation and interview questions were on a tentative basis until the problems and processes concerning the research question emerged. The emergence of these variables then guided subsequent data collection and theoretical sampling (Glaser 1978, 61). Field notes were taken by the researcher, and transcribed to a word processor, marked with appropriate heading, date, time, and place.

4.1.2. Interviews.

Interview questions were semi-structured, which allowed for open conversation. Interviews lasted approximately 30 minutes, never extending beyond one hour. A small interview room in a quiet area was available for the researchers use. Interviews were taped and later transcribed by dictaphone. Demographic information was not obtained as this was considered unnecessary. Data obtained from the interview allowed the researcher to see the phenomena from the participant's perspective. During the data collection period the researcher took time out to reflect on the proceeding of the research.

4.1.3 Interview questions.

Glaser and Strauss (1967, 45) state that "initial decisions for theoretical collection of data are based only on a general sociological perspective and on a general subject or problem area" and further to this, there should be no preconceived theoretical framework. In order to ensure these perspectives were adopted in this study the researcher formulated questions aimed at initiating incidents and indicators to subsequently guide the direction of the study. To answer the question "If nurses do not use research findings to guide decision making in wound care, then what knowledge do they use?" the following questions were devised:

Question 1. Where have you gained your current knowledge about the wound care practices that you use?

Prompt: What, or who, guided you in learning what you know about wound care?

Please give me as much information as possible about all the sources, and the degree to which you found them helpful.

Question 2. What wound care practices do you use, and why?

Prompt: What type of decisions do you make in wound care?

Please tell me in as much detail as possible about these decisions and describe why you chose that/those method(s).

Question 3. Are there any other factors, besides the patient's wound, that you may consider to be of importance in facilitating the healing process?

Prompt: Can you recall a situation when healing was dependant on something outside the wound such as mental, physical or spiritual dimensions?

Please describe these situations in as much detail as possible, and the degree of influence which these dimensions had upon healing.

These questions guided the researcher in exploring the knowledge embedded in the clinical practice of wound care nurses. They were not based on any preconceived framework but were designed to illuminate the data for concurrent collection, coding and analysis, that is, the constant comparative method, as is congruent with Grounded Theory method (Glaser and Strauss 1967, 45). The questions gave initial direction to the research concerning the type of knowledge nurses use, how they use that knowledge through decision making processes, and why knowledge is important in providing holistic wound care. From there, subsequent questions and observations were specifically intended to provide a constant comparative analysis of substantial codes and were also aimed at saturating these areas.

4.2 Summary.

During this chapter the data collection methods of field research: interview and observation were described. As the theory emanating from this data must be ground in the data, field research in the natural setting of the participant is essential.

CHAPTER FIVE: Proposed Findings.

5.1. Data Analysis.

Data analysis took place from the moment that data was generated, and provided the researcher with leads on which to focus. Generally, this took place immediately after the researcher left the field. This involved reading the transcripts line by line, taken from interview and observation, and identifying incidents or indicators of significance. These were then coded in the margin. During this coding procedure memos were made, these were referenced to the field notes from which they originated. Glaser (1987, 83) describes memos as the 'theorizing write up of ideas about codes and their relationships as they strike the researcher while coding". At first, coding was open, until one category emerged as significant. Then, selective coding, derived from theoretical sampling, took place controlled by this emerging concept (Glaser 1987, 61). Categories were constantly compared with their properties and with other categories. Field notes and memos were cut up and sorted into the different categories after the original was copied (Glaser 1987, 71). Again, through the constant comparative method, concepts and themes derived through coding were categorised. Once the categories emerged the researcher concentrated more intensely on them and discarded previous objectives (Glaser and Strauss 1967, 69). This approach is in congruence with the Grounded Theory method and resulted in information being formulated and rejected continuously from the data until one theme emerged as central. Theoretical sampling enabled the researcher to study the registered nurses singularly, in relation to their expertise, and also simultaneously, as a whole group. This comparative data proved to be extremely beneficial in identifying core categories and verifying or rejecting data obtained. Saturation was achieved when the core categories were

complete and no new information was forthcoming. The researcher then wrote the conceptualisation of the theory (Streubert and Carpenter 1995, 159). Six categories of knowledge development in the clinical area emerged from the data: need to know, change, frustration, critical thinking, autonomous and the central category of gathering knowledge. (See Appendix I for Conceptual Model)

5.1.1 Conceptualisation of the Theory.

5.1.1.1 Need to know Category.

In this category the participants recognised a need for knowledge in order to be more effective in their practice. This involved needing knowledge, for example, to assess a wound, to answer a patient's questions, to make a decision about what intervention to take, to keep up to date with changes, or just simply to fill a void. Motivation was very much present in all the participants interviewed, some were more "hungry for knowledge" than others. These same principles exist in the Andragogical model (Knowles 1990, 57) where learning is influenced by the need to know, the learner's self-concept, experience, an orientation to learning if benefits are seen and motivation.

5.1.1.2 Change Category.

In the change category participants were aware of fragments of change that have been occurring in wound management, and wanted to be informed of them, to keep up with the changes. Some were aware of improvements in these areas that had occurred in themselves and others. The participants identified that change processes can be difficult, but were motivated to change practice when the benefits could be seen. One participant stated that "sometimes changes were so slow, you didn't even notice, until you thought about them later, sometimes years later, and you realise how far you've

come but didn't know it." The participants were not the only perpetrators to blocking change - doctors, organisations and patients themselves were also seen by the participants to create barriers to change. It was the change involved in the utilisation of research findings in wound care practices that the participants talked about. The barriers to this were summarised by MacGuire (1990, 615) as lack of awareness, absence of appropriate research that will bring about changes in practice and difficulties with dissemination of findings.

5.1.1.3 Frustration Category.

The participants were often frustrated by the barriers to gathering knowledge. For some these barriers were part of their life situations: "too old to study", "don't have a babysitter", some found attending seminars too costly in terms of money, time and family. For others the problem was organisational: higher education was often viewed as being for someone else, more applicable to those in higher positions within the organisation. Clinical work and patient care took priority over inservice for the participants, a common occurrence due to their busy workload. While it was acknowledged that support was given by the organisation to attend education sessions the participants often felt the support given was graded - only to fulfil an obligation and not a total philosophical view of the organisation. The most cited frustration was: "I knew what was going on that wound was wrong, but I had to comply with the doctors orders," the participants felt powerless to change practice in some of these situations. Most of these barriers when viewed from a gender perspective can be seen to be more applicable to women. Often the participants did not have the time and money or could leave their families to participate in seminars. For these participants knowledge must be gathered from other sources, often becoming subjective. Belenky

et al (1986, 15) describes silence, where the individual is voiceless against an external authority as a feminine trait, where the participant feels powerless to change practice influenced by Doctors orders. It could also be applied to the participant's views that they cannot break through these barriers, that there are no solutions.

5.1.1.4 Critical Thinking Category.

In this category participants were describing resources for knowledge that they found thought provoking. Seminars, mentors, wound care experts and research articles were all identified by the participants as junctures which made them stop and think about, question or reflect upon their practice. When these factors were incorporated into practice the participants described it as extremely satisfying, more holistic in nature. For some, though, this critical thinking did not come easily, the participants who described this difficulty were novices. Whether the participants were aware of it, or not, they were implementing reflection into their practice. Reflection has been described as a means for generating nursing knowledge. By utilising this method, reflection became another means for gathering knowledge and applying that knowledge to practice. This category also highlighted the value of mentorship through networking and sharing of stories.

5.1.1.5 Autonomous Category.

This category established that participants used the opportunities available to them or they created opportunities. It was recognised that all nurses make decisions regardless of their level of practice and all the knowledge gathered to date is used by the individual to make those decisions. One participant described their current knowledge status as "all my own efforts". Another participant called embarking on higher

education as "moving on". This category demonstrated a progression from feeling frustrated to breaking through the barriers and finding a solution. The solution was always there but participants were unaware of it. Participants in this category had begun to use constructed knowledge, they gathered knowledge from every available source and examined it to determine its validity, then they stored it to be used when the need arose in practice situations (Belenky et al 1986, 15).

5.1.2 Gathering Knowledge: A Basic Social Process.

The core category which emerged from the data and was central to it was "gathering knowledge." Glaser (1978, 95) sets stringent criteria for establishing a category as the core category:

1. It must have centrality to the other categories or at least to most of them.
2. It occurs frequently in the data.
3. It takes longer to saturate than other categories.
4. It relates to other categories meaningfully and effortlessly.
5. It has fit and grab.
6. It follows on.
7. It is variable, susceptible to varying conditions in its relation to other categories.
8. It is also a dimension of the problem.
9. It must be grounded.

Gathering knowledge is central to the other categories, relating to them fluently, conveniently and meaningfully. Nurses in their need to know, in coping with change gather knowledge. They appreciate knowledge that challenges their critical thinking skills, but often find that there are barriers to obtaining knowledge. So they use the resources that are available to them or they break through the barriers to become

autonomous. Gathering knowledge occurred frequently in the data and took longer to saturate. It emerged directly from the data and is certainly a dimension of the problem since gathering knowledge by nurses could be based on incorrect knowledge, or on the decisions that are made when implementing that knowledge. As well, while ever gathering knowledge remains a hidden process embedded in the practice of nurses it will do nothing to generate nursing theory.

To determine if a core category is in fact a hidden process, what Glaser (1978, 96) terms a basic social process (BSP) additional criteria are required. BSP have two or more stages, they "give the feeling of process, change and movement over time" (Glaser 1978, 96). Gathering knowledge implies a process is involved, which could indicate that it is a BSP. Streubert and Carpenter (1995, 157) state that the following questions can be asked to describe BSP: "What is going on in the data? What is the focus of the study and the relationship of the data to the study? What is the problem that is being dealt with by the participants?" and "What processes are helping the participants cope with the problem?" In this study these questions are answered as:
Nurses recognise the need for knowledge development particularly in wound management as there are constant and rapid changes occurring. While change is inevitable it is sometimes difficult to accept. Nurses do their best to gather knowledge from the available resources. This can be frustrating at times as there are many barriers to overcome. They value most resources that evoke critical thinking skills in themselves and gain much satisfaction in translating these skills into the practice situation. Sometimes, despite the difficult odds, some nurses break through the barriers to become highly motivated and autonomous. For most, the problems they face are keeping up to date with changing wound care practices and barriers to accessing the

knowledge they need to inform their practice. The processes that nurses use to help them through these problems are utilising available and accessible resources, waiting and looking for opportunities and networking. This provides further clarification that gathering knowledge is a BSP. Glaser (1978, 98) describes the stages of BSP as "heuristic - generally not perceivable by the persons involved". Gathering knowledge is a process of inquiry that occurs incognitively, it is embedded in nursing practice.

5.2 Summary.

During this chapter the data which emerged from the interview questions were explained. Core categories of need to know, change, frustration, critical thinking and autonomy were identified. These categories were related to the BSP of gathering knowledge. The relationships of these categories and their meanings determined the response of the participants.

CHAPTER SIX: Projected Conclusions.

6.1 Discussion

The aim of this study was to uncover the knowledge embedded in the clinical practice of nurses involved in delivering holistic wound care. In examining the literature about knowledge it seems that the emphasis is on the structure of knowledge within the discipline of nursing. Not enough thought has been given to the processes by which knowledge is formed. This study attempted to discover and share some of those processes, and from the data a substantive theory emerged. The formation of this theory focused upon the processes experienced by nurses in developing their knowledge of wounds, the social factors influencing how nurses adapt knowledge to meet their needs, and the connection between these social interactions and outcomes.

The study revealed that the participants gather knowledge from multiple sources to meet their needs. Lumby (1991, 468) confirms this: "As they make sense of what they do, nurses use a variety of ways of knowing". The knowledge embedded in clinical practice was shown to be derived through empirical, aesthetic, ethical and personal ways of knowing. Meleis (1992, 113) also stated that nurses have developed "unique ways of knowing that have evolved from their practice orientation". In this study the ways of knowing that nurses use were shown to be influenced either positively or negatively by self-concept and experience. As women's situation in society has traditionally been merited with lesser value, and as an occupation nursing is seen to be of female orientation, then knowledge development for women and nurses has evolved in a similar vein (Hagell 1989, 228). It is because of this that nurses have developed their knowledge differently to the male orientation of academic institutions (Perry 1970, 58). Recently, these institutions have adopted an andragogical model for

learning, this model has the potential to illustrate the value of nursing and women's ways of knowing. Gathering knowledge to meet a need also requires an orientation towards learning, in knowing the benefits to be gained in improved patient outcomes, and the motivation that job satisfaction brings.

In the change category participants saw change as something for which they needed more information. Traditional practices in wound care are now outdated and the participants want to be more informed about these changes. There were many barriers identified, but the most significant in this category was related to the dissemination of research findings and this will be discussed further in this chapter. Hunt (1987, 101) signifies that identification of problems and the need to change practice are the first obstacles to overcome in research utilisation. It is obvious that the participants of this study recognised the need for change, the need to implement the knowledge available from research findings into practice. Both Hunt (1987, 101) and MacGuire (1990, 614) claim that research utilisation requires an organisational approach, because practice changes organisation-wide would have a much greater effect than an individual nurse. It is too much to expect that an individual nurse, especially one who is restricted by personal commitments, be always aware of current research findings in relation to wound care practices. Even so, nurses are expected to be accountable for their practice on an individual basis. If the organisation should be held responsible for ensuring that nursing practice is research based, then someone will be required to inform it of the need for change. This could be the Clinical Nurse Consultant or the individual nurse.

Also identified in the change category was self-improvement; what constitutes improvement, and how it is measured in relation to wound care is difficult to determine. Wound management is a specialty area of nursing knowledge, yet it occurs commonly in many domains of nursing practice, therefore knowledge of wound care is essential for most nurses. What level of knowledge is required cannot be answered subjectively, it must be determined by looking at the personal and professional development of the nurse as an individual (Davis 1994, 32). Davis (1994, 32) defined levels of practice based on academic qualifications, but this proves difficult when applied to the nurse who has been practicing competently for many years with no university degree. Benner (1984, 13) applied the Dreyfus model of skill acquisition to nursing and found that nurses progress through five levels: novice, advanced beginner, competent, proficient and expert. Benner (1984, 13) describes the development of skill in the nurse as beginning with a "reliance on abstract principles" which transforms to the use of past experience; then the situation is seen more holistically, in which relevant parts are quickly recognised; and finally the nurse becomes more involved in the situation rather than being a "detached observer".

The level of skill and knowledge development of an individual nurse is reflected in the support and education needed by that nurse, as are employer expectations (Logan and Boss 1993, 22). Often these expectations are measured by comparison with standards or competencies, and this trend has been further highlighted since quality assurance has become a central component in health care. Standards and competencies provide a framework against which achievement of goals and objectives can be measured (Tonkin 1991, 39). Standards are a necessary tool in professional practice for determining accountability, however, because they focus only on the technical aspects

of performance they fail to give credit to the personal skills and qualities of nurses (Hunt and Wainwright 1994, 39). As standards focus more on skill performance they fall short in assessing the application of research to practice and also theoretical knowledge (Hunt and Wainwright 1994, 43). An example of this difficulty in wound care would be evaluating the competency of a nurse performing wound assessment using standards as the criteria for measurement. However, combining standards and competencies with a performance appraisal system may provide the answer to determining what level of competence can be expected of an individual nurse. Through effective performance appraisal nurses can continuously plan, monitor, review and reward their personal and professional development (Stoner, Collins and Yetton 1985, 658). A model of skill performance such as that which Benner (1984, 13) proposes could be used in performance appraisal to assess the domains of nursing knowledge and skill acquisition which are difficult to measure using standards and competencies alone. Performance appraisal can be used as a tool for assuring that the knowledge that nurses gather comes from correct sources and effectively meets the needs of the patient, nurse and organisation in delivering holistic wound care.

Research too, becomes embroiled in the change and critical thinking categories identified in this study. MacGuire (1990, 617) states that there are several issues involved in the utilisation of research findings: the genesis of research programs gives rise to limited funding being allocated to nurses, and then limited to what the government sees as beneficial. Usually, this does not equate with what nurses see as beneficial to practice and care. The standard of research and different approaches to it are also an issue, understandably nurses, in global terms, are still very new at conducting research. Time is a significant factor: the time it takes to do the research

and replicate or extend the research, and then the gap in implementing the research into a policy or program. Time is something that nurses are always very short on. Another issue, overload of research findings, can become baffling for nurses, sorting through mounds of information in order to extract what is credible and applicable to practice. Some of these issues may resolve themselves spontaneously, others may require that nurses examine what they research, how they go about it, and whether their research is worthwhile. That is, if they want their research knowledge to be gathered up by other nurses such as those who participated in this study.

Another significant aspect in the implementation of research findings are the strategies available for doing so. Burrows and McLeish (1995, 244) provide a model which suggests methods such as reflective discussion, journal clubs, literature searches, formal courses and liaison with expert nurses. These are certainly strategies which can be implemented from an organisational perspective, which must encourage and support these interventions and give them time to take effect. It is likely that not many nurses know how to conduct a literature search. Anecdotal evidence suggests that only nurses with university degrees have learned this skill. This would limit nurses who are gathering knowledge to using non-research based sources.

The participants in the study expressed frustration about not being able to attend inservice or seminars on wound care because of personal commitments, organisational factors, or because of limits they had put on themselves. Personal commitments are a significant factor, Lumby (1995, 14) attests to this describing the difficulties for some nurses to become involved in research, to attend inservice, or just go to the library because of their life situations. Kersaitis (1997, 137) researched Australian nurse's

attitudes and participation in continuing education, the findings indicated that a large majority of nurses do partake in further education of some form. However, there were inhibiting factors, and these were cost, family commitments and job-related restrictions, particularly for nurses in remote areas (Kersaitis 1997, 137). While Kersaitis (1997, 138) research concurs with the results of this study, it also alludes to the suggestion that study days provided by employers are not really sufficient to address the learning needs of nurses. The barriers which limit attendance at formal education sessions equates once again to nurses gathering knowledge from other sources to inform their practice.

During this study it was revealed that knowledge is gathered to meet a need or to effect a decision. A pilot study conducted by Boxer, Maynard and Casey (1997, 9) asked nurses involved in wound care where they turn for help with decision-making. The highest response indicated that the participants would draw upon their own experience. Personal experience then, is a significant factor in the decision-making abilities of nurses involved in wound management. This means that research utilisation and theoretical knowledge levels of the individual nurse are crucial to patient care.

Flanagan (1992, 74) identified many variables influencing the decision-making of nurses involved in wound management. Interpersonal factors such as relationships with medical staff and other nurses and personality traits concerning leadership, assertiveness and change behaviours were shown to be of consequence. Professional factors concerning ward culture, clinical aspects and knowledge and training were also influential. With so many variables of differing significance resting on the decision-making skills of nurses it becomes obvious why nurses rely on past experience to effect

a decision. The implications could be negative, such as those reported by Flanagan (1992, 77) in which there was a trend to apply the same dressing as the previous nurse, regardless of any change in the wound. Or it could lead to a building up of experiential knowledge that has not been shared or articulated.

The participants in this study identified junctures that made them stop and think about their practice, perhaps even causing them to modify or change it. These junctures were often just a simple statement they heard at a seminar, but they found the statement to be thought provoking and reflective. Schon's (1983, 50) work on reflection validated it as a tool that can be used in situations of uncertainty or instability, an aid to decision making. Benner, Tanner and Chesla (1996, 2) have equated decision making, clinical judgement and critical thinking, stating that the literature would lead us to believe that these are all deliberate, analytic processes when in fact they are laden with non-analytic and unconscious aspects. This is verified by Birx (1993, 26) in stating that "through critical thinking, we continually become more open, more inquiring, more knowledgable, more experienced, more reflective, more integrated, more sensitive to multiple perspectives and more empowered....". Expert nurses can, and do, improve the critical thinking and decision making skills of other nurses by networking, mentoring and sharing stories about situations they have experienced. This will ensure the high quality of the gathered knowledge.

The study participants described mentorship and networking as avenues for acquiring knowledge and support, and this is validated in the literature (DeMarco 1993, 1242; O'Shea 1994, 98). Role modelling is described as a means of sharing aesthetic and ethical knowledge, and bringing these ways of knowing together to make sense of

empirical applications (Davies 1993, 628). Role models and mentors are essential to passing on the knowledge embedded in the practice of wound care nurses. Logan and Boss (1993, 22) relates mentoring as a learning tool which allows the "passage of clinicians to the level of expert" and states that it needs to be further developed or experts will only emerge through chance and random. Networking, too, is an important tool for sharing knowledge, through the reciprocation of situational experiences the building blocks for future decision making skills are formed (Davies 1993, 628). Gathering knowledge from expert sources is vital for learning critical thinking and decision making which incorporate both theoretical and salient skills. Making these skills more visible to others is essential. Improved patient outcomes through the deliverance of holistic care and a growing knowledge base are all that nurses have to lose.

Participants in the autonomous category used knowledge from multiple sources in their everyday practice. Dale (1994, 522) states that there are three types of knowledge used in nursing: theory, practice and "experiential" knowledge. Experiential knowledge is formed by applying theory and practice knowledge "within the context of experience" (Dale 1994, 522). Experiential knowledge is the process of gathering knowledge described by participants in this study. The participant takes theoretical knowledge and practice knowledge and combines these to make meaning out of the experience at hand. What is left is a knowledge base that is continually growing with every new experience. The higher the level of theoretical and practical knowledge the more effective the experiential knowledge will be. Dale (1995, 522) advocates reflection as being an important part of the process of obtaining experiential knowledge. Trial and error and intuition can be implicated in the construction of this

experiential knowledge. Benner (1984, 11) expresses that these aspects of nursing practice and know-how must be systematically recorded as much as possible if nurses are to learn from their own experiences. It is not always possible to articulate all of the know-how that nurses have, but much will be gained towards expanding nursing's body of knowledge if it is attempted. It is also important that this knowledge be explored to verify its accuracy. Since it is derived directly from the practice setting it is likely that it will, or aspects of it, be verifiable.

Gathering this experiential knowledge entails testing and refining hypothesis, the prerequisites for doing so being experience and knowledge which leads to expertise (Benner 1984, 3). Through interpretive descriptions Benner (1984, 4) uncovered the meaning of practical knowledge and identified six areas which have been compared with the findings of this study:

1. Graded Qualitative Distinctions - is defined as communicating or comparing the sometimes subtle differences observed by nurses as they become more experienced. An example of this was given by one participant, a clinical nurse consultant, who was able to recognise the aetiology of a wound caused by the toxic effects of an intravenously administered antibiotic. This participant had only observed such a wound once previously, and stated that the characteristics of the wound, although difficult to articulate, were unmistakable.
2. Common Meanings - Time and experience also equip nurses to recognise patient and family responses which provide hints to a common meaning about coping mechanisms. This was evident in the descriptions the participants gave in how they went about teaching laryngectomy patients and their relatives to care for their

stomas. Participants recognised cues as to how these patients were coping and how intense their education would need to be.

3. Assumptions, Expectations and Sets - This is described as a "predisposition to act in certain ways in particular situations" (Benner 1984, 7). The approach taken is determined by the prior experience of the nurse, the participants in the autonomous category used prior knowledge and experience to determine how they approached a situation.
4. Paradigm Cases and Personal Knowledge - Experience provides the practitioner with a view to the overall picture of what can be expected in a given situation. When this does not materialise it becomes a paradigm case and is shared with others so that others may learn from them too. The participants in this study shared stories with one another especially if the situation had been new to them.
5. Maxims - These are instructions which are cryptically passed on to others. Their meanings are known only to those who have an understanding of the situation. Although no name has been given to the malodorous wound that commonly accompanies wounds in patients with cancer, nurses are able to communicate this phenomenon to one another so that those who attend the patient are aware of the odour to expect before encountering it.
6. Unplanned Practices - Nursing roles continue to expand, often by default. For example, nurses often carry out debridement of wounds or lay skin grafts, once the domain of medicine.

Graded qualitative distinctions, cue assessment, skilled pattern recognition are all terms which describe the intuitive skills of nurses. Intuition or tacit knowing is the gathered knowledge that the participants of this study used to cope with practice needs, change,

barriers to their knowledge development and critical thinking. The empirical, aesthetic, ethical and personal ways of knowing must be made more visible. It is only by doing this that nurses can ensure that the knowledge they are using is obtained from the right sources. In wound management, with its rapidly changing knowledge base this is essential. By explicating the types of knowledge that nurses use and how nurses share knowledge with one another, new ways of knowing and sharing knowledge may result.

6.2 Conclusion

This study was directed to the specialised area of wound management in order to determine why wound care is sometimes fragmented and not research-based. Problems and limitations involved in the conduction of this study were minimal. The researcher was known to the sample, which could have been a threatening factor to the participants. In order to avoid this the researcher advised the participants not to partake in the study if they thought that this presented a problem. None refused. It is possible that the researcher's familiarity with the participants was advantageous, as the Grounded Theory research method requires that the researcher become immersed in the natural setting of the participants (Hutchinson 1993, 186). Noise, interruptions, and the limited time that participants were available for questioning, may have affected their interview. As well, the institution from which the sample was drawn was a plastic surgical ward, in which the participants practice wound care from a specialist perspective. It could be said that the sample may not reflect the full extent of the parameters of wound care because the institution provides acute care, however, both acute and chronic wounds, of varying types, are experienced by the nurses working on this ward. Conversely, because wound care is ubiquitous in nursing a sample of nurses who specialise may not reflect the full parameters.

A substantive theory emerged from this research in which it was found that knowledge is sourced by wound care nurses from colleagues, tradition, empirics, and aspects of aesthetic, ethical and personal dimensions. It is a process that occurs over time, during which the nurse hypothesises, tests, and refines this knowledge. Both positive and negative influences in gathering knowledge were found, the significance of these findings have implications for the development and application of knowledge in wound care. The literature confirms that the socialisation of nurses has been an influential factor in the ways that knowledge and practice has evolved in nursing. The knowing embedded in the doing has been concealed from those outside the profession, as these ways of knowing are non-traditional in the academic world while being traditional to women's ways of knowing. Time and the andragogical model are changing this discrepancy; and finally, aesthetic, personal and intuitive ways of knowing are becoming more valued.

Also identified in this study were social and contextual barriers associated with gathering knowledge, these concerned the life situation of nurses and restrictions involving cost and organisational restraint in attending education sessions. Reflection, mentoring, networking, and sharing stories were identified in this study as strategies that nurses use to improve their knowledge development and decision making skills in wound care practices. Barriers associated with research utilisation were also illustrated in this study as they have been in the literature. These related to nurses' knowledge of research, the validity of research findings and the ineffectiveness of programs aimed at implementing these findings. A substantive theory has emerged from this research, one that is useful to nurses practicing wound care and to the profession of nursing. During discussion of the findings the researcher has shown that this theory has credibility and

is relevant to the empirical world. This theory explains, predicts and interprets the processes involved when nurses gather knowledge to inform wound care practices. Answers are provided to the question of "What knowledge is embedded in the practice of wound care nurses?". As well, strategies for further development of this knowledge are provided and indications are given as to where further research would be beneficial.

6.3 Recommendations.

Based on the findings of this study the researcher recommends:

1. Academic institutions continue to implement the andragogical model as a strategy for improving positive self concept and motivation in nurses. This model will also influence the elimination of gender related barriers to learning and promote positive aspects of learning which are affiliated with gender.
2. Organisational promotion of research awareness through journals, clubs, reflective discussion, networking and courses on research and critical thinking skills.
3. Lobbying for more opportunities in nursing related research.
4. The development of organisational strategies for improving the knowledge and professional development of nurses which must be addressed from an individual basis, such as effective performance appraisal and enhancement of mentorship programs.
5. Further research be undertaken to more fully explicate the creative abilities of nursing in constructing knowledge to use in indeterminate and uncharted areas of practice.

Additional Note: Were this research conducted, it is likely that the findings would produce a substantive theory which would be advantageous to nursing, its body of

knowledge and to future research. In conducting the study the researcher would be required to put aside the potential for bias that could accompany the writing of this paper in order to discover the discrete social processes embedded in the clinical practice of wound care nurses.

CHAPTER SEVEN: References.

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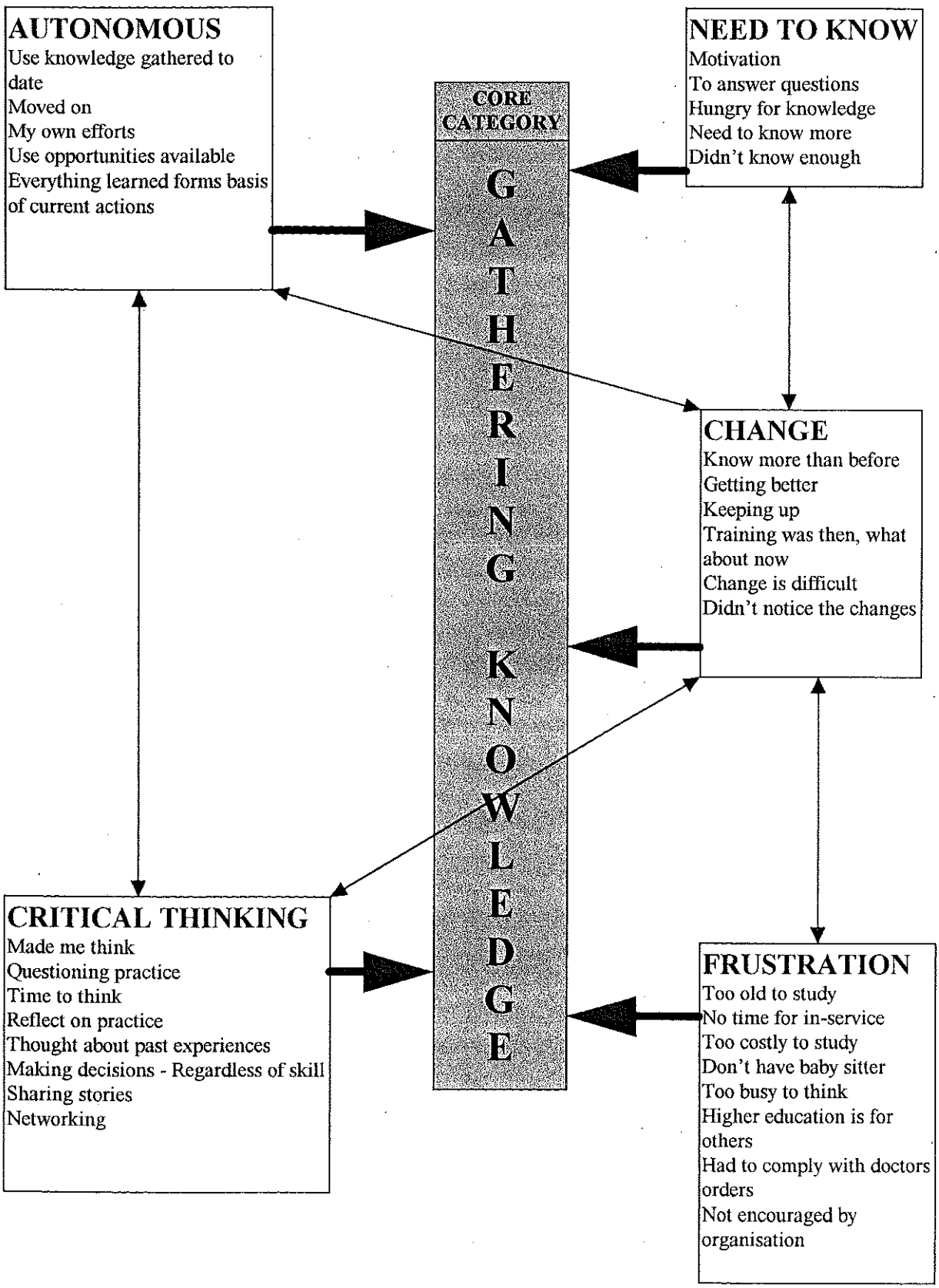
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APPENDIX I



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