Factors that influence participation in self-management of wound care in three Indigenous communities in Western Australia: Clients’ perspectives.

By

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This thesis is submitted as a partial fulfilment for the Degree of Masters of Nursing (Research with training) at School of Nursing and Midwifery, Murdoch University.

Date of submission: 18th December 2008
I declare that this thesis is my own account of my research and contains as its main content work which has not previously been submitted for a degree at any tertiary education institution.

Anne Eades

Signature.............................................

Date....................................................
Abstract.

The purpose of this study was to identify any barriers or enablers as influences on wound care self-management by Indigenous people. A qualitative, interpretive study sought to investigate how participants perceived their wounds and their general health, and to identify the influences on them accessing wound care services.

There is a dearth of information on culturally appropriate practice in wound management for Indigenous Australians. This research project was therefore significant in attempting to bridge the gap in nursing knowledge of Indigenous clients’ perceptions of barriers and enablers for seeking wound care services, especially in relation to lower leg ulcers. The lack of culturally sensitive wound management practices potentially impacts on Indigenous clients’ behaviours in seeking treatment from their health service providers.

Participant observations and semi-structured interviews with the research participants investigated the management of their wounds, and the ways in which their culture influences wound management. The main aim was to understand participants’ comprehension of the importance of wound care through reflection. Understanding the enhancing or obstructive influences on wound management practices was expected to provide a foundation for teaching self care of wounds in Indigenous populations and inform health professionals’ approach to health education.

The data were analysed using thematic analysis, which generated common themes related to the research questions. These themes are: visibility, of the problem,
perceived versus actual level of knowledge, acceptance of co-morbid health conditions and pre-determined path of ill health. These findings indicated that in one region, participants’ perception of poor health was related to visibility of the problem. Participants chose to have their visible wounds managed by Silver Chain Nursing Association, whereas Diabetes and Hypertension and any other non-visible disorders were seen as appropriate to the Aboriginal Medical Service (AMS). Further to this finding, most participants displayed a sense of helplessness and hopelessness when sharing information about their diagnosis of diabetes, believing this was the norm. Many also believed that having a strong family history of a particular disease resulted in the participants also inheriting the disease. During post interview educational sessions many of the Indigenous participants were surprised by the evidence based-research reported to them by the researcher that diabetes is a manageable disease with lifestyle changes.

Another issue highlighted was the perceived level of knowledge the participants had about wound care. Reassurance was given by the participants that their level of knowledge about how to manage their wounds was adequate. However, none of the participants were concerned about the length of time that their wound/s had or were being managed, between 3 months and 5 years. This acceptance that although a wound is not getting any worse and not getting any better was the norm is cause for concern, and indicates a low level of health literacy. This theme was ‘perceiving an imbalance in perceptions of wound care knowledge with actual knowledge’.
The most important recommendation from the study findings is the need to consider health literacy more carefully in the development of health promotion and health education for Indigenous clients with wounds.
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Chapter One

Introduction

In Australia, diabetes-related lower limb problems are among the major causes of morbidity and mortality for Indigenous people (Pincock, 2007; Zimmett, 2002). Wounds to lower limbs have not only been identified as a significant economic burden to society, but also an important social burden that impacts upon both patients and their families (Gracey, Williams, & Smith, 2000; Pincock, 2007). The evidence suggests that people with diabetes-related lower limb problems will develop a foot ulcer at least once throughout their life (Pincock, 2007). The standard of care the ulcer receives has a major influence on the person’s quality of life (Harker, 2006).

The literature infers that despite a general trend to promote best practice in wound care, diabetes-related lower limb problems continue to be difficult to manage within the home environment and the clinical setting (Bate & Jerums, 2003). A major challenge is the need to establish whether there is a direct association between a client’s knowledge of wound care principles, and active participation in best practice management of their wounds. Firstly, it needs to be established whether the client has been provided with the appropriate information to manage their wound/s. Secondly, once information has been provided, it is important to understand whether this change of information has resulted in a change or modification of lifestyle, in a way that would maximise healing of their wound/s. If the person has responded in a positive manner to both delivery of education and adaptation of life style to better manage their wound/s, this could be considered an optimal effect of...
wound management strategies. However, if there is either a problem in the delivery of the education, or there has not been a modification in life style choices, a range of problems associated with management of the wound could occur. This could be referred to as a mediocre result, which poses a number of questions in figure 1.1 as follows:

(Figure 1.1)
As indicated in figure 1.1, the aims of the research are consistent with the Health Belief Model (Pender 1987; Rosenstock, 1966) as cited in (Marriner Tomey & Alligood, 2006). The model was originally designed to predict behavioural responses to the treatment received by acute or chronically ill patients in the clinical setting. The health promotion model differs from the health behavioural model in that it “does not include fear or threat as a motivational strategy to achieve health outcomes” (Pender, 1987:455).

**Purpose**

The purpose of this study was to identify any barriers or enablers that impact upon Indigenous people in the management of their wounds. A qualitative, interpretive approach was used to ascertain which barriers and enablers influenced Indigenous participants’ willingness, to access wound care services from their Aboriginal Health Care Provider, in three regions of Western Australia, and to determine how these participants perceived their wounds should be managed. This information was expected to provide a framework for teaching clients how to identify the need to seek early health care intervention from wound management personnel, and the importance of self care.

**Research Questions**

1. What are the participants’ perceptions of health, and what does it mean to them.
2. What are clients’ perspectives of the barriers and enablers that influence their participation in self-management of wound care in Indigenous communities in Western Australia?

3. How can this knowledge be used to inform culturally appropriate delivery of wound management education and intervention?

Research Design
A qualitative, interpretive inquiry which involved observations and interviews was used to obtain data to answer the research questions. Observations were undertaken with the participants in each of the sites during the interviews. Semi-structured interviews sought data from the participants on the way they manage their wounds, and the way their culture helps determine their wound care management. The interviews were conducted in the context of care in three AMS clinics in a private room within Western Australia. Free and open discussions occurred, and were not limited by time constraints. The main aim was to understand the participants’ comprehension of the importance of wound care through reflection and the subsequent educational session. In order to achieve this aim, questions were directed at identifying knowledge and experience with wound management, and whether there were any cultural factors related to the delivery and management of wound care that had been encountered by the participants, which either enabled them to better manage their wounds, or that perhaps restricted them in the management of their wounds. The participants’ perspectives were used as a basis for identifying effective culturally appropriate wound management practice.
Understanding of the enhancing or obstructive influences on wound management practices, provided data which was used to generate wound management information for teaching self care of wounds. Clients were encouraged to describe any barriers or enablers they encountered, which would prevent them from seeking early intervention from the Aboriginal Health Service or assist with healing outcomes.

**Background and Significance:**
This project was significant in that for Indigenous clients with lower leg ulcers, perceptions of barriers and enablers for seeking wound care services have not yet been reported in the health literature. There is a dearth of information on culturally appropriate best practice in wound management for Indigenous Australians in established guidelines and protocols. The lack of culturally sensitive wound management practices potentially impacts on Indigenous clients’ behaviours in seeking treatment from their health service providers.

The importance of gaining this type of knowledge is acknowledged in a Canadian study conducted by Brown & Varcoe (2006). These researchers found that the way a client is approached about their healthcare needs, can determine the meaningfulness and outcomes of the information supplied to the health care provider, particularly for Indigenous people. For example, in their particular study, the researchers found that the lack of eye contact and the lack of out-spoken behaviour when providing information to the health care provider could be misinterpreted as a lack of interest on the clients’ behalf. However, from the client’s
perspective, it may have been deemed disrespectful to make eye contact or to question the authority of the health care provider. This example of two differing cultural perceptions could be indicative of barriers encountered by other Indigenous people, when seeking health care.

In addition, there may be other aspects of communication that interfere with providing appropriate care and information, which provides a barrier to their inclination to adopt recommendations for better health. McDermott, Tulip & Schmidt (2004) found that primary health care intervention needs to take a structured approach when caring for Indigenous clients. There needs to be an early detection approach, as compared to the reactive approach to meeting the health care needs of Indigenous people. These authors outline a more structured approach which includes the need for creating care plans for newly diagnosed clients, in conjunction with a recall system whereby health care providers based in the community setting receive electronic reminders of client follow-up appointments.

The authors also highlighted staff training and education as a part of the structured approach of meeting these needs. They suggest that this type of approach could result in significant patient improvements and better outcomes for the client. Understanding communication patterns, timeliness and other relevant information on how Indigenous people relate to health education is critically important to the evolving body of knowledge on Indigenous health.
Conceptualising the Study

Health literacy has been identified as a key component for enhancing client compliance and empowerment. A health literacy approach involves people becoming knowledgeable or 'literate' about health and health care. This approach facilitates self-management, better health seeking behaviours and willingness to seek advice about available health services (McMurray, 2007). Promoting health literacy at the time of diagnosis and assessment could assist the client in altering the modifiable determinants of health such as smoking, food choices, alcohol and illicit drug use, and in this case, interventions to manage wounds (Nutbeam & Bauman, 2006).

Health literacy involves a continuum of four levels of knowledge and skill development which include the functional level, the communicative or interactive level, the critical level and the civic level (Nutbeam & Bauman, 2006). In terms of wound management, the basic level of health literacy skill which is the functional level is having the knowledge to better manage their wound/s. This is where the person has been provided with the appropriate information, at an appropriate literacy level on health risks and benefits, treatments and available resources within their community. Equipped with this knowledge, a person is then able to participate in early intervention and preventative strategies to better manage their wound care needs. This stage of health literacy is a basic requirement for the promotion of a healthy community. In order to be able to meet this requirement, the individual needs to have basic literacy skills which include being able to read and write (Nutbeam, 2000).
The second level of health literacy is the communicative or interactive stage. This level of knowledge enables the client to have the ability to “influence social norms and to help others develop their personal capacity for better health” (McMurray, 2007:20). It is at this stage of health literacy that an individual has the knowledge and awareness about service providers and resources available within as well as outside of their community health organisation. Having this level of health literacy enables a person to approach the health care provider to ask for a referral to a specialist or other allied health care providers when required (McMurray, 2007).

The critical level of health literacy is evidenced by a person’s ability to possess the skills for action, and then to incorporate those skills into motivating people around them to want to change. The desire to change paves the way for the development of community leadership structures (McMurray, 2007). The actions by one individual can initiate a chain of community responses which may or may not include community action and community development in better management of health care needs within a community setting.

The civic level of health literacy is similar to the critical stage as there is active participation by community members to find universal solutions to health issues within their community. However, not only does an individual possess the skills for action, but they also have the capability to facilitate action at a community level. This level of health literacy could be considered the pinnacle of knowledge and skill development for better health care outcomes.
Most communities with a high level of health literacy will also have a healthy community (McMurray, 2007). The framework below illustrates the health literacy continuum model.

**Health literacy: A continuum of knowledge and skill development Figure 1:2**

<table>
<thead>
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<th>Communicative/Interactive</th>
<th>Critical</th>
<th>Civic</th>
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<td>Knowledge to choose appropriate treatment.</td>
<td>Ability to influence care.</td>
<td>Skills for action to change conditions for treatment.</td>
<td>Capable of community action to ensure support structures and personal/family resources available for wound management.</td>
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(Adapted from McMurray, 2007:21)

**Health Literacy and Wound Care.**

Diabetic foot ulcerations affect many Indigenous and non-Indigenous Australians. However, foot ulcerations can be largely prevented with appropriate monitoring and control of high blood glucose levels, daily inspection of the feet and the implementation of preventative care strategies. The client needs to be made aware that, with the diagnosis of diabetes, proficient monitoring of the feet for loss of protective sensation that may occur as a result of diabetic neuropathy, and changes related to peripheral vascular disease (PVD) are essential. Diabetic neuropathy and PVD can be reversed with revascularisation, if not managed appropriately, can lead to amputation of the affected limb. Once there is a break in the dermal barrier of
the skin, the risk of infection break-down increases. Infection needs to be managed efficiently and effectively to alleviate the risk of deep tissue infection, and amputation (Cooper, 2005a)

Diabetes mellitus, dietary imbalances and lifestyle stressors such as alcohol and drug abuse, smoking and lack of exercise can also have adverse affects on both infection and wound healing. Research has found that foot ulcers, if not monitored by the individual as well as the health care provider, can generally lead to amputation of lower limbs (Harker, 2006). Harker (2006) also identified that following a major amputation of a lower limb, the mortality rate increases by a further 50% in these clients. This research reinforces the need for early intervention and management of lower limb wounds in order to reduce the risk of amputation and increased mortality rate for Indigenous people. This risk has already been identified by Pincock (2007) as contributing to the seventeen year gap in life expectancy between Indigenous and non-Indigenous Australians. A Commonwealth Department of Indigenous Affairs report (2005) concurs on the importance of closing this gap, indicating that Indigenous Western Australians have a life expectancy of 15–20 years less than their non-indigenous counterparts (DIA, 2005). Clearly, there is a need for the depth and breadth of investigation that was undertaken in the current study.
Limitations of the Study

In an ideal world an ethnographic study would provide substantial cultural information. However, time limitations preclude an extensive sufficient field work within the scope of a Masters by Research (Nursing) study.

- The time-frame did not allow for the development of a plan to follow up on the outcomes of intervention.

- The focus of this research study was to include Indigenous people who utilised the AMS in each region for their wound care needs. As data collection progressed it became evident that some clients utilised other services within the region, which restricted analysis to only one service provider.

Definition of Terms

Dermal barrier - Is the layer of the skin beneath the outer layer, the outer layer of the skin is called the epidermis. The dermal layer of the skin provides the nutrients to the epidermal layer of the skin. Beneath the dermal barrier are blood vessels and nerve endings.

Diabetic Neuropathy – Is loss of protective sensation to the skin epidermis and dermis due to damage to nerve endings beneath the dermal barrier.

Ethnographic Study – Typically uses observational methods. Ethnographic field work regimens include but are not limited to participants’ observation. The practice
involves the observer (researcher) actually taking part in the community which they are studying.

Health Literacy - A health literacy approach involves people being able to apply literacy to health and health care.

Indigenous People – The term Indigenous and Aboriginal people are used synonymously and have been used to describe any ethnic group who inhabit the geographic region with which they have the earliest historical connection.

Interpretive Naturalistic Inquiry – Is where attempts are made to understand the meaning of the situation from the perspective of the participants. Defining attributes of interpretive research include conducting research in a natural setting and having questions and methods emerge during the process of the field work. The participant’s perspective should always be the major focus.

Peripheral Vascular Disease PVD - Peripheral vascular disease and peripheral arterial disease are synonymous. Peripheral vascular disease means narrowing of the lumen of arteries in the legs, causing a reduction in circulation. It can occur in individuals without diabetes, but is more common and more severe in people with diabetes.

Structure of Thesis
The thesis consists of five chapters, including this introduction. The literature review is presented in chapter two and is a critique of relevant literature. Chapter three will discuss the methodology of the study, and chapter four presents the findings in terms of data analysis, developed themes and results. Chapter five will be a
discussion of findings and recommendations for wound management practices, education and further research.
Chapter Two

Literature Review

Introduction

A literature review was conducted to gain further insight into Indigenous lower leg wound management and principles of best practice. Electronic sources searched include: Pubmed, Proquest, CINHAL, Cochrane Collaboration and Medline. Search terms used for the literature review were Australian, Aboriginal health, Indigenous health, diabetes, chronic disease, wound care, lower leg ulcers, amputation, morbidity and mortality.

The focus of this study was to identify and analyse factors that lead to ineffective wound management in a group of Indigenous people accessing the AMS in 3 regions of Western Australia. Analysis extended to consideration of the costs to the health care system and the personal cost to those suffering from lower-limb wounds. The analysis of literature also included studies that identify people’s perceptions of common causes of diabetic ulcers, and how this condition affects their individual and community health. Other factors canvassed in the literature include access to health care for Indigenous people, and barriers that can lead to delayed consultations with health care professionals which may be problematic for management of their wounds. A major purpose of this critique was to identify factors that influence participation in wound care in Indigenous communities in Western Australia from a client’s perspective. The critique also includes literature related to the health and well-being of many Indigenous people and the quality of life they have to look
forward to if adaptations are not made to improve Indigenous health. A critique of current health promotion literature is also provided to situate the study within the broader perspective of promoting Indigenous health.

**Diabetes Prevalence in Australia and overseas**

Diabetes is one of the most important health care problems in society today, and the increased incidence is responsible for 15% of all chronic wounds (Harker, 2006). Researchers in the centre for clinical nursing research in the Northern Territory identified a high prevalence of type 2 diabetes in the Indigenous population in Australia (Watson, Obersteller, Rennie, & Whitbread, 2001). The researchers conducted a participatory action research study and interviewed a range of people including Registered Nurses, General Practitioners, Aboriginal Health Workers, Cross-Cultural Liaison Officers and Aboriginal and Torres Strait Islander people with diabetes. Their study found that the need for good communication between the health care provider and client was important, as was the need for educational resources. The researchers identified practical resources required to improve foot care which included an appropriate foot assessment tool and the wearing of appropriate protective foot wear. The analysis suggested that there are innate issues of foot care for Aboriginal and Torres Strait Islander people, and that the greatest risk of amputation of lower extremities is related to the complications associated with diabetes (Hecke, Grypdonck, & Defloor, 2007).

An epidemiological prevalence study conducted of Aboriginal deaths in Western Australia found that mortality rates due to endocrine disease and in particular
diabetes mellitus was increasing, or had increased over the past two decades (DIA, 2005). The researchers found that the death rate of Indigenous Australian males from diabetes mellitus was greater than in the female population (Gracey, et al., 2000). Concerns were raised by the researchers about what has been referred to as ‘life style’ diseases being one of the highest contributors of deaths to Indigenous Australians. The researchers concluded that the lack of adequate management of wounds to lower limbs’ has not only been identified as a significant economic burden to society, but there is also a major social burden for the patient and their family. The importance of this burden was underlined in an analysis of the National Hospital Morbidity Database in Australia conducted in 2000 (Payne, 2000). The study involved a cross-sectional analysis of a hospital morbidity dataset in Australia which concluded that the 2629 diabetes related lower-limb amputations per year posed as a significant economical burden on the health care system. The loss of a limb was found to be “associated with deterioration in functional and residential status of clients following an amputation“ (Payne, 2000:2). However, international research literature indicates that the link between diabetes and lower limb wounds leading to amputation of a lower limb is a global problem.

Researchers in the United Kingdom have also addressed the sequelae of lower limb wounds. A systematic review of the literature to determine the effects of wound dressings used for the healing of diabetes-related foot ulcers in the United Kingdom found that people with diabetes-related lower limb problems will develop an ulcer at least once throughout their life (Speak & Thow, 2007). The researchers reviewed prospective randomised controlled trials and evaluated dressings in the treatment of
diabetes-related foot ulcers. Although the study did not specify actual numbers, it led them to conclude that each wound should be assessed individually, and due consideration should be given to previous knowledge and research evidence in determining management of each individual wound (Speak & Thow, 2007).

**Population Demographics and Health of Indigenous Australians**

A 2005 report compiled by the Department of Indigenous Affairs in Western Australia found that there were approximately 410,000 Aboriginal and Torres Strait Islander (ATSI) people living in Australia, which is approximately 2.5% of the total population of Australia (DIA, 2005). It was reported in 2006 (in an additional report by the Australian Institute of Health and Welfare) that 25% of the over-all population of Indigenous Australians were found to be residing in New South Wales, (followed closely by Queensland) and 14% resided in Western Australia. It is estimated that by 2009, the Indigenous population in Western Australia will increase to approximately 15.7% (AIHW, 2006). However, this report did not specify whether or not accessibility to AMS’s or other health services providers was an issue for ATSI people living in Australia. The data had not been broken down to differentiate between ATSI people living in regional and metropolitan areas.

Among Indigenous Australians, common health conditions and associated problems include cardiovascular disease (CVD), diseases of the respiratory system, cancer and chronic kidney disease, which mirrors the situation with non-Aboriginal people (Turale & Miller, 2006). A summary of Australian Indigenous health found that between 2000 and 2004, CVD was found to be the leading cause of death for
Indigenous Australians in Western Australia, Queensland, South Australia and the Northern Territory (Australian Indigenous Health InfoNet, 2008a). It was found that when comparing causes of death from CVD between Indigenous and Non-Indigenous Australians, the Indigenous population were found to be three times more likely to die from CVD than other Australian (Australian Indigenous Health InfoNet, 2008b).

In terms of respiratory system disorders, there was no difference found in the number of diagnosis of respiratory disorders between Indigenous and Non-Indigenous Australians (Turale & Miller, 2006). However, Indigenous Australians are three times more likely to be hospitalised for management of their respiratory illness than other Australians, and are four times more likely to die from their disease (Australian Indigenous Health InfoNet, 2008b). Cancer related deaths of Indigenous people in Australia are twice the rate of Non-Indigenous Australians (Australian Indigenous Health InfoNet, 2008b). The cancers identified as being far more prevalent in the Indigenous population than in the Non-Indigenous population are cancer of the digestive system and lung cancer. The fatal effects of these cancers could be related to delays in seeking medical intervention and also the aggressive nature of these types of cancers. The leading cancers causing deaths among Indigenous women in Australia have been identified as cancer of the cervix, with breast cancer being more common in the Non-Indigenous population (Australian Indigenous Health InfoNet, 2008b).

Chronic kidney disease also affects a disproportionately high number of Indigenous people, especially those in rural and remote areas of Australia (O'Dea, Rowley, & Brown, 2007). Research findings have indicated that rates of treated end stage
kidney disease are 30 times higher than the wider Australian community (Spencer, Silver, Snelling, & Hoy, 1998). Diabetes has been identified as a life style disease, and it is directly linked to obesity, lack of exercise and poor dietary habits (Ring & Brown, 2002). A study conducted of Aboriginal deaths in Western Australia found that mortality rates due to endocrine disease and, in particular, diabetes mellitus, was increasing as compared to two decades ago (Bate & Jerums, 2003). This increase in prevalence of diabetes mellitus could be related to better screening initiatives. It was identified in this particular study that the death rate of Indigenous Australian males from diabetes mellitus was greater than the female population (Gracey, et al., 2000).

Hecke, et al., (2007) indicated that the major cause of higher hospitalisation rates for many of the Indigenous population in Australia is non-concordance with current treatment practices. This trend has been found to be higher in rural areas. A Western Australian study conducted by Santamaria, Carville, Ellis, & Prentice (2004) suggests that this trend could be due to a combination of limited access to health care programs, low numbers of health professionals; particularly in remote areas and westernised treatment patterns, without major consideration of cultural requirements. A lack of understanding and knowledge of early intervention strategies for optimal good health has also been identified as a major causative factor in hospitalisations. These researchers concluded that there is a need for more research on the impact of non-compliance (Cleemput & Kestleloot, 2002), and the cost-effectiveness of intervention to improve patient outcomes and reduce health care costs. The issue of non-compliance with health care interventions related to
diabetes mellitus are widely reported and present as a major obstacle to access to appropriate health care for Indigenous people (Baum, et al., 2000; Eckermann, et al., 2006; Hecke, et al., 2007; Hughes & Hughes, 1999).

Attempts have been made in many countries to re-dress the ill health status of Indigenous people. New Zealand and Canada have narrowed the gap in difference of mortality rate by between 7 and 10 years between their Indigenous peoples, compared to Australia, where the gap between Non-Indigenous and Indigenous people is 17 years (Pincock, 2007). The reasons why these nations have been able to make a difference towards improving health inequality between Indigenous and Non-Indigenous people are multifaceted. Pincock, (2007) suggests that political leadership is the major factor which has led to achieving health gains and improvements in wellbeing for Indigenous people. These findings reiterate the importance and relevance of finding a process or framework with which to funnel the health education and health care intervention into a much needed part of Australian society. Current health policy for Indigenous Australians is attempting to re-dress some of the disparities in health status, although there remains a need for ongoing research evidence to inform policy development (Asada, 2005).
Chronic Wounds in Indigenous People

However, as well as attempts being made to re-dress disparities in health status for Indigenous people through policy, there also needs to be strategies implemented that are aimed at aggressive treatment of early symptoms in the first instance (Bate & Jerums, 2003). This has been reiterated by Levin (1993), in a European study where he concluded that although foot ulcers are common in people with diabetes, if treated aggressively in the first instance with antibiotic therapy, revascularisation of the limb where indicated, and education about appropriate foot wear, the rate of amputation of the lower limb can be reduced by 50%. (Levin, 1993). Cooper (2005) concludes that diabetes mellitus, poor dietary imbalances and lifestyle stressors such as alcohol and drug abuse, smoking and lack of exercise can have adverse affects on both infection and wound healing rates of chronic wounds. Cooper (2005) contends that these risk factors to which many Indigenous people are exposed, are related to their poor socio-economic status, lack of awareness about better wound management and discontinuities of care required for adequate management of chronic wounds (Cooper, 2005b).

Contributing Factors to Diabetic Ulcers

A contributing factor in the development of diabetic foot ulcers has been identified as loss of sensation due to sensory neuropathy, which relates to injury due to lack of sensation in the affected area (Lait & Smith, 1998). Other contributing factors that can also be complications of these ulcers, include disorders such as motor neuropathy, abnormal blood flow regulation from autonomic neuropathy and
ischemia from macro vascular disease (Campbell, et al., 2000). Poor glycaemia control, limited joint mobility from increased glycolation of collagen and increased risk of infection have also been identified as contributing factors to the development of diabetic foot (Hecke, et al., 2007; Payne, 2000). Having PAD and diabetic neuropathy are predisposing factors to diabetic foot ulcerations, as it is only when the dermal barrier is broken that ulceration can occur (Speak & Thow, 2007). Once there is a break in the dermal barrier, there needs to be consistent monitoring of the affected site by the client as well as the primary health care provider for early signs of infection and early antibiotic intervention.

**Complications of Diabetic Foot Ulcers**

Complications associated with diabetic foot ulcers are a major health problem in Australia. The diabetic foot needs to be monitored for ulceration due to the presence of peripheral vascular disease (PVD). Peripheral arterial disease (PAD) has been found to occur more frequently but not limited to younger patients, and commonly affects the more distal blood vessels (Speak & Thow, 2007). Peripheral arterial disease has been identified as being the main cause of ulceration and amputation along with diabetic neuropathy (Harker, 2006). Chronic distal sensorimotor symmetrical neuropathy is the most common cause of diabetic neuropathy which is the main contributor of the break in dermal barrier due to dryness of the skin. Lack of sensation to the sole of the foot is related to sensory neuropathy, which in turn, restricts the patient from identifying early breaks in the skin. Motor neuropathy is another predisposing factor which results in the retraction
of the toes and obvious deformity noted on individuals with diabetic foot (Speak & Thow, 2007).

The European Wound Management Association (EWMA) position criteria for identifying wound infection (Moore & Cowman, 2007), indicate that the problem associated with complications of diabetic foot ulcers has led to adopting multidisciplinary approaches as a way of implementing greater cost effectiveness in diabetes foot management. The researchers used an International Delphi panel of 54 wound care experts to develop criteria that would be considered pertinent to the management of all types of wounds. The EWMA recommended that improvements in management of chronic wounds and in particular, lower leg ulcers, can only be achieved with vigilance, commitment and communication between clients, primary health care providers and members of the multidisciplinary specialist team (Lait & Smith, 1998).

**Associated Costs**

The high incidence of chronic lower leg ulcers in some Western Australian communities has been noted to be related to the higher than normal incidence of diabetes among individuals residing within these communities (Australian Indigenous Health InfoNet, 2008a). Higher costs are inclusive of the fact that chronic leg and foot ulcers can take months and even years to heal (Bate & Jerums, 2003). Some ulcers require the patient to be transferred 3000 – 4000 kilometres to Perth for tertiary interventions such as further debridement or amputations of the lower limb, which incurs further costs for post-operative interventions required following
the debridement or amputation. Although accurate current Australian figures were not available in this report, in 1994, the hospitalisation costs of treating a diabetic foot ulcer in Australia was $12,474 as compared to the outpatient cost for treatment, which was $2,334 (Santamaria, et al.; 2004). The cost of an amputation of a lower limb in the United Kingdom in 1996 was estimated to be approximately $27,000 per limb, and the researchers estimated that costs of an amputation in Australia would be similar (Campbell, et al., 2000). A similar figure was posited by the Australian Diabetes Association, which estimated the over-all cost of managing diabetic foot ulcers as high as $27,493 per person per year, also based on UK data (Mikhailovich, Morrison, & Arabena, 2007). However, a Canadian study conducted in a Niagara community on the restructuring of wound management practices by Hurd, Zuilliani, & Posnett, (2008) found that some savings can be made by moving away from the more traditional methods of intervention. These researchers found that changing from routine daily dressings, to using wound care products that required second and third daily dressings decreased time spent with patients by health care professionals, and also decreased healing time from approximately 51.5 weeks in 2005 to 21.9 weeks healing time. Their focus was on best practice by health care providers, which resulted in cost savings of approximately 10.7 million Canadian dollars for 75% of the clients being managed by the Niagara community (Hurd, Zuilliani, & Posnett, 2008).

Perhaps if the health care providers in Australia were provided with the resources and education to provide evidence based wound care management to their clients in their communities, then cost savings could occur here in Australia as well. However,
not only are there economic disparities in Australia, but there are often difficulties experienced in the service delivery of healthcare to many Indigenous people because of the cultural differences in approaches by the health care providers to the clients (Chenoweth, Jeon, Goff, & Burke, 2006).

**Quality of life**

Equally as important as physical morbidity such as amputation, is the compromise to quality of life, which is of concern to the individual, and should be to health promotors and care givers. One of the most significant goals of nursing practice is to promote self care (Nutbeam, 2006). Self care is based on health literacy; that is, the individual has the health knowledge to know what the best plan of care would be. This is a cornerstone of health promotion, particularly in basing strategies for better health on improving people’s ability to self manage (Nutbeam, 2006; Whitehead, 2001). It is expected that in helping improve Indigenous people’s health knowledge, there will also be improvements in quality of life, morbidity and mortality.

A recent descriptive study of quality of life in patients with chronic wounds conducted in India by Shukla, et al.; (2008) who identified that more than half of the participants expressed that their quality of life was unsatisfactory due to their chronic wounds. From the responses to the study, areas related to the participants’ lack of quality of life included physical activity, feelings, house-hold duties, leisure-time activities and social relations (Shukla, et al., 2008). Evidence from the study reiterates the importance of quality of life to individuals living with problems such as chronic wounds.
Cultural Differences in Terms of Indigenous Australians Accessing Healthcare in Australia

A study of traditional Aboriginal health beliefs conducted in the Northern Territory by Maher (1997) revealed a crucial need for more Indigenous health care providers. His research led him to conclude that the Western Biomedical Model of Health care did not take into consideration Aboriginal traditional health beliefs whereby causes of illness are related to spiritual dysfunction. Furthermore, Maher (1997) identified supernatural events as being the main cause of major illness, which could indicate the causative agent playing an important role in the person’s illness. This lies in contrast to the Western Biomedical Model of Healthcare delivery, where the main focus is purely curative (Maher, 1997).

Because Indigenous health care providers have an increased awareness of the differences in health beliefs among many Indigenous people, they are the appropriate caregivers. Indigenous health professionals would have an appreciation of the aspects and requirements associated with the healthcare needs of many Aboriginal people in Australia, even if all of the concepts of cultural differences and cultural needs are not fully understood. Those commenting on Aboriginal health issues also suggest that there is a need for recognition of the complexity of the unique richness and diversity of Aboriginal culture in Australia (Eckermann, et al., 2006). If an individual is involved in his or her care, then there will be more inclination to actively participate, which should bring about positive outcomes for all involved (Eckermann et al, 2006). Arguably, active participation will only occur if the
client has an understanding of the process involved in meeting the health care needs.

The need for a partnership approach was further highlighted by (Brown & Varcoe, 2006) in their Canadian study of critical cultural perspectives and health care involving Aboriginal people. They found that nurses need to be able to develop greater critical awareness of the cultural needs of Indigenous people in order to be able to deliver health care in a culturally safe and appropriate manner. However, there still needs to be a multidisciplinary approach with good communication channels between all health care providers. Engagement with the client and their family will automatically flow on from appropriate communication and the better understanding this generates. This could bring about good outcomes for the health care team, the client and their family.

**Strategies to Improve Lower Limb Wound Care.**

Amongst the Indigenous population, many of the ‘at risk’ feet are already ulcerated by the time they present at a health service. Therefore they require care from a multidisciplinary team such as a vascular surgeon, podiatrist and wound care consultant (Campbell, et al., 2000). Unfortunately, many of these services are not easily accessible in many parts of regional Western Australia, resulting in the need for clients to go to a larger tertiary centre. In addition to this problem of lack of ready access, there is a need to develop strategies for early intervention and education about their wound care, which are delivered to the clients in a setting and language with which they are comfortable.
The research literature indicates that there is an urgent need for greater cultural awareness programs to be implemented in Western Australia, and elsewhere, for health professionals working with Aboriginal people (McDermott, Tulip, Schmidt, & Shina, 2003). These programs will also need to respond to the diverse needs of the individuals. Health care professionals need to be able to identify when cultural issues arise that perhaps they have not been equipped to deal with such as language and communication barriers.

Aboriginal health workers who are employed within the community may well be able to guide the clinician on how better to manage situations to ensure that the client continues to utilise the service. Evidence of effectiveness of the partnership between clients and the clinician has been highlighted by Eckermann et al, (2006), who found that especially in remote areas within the Northern Territory, although many Aboriginal people speak English, it is often in Kriol or another dialect that the client may respond. This makes it difficult for the health care professional to determine whether the client has a good understanding of the information that has just been provided. Attention to language barriers could highlight issues with the consultation process required for the clinician to meet the health care needs of the client. In terms of wound care management, the clinician must rely on his or her input to identify changes in the status of their wound prior to assessment. It is in these types of situations that the health worker could be utilised far more effectively.
Health Promotion and Health Education

Much of the health promotion and health education literature regarding Indigenous people throughout the world acknowledges the disparities faced by these peoples both historically and today. There is also agreement about the inequities and social determinants of poor health among Indigenous peoples globally. However, all the research concludes with a recurring theme; that is, the need to address individual, family and community when delivering care. This is illustrated in a qualitative Canadian study conducted by Menzies (2008), which addresses the effects and possible link between personal homelessness and intergenerational trauma. Intergenerational trauma occurs when the effects of trauma are not resolved in one generation, and is therefore carried over into the next generation (Quinn, 2007)

Open ended interviews were conducted with 21 Aboriginal men seeking shelter in an emergency hostel. These interviews sought to identify elements of pre-disposing factors to intergenerational trauma. The findings identified four major areas of focus related to intergenerational trauma. These included the individual, family, community and the need for national indicators to be included in the constructs of their health promotion model. The erosion of these four constructs was also highlighted in this study findings, resulting in a sense of disconnection from family, community and culture (Menzies, 2008). However, the author argued that although the current healing model offers clarification of the issues faced by first nation people, any new model of intervention must be created for effective delivery of health care (Menzies, 2008). In terms of preventing ill health among those with high risk, such as occurs in Aboriginal people, an Australian cohort study was conducted
to determine the prevalence and distribution of bio-medical and self-reported risk factors for chronic disease (Appleton, et al., 2004). The findings revealed an association between risk factor accumulation and health related quality of life. The author concluded that there is a need for continuity of management of risk factors as well as chronic disease management in order to maintain a healthy level of quality of life (Appleton, et al., 2004). There is agreement that the individual also requires the support of family and community in order to achieve these outcomes.
Summary

Diabetes and wound care are important health care problems in Australia today, especially among the Indigenous population. It is unfortunate that both are preventable. There is also evidence to suggest that other health issues such as cardiovascular disease, cancers and respiratory disease are far more detrimental to the health and well-being of Indigenous Australians than non-Indigenous people. Factors identified in the literature related to these detriments include late presentation in seeking health care leading to increased mortality rates as compared to the wider community; the lack of access to appropriate health care in many areas of Australia; the lack of collaboration between health care providers to meet the health care needs of the clients; the lack of education to both clients and health care providers and lack of resources available to staff in some regions of Australia. The lack of communication among health care providers and misunderstanding by the client has also been noted in the research evidence.

Indigenous Australians share a rich and diverse culture that is sometimes very difficult for their non-Indigenous counterparts to understand. As such, there is an urgent need for systems to be put in place to minimise the problems associated with this difficulty, especially in the provision of health care, where effective communication is essential (Burleson, Levine, & Samter, 1984). The Aboriginal Medical Services (AMS) in Australia avoid these problems by having a predominantly Indigenous workforce, who are well known to their clients and are trusted to provide an excellent service. A significant aspect of the delivery of care provided in these services includes encouraging their clients to take ownership of the responsibility for
their own wounds by requesting that they clean their wounds prior to them being re-dressed. They also suggest that clients take dressings with them to be used at home or when they are away from their community, and explain how their lifestyle choices affect the healing rates of the wounds. The AMS staff members also use health promotion to encourage greater utilisation of their services to impart a more comprehensive understanding of the links between lifestyle and general health. It is because of this understanding of Indigenous health, the AMS also base their approach on the need for an intergenerational, and multidimensional (individual, family, community) approach to health promotion. These services cater for the idiosyncratic needs of their Indigenous clients well, and there is some merit in arguing that lessons could be learnt from their approach by the mainstream health services to reduce the well reported health crisis in Indigenous Australia.
Chapter Three

Methodology

Introduction

This chapter outlines the research design, its philosophical approach and conceptual framework. Information about informants, and the data collection and analysis procedures are outlined followed by an overview of relevant ethical considerations.

Methodological Approach

A qualitative, interpretive, naturalistic inquiry was selected for this study as it enables the researcher to better “understand naturally occurring phenomena through exploring attitudes, beliefs, meanings, values and experiences of the research participants” (Schneider, Whitehead, Elliott, Lobiondo Wood, & Haber, 2007). This situates the study in the interpretive paradigm. Interpretivism allows meanings to be drawn from data collected during naturalistic fieldwork. It is a paradigm appropriate to investigations of experiences in the context in which they occur, as is the focus of the current study. This approach enables the researcher to extract data from the participants that provides detail about their perception of how their wound care is managed, and the barriers and enhancers the participants perceive they may encounter.
Research Design
The current study aims were as follows: The first was to gain a comprehensive understanding of the clients’ perception of health and what it meant to the Indigenous participants’ in the study. The second was to use this understanding to identify the aspects of care that clients perceive as beneficial and detrimental to their overall health outcomes. The third was to use this information to develop methods or protocols that can be incorporated into service provision to increase Indigenous wound-healing rates, bring about positive lifestyle changes, and reduce the number of unnecessary tertiary procedures such as amputation and surgical debridement. The stepwise nature of this project required that the researcher conduct a number of group and individual conversations to accumulate this information.

Conceptual Framework
The study is framed within a health promotion and health literacy model, including both nursing and behavioural science perspectives. Rosenstock’s Health Belief Model (1966) as cited in (Marriner Tomey & Alligood, 2006) formed the basis of the study. The health belief model was further adapted by Nola Pender (1987) as appropriate to nursing situations in the development of health promotion strategies.

Highlighted in figure 1.1 of chapter one, it was noted that the aims of the research are consistent with the Health Belief Model Pender (1987); Rosenstock, (1966), as cited in (Marriner Tomey & Alligood, 2006). The model was originally designed to predict behavioural responses to the treatment received by acute or chronically ill
patients in a clinical setting. The health promotion model differs from the health behavioural model in that it “does not include fear or threat as a motivational strategy to achieve health outcomes” (A. Pender & Pender, 1986). Instead, it focuses on the comprehensive range of factors influencing health, including structural factors in a person’s environment as well as individual motivations.

The foundation for Pender’s health promotion model was based on the holistic nursing perspective of social psychology and learning theory. The basis of this approach was due to Pender’s background in nursing, human development, experimental psychology and education (Marriner Tomey & Alligood, 2006). The main assumption included within the health promotion model as identified by Pender is that an individual has the ability to change their environment to suit their psycho-social and cultural needs without the compromise to health potential. The individual must be able to make choices about what it is that they wish to change within their environment, and be prepared to modify their behaviour to meet these changes with community and family support. This health promotion community approach should allow the individual with the support of their community to become empowered enough to gain control over their health determinants (Egger, Spark, & Donovan, 2005). The health promotion model acknowledges that change can be dynamic in nature, and it highlights the fact that there needs to be a balance between change and stability (N. Pender, Murdaugh, & Parsons, 2002).

This balance of change and stability can be complemented and met through family and community support mechanisms and the activities of health care providers, which is a proposition of Pender’s (1987) health promotion model (see figure 1.3).
However the modification to lifestyle needs to be driven by the individual themselves in a ‘supportive community’ in order for the desired outcomes to be achieved (Egger, et al., 2005). The main theoretical proposition related to the health promotion model highlighted by Pender is self-efficacy. The theorist perceived that higher levels of perceived self-efficacy are inversely proportional to perceived barriers to the specific health behaviour (N. Pender, et al., 2002). The relevance of Pender’s Health Belief Model to this particular study lies in the need to understand the delivery of health education as well as factors in a person’s environment, but more important is the target group’s acceptance of the health education required to meet their psychosocial and cultural needs. This need can only be met by ensuring that the research participants have the basic level of health literacy. The assumption is that once they have acquired the requisite knowledge for change, they will be able to take advantage of structural supports in their environment that are conducive to the changes, and help ensure their sustainability.

**Health Literacy**

Despite available evidence in Australia to promote best practice in wound management (Selima, Bashford, & Grossman, 2001), diabetes-related lower limb problems continue to be difficult to manage within the home environment and the clinical setting (Watson, et al., 2001) It is difficult to determine whether there is a direct association between people’s knowledge of wound care and active participation in the management of that care.
A health literacy approach suggests a number of steps to guide data collection. First, it is important to be able to establish if the participants have been provided with the tools, and have the ability to take ownership of their wound care needs. Once this information is assessed the next step is to direct attention to the provision of health care, to investigate whether there has been a break-down in the delivery mechanism of the provision of care and/or education. This means that the combination of a good health education message about the benefits of meeting an individual’s health care needs, family support, and greater awareness about the health care issue should result in increased compliance with health professionals’ recommendations. Accepting treatment recommendations, having the motivation to get better, and a positive desire to meet the challenges that occur with changes in lifestyle should result in fewer perceived barriers.

Attempts to alleviate such challenges can be met if the health care provider and client are willing to work together as a team in an environment that is conducive to self empowerment and change to meet these challenges (Egger, et al., 2005). This fits within the constructs of Pender’s health promotion model, with the exception of the adaptations to the environment. Adequate delivery of health education and health promotion strategies to the clients will ensure that their cognitive perceptual needs could be met if the relationship between the health care provider and the client is a healthy one. If the clients have a good understanding of the importance of good health and well-being, this could then enable the clients to identify when this need is not being met. The clients will also be able to better identify benefits and barriers to the promotion of healthy behaviours. There are some modifying factors
that cannot be altered, such as the demographic characteristics and the existence of environmental barriers to change. For example, many of the participants who reside in these communities have lived there all of their lives and generally only leave their region to attend funerals or to be admitted to hospital outside their region. This isolation means that they are not exposed to a wide range of influences from outside the community, some of which may be health promoting.
For most, their biological characteristics have already been negatively impacted by the type of co-morbid conditions indicated in the literature review, leaving them vulnerable before health education and/or management commences.

![Health Promotion Model](image)

**Figure 1.3 Health Promotion Model, adapted from Pender, N.J (1987) as cited in (Marriner Tomey & Alligood, 2006).**

There is a certain synergy between the health promotion model and the notion of health literacy, which, itself has been identified as an element of health promotion (McMurray, 2007). Pender’s (1987) health belief model as cited in (Marriner Tomey...
& Alligood, 2006) illustrated the need for health literacy in order to facilitate change of behaviour to improve health outcomes for people. Linking knowledge and behaviour has been further highlighted in an exploratory study of reproductive health beliefs in teenagers with diabetes (Charron-Prochownik, et al., 2001). The authors used an Expanded Health Belief Model which adds to Pender’s model the variable of intentions; that is, the proposition that having a set of beliefs and attitudes results in the intention to take action to prevent poor health outcomes (Charron-Prochownik, et al., 2001). The study found a number of tenets of the health belief model that was highly linked to preventative action. Importantly, self efficacy correlated with metabolic control for adolescents with type 1 diabetes (Charron-Prochownik, et al., 2001). This has implications for the current study. It is unknown whether the various aspects of the health belief model and/or intentions will be influential in whether or not participants are inclined to self-manage their wounds

**Sample and Setting.**

There is anecdotal evidence that the common expectation of many Indigenous people is that their ultimate cause of death has been pre-determined, due to chronic disease. To examine whether this was evident, the study recruited a purposeful sample from three Aboriginal Medical Services throughout Western Australia. This “purposive or purposeful sampling provides information-rich cases for in-depth studies” Coyne as cited in (Schneider et al, 2003:145). The researcher chose this type of sampling to obtain data that were rich in information despite the short time frame of the study.
The researcher identified all available participants interested in taking part in the study by attending each of the sites listed in this study. The three sites where the study was conducted included one metropolitan centre, a rural centre and a remote centre. A list of possible candidates who would meet the selection criteria was obtained from the Indigenous health service within each of the sites. The sample group is a homogenous group consisting of both males and females between the ages of 18 to 85 years, and includes both diabetic and non-diabetic participants. Although the planned number of participants was ten to twelve, the sample consisted of eight people due to clients either being out of town at the time of the visit or unavailable due to family commitments. Current and previous clients of the Aboriginal Medical Service with lower limb wounds were invited to participate in the ‘yarning’ conversations. These yarning conversations were hermeneutic in nature with a focus on enabling and maintaining a free and open discussion not limited by time constraints (Power, 2004). Most of these clients had other pre-existing health conditions.

Data collection in interviews can reach saturation point after six to eight participants, which is where no new information is forthcoming (Morse, cited in Minichiello, Sullivan, Greenwood & Axford, 2004). The data did highlight re-occurring themes; despite the fact that there was variation in the geographical location, climate, social circumstances and distance to health care providers. Although the interview data provided differences in responses to the interviews, saturation was believed to occur with the completion of analysis of the eight participants interviews.
Ethical Considerations

Ethics Approval was sought and obtained from Murdoch University Ethics Committee and The Western Australian Aboriginal Health Information and Ethics Committee prior to the commencement of the study. Written consent was obtained from the participants prior to the commencement of the interview, following a full explanation of the purpose of the study and what was required from the participants. The participants were encouraged to raise concerns they had at any time, and at any stage of the interview. The researcher holds the rights of confidentiality and anonymity of all the study participants as the utmost importance.

All participants and organisational health care providers had the research project clearly explained in the form of a Participant Information Letter (Appendix A), and Participant Consent Form (Appendix B). These letters included a signed declaration from the researcher promising to abide by the participants’ rights to confidentiality and anonymity at all times. The contact names are known to the researcher, and were kept in a locked filing cabinet at the researcher’s office. To preserve the anonymity of the participants and the sites from where they were taken the coding system in place has allowed all identifying material and contact names to be erased from the data collected. No reference has been made to any specific Aboriginal Health Service in this report.

An Aboriginal Health Worker was present at the commencement of the meetings, and advised that they would be available if the clients required any assistance with language barriers or uncertainty with what was being asked of them. The researcher met with the participants at the time and place agreed by them. The interview
commenced following both verbal and written consent to validate participation in this study. The verbal and written consent was obtained in the presence of an Aboriginal Health Worker (AHW) on three occasions as the participants requested that they be present to ensure clarity of what was being asked of them. The researcher also requested that the AHW be present during the initial discussions with the participants to ensure that there were no cultural differences between the researcher and the participants that would jeopardise the quality of the data collected.

**Data Collection**

The three Aboriginal Health Services were contacted by the researcher with a Letter of Introduction addressed to the Chief Executive Officer of the relevant sites accompanied by a copy of the research proposal, an Invitation to participate and the Consent Form. Participants were then identified by the Aboriginal Medical Services in their region. The Aboriginal Medical Service personnel approached the clients to ask if they would be interested in participating in the study to give their perceptions on factors that influence their wound care. For those clients who were interested in participating in the study, meeting times to introduce the study to the participants were set up through the health service in their region. Once the researcher had discussed the study with the participants, the researcher then requested that those individuals who wished to participate sign the consent form to formalise the interview. At this time the participants were advised that their participation was purely voluntary, and that they would be free to withdraw from the study at any
time, with no obligations or ill-feelings from the researcher. The researcher requested that information obtained prior to any participants withdrawal from the study, be allowed to be used in the study.

**Observations**

This study was conducted as a separate but related study to the wider Wounds West study, whereby in partnership with the communities, the ultimate intention was to improve wound care in Indigenous communities in Western Australia to develop culturally inclusive approaches to prevention and management of complex wounds. The researcher was required to interview clients and health care providers to obtain data to identify if there was cultural inclusion in the delivery of care to the clients in the Aboriginal Medical Service sites mentioned earlier. It was during this time when the researcher was conducting the interviews for the wider study that observations were made of the interactions between the health care recipient and provider. These observations were intended to ascertain the level of knowledge of the clients, and the level of involvement they have in their care. Other observations included their level of personal hygiene and self care as observed by the researcher. Additional observations included signs of obesity, evidence of self-management of wound care, whether or not off-loading devices were being utilised by the client where supplied, and to establish if treatment regimes were being followed according to instructions given by the health care providers. However, the most important observation was in noting the availability of resources available to these clients.
Interviews

On commencement of the interviews, the participants were asked a series of questions in relation to their wound care management and needs. This was to identify the factors encountered by the participants that may have prevented them from seeking treatment earlier, or alternatively, what factors made seeking treatment to meet their wound care needs easier on their lifestyles. As the interview process was hermeneutic and ‘yarning’ in nature, trigger questions were used and then further prompting questions promoted the generation of dialogue (Power, 2004). The main trigger question was “what are your thoughts about wound care and the things that help or hinder you from managing your wounds”?

The hermeneutic nature of the yarning conversations meant that there was a focus on enabling and maintaining a free and open discussion not limited by time constraints. These interviews provided the researcher with information about the barriers and enhancing factors of the provision of wound care management for the participants from their respective Aboriginal Medical Service in their region. In terms of follow-up appointments, the participants were asked about the barriers and enhancing factors that they have encountered if any when attending for follow up treatment and/or appointments.

The participants were also asked a series of questions in terms of health promotion strategies, what they think will work for them in terms of making them more aware of their wound care needs, and how they feel the message needs to be delivered to the community so that the message is understood.
The open discussions and lack of time constraints placed on the participants during the interviews provided an ideal opportunity for the development of rapport between the researcher and participants. Following the interviews, the researcher returned to each individual site eight weeks later to clarify with the participants the accuracy of the information that was provided in the initial interview. The participants verified the researcher’s interpretation of the interview. All participants refused to be audio-recorded for the interview so written transcription data was taken from the interviews to identify common themes and ideas.

The trigger questions that were used in the interviews are outlined in the section to follow. These were generated from issues identified while conducting education sessions in four Aboriginal Health Services in Western Australia for the Wound Care study conducted by Murdoch University in conjunction with Curtin University and Wounds West. The broader study included interviews with the health professionals whereas the current study did not. The focus of the current study was primarily on barriers and enabling factors in influencing self-care, and perceptions of those having wound care in relation to general health the care of their wounds. The questions included in this study are listed below:

- Can you tell me in your own words what you see as being a healthy person?
- Do you think that you’re a healthy person?
- Do you have any health problems? Do they affect your lifestyle? (Only if problems highlighted).
• What do you know about your wound(s) and where did you get this information from?

• Do you think your wounds are related to your other health problems, why?

• When the Doctor gives you instructions to manage your medicine or dressings, do you follow those instructions?

• Have you noticed any changes for the better or worse in your health conditions and wound health (healing), when you follow instructions given compared to when you don’t follow the instructions?

• Are you happy with the wound management orders given by your health care person?

• If you are not regularly attending your outpatient clinic appointments, what stopped you from attending the clinic?

• If you do attend the clinic on a regular basis, what is it about this clinic that keeps you coming back?

• What type of health promotion message do you see as being effective when delivering health related messages? E.g.: Shock, fear tactics or nice passive messages.
Data Analysis

Thematic analysis was used to group the information provided by the participants into common themes related to the research questions. This is an encoding method used in qualitative research, which involves themes being created from response content. Each question is listed in a summary table, and then all of the participants’ responses to that question are listed in the next column. Similarities and differences in responses were highlighted using constant comparison. Constant comparison is an element of grounded theory whereby unstructured interviews and extensive notes are taken leaving the researcher with a large body of data in the form of notes and or recordings (DeSantis & Ugarriza, 2000). In this study, the interviews were semi-structured as opposed to being unstructured which you would normally expect with constant comparison. However, the inquiry in this study did involve observations and interviews as specified under the heading of research design.

The information provided by the participants in the study enabled the researcher to extrapolate themes that were consistent throughout the data collection. A theme has been highlighted by Dempsey & Dempsey as cited in (DeSantis & Ugarriza, 2000) as “a data analysis technique used in phenomenological studies, and involves data from interviews with study subjects to discover themes or categories’ of experiences as viewed from the subjects perspectives”.

Summary

This chapter explained the theoretical approach within which the study was framed. It also described in detail the processes undertaken in the conduct of this study.
exploring the barriers and enhancers faced by Indigenous Australians participation in the self-management of their chronic wounds. The material obtained through the field trips and interview process with the participants provided a wealth of knowledge. Data collection procedures, involved systematic encoding of material and meticulous attention to detail. This ensured that vital information was not misplaced or lost from the study.
Chapter Four

Findings

Introduction
This chapter presents the analysis of information gathered from participants about the factors they perceived as barriers to and enhancers of the management of their chronic wounds. This chapter will be presented in two separate sections. The first will provide an overview of each of the participant’s demographic details and some of the more pertinent aspects of their conversations. The second section provides thematic analysis. Responses revolved around perceptions of personal health, their wound management experiences, and the effects of wound mismanagement on their quality of life. Other aspects of the conversations that contributed to the themes include wound care education, wound care knowledge, and levels of health literacy. Finally, the chapter includes a subsection addressing the participants’ views about their experiences with the AMS in their region. From these responses, themes have been extrapolated and discussed. The research questions that were previously presented in the first chapter and replicated below served as a guide to the presentation of this chapter.

Research Questions:

1. What are the participants’ perceptions of health and what does it mean to them.
2. What are clients’ perspectives of the barriers and enablers that influence their participation in self-management of wound care in Indigenous communities in Western Australia?

3. How can this knowledge be used to inform culturally appropriate delivery of wound management education and intervention?

Wound care clients attending the three health services were invited to participate in confidential conversations to discuss aspects of their general health and wound care. Trigger questions were only used to guide the normally informal discussions toward the intended content as required to expedite the process; resorting to a question and answer format was avoided as much as possible. Only one of the wound care clients declined the offer to participate in the conversations as he had previously had one toe amputated and felt that his mismanagement had been the cause. The other clients participated freely in the discussions and their responses were recorded on a notepad as they went. The participants were given the opportunity to clarify and edit any of their earlier responses at a later date.

Eight current or former wound care patients, including four males and four females, were interviewed in this study; their ages ranged from 20 – 85 years. While the number of participants was low, a review of the patient records in the various health services revealed that there were not many patients attending the Aboriginal Medical Services for wound management. Most of the participants had had their wounds for over two years and clinic records suggest they were attending for treatment as required.
**Participants**

The youngest of the participants was a 24 year old non-insulin dependent diabetic male. The wound on his leg had been managed by two of the health care services in his region since 2003 when it first occurred; one of these services was the AMS. The participant stated that the care he was receiving from his health care providers was very good and he did acknowledge that he had a problem with alcohol consumption and cigarette smoking. He stated that there might be a connection between his diabetes and the poor healing rates of his wound, but he wasn’t sure. However, he did believe that there was a link between the poor healing rate of his wound and his high level of alcohol and cigarette consumption. His major concern was that if treatment was ceased that his leg would have to be amputated. While he expressed these concerns, he praised his mother for ‘harassing’ him daily about his drinking and making sure he had a feed and took his medication. He also said that his mother made sure that he attended the Silver Chain clinic twice a week for management of his wound.

The second participant was a 62 year old male who was diagnosed as a non-insulin dependent diabetic 3 years ago. He had already had one below-knee amputation and was currently being assessed for the possible removal of the other leg. He was wheelchair bound and required assistance to move through the building to where the interview was taking place. He said that he did not eat three meals per day and only ate when he was hungry. His diet mainly consisted of roasted meat and vegetables with no greasy food which he claimed was nutritious. His reported blood
sugar levels varied between 6 and 10. He believed that he would die of a diabetes-related disease like his mum did.

The third participant was a 48 year-old female with pre-existing health conditions that included hypertension, high cholesterol levels, and hypothyroidism who had previously suffered from a stroke for which she was taking aspirin. This participant reported that she had bumped her lower leg and that this had developed into a persistent wound. The participant stated that although the wound did not look like much it was painful and did slow her down a bit. She was very concerned that she may lose the affected limb so she made sure that she attended the AMS for dressings when she was in town and that she followed all the instructions she was given. She was conscious of the need to maintain healthy eating habits and did not consume alcohol or cigarettes.

The next participant was a 42 year-old female who had been bitten by a dog on her lower leg three months prior to the interview. She was a non-insulin dependent diabetic who also suffered from asthma and attended the AMS for the management of all of her health conditions. She reported that she always followed the health staff’s instructions and changed her own dressings at home on the weekends. She was very impressed that the staff had taught her how to care for, and manage her own wound. With all of this being said, the participant still expressed her fear that she could lose her leg if she neglects its care in any way. This participant manages her own house hold-duties independently including cooking of her own meals.
The next participant was an elderly man in his eighties who was suffering from Hansen’s disease, early-stage dementia, and cardiac disease. He had a wound on his lower leg for which he had been receiving treatment for at least the previous five years. This participant never missed a clinic appointment and was very active in the participation of the care of his wound. He was so active that, when he got home, he would remove the newly applied wound-dressing and replace it with another dressing of his preference. This client grew up in a leprosarium and displayed no faith in the newer (more effective) dressings. He was having his three meals a day provided in his home by ‘meal on wheels’ and this provided some assurance that his diet was both sufficient and healthy.

The next participant was an 81 year-old female who was a non insulin-dependent diabetic, a condition that she associated with her previously suffering a heart attack. She claims that her compliance with medication and dietary intake has improved since that attack. She said that even with her high compliance levels, that the wound on her lower leg is difficult to manage and her blood sugar levels difficult to control (ranging between 16 and 30 mmol). She stated that her wound is managed by one health care service and her diabetes and cardiac problems are managed by the Aboriginal health service. She lives with her husband and family and, although her daughter does most of the cooking, she still participates in most of the home duties.

The next participant was a 70 year-old female with Type 2 diabetes, hypertension, peripheral vascular disease, and a sore on her lower leg. She had already had one toe removed and was very conscious of keeping a dark pigmented area of her other lower leg well moisturised. She was concerned that even a simple scratch that
breaks the skin in this area could turn into a wound that would require ongoing monitoring and management. The wound on her lower leg is managed by two health care services and she states that both services provide very good care. She acknowledged that she should exercise more but said she did not have time because of family commitments. This participant completes all of the home duties and cares for her family and grandchildren during the weekdays.

**Responses about General Health**

In the discussions about their levels of general health most of the participants suggested that they were in good health. These positive reports may be because the seriousness of their diabetes was misunderstood, understated, or simply because they had become accustomed to having wounds and regularly attending clinics for attention. These reports may also be related to the participants adopting an altered frame of reference premised on the belief that, as older Indigenous people, they should be suffering from something. The optimism of this belief was highlighted in their concepts of illness. For a condition to be seen as an illness it had to be at the extreme end of the continuum such as terminal cancer; simple diabetes would not qualify as an illness.

Participants demonstrated a lack of awareness of the presence of co-morbid health conditions (usually diabetes, hypertension, and kidney disease). Four of the eight respondents had to be asked about what medication they were taking before they acknowledged these conditions as a form of ill-health. An equal proportion of
respondents were ambivalent about their existing conditions, only acknowledging the hindrance they cause when directly challenged by the researcher.

**Lifestyle and Ill health**

All of the participants reported that they noticed the debilitating effects of their conditions only when their ability to engage in normal activities of daily living was affected. Normal activities become difficult to complete when a wound becomes infected, when mobility is impaired, and when they are no longer free from pain: it is at this point that an illness is recognised. Although the participants had had their wound for greater than two years; it appears that a connection between the wounds and illnesses is slower to form than the wound itself.

**Wound Care Education.**

All of the participants acknowledged that controlling blood glucose and blood pressure levels does enhance wound-healing rates as well as their diabetes. They also all reported the importance of good nutrition and exercise as the basis of controlling their blood readings. One of the participants reported that his dietary practices were very poor and that he simply could not afford to eat a good balanced diet and that he was not able to access shops regularly. Another three of the respondents admitted that they did eat large portions of sweet cakes at times, and perhaps ate more than they should. They also stated that, when they did over-indulge, that they became tired and lethargic, which were sure signs to them that their blood sugar levels had raised.
All of the participants knew the importance of having frequent wound-dressing changes, and of ensuring that their wounds were kept clean and dry. They also knew that they should not smoke cigarettes or consume alcohol although some did admit to breaking these rules on occasions; but they were unsure of just how many occasions this involved.

**Health Literacy**

During the casual and relaxed yarning conversations some of the questions and comments required clarification, but the respondents generally displayed basic or functional levels of health literacy. The levels of concern shown about losing a leg and the expressed knowledge of the links between adequate wound management, appropriate lifestyle choices, and the reduced probability of an amputation demonstrated varying levels of health literacy. All of the participants knew the importance of managing their blood sugar levels for their diabetes control and when and where to seek medical assistance, for example at their local AMS. All of the participants could also read and write which indicated that basic educational literacy levels had been met.

There was an obvious absence of the use of preventative strategies to enhance the management and care of the participants’ chronic wounds. Although some of them actively participated in the care of their wounds, there were others that did not, and engaged in activities that retarded their wound-healing rates. One person persisted in using alcohol and cigarettes; others continued to eat sweet foods and drink sugary drinks; one refused to adopt a three meals per day routine; while another would
change his wound-dressings as he saw fit. While it was good to see that they knew what to do it was apparent that this knowledge was insufficient to persuade them to change treasured aspects of their lifestyles.

There was no evidence of any of the participants demonstrating an interactive or communicative level of health literacy. None of the respondents demonstrated or reported the ability to help others to develop their personal capacity for better health as they were still trying to come to terms with meeting their own health care needs.

**Aboriginal Medical Service Utilisation**

The participants reported that they would continue to use the AMS services because of their obvious roles in providing healthcare but also because they act as a good meeting place. While attending to their health care needs, they were also able to catch up with family and friends as well. They also praised the services for providing medications free of charge and for their provision of transport services to and from the centre. One person complained that she had often missed appointments because the service had forgotten to pick her up. None of the participants expressed a preference for being seen by an Aboriginal Health Worker or by a non-Indigenous clinic nurse. In fact, the majority of the participants would prefer to be seen by the nurse as she was seen to be the expert.
Themes

Visibility of the problem.
The first theme extrapolated from observations and interviews was that the visibility of the problem can determine how it would be treated, and by whom. This view of separating wounds from other pre-existing health issues was evidenced by more than half of the participants interviewed in this study. The participants viewed wound care as a separate entity to other health issues highlighted. For example, in one of the regions where data were collected, a number of participants were willing to have issues such as hypertension and diabetes managed by the Aboriginal Medical Service in their region. However, wound care needs were met by Silver Chain. One participant stated quite strongly that “he only allowed Silver Chain to manage his wound care needs, because they knew what they were doing”, he also stated “I am happy to talk to you’s about my wounds, but anything else, silver chain have to be involved”, another participant stated “I go to silver chain every Tuesday and Fridays to get my wound dressed, never miss my appointment”, when asked if he could change his wound management, what would he change? He replied “I’m happy with Silver Chain, they look after me, and staff is very respectful when I go to the clinic”. Another client said “silver chain are good, they keep a check on me, I go to Derbarl in Perth to see the podiatrist, and come here to collect my medicine and get my blood pressure checked”. In these examples, what was visible needed to be dealt with in what was perceived by the participants as being in the appropriate manner? The participant identified Silver Chain staff as the experts in wound management. What
was not visible such as Diabetes management and hypertension was treated by the AMS in his community.

**Perceived versus actual level of knowledge**

Another issue highlighted was the perceived level of knowledge that the participants had about wound care. The researcher was assured by the participants that their level of knowledge about how to manage their wounds was good. However, none of the participants were concerned about the length of time that their wound/s had and are being managed. The period of time that the participants had their wound/s was between 3 month and 5 years. Accepting that although a wound is not getting any better, even though it is not getting any worse is an indication of inadequate health literacy. Therefore the second theme taken from the data was having an imbalance between perceptions of wound care knowledge, with actual knowledge needs to take care of it. An example of this imbalance in perceptions of, and actual wound care knowledge was noted when a participant stated “*the wound just continues to get better. I had the wound since 2003*”. Another participant stated “*Its serious alright, Id do anything to make it better, I suppose they doing their best. Silver chain tells me I should eat properly, and get my dressings done all the time*”, and “*Yeah but the wound is clean, but the bloody thing seems to be getting bigger, like so not good. Well I don’t know if the high blood sugar makes my wound worse*”. A third participant stated “*Well it’s not that serious, but it just won’t heal. If I could control my blood sugar levels, it might be alright. The Doctors in Royal Perth told me that I got to get on top of my blood sugars and so have the Silver Chain mob*”.

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Acceptance of co-morbid health conditions

The third theme was an indication that they were accepting of co-morbid health conditions, seeing them as the norm rather than as something requiring attention.

This was highlighted when participants were asked to describe their current health status. All except two reported that they were in good health. However, when asked if they were taking any medications, all indicated that they were taking medications to manage their diabetes and hypertension. The table below illustrates the varying concepts of good health reported in the interviews.

<table>
<thead>
<tr>
<th>Number</th>
<th>Question to Participant</th>
<th>Response from Participant</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>How would you describe you current health status?</td>
<td>Not bad for my age, good except for this sore on my leg.</td>
</tr>
<tr>
<td></td>
<td>Do you have any pre-existing health conditions?</td>
<td>I got high blood pressure, on medicine for that, on tablets because my thyroid levels are low, taking half an aspirin, had a mini stroke in 2006 and this wound on my leg.</td>
</tr>
<tr>
<td></td>
<td>How would you describe you current health status?</td>
<td>Good. This dog bite on my leg as well, but that’s healing slowly.</td>
</tr>
<tr>
<td></td>
<td>Do you have any pre-existing health conditions?</td>
<td>No, only Asthma and Diabetes and they are both managed here at the AMS.</td>
</tr>
<tr>
<td></td>
<td>How would you describe you current health status?</td>
<td>I am healthy.</td>
</tr>
<tr>
<td></td>
<td>Do you have any pre-existing health conditions?</td>
<td>Yes, I am diabetic and I have hypertension, you know high blood pressure. They reckon I got that circulation problem with my legs too.</td>
</tr>
<tr>
<td></td>
<td>How would you describe you current health status?</td>
<td>Yeah, I’m alright. It’s good.</td>
</tr>
<tr>
<td></td>
<td>Do you have any pre-existing health conditions?</td>
<td>Yeah, I’m Diabetic, I got heart trouble, and they reckon I got vascular disease too.</td>
</tr>
<tr>
<td></td>
<td>How would you describe you current health status?</td>
<td>Very Good.</td>
</tr>
<tr>
<td></td>
<td>Do you have any pre-existing health conditions?</td>
<td>I’ve got Leprosy, and that’s why this wound on my foot won’t heal.</td>
</tr>
<tr>
<td></td>
<td>How would you describe you current health status?</td>
<td>Umm...no I am not very healthy at all</td>
</tr>
<tr>
<td></td>
<td>Do you have any pre-existing health conditions?</td>
<td>You can say I got diabetes. I got this wound when I stretched my leg, and it got infected.</td>
</tr>
</tbody>
</table>
Pre-determined path of ill health

The fourth emerging theme identified from the participants, was having the expectation that the path of ill health had already been predetermined. The example that highlighted this theme was when a participant was providing details of when he was first diagnosed with diabetes, he stated “that it was only a matter of time before he got the diabetes, as his mother died of the disease”. This acceptance of what could be viewed as fatalistic behaviour could be a major contributor of late presentation for management of health related issues, and in particular wound care confirms the anecdotal evidence that ill health is seen to be predetermined. Another response was “Yes I do, I think it would have been healed by now if I was an able bodied person”. The researcher interpreted this comment as implying that the participant had ill health, even though when asked how her current health status was, she replied “Yes, I’m alright”, and another participant when asked whether he was happy with his prescribed wound management plan, blamed himself for his poor health status. His reply was “Yeah, they all good to me, sometimes I think it’s me that’s doing the wrong thing”.

| How would you describe your current health status? | I’m buggered, I got diabetes, lost my leg, they reckon they might take this one too. |
| Do you have any pre-existing health conditions? | I only found out I had diabetes 3 years ago when I went off my head. You know, they tested me for everything. I knew I would get diabetes, because mummy was diabetic, so I knew I was buggered. My blood sugars run between 6 & 10. |
| How would you describe your current health status? | Yeah, I am good, I just got this sore on my leg that won’t heal. |
| Do you have any pre-existing health conditions? | Yes I am diabetic and this seems to have affected my heart. |
It was interesting to note that the participants had differing preferences for treatment regimes for their wounds, as compared to their hypertension and other systemic chronic health conditions. It was apparent, that participants believed that what they could see visually should be managed by a specialist. For example, the wound management experts needed to deal with the wound care. However, when dealing with cardiovascular disease, or management of their diabetes, conditions that could not be visualised, the participants were happy for these conditions to be managed by the AMS within their region. Clearly there was a disparity between the perceived level of knowledge about health care and the actual level of knowledge. This can be addressed within the concept of health literacy. The issue of concern in this theme is that the participants were not able to identify what they did not know. This leads to an even greater concern over how health outcomes could be improved if the recipients of these improvements to health did not recognise that there was a need for improvement. The final theme of the acceptance that their ill health had already been pre-determined because of their family history of the chronic disease is alarming as generally with acceptance come progression.
Chapter Five

Discussion
The study has highlighted disparities in both the health status and delivery of services faced by many Indigenous Australians today. The levels of health care intervention required on many occasions to this target group are tertiary interventions. When applying tertiary interventions sought in wound care, surgical debridement, and amputation of a limb is considered very extreme in a given situation where, with appropriate management and education, the amputation could be prevented. Due consideration should be given to the possibility that the method of health promotion being provided to this group of people, is not working. This is clear from the data analysis indicating late presentation for wound management. Interview responses indicated that health care interventions for diabetic foot ulcers were not being provided for many Indigenous clients, until their activities of daily living and quality of life had been affected. At this point, the interventions required are beyond a primary preventative level, and at times, the client’s required hospitalisation for the acute management of their ulcer. It may also be the case that the patients have not been made aware that their wounds are potentially serious and that their non-healing is associated with the sub-optimal management of other health conditions such as diabetes.

There were four major themes highlighted in this study. Firstly there was a perception that visible conditions such as wounds are seen as more significant than co-morbidities such as hypertension and diabetes. This them was designated the visibility of the problem which determined how it would be treated, and by whom
The second theme was a discrepancy between the participants’ perceived level of wound knowledge and actual level of wound knowledge and how this affects their health. This could be seen in clients with wounds that were visible and treated by Silver Chain because they were readily seen. What was not visible such as Diabetes and hypertension was managed by the AMS. This was the case in those places where Silver Chain could be accessed; otherwise clients used the AMS in one of the regions and Community Health or the regional hospital, which was utilised for these services at the other site. A fatalistic attitude to health and illness, ‘acceptance of co-morbid conditions’ was also identified as participants shared feelings of pending diagnoses of familial health conditions. The fourth emerging theme identified was having the expectation that the path of ill health had already been predetermined.

The relationship between late presentation for wound management and poorly managed co-morbid conditions was more obvious in one of the regions as compared to the other two sites. Accepting co-morbid health conditions as the norm as highlighted in the data collection stage of this study has already placed the participants in jeopardy from the start in terms of improving health outcomes, and in particular wound care. Sen (1999) would explain this on the basis of historical disempowerment, which needs to be overcome, for an individual to even consider having the potential to be a meaningful part of society (McMurray & Param, 2008). Sen’s (1999) contention is that all people should be able to live the life they choose.

The findings also confront the relationship between activities taken to promote health and the way health is perceived. The public health definition of health is
the extent to which an individual or a group is able to realise aspirations and satisfy needs, and to change or cope with the environment. Health is a resource for everyday life, not the objective of living; it is a positive concept, emphasising social and personal resources as well as physical capabilities. Your health is related to how much you feel your potential to be a meaningful part of the society in which you find yourself, is adequately realised (Gillam, Yates, & Badrinath, 2008).

The findings draw attention to the question of perceptions and potential in relation to the way health is viewed. In the wider community, pre-morbid health conditions are indicators that people need to adjust their lifestyle. If the participants in this study are not acknowledging that they have pre-morbid health conditions, they have little motivation to adjust or alter their lifestyle. This shows significant discrepancies in the variation between Indigenous and non-Indigenous perceptions of health. The participants in this study may have adopted the Indigenous health model as illustrated by Maher (1997) in judging their own health. This is an holistic approach with a unique emphasis on spirituality and its relevance to health and well-being (Maher, 1997). This unique emphasis needs to be recognised in Indigenous people as it is deeply entrenched in individual, family and community life (Eckermann, et al., 2006). If the essence of health is grounded in spirituality, this could explain why the majority of the participants reported they were in good health. This calls into question the biomedical model of health that informs medical and nursing education and research. A biomedical model focused on the control and elimination of specific diseases does not fit with the Indigenous definition of health as a spiritual construct (Eckermann, et al., 2006).

A major concern, not documented in the health literature, is the anecdotal information that many Indigenous people have a false acceptance of impending
doom, which reflects a fatalistic attitude. This has been reported to exist on the basis of an intergenerational prevalence of diabetes among Indigenous families, and was reflected in the current research study. For example, one of the research participants stated that it was only a matter of time before he was diagnosed with diabetes, given that his mother also had diabetes. This finding provides valuable insight into the perceived impending doom the participants feel related to a parent’s diagnosis of diabetes. This assumption and limited knowledge of predisposition to these chronic diseases was highlighted in the majority of participants’ responses in the current study.

The major findings highlighted in this study were lack of education about wound care, and the participants’ accepting belief of current health condition/s. An outcome of this research identified a need for improved health literacy and education in behavioural modification. This study was guided by Pender’s (1989) Health Belief Model as cited in (Marriner Tomey & Alligood, 2006) which outlines the importance of individuals making choices about changes within their environment to assist in modification of this unhealthy behaviour. As mentioned previously in this thesis, Pender’s Health Belief Model presents a comprehensive range of factors influencing health, including structural factors in an individual’s environment as well as individual self-efficacy. It appeared that cognitive perceptual factors as outlined in the model severely compromised the likelihood of participation engaging in health promoting behaviours. Most seemed to understand the importance of health, but there was little perceived control over health status, with most linking health status to the visibility of the health issue, as indicated in Theme One. This limited notion of
what constitutes health presented a barrier to health promoting behaviours. In addition, their expectations in relation to wound healing were further modified by a lack of health literacy in relation to wound care, as indicated in the Theme Two, ‘perceived versus actual level of knowledge’. Expectations were also minimised by their acceptance of other, co-morbid conditions as being the norm (Theme Three). These factors and the fatalistic views expressed in Theme Four represented a compromise to self-efficacy. In addition, the lack of structural supports in their community indicated less than optimal situational factors that could have helped overcome the limitations of any cognitive perceptual factors.

Despite the findings indicating low levels of behaviour change, an increased control over behaviour change was essential in order to achieve better health outcomes. This framework was a useful tool in identifying participants who needed to modify their behaviour; however, it did not address family and community support or dynamics, which is paramount in addressing health issues in Indigenous communities. The research did not include family and community members due to the scope of the project and restricted time-frame, or factors in the environment that may have provided cues to action. However, the content of the interviews indicated a high level of family influence in the participants’ care. Perhaps future research could incorporate and examine the influence family and community members have on participants’ self management of wounds, particularly in the context of community characteristics.

The findings are consistent with a Canadian descriptive study conducted by Barton, Anderson, & Thommasen (2005) which explored experiences of people living with
diabetes. The researcher interviewed eight participants diagnosed with diabetes, and found that self determination is a major factor in achieving improved health outcomes for Indigenous people. Findings included the challenge to enhance understanding of the connections between diabetes and traditional and non-traditional medicines, lifestyle changes, and how health professionals’ communication facilitated participants’ coping with these life choices. An example from this study explored one participants’ experience of becoming a diabetic. Following a year of ‘acting sick’ and withdrawing from normal activities his friends highlighted to him that he was always acting sick. Once informed by a friend that the prognosis was not quality of life threatening the participant stopped acting sick because he didn’t feel sick anymore, but still had diabetes (Barton, Anderson, & Thommasen, 2005). This fatalistic attitude and behaviour to illness highlights how debilitating the idea of sickness was to the participants in the Canadian study.

Health literacy has been identified as a key component in enhancing client compliance and empowerment over health conditions. In this research study, participants’ non-compliance was not an issue, however, their sense of acceptance of their condition indicated that the participants were disempowered, displaying a sense of hopelessness and helplessness over their current health situation. However, as highlighted earlier in this thesis, the participants did display a functional level of health literacy. In terms of self-management, this basic level of health literacy is not enough for participants to be able to alter their current personal health status behaviours. The Health Literacy framework appears to be a valuable tool for assessing baseline knowledge and understanding as a foundation for
planning health promotion interventions, and this would be an interesting approach for further study (McMurray, 2007).

Recommendations

The findings have several implications for clinical practice, education and further research. First, given the low levels of health literacy among those interviewed, it is important to ensure that health professionals are equipped with an adequate level of health literacy knowledge of wound care to be able to deliver this knowledge to clients’ in a culturally appropriate way. A previous study funded by the State Health Research Advisory Council of Western Australia in 2007 also highlighted the need for health literacy education to be delivered in a manner that is persuasive and ensures positive sustainable behaviour change. The findings from this research study have provided a sound foundation for recommending the development of culturally appropriate wound educational material for Indigenous communities. Pictorial flip charts when delivering educational messages to many of the target group could be utilised to assist in understanding and improving health literacy. However, it is essential that the focus emphasises client involvement in the management of their wound and to enable an ownership and foster self-determination of their wound. This must also include the support of the family and broader community. Following effective education and early intervention, the management of the wound with the assistance and support of their health service may improve health outcomes of the individual. This would be consonant with a primary health care approach, where those requiring health services are seen as partners, rather than recipients of care.
Conclusion
This study has identified several perceived barriers and enablers that influence participation in self-management of wound care by indigenous people. These perceived barriers include low levels of health literacy about wound care, late presentation for management of wounds and lack of continuity of care from health care providers. The perceived enablers included the utilisation of AMS, mainly due to this being a community meeting place. Accessibility to the AMS was provided via free transportation. This enabled participants to attend regular follow up health reviews, including refilling prescriptions at no cost to the client.

This research will contribute to a new body of knowledge in health education and it has the potential to contribute to the development of more culturally appropriate educational delivery on the self-management of wound care. By analysing the scope of the Indigenous person’s wound knowledge with actual knowledge and responding with sensitive timely education, an improvement in health literacy and health outcomes may result.

Participant observations and semi-structured interviews with the participants explored their comprehension of the importance of wound care through reflection. Themes identified by the participants included that many participants perception of poor health was directly related to the visibility of the problem. Another theme was feelings of helplessness and hopelessness when sharing information about their chronic illnesses. The Belief that a strong family history of a disease results in
participants also developing the disease was another unexpected theme as many of the participants believed this health outcome was inevitable.

These themes highlight the low levels of health literacy in regard to wound care and lifestyle modification to prevent and manage chronic diseases. It is essential that health care professionals working in indigenous communities address these low levels of health literacy with appropriate educational resources.

If the ultimate goal of primary health care is the strengthening and empowering of communities, the understanding of the ‘why’ indigenous persons do not seek assistance for significant wounds is an essential piece of the jigsaw puzzle that informs the broader health care services of the necessity to provide early appropriate health education. By improving health literacy within these communities a shift in the present culture of downstream tertiary services to a more preventative upstream primary health care approach will improve health outcomes and quality of life for indigenous persons living in Western Australia.
We invite you to participate in a research study to identify some of the barriers or enhancers of wound care in indigenous communities. This study is part of my Research Masters, supervised by Professor Rhonda Marriott and Professor Anne McMurray at Murdoch University.

**Background**

This research area became of interest to me through my work as a Murdoch University project researcher working on a research project looking at Improving wound care in Indigenous Communities in WA: a partnership with Indigenous Communities to develop culturally inclusive approaches to prevention and management of complex wounds.

During this time of working as a Researcher on the wound care project, it seems to me that there appears to be an acceptance of poor wound management outcomes for the clients receiving care in Aboriginal Medical Services. It would be interesting to find out from the client’s, what barriers if any or enhances they encounter when having their wounds managed.

If we can find out what these barriers and enhancers are, then we can look at developing educational packages to break down some of the barriers and focus on building on the positive factors to improve wound care management.

**Nature and Purpose of the Study**

The purpose of this study is to look at what works and what does not work when delivering wound care management to Indigenous Australians who use the Aboriginal Medical Services in their region. Feedback from the participants will enable the researcher to identify needs and look at developing educational packages that may reduce possible barriers and build on the positive aspects to create better wound care management outcomes for Indigenous Australia.

The research aims to raise awareness among the Indigenous participants that with appropriate wound management care and intervention, foot ulcers do not necessarily need to result in amputation.

**What the Study will Involve**

If you decide to participate in this study, you will be asked to complete the following tasks:

- Answer questions in a hermeneutic manner regarding demographic data including age, gender, family dynamics, medical conditions and current wound management practices. These conversations will be audio recorded with your consent.

- The interview will take about one hour. If you would feel more comfortable with a Health Worker or Registered Nurse, we can request that they be present while the interview is taking place.

**Voluntary Participation and Withdrawal from the Study**

Your participation in this study is entirely voluntary. You can withdraw at any time without any feelings of discomfort or shame. All information is treated as confidential and no names or other
details that might identify you will be used in any publication arising from the research. If you withdraw, all information you have provided will be destroyed twelve months following the completion of my Masters program.

Please make sure you are very clear on what I will be discussing with you. At any time you can ask me question, I will continuously be asking you if you are comfortable with the questions I am asking you. Please feel free to stop me at any time and advise me of any feeling of being uncomfortable.

**Benefits of the Study**

Improve wound care management leading to wounds healing quicker, less medications required, improved knowledge on how to self manage wounds, less chance of hospitalisation and amputation.

If you are willing to consent to participation in this study, please **complete the Consent Form**. If you have any questions about this project please feel free to contact either myself, Anne Eades on 9582 5531 or A.Eades@murdoch.edu.au, or my supervisors, Prof Rhonda Marriott, on ph. 9582 5502 or R.Marriott@murdoch.edu.au or Prof Anne McMurray, A.McMurray@murdoch.edu.au.

My supervisors and I are happy to discuss with you any concerns you may have on how this study has been conducted. If you wish to talk to an independent person about your concerns you can contact Murdoch University’s Human Research Ethics Committee on 9360 6677 or email ethics@murdoch.edu.au

This study has been approved by the Murdoch University Human Research Ethics Committee (Approval No.2007/226)
What are the major barriers and factors that enhance wound care management in Indigenous communities in Western Australia: A client perspective.

1. I agree voluntarily to take part in this study.

2. I have read the Information Sheet provided and been given a full explanation of the purpose of this study, of the procedures involved and of what is expected of me. The researcher has answered all my questions and has explained the possible problems that may arise as a result of my participation in this study.

3. I understand I am free to withdraw from the study at any time without needing to give any reason.

4. I agree for the interview to be audio-taped.

5. I understand I will not be identified in any publication arising out of this study.

6. I understand that my name and identity will be stored separately from the data, and these will be kept in a locked cupboard and are accessible only to the investigator.

7. I understand that all information provided by me is treated as confidential and will not be released by the researcher unless required to do so by law.

Signature of Participant: __________________________ Date: ....../....../…….
Name of Participant: __________________________

Signature of Investigator: __________________________ Date: ....../....../…….
Anne Eades

Supervisor’s Signature: __________________________ Date: ....../....../…….
Professor Rhonda Marriott

My supervisors and I are happy to discuss with you any concerns you may have on how this study is being conducted and you can contact:

Anne Eades  Prof Rhonda Marriott  Prof Anne McMurray
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Reference List.


