

CHAPTER 1

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Indigenous knowledge is an integral part of human culture which is transmitted orally throughout generations. It plays an important role in the life of its developers by integrating the spiritual, social, economic and political aspects within a culture for a complete livelihood. Indigenous knowledge is often revealed through customs, values, lifestyles, traditions, and spiritual beliefs. It is the basis for self-sufficiency and self-determination because the technologies used to resolve disputes and conflicts, to provide food, shelter and health care are feasible. The people are familiar with indigenous practices and technologies and they can understand, handle, and maintain them better than the western practices and technologies (Warren, von Liebenstein & Slikkerveer, 1993).

There is a significant literature on indigenous knowledge of health care maintenance. Much of the existing literature is on traditional healing systems and the plant species that are exploited for medicinal purposes. Academics are the primary producers of most of traditional medicine literature with respect to its cultural, social relevance and historical development. Much research has been conducted by anthropologists through ethnographies; comprehensive records of the human cultural practices. Analysis of literature provides an informative historical account of the development of traditional medicine from time immemorial.

Research on traditional medicine covered local concepts of disease and illness, classification of diseases, a system of diagnosis and about traditional medical practitioners (Helman, 2000; von Wolputte & Devisch, 2002). Research on indigenous medical knowledge and traditional medicines gained momentum when the World Health Assembly (WHA) drew attention to the potential use of traditional medicine by urging member states to utilize traditional medical practices in primary health care (von Wolputte & Devisch, 2002).

The World Health Organization (WHO) highlighted the crucial role played by medicinal herbs in the health care systems of many developing countries. This was reinforced by the Alma Ata Conference in 1978, which recommended that governments should give priority to utilizing traditional medicine in national drug policies and regulations (WHO, 2002). Researchers from disciplines such as Anthropology, Botany, Biology and Pharmacology designed research projects to study different aspects of indigenous healing and their possible contribution to health practices including perception of health and disease, efficacy of the medicines, herbal medicine, and chemical properties of the medicines applied for remedial care (WHO, 2002).

Lack of extensive literature on the indigenous knowledge of health care necessitated the design of a qualitative and quantitative study to explore and describe the indigenous knowledge for preventive and curative care, and to measure the extent of herbal medicine used for self-care and dispensed by traditional health practitioners for primary care. The purpose of the study was to collect data on the use of indigenous knowledge for treatment and management of disease in four communities of the Northern Sotho in the Limpopo Province.

The focus of this research is on the traditional health practitioners, their patients and other community members' knowledge of cultural belief systems and values that promote good health and the plant medicines which they use for protective, preventive and remedial care.

The data presented in this study attempt to show that cultural groups have developed some indigenous strategies and mechanisms that are part of the moral code of conduct that lessen possibilities for attack by disease. Such cultural codes of practice control and shape the human conduct. Certain taboos and prescriptions should be observed, lest trespassers become predisposed to disease and misfortune. Despite observance of cultural taboos, cultural groups have general knowledge about phenomena, conditions and stimuli that cause most of the diseases that attack them. In this, the point of departure is the knowledge about phenomena, elements and conditions that predispose community members to disease and knowledge about the local mechanisms to prevent and protect themselves and families from attack by disease.

1.2 PROBLEM STATEMENT

What is the value of indigenous knowledge in providing primary health care? The value of indigenous knowledge for maintenance of health was ignored until The Alma Ata Declaration in 1978 emphasized the need for redistribution of functions and responsibilities with the purpose of reducing costs and at the same time increasing efficiency and productivity in the achievement of primary health care in developing countries. However, due to lack of adequate resources to fulfill primary health care needs, many countries adopted unorthodox measures such as employment of traditional health practices to meet health care needs. These practices included a wider use of locally produced herbal medicines and the need for incorporation of traditional health practitioners into the national health care systems. A number of countries in

Africa, Asia, and Latin America explored possibilities for developing their well-known and tested herbal remedies for use in primary health care (von Wolputte & Devisch, 2002).

Despite little evidence about the efficacy of traditional medicines and efficiency of the medical practices, many people around the world make use of the traditional medicines and practices to meet their primary health care needs. Most people are knowledgeable about the administration of a variety of plant medicines for curative and preventive purposes. The safety and efficacy of the medicines is guaranteed by their knowledge of the main health problems treated and the success in their treatment (WHO, 2002).

The WHO launched a Traditional Medicine Strategy 2002- 2005. The strategy was designed to assist countries to develop national policies on the evaluation of traditional medical practices for their possible integration into the National Health Plan. Traditional medicine, it is believed, could provide a sound basis for a cheaper, accessible and reliable primary health care delivery as it is culture-bound. The Traditional Medicine Policy was developed for the WHO member states to regulate the legal mechanisms on the promotion and maintenance of good practice as well as to ensure the authenticity, safety and efficacy of the medicines (WHO, 2004).

Research programs on traditional remedies and the regulation of their use were developed in most of the African countries to ensure the safety, efficacy, and the quality of these traditional medicines. Some African countries such as Ghana, Kenya, and Zimbabwe already have put legislation regulating the use of traditional medicine. South Africa passed Traditional Health

Practitioners Act, Act 35 (2007) for the regulation and registration of traditional health practitioners. A Traditional Medicines Database was set up by the South African Medical Research Council and it contains medical and botanical information on plants with healing properties, intended as a step towards setting safety, efficacy, and quality standards for traditional remedies and also in compliance with WHO Africa Region call for the implementation of the Bamako initiative (Truter, 2007).

South Africa developed a National Health Plan in 1994 which is based on a primary health care approach. The interface of traditional and modern medicine is likely to occur at this level where the community can participate and plan the provision of health care services. It is thought that traditional health practitioners could become important allies in organizing efforts to improve the health of communities. Despite this idea, complexities involved in implementing a policy on traditional health care are elaborate and multifaceted. The first problem relates to the implementation of government policy, which involves change in budgetary, personnel and time allocation. In addition, research into the testing and certifying of traditional remedies, the licensing and monitoring of traditional health practitioners are deemed necessary. The present situation is that traditional medicine is not yet well evaluated and integrated into the national health system. Much has to be done to evaluate safety and efficacy of the medicines used, especially herbal remedies (SAHR, 2001).

The present study makes contribution to South African Medical Research Council Traditional Medicines Databases by adding value to the use of traditional health practitioners and their medicines to meet primary health care needs. The results of the study will be valuable in the

creation of the South African Pharmacopoeia of medicinal plants. It is also anticipated that the results of study will contribute towards possible incorporation of traditional healing practices into the national health system for the following reasons:

- i. The study explored important aspects such as indigenous perception of disease, the indigenous mechanisms of preventive and curative care, a list of plant remedies and the conditions for which they are used for instances of self-medication and consultation with traditional practitioners.
- ii. The study provides insight on the public health of the target communities and gives opportunities for education and training of the communities on health matters.

1.3 STUDY AIM AND OBJECTIVES

1.3.1 Study aim

The aim of the study was to establish the extent to which indigenous knowledge is used to meet primary health care needs. The intension was to investigate the cultural practices and belief systems that serve as preventive measures against contracting diseases and whether they provide remedial care.

1.3.2 Objectives

The study objectives were:

- i. To explore and describe perceptions of traditional health practitioners, patients, and community members on disease and its main cause.

- ii. To identify and describe reasons relating to utilization of primary health care and health facilities in the study communities.
- iii. To identify and describe indigenous mechanisms employed for prevention and protection against diseases in the study communities.
- iv. To describe remedial care by self-medication and sought from traditional health practitioners amongst people in the study communities.
- v. To identify and record the indigenous medicinal plants used by the Northern Sotho and compare their medicinal value as applied by other cultural groups in South Africa, the African Continent and countries outside Africa as stated in the literature.

1.4 RESEARCH QUESTIONS

Data presented in this study are analyses of responses to research questions formulated to collect data on the use of indigenous knowledge for primary health care. Key questions were:

- i. What are the perceptions of traditional health practitioners, patients, and community members about diseases prevalent in their areas and communities where the study is conducted?
- ii. What are the reasons of respondents related to utilization of primary health care and health facilities in the study communities?
- iii. What are the indigenous mechanisms employed for the prevention and protection against disease in the study communities?
- iv. What are the remedial cares managed through the use of home-made therapy used by people in the study communities?

- v. What are the preventive and remedial care of primary health care sought from traditional health practitioners amongst people in the study communities?
- vi. What are the indigenous medicinal plants used by the study communities for maintenance of health care?
- vii. Whether or not the medicinal plants used by the Northern Sotho are the same or differ with other groups in Africa and other countries?

1.5 SIGNIFICANCE OF THE STUDY

The outcomes of the study will be useful in the following manner:

- i. The results of the study will be used to make the communities aware of health-related cultural values; i.e. about the use of indigenous knowledge systems to meet primary health care needs evaluated in this study.
- ii. Medicinal plant species identified by the respondents will be used to create monographs of the selected plants used at primary level.
- iii. The complete study will be made available to the public through the existing databases at the Medical Research Council's Indigenous Knowledge Systems Health Lead Programme to foster self-care, self-reliance and self-determination for the maintenance of good health.
- iv. Health care knowledge described in the study will make possible influence to policy change towards incorporation of beneficial traditional health practices into the national health care systems.
- v. Possible increased utilization of the services of traditional health practitioners as primary health care providers in the community.

1.6 OUTLINE OF THE CHAPTERS

This study presents data on the use of indigenous knowledge to meet primary health care needs, capturing a review of literature on indigenous knowledge and primary health care, theoretical framework, research methodology adopted to conduct the study, and the research findings. Together the chapters present the value of culture in health care.

Chapter 2 provides a review of literature from which the study objectives and research questions were formulated. The chapter gives a review of the definitions of indigenous knowledge and its importance. The chapter discusses aspects of the indigenous knowledge of health care, origin of primary health care and its successes and shortcomings. The chapter shows that the need to explore the indigenous knowledge to meet primary health care needs is necessitated by the shortcomings of current primary health care programs, which prompted the inclusion of community-based strategies and employment of locally applied herbal medicines for primary health care. The chapter also discusses the theoretical framework on which this study was designed.

Chapter 3 discusses the research methodology and background information on the study area. The chapter begins with a detailed overview of the study sample and the research techniques employed for collection and analysis of data. The second part provides information about the research sites. Information is provided on the ethnography (location, climate conditions, topography) and health related infrastructure necessary to understand the context in which the study on the use of indigenous knowledge for primary health care was conducted.

Chapter 4 presents analysis of the study results. The chapter presents analyses of qualitative data collected through interviews and quantitative data collected through questionnaire administration. The chapter is divided into nine sections. The first section presents data about the respondents' biographical data. The second section presents analyses of data that respond to the first objective. The objective of the study was to explore and describe perceptions of traditional health practitioners, patients and community members about disease and its main cause. The section presents data about the perception of disease by traditional health practitioners, patients and community members. The third section presents analysis of responses to the second objective. The objective of the study was to identify and describe reasons relating to utilization of primary health care and health facilities in the study communities. The section presents data on the types of health care facilities consulted for primary health care in the study communities.

The fourth section presents analyses of responses to the third objective. The objective of the study was to identify and describe the indigenous mechanisms employed for prevention and protection against disease. The section presents data on the indigenous mechanisms employed for prevention and protection against attack by disease in the study communities. The fifth section presents analysis of the question about remedial care by self-medication through administration of home-made therapies among people in the study communities. The sixth section presents analyses of responses to the fourth objective. The objective of the study was to describe remedial care through the use of home-made therapies for prevention and remedial care of primary health care sought from traditional health practitioners. The section presents

data on the preventive and remedial care of primary health care sought from traditional health practitioners.

The seventh section presents analysis of quantitative data collected during questionnaire administration. The eighth section presents analysis of responses to the fifth objective. The objective was to identify and record the indigenous medicinal plants used by the Northern Sotho and compare their medicinal value in other cultural groups in South Africa, the African Continent and other countries outside Africa as stated in the literature. The section presents data on the indigenous medicinal plants identified and used by the Northern Sotho communities to meet primary health care needs. Section nine presents a comparative analysis of the indigenous medicinal plants used by the Northern Sotho and other groups in South Africa, in the Africa Continent and other countries outside Africa.

Chapter 5 provides the interpretation of the research findings, conclusions and recommendations. The chapter presents evidence that the Northern Sotho indigenous systems of health care address basic elements of primary health care such as fostering self-care and self-reliance, community participation and the use of traditional herbal medicine for preventive, protective and remedial care. The chapter also makes recommendations that indigenous knowledge of primary health care should be preserved and promoted; and the medicinal plants applied for primary health care tested of their efficacy to deliver primary health care in a safe and competent manner.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

The primary focus of this chapter is a review of literature on three components of the study namely; indigenous knowledge, indigenous knowledge of health care and primary health care.

2.2 INDIGENOUS KNOWLEDGE

2.2.1 Introduction

Indigenous knowledge, particularly in the African context, has long been ignored and marginalized by outsiders. It was overlooked because it seemed messy and not obvious. Its oral character makes it vulnerable to rapid change especially when its owners are displaced or killed, or when younger generations acquire values and lifestyles different from their ancestors. Indigenous knowledge was widely regarded among development professionals as an academic, if not dilettantish, concern limited largely to social anthropologists. Much of the indigenous knowledge systems were seen as superstition. In the dominant model of development, useful knowledge was said to be generated in central places such as universities and laboratories, to be transferred to ignorant peasants and other poor people (Warren, 1995).

In the past few years these views have changed. The interest on indigenous knowledge was expressed in the scope of a number of academic disciplines in places such as America, India,

China, Australia, Europe and many parts of the African continent. Most academics working in the area of indigenous knowledge include anthropologists, development sociologists, botanists, pharmacists and geographers. Important contributions to the understanding of indigenous knowledge and decision-making were made in the fields of astronomy, ecology, soil science, veterinary medicine, forestry, human health, botany, zoology, agronomy, agriculture, mathematics, management sciences, information sciences and water resource management (Warren, 1995).

Social anthropologists contributed to the understanding and processes of indigenous knowledge. A substantial and growing minority of agricultural scientists have recognized the value of working closely with local farmers to investigate aspects of indigenous soil classification, ethnoveterinary medicine, land use and pest management (Lewanika, 2001). In university curricula, in programs for rural research and development, in project identification, design and implementation, in agricultural research and extension, and in discussion of paradigms for development, the balance of rhetoric has shifted, with less stress on the transfer of technology and more on learning from and with rural people (Emeagwali, 2003).

Today there is growing interest at national and international levels on the role that indigenous knowledge could play in participatory approaches to community development. Data generated through research showed the relevance of indigenous knowledge for sustainable development. The growing interest on the use of this knowledge is manifested in a myriad of activities generated within the local communities that are recognizing their own

knowledge for use in their educational systems and for planning purposes within national institutions where indigenous knowledge systems are now being regarded as invaluable national resources (Warren, Slikkerveer & Brokensha, 1995).

In South Africa, there is a clear realization of the potential impact of indigenous knowledge on a vast variety of other fields, such as government (languages, traditional local authorities, constitutional reform, land reform, and indigenous peoples' rights) and education (languages, environment and multicultural education). The recent discussions on African Renaissance, *ubuntu* and business management are certainly unique and are hopeful signs of more fundamental community development programs. It is undoubtedly the fields of traditional medicines that have led to the most pressing and complex debate on IKS and that of intellectual property rights (IPR) with enormous consequences setting national health and international trade at odds. Various development programs are underway to promote the use of indigenous knowledge in development programs and projects (www.pmg.gov.za. Accessed March 2008).

2.2.2 Definition of Indigenous knowledge

Literature provides several definitions of indigenous knowledge but the most often cited definition in the development discourse is that:

“The term ‘indigenous knowledge’ is used synonymously with traditional and local knowledge to differentiate knowledge developed by a given community from the international knowledge system generated through universities, government research

centers and private industries. Therefore, indigenous knowledge refers to the knowledge of indigenous peoples as well as any other defined community” (Warren, (1991:3).

Indigenous knowledge is tacit knowledge embedded in community practices, institutions, relationships and rituals, transmitted orally, or through imitation and demonstration, and therefore, it is not easily codifiable (Warren *et al*, 1993). Codifying it may lead to the loss of some of its properties. Learning through repetition is a defining characteristic of tradition even when new knowledge is added. It is experiential rather than theoretical in that its oral character hinders the kind of organization necessary for the development of true theoretical knowledge. Indigenous knowledge is characteristically shared, and sometimes it is referred to as ‘people’s science’, an appellation which existed from its generation in contexts of everyday production (Warren *et al*, 1993). However, its distribution is commentary, and does not devolve in individuals, but in the practices and interactions in which people engage them. It is dynamic and based on innovation, adaptation and experimentation.

Indigenous knowledge is therefore, the basis of self-sufficiency and self-determination for human beings for two reasons:

- i. People are familiar with indigenous practices and technologies. They can understand, handle and maintain them better than introduced western practices and technologies.
- ii. Indigenous knowledge draws on local resources. People are less dependent on outside supplies, which can be costly, scarce and available only irregularly (Grenier, 1998).

Indigenous knowledge provides effective alternatives to western know-how. It can give local people and development workers extra options when designing development projects. Instead of searching only among western technologies for feasible solutions, they can choose from indigenous knowledge or combine indigenous and western technologies. Indigenous technologies and practices were often cheaper than western ones. They rely on locally available skills and materials and often require little or no cash outlay (Warren *et al*, 1993).

Indigenous knowledge is a body of knowledge built up by a group of people through generations of living in close contact with nature. Such knowledge evolves in the local environment, so that it is specifically adapted to the requirements of local people and their conditions. It is also creative and experimental, constantly incorporating outside influences and inside innovations to meet new conditions. This type of knowledge provides the basis for local decision-making about many fundamental aspects of day-day activities in a society such as hunting and gathering, fishing, cultivating and animal husbandry, food production, maintenance of health, and adaptation to environmental or social changes (Warren *et al*, 1995: xv).

Another definition offered by Grenier (1998) is that indigenous knowledge is:

“The unique, traditional, local knowledge existing within and developed around the specific conditions of men and women indigenous to a particular geographic area. Its development, covering all aspects of life, including management of the natural resources, has been a matter of survival to the people who generated these systems. Such knowledge

systems are cumulative, representing generations of experience, and trial and error experiments” (Grenier, 1998:1).

Indigenous knowledge systems and technologies are found to be socially desirable, affordable, and sustainable and involve minimum risk to the local communities, and are believed to be good in the preservation of natural resources. Indigenous knowledge is local knowledge because it is rooted in a particular community and situated within broader cultural traditions and it integrates the spiritual, social and all other kinds of knowledge (Grenier, 1998).

It is therefore, important to mention that the definitions of indigenous knowledge perceive it in terms of space (local/particular area) and time (traditional). The definitions assert that indigenous knowledge is bound to a particular context determined by both social and material dimensions. It comprises a shared epistemology or ethos (cognitive or perceptual life, better described by some anthropologists as collective representations), shared norms and values, and any of a vast variety of rites, habits and technologies, all of which make up its practices. It is therefore, holistic in that it is concerned with the way things relate and fit together. It is non-mechanical, but social and people-centred.

2.3 INDIGENOUS KNOWLEDGE OF HEALTH CARE

2.3.1 Health care

Health care is the diagnosis, treatment and prevention of disease, illness, injury, and other physical and mental impairments in humans. Health care is delivered by practitioners in

medicine, chiropractic, dentistry, nursing, pharmacy, allied health, and other care providers. It refers to the work done in providing primary care, secondary care and public health. Health care is conventionally regarded as an important determinant in promoting the general health and wellbeing of peoples around the world (WHO, 2010).

Provision of health care is delivered in two ways namely; primary care and community care. Primary care refers to health care services that play a central role in the local community. Health care providers such as nurses, physicians and other health providers are the first point of consultation. Primary care involves the widest scope of health care, including the patients' ages', patients of all socioeconomic and geographic origins, patients seeking optimal health, and patients with varieties of diseases including mental, physical and social health issues. Continuity is a key characteristic of primary care, as patients usually prefer to consult the same practitioner for routine check-ups, preventive care and health education. Community care is accomplished through health care interventions such as food safety, surveillance, preventive and immunization campaigns delivered outside of health facilities. It includes the services of professional health care providers in residential and community settings in support of self-care, home care, long-term care and other types of health and social care services. Health care delivery is therefore, provided for personal and community-based preventive, curative and rehabilitative care services (Simmons, 2009).

2.3.2 Indigenous knowledge of health care

Indigenous knowledge of health care is widely accepted as traditional medicine or traditional health practices. This method of health care developed out of people's perception of health, response to health care needs and access to health care facilities.

Traditional medicine is a comprehensive term used to refer both to traditional medical systems such as traditional Chinese medicine, Indian *Ayurveda* and Arabic *Unani* medicine, and to various forms of indigenous medicine. Traditional health care therapies include medication therapies that involve the use of herbal medicines, animal parts and/or minerals and non-medication therapies if they are carried out primarily without the use of medication, as in the case of acupuncture, manual therapies and spiritual therapies. In countries where the dominant health care system is based on allopathic medicine, or where traditional medicine has not been incorporated into the national health care system, traditional medicine is often termed "complementary", "alternative" or "non-conventional" medicine (WHO, 2002).

Traditional medicine is defined in the Traditional Health Practitioners Act (Act 35 of 2007) as:

“ An object or substance used in traditional health practice for the diagnosis, treatment or prevention of a physical or mental illness, or any curative or therapeutic purpose including the maintenance or restoration of physical or mental health or well-being in human beings, but does not include a dependence-producing or dangerous substance or drug.”

Traditional health care practice refers to the performance of functions, activities, processes or services based on a traditional philosophy that includes the utilization of traditional medicine or traditional practice. The objective of a traditional health care practice is the maintenance of physical or mental health, diagnosis, treatment or prevention of physical or mental illness and rehabilitation of a person to enable him/her to resume normal functioning within the family or community (Truter, 2007).

Widespread use of traditional medicine

Traditional medicine is widely used and it is a rapidly growing health care mechanism in most countries. In Africa up to 80% of the population uses traditional medicine to help meet their health care needs. In Asia and Latin America, populations continue to use traditional medicine as a result of historical circumstances and cultural beliefs. In China, traditional medicine accounts for around 40% of all health care delivered. Meanwhile, in many developed countries, complementary and alternative medicine is becoming more and more popular. The percentage of the population which has used complementary and alternative medicine at least once is 48% in Australia, 70% in Canada, 42% in USA, 38% in Belgium and 75% in France. In many parts of the world expenditure on traditional medicine is not only significant, but growing rapidly (WHO, 2002, 2004).

Traditional medicine plays an important role in primary health care in many developing countries. It is estimated that 80% of the population in Africa alone; and 60% in South Africa, consult with traditional health practitioners before going to a primary health care practitioner (Pretorius, 1999). The broad use of traditional medicine is often attributable to its accessibility

and affordability. In Uganda, for instance, the ratio of traditional health practitioners to population is between 1:200 and 1:400. This contrasts starkly with the availability of allopathic practitioners, for which the ratio is typically 1:20 000 or less. Moreover, the distribution of such personnel may be uneven, with most being found in cities or other urban areas, and therefore difficult for rural populations to access. Traditional medicine is sometimes the only affordable source of health care especially for the world's poorest patients. In Ghana, Kenya and Mali, research has shown that a course of *pyrimethamine/sulfadoxine antimalarials* can cost several dollars. Yet per capita out-of-pocket health expenditure in Ghana and Kenya amounts to only around US\$ 6 per year. Conversely, herbal medicines for treating malaria are considerably cheaper and may sometimes even be paid for in kind and/or according to the “wealth” of the client. Traditional medicine is also highly popular in many developing countries because it is firmly embedded within wider belief systems (WHO, 2001, Truter, 2007).

2.3.3 Herbal therapy

Analyses of literature showed that herbal medicine is the oldest form of health care known to humans and the art of herbal healing is as ancient as human history. Medicinal uses of plants were developed through observation of wild animals, and by trial and error. The Doctrine of Signatures (Cotton, 1996), which is a religious or spiritual system of belief, holds that God put plants on the earth for their medicinal properties and that humans are glued in to their action by their shapes or other properties, for example, a leaf which looks like a kidney will treat kidney diseases. Later, Botanical and Anthropological studies on

indigenous medicinal plants' nomenclature and taxonomy provided evidence of the Doctrine of Signatures (Rankoana, 2000; Mailula, 2009).

It is estimated that 80% of the world population uses herbal medicine for some aspect of primary health care. Herbal medicine is a common element in Ayurvedic, homeopathic, naturopathic, traditional oriental, African traditional medicine and traditional Chinese Medicine. Many species of medicinal plants are known to have been used for remedial, prevention and protection against various diseases as well as in keeping men and women healthy. The World Health Organization proposed that proven traditional remedies should be incorporated within the national drug policies and also increasing the commercialization of pharmaceutical production by using traditional medicines with known efficacy (WHO, 2000; Helman, 2000).

The World Health Organization embarked on creating an inventory of the medicinal plants that are found in various parts of the world. The main objective with this bigger project is to define the appropriate methodology for assessing the safety and efficacy of vegetable drugs and to prepare texts on general test methods and individual standard specifications for medicinal plants in the form of an international codex or pharmacopoeia. In 1996, the organization initiated an 18 months review of wildlife medicinal resources in East and Southern Africa and Madagascar. The aim of the review was to identify species mostly exploited for medicinal purposes and to foster the need for their conservation and management. The results of the review showed that medicinal plant resources might be doomed to extinction by overexploitation resulting from excessive commercialization,

habitat destruction and other natural and human-made destructive influences unless conservation measures are taken to ensure their continued availability (WHO, 2000).

The main problem facing the use of traditional medicines is the requirements that the local communities are knowledgeable about the application of cheap and accessible traditional medicines to meet their primary health care needs, and that the active components contained in medicinal plants are useful, safe and effective. This requirement would be necessary to ensure the protection and preservation of indigenous medical knowledge and respect for those who hold indigenous medical knowledge and considering intellectual property rights. The overdue integration of traditional medicine into the national health plan is a result of lack of information on the safety and efficacy of traditional remedies (WHO, 2002).

For the purpose of the present study, the indigenous knowledge of primary health care was evaluated on the basis of the indigenous mechanisms and plant medicines the respondents in the study area employ for preventive, protective and remedial purposes. The study output will make a contribution to the overdue and slow process of integrating traditional medicine and practices into the national health plan.

2.3.4 African traditional health care

African traditional medicine is defined by the WHO Centre for Health Development as:

“The sum total of all knowledge practices, whether explicable or not, used in diagnosis, prevention and elimination of physical, mental or social imbalance, and

relying exclusively on practical experience and observation handed down from generation to generation, whether verbally or in writing.”

African traditional healing is therefore, intertwined with cultural and religious beliefs, and is holistic in nature. It does not focus only on the physical condition, but also on the psychological, spiritual and social aspects of individuals, families and communities (von Wolputte & Devisch, 2002; Richter, 2003).

2.3.5 Research on indigenous health care

Some aspects of indigenous health care in many parts of the African continent have been researched. Aspects such as belief in the cause of disease, the types of medicine used, diseases treated, the methods of administering medicine, type of practitioners, and the preservation status of the medicines, have been explored. In most of the research reports, there are striking similarities and differences, for example the *material medica* in all systems of health care encompass a rich heritage of indigenous herbal therapy, and there are also differences as to the training of practitioners, gender knowledgeable about the practices and disease etiologies. The similarities in the practices have attracted individual scholars and academic institutions to design studies and projects in most parts of the African continent such as Kenya, Ghana, Zimbabwe, Nigeria, Botswana, Mozambique, Swaziland and South Africa (Richter, 2003; Fennell *et al*, 2004; Truter, 2007).

In South Africa, several institutions have already established professional meetings and exchanges between traditional health practitioners and biomedical personnel. A number of

institutions continue to pursue research into traditional medicines. Different institutions have designed programs to promote the use of safe, effective and good quality essential traditional medicines. Other programs were designed to promote the documentation and scientific validation of traditional medicine to provide appropriate information to traditional health practitioners and other health professionals, Most of the institutions conducting studies on African traditional medicines include university departments (e.g. pharmacology, botany, chemistry, biochemistry, anthropology and sociology), government departments (e.g. Science and Technology; Agriculture and Land Affairs; Health; Education, and Trade and Industry), and research institutions (e.g. Council for Scientific and Industrial Research (CSIR), Medical Research Council (MRC), Agricultural Research Council (ARC), SAHR, 1999).

There is extensive contribution made by anthropologists, pharmacists, and botanists towards the understanding of local health care systems. Examples include the following:

Anthropologists:

In their studies on indigenous health care systems, anthropologists considered the cultural context within which the systems are practiced and studied. Therefore, a review of the cultural practices of the cultures studied such as cosmological, economic, political and social aspects was done to give background of the healing practices. It is shown that aspects such as gender, age, economic status, access to biomedical health practices, availability of natural resources, be it indigenous plant species, and cosmological view, determine therapy-seeking behaviour. Later, anthropologists described traditional healing practices and organization, reviewed their utilization and assessed the cultural and legal position among different

cultural groups. Researchers include among others Kriel, 1992; Kokwaro, 1995; Sargent & Johnson, 1996; Du Toit, 1998; Mabunda, 1999; Rankoana, 2001)

Psychologists:

Psychologists reviewed the traditional beliefs and customs with regard to mental illness and health among rural and urban communities. The studies attempted to provide a taxonomy and brief synopsis of culture-bound syndromes and offered guidelines in their diagnosis and treatment for the mental health professionals trained in the Western medical and psychological tradition (Peltzer *et al*, 2001a).

Botanists:

Much of the wealth of ethnobotanical knowledge in the rural communities has been recorded by the pioneers of ethnobotany. The studies provided an essential inventory of medicinal plants based on literature survey and field work. The indigenous plant species were described in a clear and systematic format, and were scientifically tested. The accurate and consistent identity of each plant species reported is crucial for the safe use and preservation of such information. Information regarding medicinal plants inventories is stored in botanical institutes in Pretoria and Fort Hare (Mabogo, 1990; Hutchings, 1996; van Wyk & van Oudtshoorn, 1997).

2.3.6 The Northern Sotho indigenous health care systems

A review of literature indicates that the use of indigenous knowledge for primary health care among communities of the Limpopo Province has not yet been studied in detail. In their

studies on the Northern Sotho ethnomedical practices; Kriel, (1992); Mabunda, (1999); and Rankoana, (2001), have not elaborated on the use of indigenous knowledge to meet primary health care needs. An ethnobotanical study of Rankoana (2000) has given a detailed analysis of the cultural significance of indigenous plants, but it was not aimed at a detailed analysis of the application of herbal therapy for primary health care. Therefore, the present study fills this gap by focusing on the use of indigenous knowledge for remedial, preventative, and protective purposes of primary health care among four communities of the Northern Sotho.

The present study is an anthropological enquiry into the use of indigenous knowledge for primary health care. The emphasis in this study is on cultural values, practices and knowledge systems that are necessary for the maintenance of good health. Fewer literature on the role of culture in health care necessitated an enquiry into the use of indigenous knowledge for primary health care among rural communities in the Limpopo Province.

2.4 PRIMARY HEALTH CARE

2.4.1 Aspects of primary health care

Primary health care is essential health care based on practical, scientifically sound, and all socially acceptable methods and technologies made accessible to individuals and families in the community. Health care is offered through the community's full participation at a cost the community and the country could afford to maintain the spirit of self-reliance and self-determination. Primary health care is an approach to health care that promotes the attainment of good health by all people at a level that will permit them to live socially and economically productive lives. This type of health care is health care that is essential,

evidence-based, ethical, accessible, equitable, affordable and accountable to the community (WHO, 2004).

Primary health care incorporates personal care with health promotion, the prevention of illness and community development. The philosophy of this type of care includes the interconnecting principles of equity, access, empowerment, community self-determination and intersectoral collaboration. It encompasses an understanding of the social, economic, cultural and political determinants of health. Primary health care is, therefore, based on five main principles of equity, community participation, inter-sectoral approach, appropriate methods and health promotion and prevention as stated by Keleher (2001):

(a) *Equity*

The principle implies that health care services should be physically, socially and financially accessible to everyone. People with similar health care needs should have equal access to similar services. To ensure equal access, the distribution of resources and coverage of primary health care services should be greatest in those areas with the greatest need.

(b) *Community participation*

In addition to the health sector, families and communities need to get actively involved in taking care of their own health. Communities should participate in activities such as creating and preserving a healthy environment, maintaining preventive and promotive health activities, sharing information about their needs and wants with higher authorities and implementing health care priorities and managing clinics and hospitals.

(c) *Inter-sectoral approach*

Primary health care requires a coordinated effort with other health-related sectors whose activities impact on health for example, agriculture, water and sanitation, transportation and education. This is necessary to achieve social and economic development of a population. The health sector should lead this effort. The commitment of all sectors may increase if the purpose for joint action and the role of each sector is made clear to all concerned.

(d) *Appropriate methods*

An increasing complexity in health care methods should be observed upward in primary health care. Care-givers should be trained to deliver services using the most appropriate and cost-effective methods and equipment for their level of health care.

(e) *Health promotion and prevention*

Primary health care requires a comprehensive approach that is based on the following interventions:

- i. Promotive- addresses basic causes of ill-health at the level of society
- ii. Preventive- reduces the incidence of disease by addressing the immediate and underlying causes at the individual level.
- iii. Curative- reduces the prevalence of disease by stopping the progression of disease among the sick.
- iv. Rehabilitative- reduces the long-term effects of complications of a health problem.

Primary health care is the main vehicle through which an acceptable level of health could be achieved. It is concerned with the main health problems in the community and the services reflect the political and socio-economic patterns. In order to make this healthcare readily accessible and acceptable in the community, maximum self-reliance and community participation for health deployment are essential. Such involvement enables communities to deal with their health problems in the most suitable ways, and community leaders are in the better position to make rational decisions concerning primary health care and to ensure appropriate support for health projects (Helman, 2000; von Wolputte and Devisch, 2002).

Due to the high cost of primary health care, there was a dire need for developing countries to redistribute functions and responsibilities with the purpose of reducing costs and at the same time increasing efficacy and productivity. On the whole, facilities and health manpower were reasonably adequate. Many such countries, due to lack of adequate resources to fulfill these, adopted unorthodox measures such as the exploitation of useful traditional health practices. These included a wider use of locally produced herbal medicines and the incorporation of traditional health practitioners into the health team (WHO, 2002).

2.4.2 The role of traditional medicine in primary health care

The use of traditional medicine to meet primary health care needs goes back to 1978 when the World Health Assembly (WHA) drew attention on the potential use of traditional medicine by urging member states to utilize traditional medical practices in primary health care (WHA, 2003). The World Health Organization highlighted the crucial role of medicinal herbs in the health care systems of many developing countries. This was reinforced during

the Alma Ata Conference of 1978 where it was recommended that governments should give priority to the full utilization of human resources by defining the role, supportive skills and attitudes required for each category of health worker according to the functions that needed to be carried out to ensure effective primary health care. It was further recommended that a team composing community health workers, development workers, nurses, midwives, physicians, and where applicable, traditional medical practitioners and traditional birth attendants be constituted for primary health care delivery (WHO, 2004).

The Alma Ata Declaration recommendations mandated member states to define the role traditional health practitioners and birth attendants could play as members of the primary health care team. It became apparent that the goal of Health for All by the Year 2000 would never be achieved unless all existing community resources, including traditional health practitioners, are mobilized and used more effectively in community health initiatives. Therefore, the WHO launched Traditional Medicine Strategy in the Year 2000. The strategy was designed to assist countries to develop national policies on the evaluation of traditional medical practice for the possibility of its integration into the National Health Plans. Traditional medicine, it is believed, could provide sound basis for a cheaper, accessible, and reliable health care delivery because it is culture-bound. A Traditional Medicine Policy was developed for the regulatory and legal mechanisms regarding the promotion and maintenance of good practice as well as to ensure the authenticity, safety, and efficacy of the medicines (WHO, 2005).

2.4.3 Development of traditional medicine and its integration into national health care systems

The World Health Organization supports the development of traditional medicine in several regions of the world such as the Western Pacific, South-East Asia, European Region, America, Mediterranean, and African Region. The WHO helps the Member States to facilitate regional information exchange, and supports efforts to ensure product safety, and availability of trained, qualified human resources. Member states in Asia, Europe, America and Africa explored the possibility for developing their well-known and tested herbal medicines for use in primary health care. Therefore, primary health care devolved on the herbalist, traditional midwife and other traditional health practitioners. Traditional health practitioners remained true community health care workers in their societies and invariably have the confidence of their community members, and whatever their level of skills, they understand the real health needs of their communities (WHO, 2002).

The Western Pacific has a rich traditional medicine heritage, which its countries are keen to optimize. At the 1997 and 1999 Meetings of Ministers of Health of the Western Pacific, participants iterated their full support for the wider application and development of traditional medicine in efforts to improve health status. The Regional Office for the Western Pacific (WPRO) not only supports countries in drafting national traditional medicine policy and regulations, but also facilitates integration of traditional medicine into health service systems. For example, the WHO helped in the drafting of guidelines, signed on 8 December 1997, which created the Philippine Institute of Traditional and Alternative Health care. It also assisted Papua New Guinea in preparing a national traditional medicine policy that has since

been incorporated into the country's 2001–2010 health plans. This policy identifies research into traditional medicine as a top priority. In Singapore, the Traditional Chinese Medicine Practitioners Act, incorporating a number of recommendations made by Western Pacific Regional Office (WPRO) on the regulation of traditional health practitioners was passed by Parliament in the year 2000 (WHO, 2002).

Full-time traditional medicine degree courses are offered at universities in Australia, China, Hong Kong, Japan, the Republic of Korea and Vietnam, many of which have benefited from WPRO input. Other WPRO activities have included development, in 1997, of *Guidelines for the Appropriate Use of Herbal Medicine*, to promote appropriate use of herbal medicines by countries in the region. The guidelines could be used to help formulate national policies and programs on herbal medicines. Creation and implementation of national traditional medicine policies is in fact an area in which WPRO is becoming more and more involved in. In late 1999 the WHO consultation on traditional medicine and allopathic medicine examined harmonization of the two systems of health care to achieve maximum health impact (WHO, 2002).

Traditional medicine is widely used and respected throughout South-East Asia. In 1998, the South-East Asian Meeting of Ministers of Health recommended that this “rich heritage” and “important resource” be used more effectively in implementing primary health care in the countries of the region. In response, the South East Asian Regional Office (SEARO) organized a regional consultation on the development of traditional medicine, in the following year. The consultation focused on strengthening national traditional medicine programs and

the role of traditional medicine expertise in improving district health systems. Additionally, information on national policy and regulations on traditional medicine was shared.

SEARO continues to actively support individual countries in their efforts to develop national policy on traditional medicine and to integrate traditional medicine into their national health care systems. In particular, the WHO has supported the activities of the Department of Indian Systems of Medicine and Homeopathy, which was established within India's Ministry of Health and Family Welfare in 1995. During 1998 and 1999, the Department increased efforts to standardize and promote quality control of *Ayurvedic*, *Unani*, *Siddha* and homeopathic medicines. It also finalized good manufacturing practice guidelines for *Ayurvedic* medicines and promoted education in Indian traditional medicine (WHO, 2002).

Fewer countries such as Nepal, India, Thailand and Myanmar have already incorporated traditional medical systems into the public health system. Other countries such as Indonesia and Maldives have not yet adopted traditional medicine in their health care delivery systems. In the Asian region, due to the strong presence of codified knowledge systems, folk medicine does not receive adequate support though there is high usage by the public (Gaitonde & Kurup, 2005).

In America, the Association of Medical Reporting Organizations (AMRO) working group reviewed the use of traditional medicine (including national policy and regulation) in its region, and proposed two meetings on the regulation of herbal products and research into indigenous medicine. The current role of the WHO Traditional Medicine Strategy 2002–2005

is to analyze issues relating to national policy, economics, and regulation and registration of herbal products. Additionally, the WHO guidelines for assessing the safety and efficacy of herbal medicines were introduced, and participants adopted a proposal on common requirements of registration of herbal products. The latter will facilitate further integration of traditional medicine into national health care systems in the Americas. Regulation and registration of herbal medicines, in particular, have been established in Bolivia, Chile, Colombia, Costa Rica, Ecuador, Honduras, Guatemala, Mexico, Peru and Venezuela.

In America, there is a high use of traditional medicine through folk healers such as herbalists, bonesetters and spiritual therapists. The use of traditional medicine increased in the form of herbal therapy, acupuncture, homeotherapy and massage therapy. Many American countries established departments in health ministries, research institutes for testing the effectiveness and safety of traditional medicine (Gupta, 2005).

In the European Region, more than twelve Western European countries established or revised their regulation on herbal medicines in accordance with the WHO *Guidelines for Assessment of Herbal Medicines*. The WHO is increasingly active in advising European countries on the regulation of traditional and complementary medicines and how to evaluate their safety and efficacy. In the year 1999, European parliament made four calls for initiatives on official recognition of various traditional and complementary medicines and setting up appropriate commissions; developing a framework for safety, efficacy and areas of applicability, and define and categorize different forms of traditional and complementary medicines. At present there is a trend towards legalizing traditional and complementary medical practitioners and

introducing regulation and licensing systems. Many countries in the region established national departments or bodies that will research into the safety, efficacy and application of the medicines (Ong *et al*, 2005).

In the Mediterranean region, traditional medicine is divided among popular knowledge, healers, codified systems and traditional, complementary and alternative medicine therapies. The region has developed guidelines for the registration of herbal products and technical guidelines for safety, efficacy and quality control of herbal medicines. The result is considerable diversity in the types of systems used, reasons for public choice, the extent of official; acceptance and recognition (El-Gendy, 2005).

The WHO Regional Committee for Africa adopted a resolution in the year 2000 on *Promoting the Role of Traditional Medicine in Health Systems: a Strategy for the African Region*. The resolution recognized the importance and potential of traditional medicine for the achievement of *Health for All* in the African Region, and recommended accelerated development of local production of traditional medicines. The resolution further urged Member States to translate the strategy into realistic national traditional medicine policies, backed up with appropriate legislation and plans for specific interventions at national and local levels, and to collaborate actively with all partners in its implementation and evaluation. Concrete results as a result of development of the strategy are now beginning to be seen. They include legal frameworks for traditional medicine in sixteen African countries (WHO, 2005). According to a regional overview in the WHO African Region only 50% of the population has access to essential health care while 80% continue to rely on African traditional

medicine including herbal medicine, spiritual therapies, and natural therapies. Traditional medicine is largely transmitted through oral knowledge and around 4000 species are used in African traditional medicine which is predominantly 90% plant-based. Currently over half of the countries in the region have formulated traditional medicine policies and majority have established national departments in the health ministry and have developed strategies for the promotion of traditional medicine (Kasilo *et al*, 2005).

African heads of states and Governments declared 2001-2010 as the Decade for African Traditional Medicine. In a recent meeting of African Health Ministries, they have extended this from 2011-2020 as the 2nd decade for African Traditional Medicine. Research programs on traditional remedies and the regulation of their use were developed in most African countries to ensure the safety, efficacy and the quality of traditional medicine. South Africa set up a Traditional Medicines Database that contains medical and botanical information on plants with healing properties, intended as a step towards setting the safety, efficacy and quality standards for traditional remedies (WHO, 2005; Kasilo *et al*, 2005).

Most African countries have so far recognized the important role that traditional medicine could play to meet primary health care needs. There is a general feeling that the future of traditional health practitioners is bright because it is widely used and respected, especially by the rural population, which constitutes the majority. In Morocco, the use of traditional medicine is acknowledged. Both traditional and Western oriented medicines are acknowledged. Morocco has not made any attempt to incorporate traditional medicine into the national health plan although generally, medical doctors have interest in traditional

medicine. In Ghana traditional medicine is actively promoted due to the cost of Western medicine. Traditional birth attendants play a significant role in the rural areas where access to modern medical facilities is poor. In the year 2000, the Ghanaian Government established a council to regulate the practice of traditional medicine with the hope that by the year 2004 certified herbal medicines would be prescribed and dispensed in hospitals and pharmacies. Traditional health practitioners are able to treat many of the diseases that hospital doctors and nurses cannot attend to (WHO, 2005).

South Africa developed a new health plan; Primary Health Care which, is based on the primary health care approach in response to the WHO strategy on the promotion of traditional medicine and its possible integration into the National Health Plan. The interface of traditional and modern medicine is likely to occur at this level where the community can participate and plan the provision of health care services. It is thought that traditional health practitioners could become important allies in organizing efforts to improve the health of the community (SAHR, 1999).

The South African Health Department is committed to incorporating the traditional medical sector into the national health system and has set the necessary procedures in motion. The complexities involved in implementing a policy on traditional health care are elaborate and multifaceted. The first problem relates to the implementation of government policy, which will involve change in budgetary, personnel and time allocation. In addition, research into the testing and certifying of traditional remedies, as well as the licensing and monitoring of traditional health practitioners is deemed necessary (SAHR, 2000).

The WHO required that before traditional medicine could be incorporated into the National Health Plan, even before it is outrightly rejected; it has to be evaluated of its safety and effectiveness. In response to this requirement, South Africa through the Medical Research Council conducted several studies to validate the use of traditional medicines for the possible incorporation and promotion of those shown to be safe and effective into the national health system. The council has an Indigenous Knowledge Systems Lead Programme whose aim is to develop, promote and protect indigenous knowledge systems and its innovative systems of health through education, systems research, research and development, and development of policies that would be beneficial to all people. The main objective of the unit is to promote the understanding, recognition, integration and affirmation of traditional healing systems and practices. Another objective is to conduct tests and evaluate the medicines used by traditional health practitioners, and to develop the substances to be used in chronic conditions such as HIV and AIDS, malaria and cholera as well as providing this information on the medicines for the general public. The unit liaises at the national level with traditional health practitioners and academic institutions to obtain medical and botanical information on plants with healing properties, with a view to setting safety standards for herbal remedies (SAHR, 2001).

The quality assurance of herbal medicine is developed through scientific research on specific ingredients, potential effects and side-effects and the safe dosage. The Medical Research Council, in collaboration with the South African Traditional Medicine Research Group (SATMeRG), is assisting the Government in making attempts towards the possible interfacing of traditional medicine in primary health care as endorsed by the WHO in 1998.

The aim of this collaboration is the promotion of rational use of traditional medicine. All these would be in line with the aims of the WHO Collaborating Centre for Drug Policy established in the Western Cape in 1995 as a shared venture of University of the Western Cape's Pharmacy School and University of Cape Town's Division of Pharmacology. The Council for Scientific and Industrial Research (CSIR) is working in partnership with the Medical Research Council and the World Health Organization. The institute is researching and evaluating traditional medicine and explores their potential to help in addressing the health and economic needs of the country and the African continent (SAHR, 2001).

2.4.4 Perspectives on primary health care

2.4.4.1 Introduction

Many health care problems, such as poor sanitation and lack of clean running tap water supply, lack of proper health services, together with poor housing and poverty were mostly experienced during the 1970s, particularly in the rural areas in the African Continent. These problems contributed to high morbidity and mortality rates of children that could have been prevented with the correct measures. The WHO considered primary health care as one of the strategies comprehensive enough to address the financial, developmental, health, educational and other problems that existed in these countries and which affected the quality of life (Dennill *et al*, 1999).

The Republic of South Africa experienced problems of sanitation and lack of clean running tap water supply, lack of proper health services, together with poor housing and poverty, though to a lesser extent, the proposed primary health care strategy in the country was seen

as a way of providing quality comprehensive health care to all citizens. The Department of Health subsequently adopted primary health care. In 1996 this strategy was incorporated into the country's National Health Plan for South Africa (Dennill *et al*, 1999).

Throughout much of the twentieth century, South Africa was a global leader in the conceptualization and development of the Primary Health Care approach. Its seminal contributions include: the Pholela Health Centre Model; the pioneering health system policies of the Gluckman Commission; development of the community-oriented primary care movement; the apartheid-era emigration of South Africa's leading community-oriented primary care proponents and subsequent dispersion and development of community-oriented primary care internationally; the development of progressive Primary Health Care Movement; and experimentation with new models of health service delivery and primary care. These achievements remained fragmented and of limited impact as a result of hostile state interventions and an egregious policy environment prior to and throughout the apartheid era (SAHR, 2001).

Despite structural reform and genuine commitment to achieving 'Health for All' over a decade, a series of obstacles continue to limit the full implementation of Primary Health Care strategies today. These include: the HIV and AIDS pandemic; health worker shortages and inequities in resource distribution; shortcomings of political, public sector and medical leadership; and a complex and protracted health transition. While there is strong justification for a renewed commitment to, and major investment in Primary Health Care today, this effort must go beyond addressing these persisting challenges, and more broadly incorporate

innovative health system designs and experimental work at scale, in order to reorient today's over-bureaucratized and often rigid primary care system (Baloyi, 2009).

The sub-section below provides a review of literature on the health care providers', traditional health practitioners' and the patients' perspectives on the primary health care model.

2.4.4.2 Primary Health Care: The health care provider's perspective

Since the Alma Ata Recommendation in 1978, many health care providers were selected and offered training in primary health care. Primary health care providers are medical doctors, nurses and community health care workers whose task is to improve the health of communities, often in co-operation with the communities or agencies and organizations. They provide health care services that range from curative and preventive strategies, child care, family planning, healthy nutrition, immunization and hygiene. The health care providers perceive primary health care services as the first hand accessible health care services provided to the patients and communities at an affordable cost. Primary health care was accepted as the first and nearest contact between the individual and the health care system (Helman, 2000).

The professional staff evaluation of the effectiveness of primary health care is that states are far behind in terms of access to care, the use of financial incentives to improve the quality of care, and the use of health information technology. In some countries, national policies have speeded up the adoption of such innovations. Health care providers hold that strong primary care is associated with good health outcomes and lower costs. It can also help meet the

challenges presented by aging populations and the rising incidence of chronic disease. Across the globe, countries are working to redesign their primary care systems by investing in information technology, accessibility, teamwork, integration, and quality improvement. They are also working to reform delivery systems and payment policies (Starfield, 1998).

2.4.4.3 Primary health care: The patient's perspective

Equitable access to health care for all people is a fundamental principle of a health care system. Health care systems that fail to provide equitable access for diverse populations can increase the gap in health disparities. Access to and utilization of primary health care services is one pathway by which inequalities; geographic, economic, and cultural can influence population health, and equitable access to health services continues to be a common concern across geographic locations. For universally available health services, examining how to deliver these services and make them accessible regardless of geographic location from health providers' and patients' perspectives is needed. Previous studies have examined geographic access issues related to rural health care and services from the perspective of health care providers. However, less is known about how geographic access to primary health care contributes to health disparities from individuals' perspectives (Wong & Regan, 2009).

In most industrialized countries, a larger number of illnesses are culturally defined and still rooted in traditional folklore, many of them largely believed to be difficult to cure by modern medical practices. In addition, certain dreadful diseases such as cancer, heart disease and HIV and AIDS have also become traditionally explained. Often these conditions are linked with traditional beliefs about the moral nature of health, illness and human suffering. These

diseases have come to symbolize the general anxieties some people have, such as fear of the breakdown of ordered society, of invasion or of divine punishment (Hadorn, 1991).

It is argued that despite cultural values, socio-economic factors have implications on the effectiveness of primary health care services. Scientists observed that attempts at improving health and preventing disease will be pointless unless larger social, economic and ecological issues are also addressed. These include the overpopulation, pollution and global warming. Another issue is the enormous inequality in wealth and resources between different parts of the world. It is estimated that the world's richest, which is only 20%, are 150 times richer than the world's poorest 20%, and that the gap between the two is steadily widening (Field & Briggs 2001). The evidence, therefore, is that the organization of any system of primary health care, whatever its ideology or origin, must always take these wider socio-economic and ecological issues into consideration. In order to be truly effective, it must always have some comprehensive cultural element in it.

Patients have a negative perception of primary health care. Health care services are characterized by long queues at clinics and hospitals, impersonal and often inconsiderate health care workers, inadequate explanation of the diagnoses and procedures performed dehumanize care and the medical environment. The negative attitude towards primary health care models especially among Africans is reinforced by superstitious beliefs with deep-rooted traditions that make it difficult for them to understand and cooperate with modern health care providers and their services (World Bank, 1993).

Many health care problems addressed by the comprehensive primary health care model are the result, direct or indirect of poverty, especially the inability to afford adequate food, housing, clothing, sanitation, garbage removal, transport and health care. For the rural poor of Third World countries, another major obstacle to health and health care is not their cultural belief systems, but the lack of physical infrastructure, especially roads, railways, bridges, electric power, street lights, telephones, hospitals and clinics. Bad roads, infrequent or expensive public transport and long distances to travel to a clinic may influence their ability and willingness to seek medical care (World Bank, 1993).

The prerequisite for the success of primary health care is dependent on the recognition of beliefs and perceptions about cultural factors influencing health. A successful health care practice embraces the patient's beliefs and patterns of behavior. Such beliefs and behavior are governed by cultural beliefs. Patients usually make decisions regarding their health care by deciding when and whom to consult, whether or not to comply, when to switch between treatment alternatives, whether care is effective and whether they are satisfied with its quality. Although primary health care models have been beneficial to patients, literature analysis shows that the patients use the services only partially (Helman, 2000).

It was assumed that the first contact between African patients and health care services should take place in the traditional healing system and therefore, challenges health care workers to realize that the traditional health service is important if primary health care is to succeed. Traditional health practitioners are described as the most important primary health care service in an African setting. The patient's ability to visit traditional health practitioners

and at the same time make use of primary health care services indicates his/her desire to exercise freedom of choice and the interrelationship between the two medical systems. It is in the patients' best interest that each system respects the other's different perspective (Chipfakacha, 1994).

Patients in some areas of Limpopo Province are dissatisfied with the manner in which primary health care services are rendered, such as long waiting times at the primary health care clinics. Their frustration is often compounded by the fact that they had to leave without seeing a health professional or without medication. The patients tend to lose their confidence in the health service, or become ill, and cannot return for a prescription or further treatment. This lowers the compliance rate of patients with conditions such as tuberculosis with devastating effects for the individual and the country. This situation demands that there should be well-trained and competent registered primary health care nurses, necessary commitment, responsible authorities, proper infrastructure and resources to render good quality health care (Rapakwana, 2004).

2.4.4.4 Primary health care: The traditional health practitioner's perspective

The primary health care model was designed to involve traditional health practitioners and their services to address the health care problems in their communities. Traditional health practitioners would be important allies in primary health care because they are knowledgeable about the types of diseases that attack their community members, and are well known health care providers offering holistic treatment. Involvement of traditional health practitioners in the health care systems required that the medicines they dispense for

treatment of disease should be tested of their efficacy and toxicity. Many of the medicines were tested and proved to be ineffective. Although many countries succeeded in incorporating traditional health practitioners into their national health care systems, some countries such as South Africa and Lesotho are in the process of testing the efficacy and safety of the medicines through scientific research (Chipfakacha, 1994).

Traditional health practitioners are promoted as an intrinsic part of primary health care. The World Health Organization intended to involve traditional health practitioners in primary health care, for example in the WHO Essential Drug Programme, but without causing too much disruption to local cultural patterns. The Essential Drug Programme was established to help the member countries develop national drug policies for selecting, procuring, storing and distributing essential drugs, and through training and monitoring for proper use of drugs. The policy was aimed at ensuring regular supplies of affordable drugs of good quality. Many of the drugs would be produced locally, or bought cheaply in bulks from pharmaceutical firms in their generic forms. In South Africa, opposition to the Essential Drug Programme came from pharmaceutical firms and the local populations. Traditional health practitioners' objection on the programme stemmed from fear of biopiracy and the fact that their knowledge of health care and treatment of disease would not benefit them (Setswe, 1999).

Traditional health practitioners' dissatisfaction with the World Health Organization intention to engage them in primary health care services stemmed from the realization that they offer health care service which is holistic in nature, for chronic and serious life-

threatening disease conditions as well. This implies that they deal with the complete person, and provide treatment for physical, psychological, spiritual and social well-being. The treatment offered by the traditional health practitioners embraces some important aspects of health care outlined in the scope of primary health care. For example, they often encourage self-reliance by stressing the importance of diet, exercise and observance of cultural taboos, all of which may have real preventive value. In addition to the above, the services of traditional health practitioners fulfill four principles of primary health care namely; equity, community participation, appropriate methods and health promotion and prevention. The services are acceptable and accessible to the people, and there is use of available manpower and resources to meet the health care needs of communities (Helman, 2000).

2.5 THEORETICAL FRAMEWORK

2.5.1 Introduction

This section gives an analysis of the theoretical perspectives employed to design this thesis. The present study framework was designed according to three theoretical perspectives namely; the Ethnomedical Model, which is a sociological approach to the study of health and health care, the Explanatory Model, which assumes that there are explanatory models for disease and health labeled by patients, families and community members, and the Health Promotion Model, which assumes that certain actions and behaviors are good determinants of health.

2.5.2 Ethnomedical Model

The study on the use of indigenous knowledge for primary health care embraces two important aspects of a health care system; i.e. indigenous conceptualization of diseases (traditional beliefs about the nature and cause of disease) and the health care delivery (prevention, protection and cure). The framework related to this type of study is called the ethnomedical or often also called the Socio-cultural approach. The ethnomedical approach studies medical problems as socio-cultural phenomena. Health care and disease are seen as culturally definable. For anthropologists who regard a culture as a symbolic system, the people's view of health and illness is part of that system. It was stated that:

“Any disease is in part a cultural construct. Disease derives much of its form, the way it is expressed, the value it is given, the meaning it possesses and the therapy appropriate to it in large measures from the system of symbolic meaning” (Sargent & Johnson, 1996:117).

Adoption of the ethnomedical approach in a study; is to investigate how a particular group of people perceives and deals with health and disease. This approach embraces the study of health beliefs, healing techniques and medical practitioners as phenomena related to the culture and society in which they are found. An ethnomedical approach illuminates how a society's culture creates specific problem solving mechanisms involving health, illness and medical practice. Literature on ethnomedicine, amplifies the importance of understanding the various paradigms of disease and health care which are bound to culture, social construction and at least in part, to their worldview (Fabrega, 1995).

2.5.3 The Explanatory Models

The Explanatory Models are formed from a variable cluster of cultural symbols, experiences and expectations associated with a particular disease and a health care mechanism. The models provide disease labeling and a cultural idiom for expressing the experience of disease and health care. They provide interpretations of disease to guide choices among available therapies and to cast personal and social meaning on the experience of disease. The Explanatory Model for a particular disease consists of signs and symptoms by which the disease is recognized, presumed cause, recommended therapies, the pathophysiology of the disease and prognosis (Sargent & Johnson, 1996)

2.5.4 Pender's Health Promotion Model

Pender's framework purported that the acquisition and maintenance of health-promoting behavior depends upon three components: cognitive/perceptual actors, modifying factors and cues to action. The framework supports the theory that attaining and maintaining health depends on actions and behaviors undertaken by the individual threatened by real or potential disease. The theory hypothesizes that some individuals or groups develop life styles and patterns of behavior which are aimed at the attainment of higher levels of wellness and positive health states, not just the avoidance of disease. The model contains cognitive-perceptual factors, modifying factors and cues to action. Each category addresses an aspect of human behavior (Pender, 2005).

Cognitive/perceptual factors, for example perceived self-efficacy, perceived health, definition of health and perceived barriers are considered to be the primary mechanisms

directly affecting the chance of adopting health-promoting behavior. Modifying factors, for example demographic characteristics, biological characteristics and interpersonal influences, are mediated through the cognitive perceptual factors. Cues to action may be internal or external and serve to stimulate behavior actions such as feeling of elation after exercise, peer encouragement and mass media (Pender, 2005).

2.5.5 Usefulness of the three models to the thesis

2.5.5.1 Ethnomedical Model

The usefulness of the ethnomedical approach refers to its practicality in the present study. The ethnomedical model provided a framework on which to explore the use of indigenous knowledge for primary health care. The model provided a framework upon which to develop the research methods such as study design, sample, data collection and analysis methods that were helpful in the collection of qualitative data about the Northern Sotho indigenous health care practices and medical ethnobotanical knowledge.

2.5.5.2 Explanatory Model

The researcher used the explanatory model as a focus around which the research questions were formulated. The research questions for this thesis were formulated to explore the indigenous knowledge, systems and practices that are used to prevent and cure the most common diseases and ailments that attack the Northern Sotho; which is an important element of primary health care. The study sample consisted of a variety of units of analysis including patients, traditional health practitioners and ordinary community members to obtain extensive data on the indigenous knowledge of cultural idioms for expressing the

experiences of disease. A holistic approach was adopted to collectively explore the cultural values, experiences and expectations associated with disease and health care mechanisms.

2.5.5.3 Pender's Health Promotion Model

The health promotion model was used to examine the use of indigenous knowledge in promoting good health, and the study respondents' self-efficacy to maintain self-care and self-reliance. Self-efficacy is the perception of one's capabilities to carry out certain behaviors required to produce a given outcome. Self-efficacy for health-promoting practices in the thesis was informed by practices such as diet, hygiene, water supply and sanitation, waste removal, relationship with phenomena and certain conditions in the environment and observance of cultural values.

Conclusion

The three models have relevance to the thesis. Adoption of the models produced quality data about the indigenous knowledge and practices that are important for the prevention and protection of oneself against attack by disease and the knowledge of administering certain plant medicines for remedial purpose.

CHAPTER 3

RESEARCH METHODOLOGY AND STUDY AREA

3.1 INTRODUCTION

The chapter presents information about the research methodology adopted for the study and the area from which the study was conducted. The chapter is therefore, divided into two sections. The first section provides the research methodology adopted to design the study. It gives information about the study sample and the research techniques employed for selection of the study sample, collection and analysis of data. The second section begins with presentation of detailed overview of the research setting. It presents a brief overview of the Limpopo Province and the four communities selected for the study within the province. The section further discusses the ethnography (location, climate conditions, topography, and settlement patterns) of the research site necessary to understand the context in which the study was conducted. The last part of the second section provides background information about the communities' health related infrastructure to understand the availability, accessibility and affordability of primary health care facilities in the study area.

3.2 RESEARCH METHODOLOGY

This section presents an overview of the research methodology applied for this study. The section captures the following: the research design, the study sample and size, sampling procedure, data collection and analysis methods. The research ethics are discussed in the last part of the section.

3.2.1 Research design

The type of research design used for this study was informed by the research questions prepared at the outset of the research process. The research questions were formulated based on two main thematic areas usually applied when designing medical anthropological studies (Sargent & Johnson, 1996):

i. Descriptive questions- these are the type of questions that probed about the understanding of disease (description of disease), the most common diseases, their causes, as well as cultural values, beliefs and attitudes that increase or decrease risks of disease.

ii. Intervention-oriented questions- these are questions that enquired about credibility of the use of indigenous knowledge to maintain health care and whether this knowledge could find use in the current health systems of South Africa (questions enquiring about the indigenous mechanisms of treatment (prevention, protection and cure) of diseases that attack the respondents).

The two thematic areas necessitated adoption of a qualitative-quantitative type of a research design:

Qualitative research design is a framework used extensively by scientists and researchers studying human behavior and habits. Qualitative research is often regarded as a precursor to quantitative research, in that it is often used to generate possible leads and ideas which can be used to formulate a realistic and testable hypothesis. This hypothesis can then be comprehensively tested and mathematically analyzed, with standard quantitative research methods (Barbie & Mouton, 2006).

Qualitative research Methods

The qualitative researcher's interest on detailed description and understanding of phenomena within the appropriate context suggests what type of research methods will be methodologically acceptable. Typically, qualitative research design has the following important features (Barbie & Mouton, 2006):

- i. A detailed encounter or engagement with the object of study
- ii. Selection of a small number of cases to be studied
- iii. Openness to multiple sources of data (multi-method approach)

The researcher adopted a qualitative research design for this study. A qualitative research design was proper to undertake an explorative and descriptive study. A qualitative design was therefore, used to explore the use of indigenous knowledge to meet primary health care needs. The study was designed to describe and understand the indigenous knowledge of prevention and protection of disease, knowledge of the cause of disease, and treatment that should be offered to cure the disease. The study was designed to cover the important features of a qualitative enquiry:

- i. The researcher had full encounter with the study respondents. The researcher interacted with the respondents throughout the study to collect quality data about the use of indigenous knowledge for primary health care.
- ii. The number of respondents for this part of the research process was limited to 60.
- iii. The researcher employed a multi-method approach to collect data. Several research methods such as in-depth interviews, observations and transect walks were used to collect quality data.

The quantitative research design is usually adopted to measure the properties of phenomena and objects (for example the attitudes of individuals towards certain topics) through quantitative measurement or assignment of numbers to perceived qualities of things (Barbie & Mouton, 2006). The study employed a quantitative paradigm. The quantitative research design was employed to measure the quantity of plant medicines employed for primary health care, the number of respondents that maintain their health by self-care and self-medication and those that require the services of traditional health practitioners for their preventive, protective and remedial care. The number of respondents for this part of the research process was limited to 180.

3.2.2 Population and sample

Four samples were drawn from four communities of the Northern Sotho to collect quality and reliable data. A larger population sample was selected to explore a wider perspective of the Northern Sotho indigenous primary health care systems rather than comparing the indigenous health care systems in the four communities.

3.2.2.1 Sample composition

The study sample was composed of three groups of respondents as follows:

Traditional health practitioners: The study objectives dictated the inclusion of traditional health practitioners in the study sample. The objective of the study was to obtain data on the use of indigenous knowledge for primary health care. Registered traditional health practitioners with practice permits; as the main health care providers were included in the study sample to obtain information about their knowledge of first-hand health care they

provide to their patients. Another reason for inclusion of traditional health practitioners in the study was to examine whether their indigenous health care practices provide primary health care needs and whether these practices could be integrated into the mainstream health care practices. Data were collected through in-depth interviews and questionnaire administration.

Patients: Patients at the traditional health practitioners' practices were surveyed. The patients were included in the study sample to understand the type of health care they sought from traditional health practitioners, the reason for consultation and possibilities for self-care to manage their health care. Data were collected through interviews and questionnaire administration at the traditional health practitioners' practices.

Other community members: Community members; other than traditional health practitioners and their patients, formed part of the study sample to obtain general knowledge about the indigenous health care mechanisms. This group of respondents was also interviewed and a questionnaire was administered, and observations done at the same time for quality data collection.

3.2.2.2 Sample size

Equal numbers of sample groupings were selected from the four communities. A total population of two hundred and forty (240) respondents between the ages 18 and 90 was selected from the target communities. 80 Traditional health practitioners (40 males and 40 females), 80 community members (40 males and 40 females) and 80 (40 males and 40

females) patients receiving ritual healing constituted the study sample. A sample of 60 respondents was selected from each community.

3.2.2.5 Sampling procedure

In ethnographic research approach, the study respondents are selected on the basis of their knowledge of the phenomenon being studied. The respondents should have good, relevant knowledge of the domain of the study and should also be able to interpret the meaning of their own cultural phenomena (Cotton, 1996). For the purpose of this study, the sample was purposely selected to be comprised of people who have extensive knowledge of phenomena, situations, conditions and elements in the natural, social and spiritual environments that are responsible for the cause of a variety of diseases and some knowledge of the use of indigenous practices and belief systems for preventive, protective and curative health care.

Purposive sampling technique was used to select traditional health practitioners and their patients. Other community members were also selected randomly in the four communities to obtain general knowledge about the use of indigenous knowledge for health care. The research respondents were also selected on the basis of residence. The respondents were all indigenous inhabitants of the four communities identified for the study.

3.2.3 Data Collection

Data presented in the thesis are results of a cross-sectional study conducted for a period of sixteen months between 2007 and 2009. Collection of data was informed by factors such as

seasonal diseases and availability of indigenous plant species in the wild. The study was conducted during the winter and summer months.

In order to comprehend fully the use of indigenous knowledge for preventive and remedial care, a combination of quantitative and qualitative research methods was employed to collect data. Prior to conducting a large-scale quantitative survey, in-depth interviews and observations were conducted for qualitative data gathering. This idea is supported by botanists who provide that ethnobotanical data is obtained from selected informants, primarily through qualitative and quantitative methods. Informal or qualitative methods such as open-ended interviews generally yield responses, which can be used in compiling general ethnographic accounts of a community and its culture. More systematic or structured methods (formal or quantitative methods) yield data, which may be used to calculate a range of numerical indices (Martin, 1995). Ethnobotanists are, therefore, finding increasingly important that a combination of qualitative and quantitative methods is proving most useful in the collection of accurate and complete data.

3.2.3.1 In-depth interviews

An interview is an in-depth exploration. It is a face to face interaction between an interviewer and the study respondent, which seeks to build the kind of intimacy that is common for mutual self-disclosure. The advantage of in-depth interviews is to help the researcher to achieve the same level of knowledge and understanding as the study respondent. The in-depth interview technique is generally used when detailed information is needed from individuals in the study (Walter, 2006).

In-depth interviewing was the first methodological procedure applied to collect data for this thesis. The aim of the interviews was to explore the use of indigenous knowledge for primary health care in an orderly way. The respondents showed great interest in the research and as it progressed they frequently provided additional information regarding their knowledge of health care. Interviews were conducted concurrently with other data collection methods such as observation and transect walks. The interviews were tape-recorded.

Interview schedule

The interview schedule (Appendix B) was developed to ask the same questions to all the respondents sampled for the first phase of data collection. Open-ended questions were put to the respondents, but they were also given the opportunity to discuss issues which they deemed relevant. Throughout the research process the respondents were asked for further explanations as new issues arise.

The interview schedule commenced with biographical information of the interviewees such as age, gender, educational level, marital status and other social aspects. These were followed by open-ended questions, which focused mainly on informants' description of disease, the indigenous mechanisms employed for preventive, protective and remedial care. Prior arrangements were made and interviews were subsequently conducted. The time allocated for each interview was about one hour. Interviews were conducted in the households of the respondents where they were most comfortable. Interviews were conducted in the local language (*Sepedi*) and no conversations were held with the assistance

of an interpreter. Good relationships were developed throughout the study period between the researcher and respondents.

3.2.3.1.1 Interviews with traditional health practitioners

Interviews were conducted by the researcher with 20 traditional health practitioners in their households. The interviews were conducted during summer (the months of September - December 2007 and January to February 2008) and winter months (March to July 2008). Each interview took approximately an hour to complete. This group of respondents was particularly difficult to interview because many healers were reluctant to commit to the interviews. They were suspicious that the information may be used by other people to make money from their own knowledge. The researcher clarified the suspicion and the healers were willing to provide responses. The researcher selected the study respondents two months in advance of data collection process and this made it fairly easy to locate their households. Unstructured conversations were carried out before structured questions could be initiated.

The researcher was given access to the respondents' dispensaries to observe the type of plant materials the healers apply for the treatment of disease, their preservation and storage systems. Transect walks were held with 8 traditional health practitioners during the interviews for observation of the medicinal plant resource status and availability. The voucher specimens of the plant material were collected during the transect walks.

3.2.3.1.2 Interviews with patients

Interviews were conducted with 20 patients undergoing ritual healing in the traditional health practitioners' households. The main purpose for inclusion of the patients in the sample was to develop an understanding of their description of disease and its cause and the reasons for the use of indigenous health care practices. The patients were identified during sampling stage. They were recruited to participate in the study during field visits. The interviews were conducted in the same way as those of the traditional health practitioners. Transect walks were not taken with the patients.

3.2.3.1.3 Interviews with other community members

Interviews were conducted with 20 other community members in their own households. These respondents were identified during the same time with traditional health practitioners and patients. The interviews were conducted in the same pattern as the interviews with the traditional health practitioners and their patients. Transect walks were taken to the nearby wild for identification and collection of medicinal plant resources with 5 respondents. Voucher specimens were collected in the process of data collection.

3.2.3.2 Observations

Successful collection of ethnographic data requires a close and sustained observation of the study respondents, which can be achieved by participation in local customs. Observations of the study respondents may be done by non-participant observers, those who spend some time among the research informants only to collect observations but do not significantly interact with the informants (Barbie & Mouton, 2006). During data collection phase,

qualitative data was also collected through non-participant observation. Direct observations were planned to develop a scientific, holistic sense of aspects of the indigenous knowledge and practices employed for health care delivery. Key respondents were observed during ritual healing sessions and transect walks for the collection of specimens. Observation was helpful in the description and explanation of indigenous systems employed for prevention, protection and remedial care; knowledge of self-efficacy and a wealth of medical ethnobotanical knowledge.

3.2.3.3 Transect walks

A transect walk is a mobile interview in which the researcher walks from the centre of the village to the outer limit of the territory accompanied by several local research informants who are especially knowledgeable about natural resource issues. Together, the researcher and informants observe what happens in different micro-ecological niches and discuss issues of mutual interest. The researcher observed, asked questions, and listened to what is known and identified by the informants. The key is to take the opportunity to ask questions about resources and how they are used while actually observing the situation in question. Transect is helpful in focusing on such issues as where resources are located, how and by whom are they used, how much pressure exists on various resources, seasonal availability, what the rules of access are and whether there are conflicts (Martin, 1995).

Transects were the ideal point of departure for the research process because they established the respondents as experts in medical ethnobotany. During the transect walks with 13 respondents, extensive information about medicinal plant species used for preventive and

curative care was collected. The information highlighted the availability and use of different plant species and gender-based difference in relation to medical ethnobotanical knowledge.

Medicinal plants were identified by their local taxonomy during interviews and transect walks with the traditional health practitioners and other community members. Voucher specimens were collected according to standard practices as outlined in Cotton (1996). Vernacular names of the species were recorded as much as possible. Information regarding place of collection, date of collection, medicinal use of the species, part used, preparation mode and dosage as well as the condition treated were noted on the spot. Blotting papers and alternatively rough newspaper and a preserver were used for the preservation of the specimens, and the papers were changed from time to time to prevent the specimens from getting rotten. Voucher specimens were given collection numbers for easy identification. Collection numbers; such as SAR 13 were cited as references for local names of the species. Voucher specimens were submitted to the University of Limpopo Herbarium for scientific identification. Voucher specimens for most of the species are deposited in the Herbarium.

Medicinal plant description: Scientific literature was consulted for description of the indigenous medicinal plant species identified by the study respondents during data collection process. Literature such as SANBI website; van Wyk *et al*, (1997); Coates-Pulgrave, (2002); van Wyk, (2000); and Joffe, (2005) was reviewed to provide a scientific description of medicinal plant species.

3.2.3.4 Questionnaire administration

Quantitative studies usually utilize structured data-collection instruments. The researcher used a questionnaire (Appendix A) to gather data about the respondents' use of indigenous knowledge for health care. A list of questions (closed and open-ended) related to the research questions were printed to ensure that the same questions are posed to all respondents. A comprehensive quantitative survey was conducted to gather quantitative data from traditional health practitioners, patients and other community members. The questionnaire was administered on 180 respondents.

3.2.3.5 Appointment of research assistants

Upon arrival in the field, two research assistants were appointed in each of the communities for assistance in questionnaire administration and collection of medicinal plant voucher specimens. The research assistants were University of Limpopo graduate students who had grown in the study areas/communities. They helped in the clarification of certain cultural practices and behaviors expressed during interviews. They were important in winning the trust of respondents and establishing rapport. They were subjected to brief training sessions to orient them to the study.

Before administration of the questionnaire on the day of the appointment, the researcher explained the purpose of the study, ethical rights and what was expected from the respondents. Consent forms were then distributed to be signed by the respondents (Appendix C). None of the respondents withdrew from participating in the study. The respondents were requested to read the questionnaire carefully and then answer the

questions as honestly as possible. The researcher administered the questionnaire in the households of the respondents. Although the questionnaire was self-administered, face-to-face administration was done for respondents with disabilities and those who were non-literate.

3.2.4 Date and venue of data collection

Date and venue for data collection are provided in table 2 below.

Table 1: Date and venue of data collection

Venue	Interviews	Date	Questionnaire	Date	Total
Dikgale	15	2007/Sept-Oct	45	2008/Sept-Oct	60
Khehlakone	15	2007/Nov-Dec	45	2008/Nov-Dec	60
Mogalakwena	15	2008/Jan-Feb	45	2009/Jan-Feb	60
Mohlaletsi	15	2008/Mar-Apr	45	2009/Mar-Apr	60

3.2.5 Summary of research instruments

3.2.5.1 Interviewing

The interview was the main data collection instrument for primary data gathering to obtain in-depth knowledge of the use of indigenous knowledge to meet primary health care needs. The interview schedule was developed, and was divided into two sections as follows:

Section A: The section was intended at collection of the respondents' biographical information. The researcher used similar codes to capture the respondents' personal data such as gender, age, marital status, educational level, occupation, and special position in the community to measure the extent of the use of indigenous knowledge for primary health care.

Coding for Section A

Question1. Gender: male=1, female=2

Question2. Age: below 18=1, above 18=2

Question3. Marital status: single=1, married=2, divorced=3, separated=4, widow=5

Question4. Educational level: No education=1, primary=2, grade 10=3, grade 12=4, degree/diploma=5

Question5. Occupation: unemployed=1, self-employed=2, professional=3, Self-employed=4, other=5

Question6. Special position in the community: chief=1, traditional health practitioner=2, community leader = 3, other=4

Section B: This section contained questions designed to elicit in-depth data on the use of indigenous knowledge for primary health care. Indigenous knowledge of health care was assessed through questions about the indigenous conceptualization of disease, understanding of the main causes of disease in the community, the indigenous mechanisms used to prevent attack by disease, primary health care facilities available and used in the communities, knowledge of self-care and medication, the indigenous preventive and remedial care mechanisms sought from traditional health practitioners, as well as the indigenous plant medicines applied for preventive and remedial care.

3.2.5.2 The questionnaire

The questionnaire was the second tool employed for primary data collection. The questionnaire was developed on the basis of knowledge gained through a review of the

literature and the type of responses provided by the respondents during in-depth interviews. The questionnaire comprised mainly closed-end questions and to a lesser degree free-listing questions to facilitate data analysis. The questionnaire was designed as follows:

Section A: Respondents biographical information.

Similar biographical information was collected as in the interview schedule.

Section B: Ecological knowledge

The questions about ecological knowledge assessed the respondents' knowledge about the indigenous plant species habitat and seasonal availability.

Section C. Indigenous knowledge use for primary health care

The use of indigenous knowledge for primary health care was assessed through questions relating to knowledge about the main health care problems that attach communities, knowledge of elements that are responsible for disease, the choice of a health care facility, instances of self-care and self-medication and indigenous plant medicine used for prevention and cure of existing diseases.

Section D: Medical ethnobotanical knowledge

The questions in this section were intended to collect information about the respondents' medical ethnobotanical knowledge necessary for preventive, protective and curative aspects of primary health care. Medical ethnobotanical knowledge was assessed by asking the respondents questions relating to the indigenous plants and the plant materials exploited for primary health care, the plant habitat, the type of medicines prepared from plant materials, preparation, administration and dosage.

3.2.5.3 Coding of the questionnaire

The items in the questionnaire were coded to facilitate analysis of the data using the SPSS computer software program.

Section A

The first section of the questionnaire was coded in the same way as the interview schedule to produce similar biographical information of the study respondents.

Section B

The questions were developed and coded as follows:

For example; Question 2: What is/are the main cause/s of disease in your community?

Weather conditions =1, malnutrition = 2, witchcraft = 3, ancestral wrath =4,
environmental factors = 5, other = 6.

3.2.6 Data analysis

3.2.6.1 Qualitative data analysis

A qualitative researcher analyses data by organizing it into categories on the basis of themes, concepts or similar features. The researcher should develop new concepts, formulates conceptual definitions and examines the relationship among concepts. Eventually he/she links concepts to each other in terms of sequence (Neuman, 2005). Data from the field were consisted of infinite number of possible answers, and was carefully managed, read, compared, categorized and recorded. Data were sifted and sorted to detect and interpret thematic categorizations, search for inconsistencies and contradictions and generate conclusions about indigenous health care delivery. Furthermore, data were organized into different themes according to the study objectives and research questions.

A content analysis method was employed. Content analysis is a method used to determine the presence of certain words or concepts within a text or sets of texts. This method of analysis is helpful as it quantifies and analyses the presence, meaning and relation of such words and concepts, then make inferences. This means that data are explored under common themes and then compiled into units of meaning or codes. Later these codes became the basis for further analysis (Barbie & Mouton, 2006).

Thereafter, a final analysis was done to produce themes such as indigenous description of disease, main causes of disease, primary health care facilities available in the four communities, indigenous mechanisms used for preventive and protective care, remedial care by self-medication, primary care sought from traditional health practitioners, and medicinal plant used for primary health care.

3.2.6.2 Quantitative data analysis

The questionnaire was pre-coded to allow easy data analysis. Computer generated statistics was used to analyze data. Descriptive statistics was used to draw inferences about the study sample and to estimate parameters of the sample, obtaining the frequency of medicinal plant use for prevention and care, as well as the most commonly used medicinal plant species and the gender-based medicinal plant knowledge. Quantitative data are presented in summary form in tables and graphics.

3.2.7 Reliability and validity of data

Reliability is the degree of consistency or dependability with which the instrument measures the attributes it is designed to measure. If the instrument is reliable, the results will be the same each time the test is repeated. Reliability is measured by accuracy, consistency, precision, stability, equivalence and homogeneity. Reliability of an instrument that yields quantitative data is a major criterion for assessing its quality and adequacy. For the research findings to be reliable, the research instruments should accurately reflect or measure true scores of the attributes (Cozby, 2001).

Validity is the extent to which a specific measurement provides data related to commonly accepted meanings of a particular concept under consideration. *Criterion or predictive validity* is used to predict or estimate the probability of a specific outcome in a given situation that can be achieved through research. *Construct validity* is based on the logical relationship among variables (Cozby, 2001).

Triangulation method

Triangulation is a method of establishing the validity and reliability of data at the end of the study (Babbie & Mouton, 2002). Four types of triangulation are distinguished:

1. *Data triangulation*, which entails gathering data through several sampling strategies, so that slices of data at different times and social situations, as well as on a variety of people, are gathered.
2. *Investigator triangulation*, which refers to the use of more than one researcher in the field to gather and interpret data.

3. *Theoretical triangulation*, which refers to the use of more than one theoretical position in interpreting data.

4. *Methodological triangulation*, which refers to the use of more than one method for gathering data.

The researcher employed the three types of triangulation to ensure validity and reliability of the research results.

i. Theoretical triangulation was adopted to design the study framework. The Ethnomedical, Explanatory and Pender's Health Promotion Models were adopted to design the present study with the objective of collecting reliable and quality data about the indigenous mechanisms for remedial and preventive purposes of primary health care.

ii. Data triangulation was employed to collect information from three types of samples of traditional health practitioners, patients and other community members. Data were collected at different times for identification and collection of voucher specimens of the indigenous medicinal plants applied for preventive and curative health care.

iii. Methodological triangulation was used for collection of reliable and valid data. The researcher conducted in-depth interviews and administered a questionnaire for collection of qualitative and quantitative data. The research instruments were developed and discussed with the supervisors prior to actual data collection. The instruments were further submitted as part of the study proposal to the School of Social Sciences Senior Degrees Committee and Botany Department for approval, and the instruments were approved.

3.2.8 Ethical considerations

Ethics are a set of moral principles that are widely accepted, which guide the researcher in observing the rules. Ethical considerations required special attention during the study. Throughout the study period the researcher and research assistants abided by code of ethics. The project objectives were explained to the local authorities in the target communities and permission to conduct research was granted. The researcher presented documentation about herself and the project before data collection in the field. The letters spelled out the researcher's affiliation, the funding agency and how long the research would be conducted (De Vos *et al*, 2005).

The following steps were taken into consideration to ensure that the research was conducted in an ethical manner:

3.2.8.1 Entry into the research sites

Negotiating entry into the research setting requires the researcher to understand the language and culture of the research respondents for easy interaction with the respondents (Ellen & Fukui, 1996). In this study this requirement was met because the researcher is Northern Sotho. Coming from the same culture and speaking the same language, made interaction with the respondents much easier. The research assistants were chosen from the communities selected for the study to eliminate bias experienced through employment of interpreters.

3.2.8.2 Informed consent

Consent is the prospective respondents' agreement to participate in a study as an informant. It is ethically compulsory for the researcher to obtain consent from the respondents

(Neumann, 2005). During the research process, the researcher ensured that all respondents were properly briefed about the aim of the study, their rights and roles in the study. The respondents were made aware that participation in the study was voluntary, and that they were free to withdraw from the project at any time. The respondents were asked to sign the consent form if they agreed to take part in the study (Appendix C). Despite the fact that 35% of the respondents were not literate; and could not read or write English, all the respondents signed a letter of consent. Those who could not write put a cross in the space provided.

3.2.8.3 Freedom from harm

The researcher did not exploit the respondents as they were free to participate in the study. No harm was inflicted on or exposed the respondents to unnecessary risk. Cases of outright refusal to be interviewed and to participate in the study were not encountered. All the respondents were co-operative throughout the study period. Moreover, the respondents were all mature, responsible members of the community and were willing to share their experiences in aspects of indigenous health care practices.

3.2.8.4 Right to self-determination

The right to self-determination is based on the respect for persons and indicates that people are capable of controlling their own destiny. The respondents should be treated as autonomous agents, who have the freedom to conduct their lives as they choose without external control (Burns & Grove, 1999). During the study; the respondents were informed that participation was voluntary and that they could withdraw at any time from the research process. However, none of the respondents withdrew from participation in the study.

3.2.8.5 Right to full disclosure

The principle of respect for human dignity encompasses the respondents' right to make informed choices, voluntary decisions about study participation, which requires full disclosure (Neuman, 2005). Prior to data collection, the respondents were provided with full information about the study and the value of their participation in the study.

3.2.8.6 Right to fair treatment

The study respondents have the right to fair and equitable treatment before, during and after their participation in the study (Martin, 1995). During the study, the respondents were fairly treated to participate freely in the study and their cultural preferences were taken into consideration.

3.2.8.7 Right to privacy

Privacy is the freedom that individuals have to determine the time, extent and general circumstances under which private information will be shared with or withheld from others (Burns & Grove, 2005). The identities of the respondents were protected and not revealed in the research findings. Collection of information was done with due regard to intellectual property rights to certain methods and formulas referred to as 'trade secrets' to the respondents. The respondents' privacy was protected by obtaining their informed consent and assuring them that there would be no invasion of their privacy. The researcher ensured the respondents that the information collected would only be used for the research purpose.

3.2.8.8 Anonymity and confidentiality

The respondents' anonymity was ensured by not asking them to provide their names on the questionnaire. Instead, the researcher numbered the research instruments and notebooks according to locality and type of respondent. The researcher ensured that all information gathered during the study was treated as strictly confidential and only available to the researcher and those directly involved with the study. In the research report, statistics was used without individual's names mentioned.

3.2.9 Conclusion

The success of this thesis was based on the types of techniques adopted to design the study, select the study sample, collect and analyze data, and the researcher's relationship with the study respondents as well as the observance of code of ethics guiding a scientific enquiry involving human beings. The next section discusses an overview of the study area.

3.3 OVERVIEW OF THE STUDY AREA

3.3.1 Introduction

This section provides background information on the communities selected for the study necessary to understand the context in which the study was conducted. The first part of the section is a broader overview of the study area. The first aspect discussed in this section is the broader view of the study area. A description of the study area, which is Limpopo Province, is necessary to provide a picture of the area from which the four research sites were selected. The second part is a description of the location of the four Northern Sotho communities selected from the four District Municipalities of Mopani, Waterberg,

Sekhukhune and Capricorn within the province to have a broader perspective of the indigenous primary care of the Northern Sotho. The last part of the section provides a description of the aspects of the ecology, topography, climate and health related infrastructure in the research site. This information has relevance to the thesis. The study results show that availability of certain topographical features and biodiversity as well as change in weather conditions in the village sites, are either the most common cause of disease or predispose community members to diseases during particular seasons.

3.3.2 The research setting

The study was conducted in the Limpopo Province of South Africa. Limpopo Province is the northern-most province in South Africa. It has international borders with Zimbabwe, Botswana and Mozambique. It also borders on the provinces of Mpumalanga, Gauteng and North West. It lies within the great elbow of the Limpopo River. Heading further north into the province there is the capital city, Polokwane, with an excellent and growing infrastructure including a modern international airport. East of the city is the subtropical part of the valley of the Olifants; the *verdant* Makgoebaskloof valley. Further to the east are some of the finest game farms in Africa as well as the world-famous Kruger National Park. Given its rich fruit and vegetable production, the province could be described as the garden of the country. Gateway International Airport is developed as a major economic growth project to be a getaway to the rest of the African continent (Limpopo State of the Environment Report, 2000. Accessed November 2009).

3.3.2.1 Topography

The province offers a mosaic of exceptionally scenic landscape, a fascinating cultural heritage and abundant wildlife species. It is a land of legends, myths and ancient civilization. The province covers an area of 123910km², which is 10.2% of the surface area of South Africa. It has a diverse topography, with many interesting and valuable environmental features. The broad terrain patterns of the province are characterized by the Limpopo Plain forming the northern half of the province and the Bushveld basin surrounded by the Central Highland, which is bordered to the east by the Great Escarpment and the East Plateau slope (Limpopo State of the Environment Report, 2000).

Looking at the landscape in more detail, specific features stand out as significant scenic areas. These include the tablelands and escarpments of the Waterberg complex, the low mountains of the Soutpansberg range and the Blouberg with the extensive plains towards the Limpopo River in the north. To the east are the very scenic high mountains of the Drakensberg range. The province boasts the Waterberg mountain range, supporting thriving farming and game ranching, nature reserves and resorts (Limpopo State of the Environment Report, 2009).

Bisected by the tropic of Capricorn, the province has long summer afternoons and dry days. The eastern part of the province has different climatic conditions. The subtropical conditions in the Lowveld provide weather conditions that are suitable for the dense forests than the thorny bushveld of the land above the Great Escarpment. Winters throughout the province are mild and mostly frost-free. The average temperatures range from 17°C to 27°C in summer

and from 4°C to 20°C in winter. The province falls in the summer rainfall region with the western part semi-arid and the eastern part largely sub-tropical. The western and far northern parts experience frequent droughts. The average annual rainfall is around 300mm. Most rain falls in the summer months between November and March (Weather Bureau, 1986).

Situated within the Great Elbow of the Limpopo River, the province has dramatic contrasts from true Bushveld to majestic mountains, primeval indigenous forests, latter day plantations, unspoilt wilderness areas and a patchwork of farming land. The Mixed Bushveld types occur throughout the province. It has two main varieties; the *Combretum apiculatum veld* and the *Mixed Terminalia Dichapetalum veld*. These veld types are in a good state, including the ones that fall in protected areas managed by the provincial authorities and the Department of Water Affairs and Forestry. One third of these are in various states of decline due to the over-utilization of resources. The species in this category have a high value as ecotourism destinations and harbour various hiking trails and other facilities. Many of the species are important sources of fuel and medicine for humans and livestock (Acocks, 1953).

3.3.2.2 Ethnography

In the Limpopo Province, more than 5, 3 million (of which 54.6% is women, 45.4% is men and youth at 39.4%) people live on about 123 910 km² of land. More than a third of people aged 20 years and older have not received any form of education or schooling. The Limpopo Province population consists of several ethnic groups distinguished by culture and language. The Northern Sotho makes up the largest group, accounting for 57% of the area's

population. The Tsonga (Shangana) comprise 23% while the Venda makes up 12%. Afrikaans speakers make up 2.6% while English-speaking whites are less than ½ % (LEGDP, 2009-2014. Accessed June 2008).

The main languages spoken in the Limpopo Province are Sepedi (Northern Sotho), Xhitsonga, Tshivenda and Afrikaans. Several museums and national monuments bear testimony to ancient peoples and fearless pioneers who braved the unknown days of yore. Living museums include Bakone Malapa (The Pedi), where the Pedi age-old skills for the benefit of the younger generations and visitors are exhibited The Tsonga open-air museum, depicting the lifestyles of the Shangaans, and Mapungubwe which used to be a natural fortress for the people who inhabited the place for about AD 950-1200 (LEGDP, 2009-2014. Accessed June 2008).

3.3.3 Communities selected for the study

The communities selected for the study are located in the Limpopo Province in the Districts of Mopani (Modjadji community in Greater Tzaneen Local Municipality), Capricorn (Dikgale community in Polokwane Local Municipality), Sekhukhune (Mohlaletsi community in Makhuduthamaga Local Municipality) and Waterberg (Mogalakwena community in Mogalakwena Local Municipality). The four communities are resident of four major Northern Sotho groups in the Limpopo Province. They are *Pedi* of Mohlaletsi, *Lovedu* of Modjadji, *Kone* of Mogalakwena and *Kone* of Dikgale. Other Northern Sotho groups include the *Kgaga-Kone*, *Batlokwa*, *Kolobe*, *Hananwa*, *Babirwa*, *Nareng*, *Tlou*, *Pai*, *Phalaborwa* and *Hlaloga* not included in the study.

Research was conducted among four major groups of the Northern Sotho (Pedi, Lovedu, Kone-Mogalakwena and Kone-Dikgale). In all four groups, the primary language is Sepedi. Primary education is now bilingual, and most children are learning to speak English, but Sepedi is spoken in the home. These communities have inhabited the places they stay in many years back, which is an indication of long history of cultural interaction with the local natural environment spanning many generations. They are perched on the edge between retaining traditional practices and maintaining their district linguistic heritage and succumb to their cultural affinities (LEGDP, 2009-2014. Accessed June 2008).

3.3.3.1 Modjadji Community

Modjadji community is resident in Mopani District (DC 33). The district is situated within the Lowveld portion of the Limpopo Province. It has great potential for employment opportunities in agriculture, mining and tourism. The area includes the mining town of Ba-Phalaborwa, the agricultural town of Tzaneen and several private game farms that attract tourists from all over the country. The district has an approximate population of 1.03 million with 38.95 % residing in the Greater Tzaneen area. There is a large rural population with the proportion of urban to rural being 1:5 (Limpopo State of the Environment Report, 2000. Accessed November 2009).

Modjadji community is resident in Greater Tzaneen municipality. The people are referred to as Balobedu and the language spoken is Khelobedu. This language variety is associated with Northern Sotho (*Sepedi*) as it is regarded as a dialect of Northern Sotho. It exists only in an unwritten form and the standard Northern Sotho language and orthography is usually used

for teaching and writing. The language is mainly spoken in the area of Duiwelskloof in the province. Khehlakone is home to the late rain-Queen Modjadji. She was the renowned rainmaker in the country. Every year in November she presided over the annual rainmaking ceremony at her royal compound in the village. The queen's home is up in the misty mountains where the Modjadji cycads grow (www.limpopo.org. Accessed November 2009).

Topographically, Modjadji community is located below the Drakensberg Escarpment in the vicinity of Duiwelskloof. It is bounded by the Kruger National Park game reserve, the escarpment, the Klein Letaba and Olifants Rivers. The area comprises mountainous areas, valleys, and stretches of flat and river valleys. It falls within the summer rainfall region and the rainfall in the mountain areas is quite high, whereas the lowland is less watered. The rainy season coincides with the hot summer months between October and March. It receives an annual rainfall of 600 to 1325mm. The temperatures range between -8°C to 39°C (Weather Bureau, 1986).

For centuries Balobedu have revered the forests in the area and these feature in the traditional ceremonies and are home to the ancient Modjadji cycads. The queen recognized the value of the cycads and bequeathed the species to the National Government, which in turn declared the area a protected reserve. Modjadji Nature Reserve was established in 1979 with the objective of conserving the Modjadji cycads (*Encephalartos transvenosus*) known in the local dialect as *mofaka*. The cycads date back to the Mezozoic or Stone Age about 60 million years ago. They are actual living fossils, which sated the appetites of many dinosaurs. The Modjadji Nature Reserve contains the greatest concentration of a single

species of cycad in the world. Due to its protected status, permits are obtained to protect legal ownership (www.limpopo.org. Accessed November 2009).

3.3.3.2 Mogalakwena Community

Mogalakwena community is located in the Waterberg District (DC36). The district is situated in the western part of the province. The district has a population of 639 383 with 48.9% residing within the Mogalakwena municipal area. Four of the local municipalities have a largely rural population, while Belabela municipal area has an urban population that comprises approximately 59% of its total population. Mogalakwena community is resident in the Mogalakwena Local Municipality. The people (Bakone) speak Northern Sotho as the main language. A minority speaks northern Sotho dialects such as Tlokwa, Tswana and Hananwa (www.limpopo.org. Accessed November 2009).

Mogalakwena community falls within the Waterberg Plateau. The area is characterized by undulating plateau surface with rocky outcrops and thin sandy soils. The community is situated across the Mogalakwena River northwards to the Blouberg. Topographically, it may fittingly be regarded as falling within the Limpopo Valley, rather than it being part of the Waterberg sub-region. The area is extremely flat and hot with a summer rainfall of 450-750 mm per annum. The temperatures range from 18°C and 39°C. The soils are shallow with impeded drainage. Underlying rocks are granite, sandstone, quartzite and shale covered by a shallow layer of gritty yellow-grey sandy loam on oukclip (LEGDP, 2009-2014. Accessed June 2008; Weather Bureau, 1986:68).

The vegetation of Mogalakwena is characterized by *Combretum apiculatum*. Although the soils are shallow, the vegetation occurs on areas where the soil is very shallow with impeded drainage. The *Combretum apiculatum* vegetation is dominating with small admixtures of several other bushes and trees such as *Acacia caffra*, *Acacia girrardii*, *Acacia tortilis*, *Dichrostachys*, *Grewia flava*, *Sclerocarya birrea*, *Kirkia wilmsii*, *Ziziphus mucronata* and *Africanum* (Acocks, 1953).

3.3.3.3 Mohlaletsi community

Mohlaletsi community falls within Sekhukhune District Municipality (CBDC3). The district is rural and it covers an area of 13235 km² with a population of about 1055881 and an average density of 87 people per km². Mohlaletsi community is resident in Makhuduthamaga municipal area. The area is inhabited by Bapedi-ba-Sekhukhune. They speak pure Northern Sotho language; the official language taught in schools in the area of former Lebowa homeland. The people here are still proud of their cultural traditions (LEGDP, 2009-2014. Accessed June 2008).

Mohlaletsi community falls within the Transvaal Plateau Basin. It belongs physiographically to the south-east peripheral ridges of the Sekhukhune Escarpment and Steelpoort River Valley. The norite Lulu (*Leolo*) Mountains and the red granite Sekhukhune Escarpment form part of the Bushveld Basin Floor. The area contains fewer prominent surface features. A large area is suitable for cultivation. The community lies in the Transvaal Drakensberg and it is rather arid and hot. The area falls within the summer rainfall region of South Africa. It has a mean annual precipitation of between 500mm and 600mm with a

standard deviation of up to 30% from the mean. The mean annual temperature is 20°C and the mean annual evaporation is calculated at 1.7 mm (Weather Bureau, 1986).

The area is relatively dry, with short grass covering the high-lying area and sparse bush covering the valleys. The soil cover is of a brown to red sandy type and is thick in the valleys. It has a high infiltration rate and a low holding capacity. Because of its sandy and loose nature, the soils are susceptible to erosion. *Leolo* Mountain range and foothills are home to several plant species. The vegetation is characterized by the *Combretum apiculatum* and *Kirkia wilmsii* veld (Acocks, 1953).

3.3.3.4 Dikgale Community

The community falls within the Capricorn District municipality (DC35). The district has a largely rural population with the proportion of urban to rural population being 1 to 6. The Dikgale community is resident in Polokwane municipal area. The area is on the Highveld Plateau, which is bounded in the south and south-east by the Strydpoort Mountains and in the east and north-east by the Wolkberge. Soils found in this area are more related to the parent material, which is granite. Gritty sandy loam to sandy texture is found on summit, back and shoulder slopes of the landscape. The soils are poor in nutrients. Only areas at the bottom landscape positions have high natural fertility. Dikgale area lies in a semi-arid to arid climatic type with an annual rainfall of approximately 505 mm. It has a daily average summer temperature of between 16, 9°C and 27, 8°C, and a winter average temperature of between 4.3°C and 19.8°C. Summer rainfall occurs between October and April, followed by a dry winter season (Weather Bureau, 1986).

The vegetation is characterized by mixed bushveld. This veld type has many variations and transitions. The two main variations are *Combretum apiculatum* veld that consists of small trees, quite dense and sometimes scrub-forest, and the *Terminalia dichapetalum* veld. The latter occupies the sandy plateau between Matlabas and Mogol Rivers, the sandy northern, western and eastern slopes and valleys of the Waterberg, extending along the Crocodile-Elands valley and along the Olifants River in the Groblersdal district and along the northern foot of the eastern part of the Soutpansberg (Acocks, 1953).

3.3.4 Ethnography

3.3.4.1 Settlement Patterns

An analysis of the settlement patterns in the four communities showed that the dwelling units consist of a mixture of shacks, traditional mud huts and conventional brick houses. In the Limpopo Province, of the 1.2 million households, 835 000 live in formal housing, while 233 000 lived in traditional dwellings and 78 000 lived in shacks. 1.2 million Households have water taps in their yards. Fewer people fetch water from taps situated at strategic points in the villages. Infrastructure in the villages is under development and roads are repaired, schools are improved and increased in number and health facilities are made accessible for everyone (Stats, 2009).

3.3.4.2 Health care related infrastructure

This section provides an overview of health care related infrastructure in the Limpopo Province and also in the communities selected for the study. Literature on health related infrastructure in the province shows that community members prefer good quality health care

and proper health education over good infrastructure or equipment in the health services. However, they do not always have the insight to realize that poor infrastructure or lack of proper equipment hampers the delivery of quality health care (Kraus, 1999).

a) Clinic Infrastructures

It is observed that together with a shortage of health care professionals; most rural clinics in the province appeared to be too small for the provision of health care needed. Some clinics have inadequate waiting rooms and consulting room facilities, which resulted in dissatisfaction amongst patients. Nurses who provide primary health care need private working areas to enable them to take patients' history and conduct physical examinations. Due to the high (HIV and AIDS) prevalence, primary health care clinics provide mainly counseling for out-patients patients. Existing clinic buildings became inadequate after the outbreak of (HIV and AIDS) as more private consulting rooms were needed for counseling services. Clinics in the research sites were built for general consultations, dressings, special observation, mother and child services, family planning, and dispensing of medicine with no special sessions for voluntary counseling and testing. It was found that some existing clinic buildings in some areas needed urgent renovation, as the buildings were not properly maintained. This problem impacted negatively on the delivery of health care services in the province (Makhubela, 2002).

b) Waste Management

In the four communities there is no formal and regular refuse removal. Dikgale community has a communal refuse dumping area. The other communities have no method of refuse

disposal. Municipal authorities are behind with regard to waste management in the rural communities. Research conducted by the Medical Research Council (MRC, 2008) showed that the high incidences of malaria in Mopani District are attributed to lack of proper waste management in the area. Community members in Modjadji believed that malaria mosquitoes breed on dumping sites and stagnant water.

c) Primary health care services

A study conducted by Baloyi (2009) on primary health care services in the Limpopo Province showed various obstacles to the provision of good quality health care especially in the research sites. It was indicated that several management factors impeded primary health care. These include:

- Rapid changes from the inside versus institutional tenure, managers' lack of interest in improving their knowledge or qualifications in their career field
- autocratic decision making by management
- Lack of managerial support and supervision
- Inadequate role modeling by managers

Personnel problems included:

- Shortage of staff with increasing workload
- Personnel spending less time with patients
- Lack of training sessions, particularly in-service training
- Lack of professionalism, and low morale and productivity

Limited finance, inadequate supplies of stock and drugs, and shortage of equipment hindered primary health care service delivery. The higher volume of patients per day; high prevalence of HIV and AIDS and TB; patients' delay in seeking health care at clinics; patients' low literacy rate, language differences, and communication problems, and patients' making use of free health services even if not really necessary also affected primary health care service. It is found that patients in some areas of Limpopo province are dissatisfied with certain aspects of the provision of health care such as long waiting times at the clinics. Their frustration is often compounded by the fact that they had to leave without seeing a health professional or without medication. Clients lose their confidence in the health service, or become ill, and cannot return for a prescription or further treatment. This lowers the compliance rate of patients with conditions such as TB with devastating effects for the individual and country (Baloyi, 2009).

In the research site, primary health care services provided in clinics include family planning, antenatal care, growth monitoring and immunization in children, and management of patients with chronic diseases such as cancer, tuberculosis, and HIV and AIDS. Polokwane Provincial, Mankweng, Mokopane, George Masebe and Jane Furse Memorial Hospitals serve as referral centers. The focus of primary health care is on a preventive rather than a curative approach. The major health problems are tuberculosis, HIV and AIDS, sexually transmitted diseases, upper respiratory tract infections, diarrhea, bilharzia and malaria. Other health problems include chronic diseases such as cancer, asthma, teenage pregnancy, skin conditions, genetic conditions and disability. There are key principles of the Department of Health and Social Development. They are among others inadequate child-care, inadequate

care for HIV and AIDS patients, refurbishing of health care facilities and development of sustainable primary health care systems (Baloyi, 2009).

d) Water supply and sanitation

Availability of water is a “prime indicator of health in the communities. Unreliable water supply to the clinics was reported. A simple procedure like washing hands between consultations or before a procedure is very important in a health care facility to prevent cross-infection. Health care services cannot be rendered properly in such conditions as they increase the possibility of cross-infection. A large number of clinics were found to be dependent on water from a tanker or rain water tank. Despite these incidences of poor water supply; Limpopo Province State of the Environment Report (2009) shows that water service delivery in the four communities is at the top list of infrastructure development. The municipalities have done exceptionally well in this area. The people showed that water is life and the most important resource for social and economic development.

In the Waterberg District, 34.6% of the households have household water connections followed by Mopani District with 19.5%. Capricorn District has household connections with (30.8% and 28.5% respectively), followed by Mopani District with 27.4%. In Sekhukhune District, 47.9% of households access water through the RDP standard. 10.6% of households in Capricorn have borehole water followed by 9.0% in Waterberg. Water from a river or stream was used by 15.2% of households in Sekhukhune followed by 3.5% in Mopani (Stats, 2009).

The Municipal authorities have made available sanitation facilities to improve the dignity of people and improve their health. The 2009 Census shows that of 1.2 million households, 206 000 have access to flush or chemical toilets and 692 000 used pit latrines. The following was observed:

- In Waterberg, 42.1% of households had a flush toilet (connected to sewerage system) followed by 19.2% in Capricorn. Pit latrines without ventilation were used by 70.2% of households in Sekhukhune.
- Pit latrines with ventilation were used by 14.0% of households in Capricorn followed by 10.8% in Mopani.
- 5.1% of households in Sekhukhune used dry toilet facility, followed by 4.7% and 4.3% in Waterberg.
- In Mopani, 22.5% of households did not have any toilet facility (Stats, 2009).

Despite all the improvements in water and sanitation service delivery in the research sites, there were incidences of water borne diseases such as diarrhea, cholera, typhoid and malaria reported during fieldwork. Although the majority of households use pit latrines and a small number of households do not have access to toilet facilities; they use nearby bushes to help themselves. It was observed that lack of proper sanitation is a contributory factor to the high incidences of malaria in Modjadji community.

e) Communications

Primary health care clinics in the Limpopo Province (50%) have at least one working telephone compared to 76% of facilities nationally. The proportion of facilities with working

telephones in the Limpopo has increased since 2000 (67%). Nationally 20% of facilities have a fax machine while only 3% of facilities had a fax machine. 46% of facilities reported having a two-way radio compared to 18% nationally. While almost 20% of facilities nationally and 3% have a computer, internet access was very limited. Phone interruptions occurred at about a third of the facilities nationally (33%) and at nearly half of facilities (48%) (Baloyi, 2009). In the research sites there were working telephones, but no computers and internet access.

f) Electricity supply

Of 5% of facilities nationally without power source, 14% have been encountered in the Limpopo Province. As expected, the main source of electricity in most facilities in the Limpopo Province (85%), and in almost all facilities nationally, is the national grid (Eskom). Interruptions in electricity supply during the survey were reported by two out of five facilities nationally (39%). A higher percentage of the facilities in Limpopo (43%) reported an interruption in electricity supply (Baloyi, 2009). Health facilities in the research site have regular supply of electricity except when there is general power cut-off that affects the entire area.

g) Transport

Transport facilities are an important indicator of the mobility of a particular community. The members of the community should be able to travel from their respective homes to a health facility. It was found that a shortage of transport seriously affected the provision of health care services and outreach programmes, including mother and child services, expanded programme of immunization, and supervision of health care services provided (Stats, 2009).

CHAPTER 4

PRESENTATION OF RESEARCH RESULTS

4.1 INTRODUCTION

This chapter presents analyses of qualitative and quantitative data collected through interviews and questionnaire administration on the basis of the Ethnomedical, Health Promotion and the Explanatory Models with the objective of exploring the Northern Sotho use of indigenous knowledge to meet primary health care needs. The chapter is divided into nine sections according to the study objectives. The chapter presents analyses of qualitative data collected through interviews and quantitative data collected through questionnaire administration. The first section presents data about the respondents' biographical data. The second section presents analyses of data that respond to the first objective. The section presents data about the perception of disease by traditional health practitioners, patients and community members. The third section presents analysis of responses to the second objective. The section presents data on the types of health care facilities consulted for primary health care in the study communities.

The fourth section presents an analysis of responses to the third objective. The section presents data on the indigenous mechanisms employed for prevention and protection against attack by disease in the study communities. The fifth section presents an analysis of the question about remedial care by self-medication through administration of home-made therapies among people in the study communities. The sixth section presents an analysis of

responses to the fourth objective. The section presents data on the preventive and remedial care of primary health care sought from traditional health practitioners.

The seventh section presents analysis of quantitative data collected during questionnaire administration. The eighth section presents analyses of responses to the fifth objective. The section presents data on the indigenous medicinal plants identified and used by the Northern Sotho communities to meet primary health care needs. Section nine presents a comparative analysis of the indigenous medicinal plants used by the Northern Sotho, other groups in South Africa, in the Africa Continent and other countries outside Africa.

4.2 SECTION 1. DEMOGRAPHIC INFORMATION OF THE STUDY

RESPONDENTS

4.2.1 Sample composition

A total of 240 study respondents were selected from four communities to facilitate qualitative and quantitative data collection about the use of indigenous knowledge to meet primary health care needs among the Northern Sotho communities in the Limpopo Province. The sample population was constituted by equal numbers of males and females, which are 120 males and 120 females. The study respondents did not have any special positions such as chiefs, headmen, or councilors in the community.

Sample size for a qualitative enquiry

Sixty (60) individual interviews were conducted targeting primarily people who are resident in the four communities. Fifteen (15) interviews were conducted in each community; that included 5 traditional health practitioners, 5 patients and 5 other community members in each community.

Sample size for a quantitative enquiry

One hundred and eighty (180) respondents responded to the questionnaire. This implies that forty five (45) respondents responded to the questionnaire in each of the four communities; that was 15 traditional health practitioners, 15 patients and 15 other community members.

Table2: Sample composition (both qualitative and quantitative studies)

Communities	Traditional health practitioners	Patients	Other community members	Total
Dikgale	20	20	20	60
Khehlakone	20	20	20	60
Mogalakwena	20	20	20	60
Mohlaletsi	20	20	20	60
Total	80	80	80	240

4.2.2 Age of the respondents

The study respondents were all blacks. Equal numbers of traditional health practitioners, patients and other community members were drawn from the four communities targeted for the study. Of the respondents, 85% (n=204) was constituted by adults above the age of 18. It was reasonable to involve more adults in the study because the indigenous knowledge

systems, beliefs and practices in a community are understood and more valued by adults who are custodians of cultural values. Traditional health practitioners were all above the age of 18.

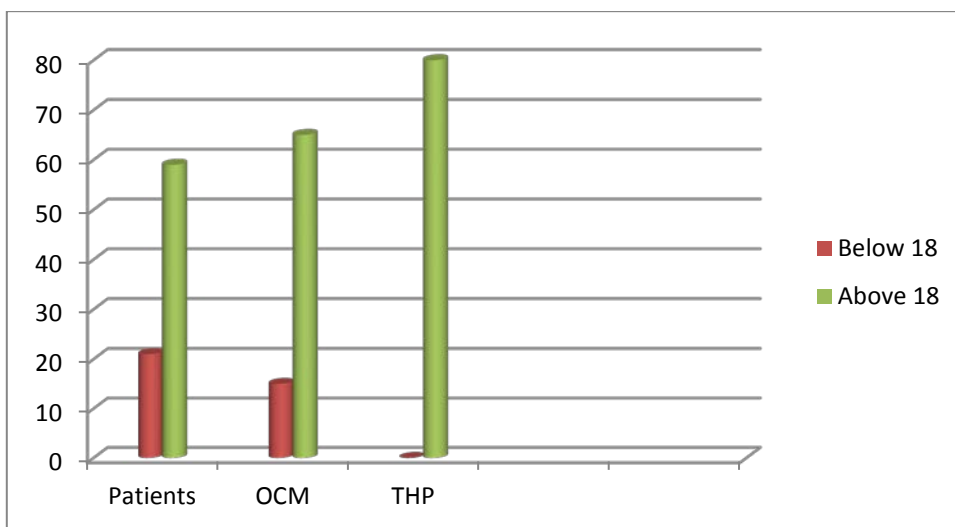


Figure 1. Age of respondents

* THP = traditional health practitioners. OCM = other community members

4.2.3 Respondents' educational standards

The majority of the respondents obtained primary education (32% (n=76) followed by grade ten (29%). Graduates constituted 10% (n=24) of the study sample. Of the traditional health practitioners (N=80), 74% (n=59) obtained educational qualification below grade ten, followed by other community members. Of the patients, a smaller percentage (8%, n=6) obtained qualification below grade ten. Of the study respondents, 7% (n=17) were illiterate. Of the 17 illiterate respondents, 71% (n=12) were traditional health practitioners and 29% were other community members. Of the respondents who responded to the questionnaire

(n=180), 6% (n=11) could not write the responses on the questionnaire. The responses were entered by the researcher and research assistants.

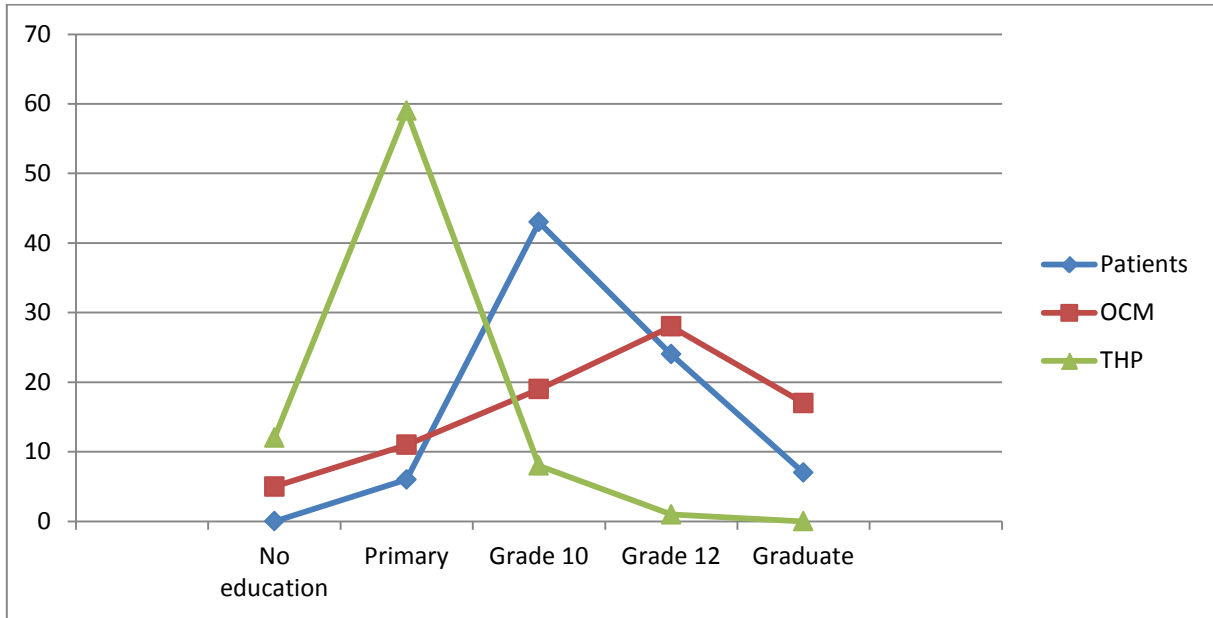


Figure 2: Respondents' educational standard

4.2.4 Respondents' occupation

All traditional health practitioners depended on their healing practices for a living. They receive fees for their services in the form of money and livestock. Of the traditional health practitioners 65% (n=52) received old age pension as a second source of income. Professionals constituted 7% of the study population. The majority of study respondents (35%, n=83) received old age pension as source of income, followed by the respondents who are employed in shops, factories and firms as laborers (31%, n=75). Of the respondents, 7% (n=16) were unemployed

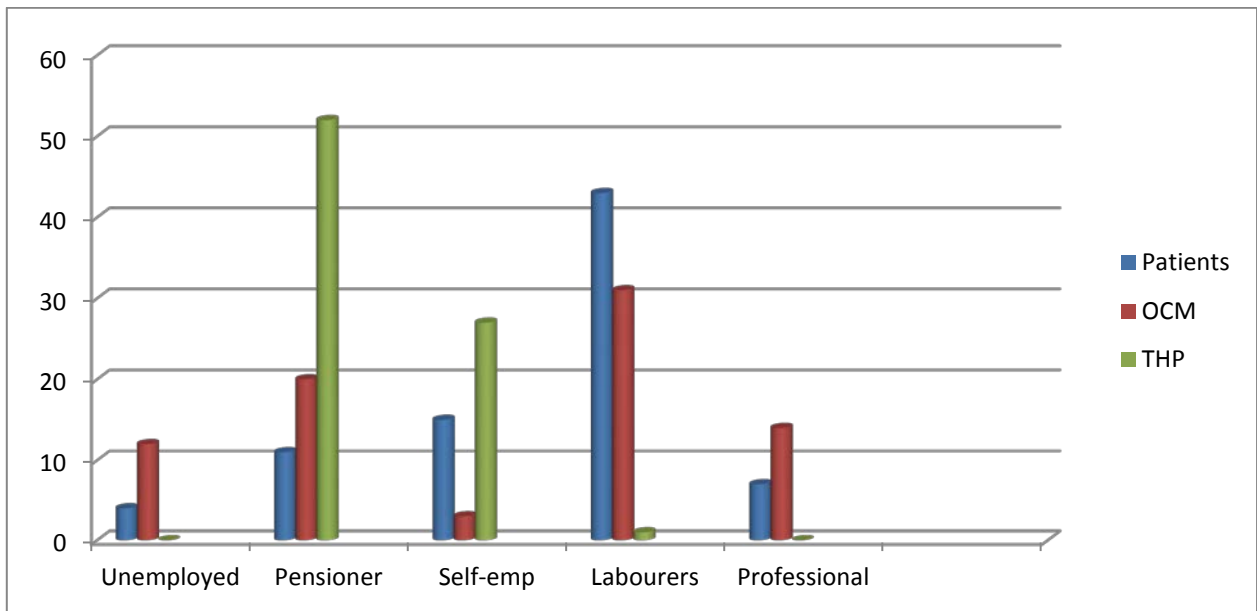


Figure 3: Respondents' occupation

4.2.5 Respondents' marital status

Of the total sample, 65% (n=156) respondents were married. Patients (N=80) had a larger number of married respondents (73%, n= 58) followed by traditional health practitioners (N=80) with 65% (n=52) and other community members (N=80) with 56% (n=46). Single parents constituted 19% (n=46) of the total sample. Divorced respondents constituted 7% (n=16), widow/ers 6% (n=15) and separated 3% (n=7).

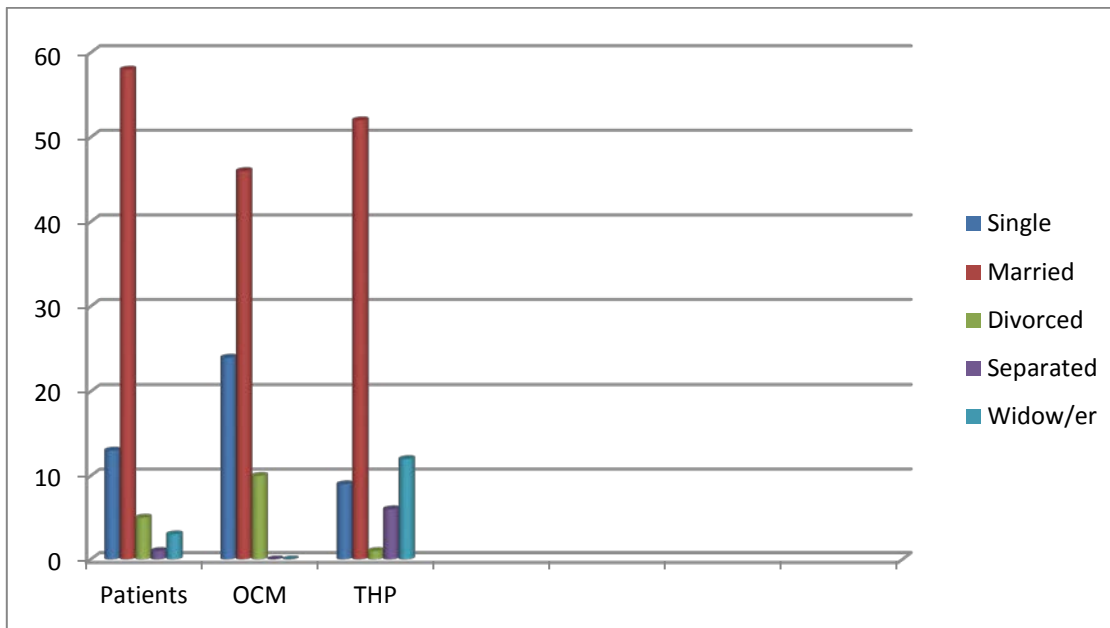


Figure 4: Respondents' marital status

4.3 SECTION 2. PERCEPTIONS OF DISEASE

This section presents analyses of responses to the first objective: To describe traditional health practitioners, patients' and community members' perception of disease and its main causes. The responses were provided by sixty (60) study respondents.

4.3.1 Perception of disease

Analyses of data about disease as perceived and described by the study respondents are presented in this section. The aim was to examine the respondents' disease conceptualization from their cultural perspective. Analyses of data showed that despite similar social and cultural background, traditional health practitioners, their patients and other community members describe disease in different ways. Analyses of the responses show that descriptions of disease are based on different aspects such as understanding of human existential

conditions understood by 100% of traditional health practitioners and fewer elders, assignment of names to symptoms and feelings of abnormality, giving reasons for disease, consultation and treatment.

4.3.1.1 Traditional health practitioners' perception and description of disease (n =20)

The traditional health practitioners' responses showed that they understand human existential conditions as explained by Kriel (1992). The respondents understood that humans are made up of three attributes namely; *mmele* (physical body), *moya* (spirit) and *seriti* (personality). The respondents showed that *mmele-o-a-bola* (decomposes) at death after *moya* has departed. The *moya* was described as a total life. *Seriti* was described as *botho* which, refers to an individual's personality. One's personality can be *boima* (strong) or *bofefo* (light) depending upon his/her physical body make-up, *moya-o-ile-fase* (weakened spirit), disrespect, insults, witchcraft and sorcery. If one's *seriti* is light, he/she is vulnerable to any disease and misfortune. Good health was understood as a balance between the body and spirit. Disease was considered a state of disequilibrium between the body and spirit. The respondents provided that their understanding of the human conditions is the basis of the type of treatment they offer to patients, which is holistic treatment that involves protection, prevention and remedial care.

Traditional health practitioners could not make a distinction between disease and illness. Their description of disease ranged from physiological abnormality (dysfunctionality of any body part), a weakened spirit, and ritual defilement.

a) *Physiological abnormality*

The respondents observed that malfunction of body organs such as liver, eyes, nose, lungs, heart or kidney may result in malfunctioning of the body and body systems such as urinary infections, heart disease, ulcer, or physical disability. Traditional health practitioners also observe that certain body symptoms are indications of particular diseases in their family members and patients. The most common symptoms mentioned are *tenghubedu* (dysentery), *dišo* (body sores), *mala* (stomach pain), *sehuba* (cough), and *go-hloka takatso-ya-dijo* (loss of appetite), *go-se-feme gabotse* (difficulty in breathing), *bogafa* (insanity) and *kgatelelo-ya-monagano* (depression).

b) *Weakened spirit*

Traditional health practitioners showed that a malnourished spirit predisposes one to behavioral and emotional states such as *bogafa* (mental illness), *kgatelelo-ya-monagano* (depression and anxiety) and weight loss.

c) *Go fiša (being hot)*

Traditional health practitioners observed that when a person's body is hot, it is a sign of body dysfunctionality. The heat implies that disease is available in the body and it may cause the entire body hot as an indication of abnormal body functioning. Sometimes this condition is associated with the presence of phenomena and events that disrupt normal body functionality usually suspected to be the result of witchcraft, sorcery or ancestral wrath.

d) Ritual defilement

Traditional health practitioners showed that very often people fall into a condition of *go-tshilafala* (ritual defilement). Such impurity predisposes people to disease. Traditional health practitioners believed that ritual defilement reduces resistance against disease and attempts at witchcraft and sorcery. This condition usually results from failure to heed certain cultural taboos such as sexual relations with a widow, with a woman who has just got a miscarriage or a woman who has just given birth as well as taking food magically prepared for funerals, weddings, parties and rituals.

4.3.1.2 Patients and community members' perceptions and description of disease (n=40)

The respondents in this group provided different descriptions of disease. The respondents aged between 53 and 90 (7 males and 11 women) understood disease in terms of the human existential conditions described by traditional health practitioners. The other respondents described disease in terms of how they were feeling and the symptoms they observed on their bodies before taking any medication. The responses provided ranged from feeling weak, headache, diarrhea, body sores, cough, loss of appetite, difficulty in breathing, stomach pain, earache, insanity, depression, cough, flu, fever and insomnia. Although there could be mild experiences of these symptoms and feelings, the respondents conceptualized and labeled them as diseases. The respondents showed that some of these symptoms were observed by family members, friends and relatives who referred the patients for consultation or they administered home-made medicines for treatment.

4.3.2 Main causes of disease

The responses obtained from the three groups of respondents provided for three categories of culturally observed causes of disease; namely *Modimo* (God), *badimo* (ancestral spirits) and *baloi* (witches and sorcerers). Of the respondents, 88% (n=53) mentioned *Modimo* as the main cause of the diseases that attack them. The respondents (73%) indicated *badimo* as a source of diseases that do not require consultation with physicians, and 95% (n=57) believed that most of the diseases that attack them are originated from malicious actions of witches and sorcerers. Of the respondents, 100% (N=60) were aware of the types of diseases caused by ecological factors such as climatic conditions, phases of the moon and vegetation types. Biological and psychological factors such as heredity, accidents and stress were mentioned by 90% (n=54) of the respondents. Analyses of the responses are presented below:

4.3.2.1 *Modimo*

The Supreme Being, *Modimo*, was mentioned by 88% of the respondents as a cause of certain disease. The respondents provided that there are certain phenomena in the natural environment that are regarded as the main causes of disease. Such diseases are believed to be sent by the Supreme Being. For example, the respondents blamed *Modimo* for diseases such as flu, cough, common cold and fever resulting from phenomena such as phases of the moon, changing weather conditions and certain inherited diseases for example, mental illness and epilepsy. The people believe that *Modimo* punishes sin by sending these diseases as a means of correcting the wrongs done by His children.

4.3.2.2 *Badimo*

Traditional health practitioners (40%, n=20) believed that many of instances of disease that attack their patients are attributed to withdrawal of ancestral protection and wrath. The healers believed that the living and the dead mutually influence one another. Therefore, *badimo* have great influence on their living descendants. For this reason; ancestral spirits have to be respected, honoured and obeyed. The respondents showed that ancestral spirits have unlimited powers over the lives of the living descendants. Ancestral spirits have power over life and death, over sickness and health. The respondents showed that nothing is impossible for the ancestors. Often they reward the living through good health for themselves and their livestock. If they are forgotten or disregarded, they may withdraw their protection, bring disease or death.

The respondents observed that respect and honor due to one's ancestors serve as protective measures against undesirable health conditions. Each family is obliged to keep and nourish supernatural relationships with their ancestral spirits. Should this obligation be ignored, the ancestors will send the messages forcefully by inducing diseases such as insanity and infertility. They are responsible for such misfortunes as impotency, miscarriage and infertility in women. Diseases such as epilepsy and physical deformity are also ascribed to the work of *badimo*.

4.3.2.3 Witches and sorcerers

The respondents (n=57) recognized that witches and sorceress within the communities may direct harm to their enemies by sending disease to them. Traditional health practitioners

testified that witches perform evil acts by combining medicines and spells to affect a variety of maladies. The most dreadful diseases that are caused by witches are *sejeso* (poisonous substance in one's stomach) and *sefolane* (incurable pain of body parts such as foot and hand) and *bogafsi* (mental illness). Poisonous substances could be put in the victim's food which may cause physical deformity, painful body parts and insanity. Sometimes the medicines are stuffed into certain objects or places, and once the victim touches or walks along the place, he or she contracts a disease. These evil actions are ascribed to jealousy and unhealthy competition. The victims in this state have to protect themselves and their families against these forces by strengthening their resistance through administration of some protective medicines dispensed by traditional health practitioners

4.3.2.4 Ecological factors

The respondents recognized that different regions and places as well as seasons have different environmental and atmospheric conditions. The respondents observed that people in a particular place are adjusted to environmental conditions but should they go to a completely different place they become ill because they cannot adapt to the new environmental conditions. For instance, it was observed that diseases such as flu, cough and skin irritation are caused by change in environmental and atmospheric conditions. Visiting places outside one's own community where there is an outbreak of diseases such as measles and cough; one can easily contract the disease. These conditions are accepted as natural phenomena that come and go and soon forgotten. The respondents gave the following as examples of ecological factors responsible for certain diseases that attack them:

a) *Climatic conditions*

Of the respondents, 31% (n=19) observed that diseases may come from bad air involving seasonal changes in weather and wind patterns. Weather usually changes from wet to dry, cold to hot and these changes cause diseases such as flu and common cold. Malaria, which is associated with mosquitoes, is common in the rainy season in Modjadji community. The respondents in Modjadji community (n=20) are knowledgeable about change in weather conditions and the seasons in which people are attacked by malaria. Malaria attacks people during rainy seasons during the month of October to February. It was mentioned that cold weather during winter months is the main cause of diseases such as common cold, flu, and whooping cough. It was mentioned also that diseases such as tuberculosis, cough and whooping cough are most prevalent during the month of August when the wind and dust are most prevalent.

b) *Vegetation*

Availability of certain types of vegetation in the local environment also affects the health status of the respondents. Ten traditional health practitioners in Dikgale community indicated that *mphoko* (*Scenescio barbetonicus*) if tampered with, it severely affects visual capability. Young children neither play under this plant species nor touch it. The latex of the plant causes irritation of the eyes which can result in permanent blindness. Four elders in Mogalakwena community identified the flowers of the species *mmale* (*Kleinia logiflorus*) as the main cause of diseases related to vision and severe headache. Domestication of this species is avoided, and the species that grow near the residential areas are cut off before they reach maturity so that they should not leave any seeds for re-grow in the next seasons.

Of the respondents, 27% (n=16) elderly respondents in the Dikgale community showed that with the depleting vegetation in the areas due to heavy dependency on indigenous plant material for household consumption such as fuel, medicine, vegetable dishes and as fodder for livestock, community members are at risk of contracting diseases caused by dust such as tuberculosis, cough and asthma.

c) *Phases of the moon*

Traditional health practitioners and elderly respondents (n=15) observed that eventual natural phenomena have influence on human's health conditions. The shape of *kgwedi* (the moon) pre-determines the health status of the community for that month. The people believe that if half-moon is concave, it spills varieties of illnesses including flu and coughs.

4.3.2.5 Biological and psychological factors

Traditional health practitioners showed that the human body may malfunction due to old age or due to injuries sustained from accidents. Such diseases are treated as normal disease that attack people. They can never be prevented or protected from attacking people. Other community members (n=20) and patients (n=20) observed that susceptibility to certain diseases such as epilepsy, infertility and mental illness runs in certain families and are genetically perpetuated through offspring. These conditions are attributed to a curse and are referred to as *leabela* (inherited the disease after one's parents or relatives (genetically acquired disease)). Such diseases are traced among the younger generation through the services of traditional practitioners for early treatment. If the ailment is detected it will receive thorough attention to reduce its severity.

4.4 SECTION 3. UTILIZATION OF PRIMARY HEALTH CARE FACILITIES AVAILABLE IN THE STUDY COMMUNITIES

This section presents analysis of responses to the second objective: To identify health care facilities utilized for primary health care in the four communities. Information provided by the study respondents are presented in summary form in the table below:

4.4.1 Table 3. Number of health care facilities used in the study communities

Community	Hospital	Clinic	Traditional health practitioner
Dikgale	1	1	6
Khehlakone	3	2	4
Mohlaletsi	2	1	4
Mogalakwena	1	2	5

4.4.2 Responses from other community members (n=20)

The respondents (45%, n=9) showed that they consult clinics and hospitals for their primary care. The respondents showed that clinics and hospitals are accessible and have adequate personnel (nurses and doctors), sufficient medicines, good infrastructure, and the buildings are in good condition. Preventive and protective health care services are rendered at all times. Despite physical accessibility and affordability of modern primary health care services in the four communities, 55% (n=11) of the respondents showed that they still employ the services of traditional health practitioners for their primary health care.

4.4.3 Responses from patients (n=20)

The patients showed that they still value consultation with traditional health practitioners for preventive, protective and remedial care. The main reason given for their consultation with traditional health practitioners was that traditional health practitioners carry a valued heritage of knowledge of health care that provides holistic healing. The respondents believed that health care provided by traditional health practitioners has protective, preventive and curative care.

A smaller percentage of the patients (20%, n=4) valued consultation in clinics and hospitals as well as with traditional health practitioners for total recovery. These respondents believed that there are certain health conditions that require consultation with physicians and nurses in hospitals and clinics. It is believed that health conditions such as measles, flu, whooping cough, tuberculosis, fever, fractures and operations require the services of professional health care providers. Some of these conditions can never be treated by traditional health practitioners because treatment procedure requires sophisticated medicines and medical equipment. The respondents believed that immunization against certain childhood diseases such as measles and polio myelitis can only be offered in hospitals and clinics. The respondents held that certain diseases such as insanity, infertility, impotency and ritual defilement are of supernatural origin and their treatment would require specialized rituals for remedial and protective purpose prescribed by traditional health practitioners.

Table 4. Characteristics of respondents using traditional healing practices for primary health care

Age	Professional		Non-professional		Total
	Male	Female	Male	Female	
18-30	1	0	2	4	7
31-40	0	0	3	3	6
41-50	0	2	2	1	5
51-60	0	0	1	3	4
61-90	0	0	5	4	9
Total	1	2	13	15	31

It is apparent that both professionals (although a smaller percentage; 10%, n=3) and non-professionals community members of all ages and gender consult with traditional health practitioners to seek health care services. Of the respondents, 55% (n=17) were females who use traditional medical practices for their primary health care. 45% (n=14) were males who also depend on the indigenous systems for maintenance of health.

4.4.4 Responses from traditional health practitioners (N=20)

The respondents (95%, n=19) showed that they never consult in clinics and hospitals for their health care. Although they held that they can never treat themselves (a practice well known as *moreku-ga-o-ithekole*; literally meaning that a healer can never treat him/herself with own medicines; neither his/her own family members), traditional health practitioners would consult with other healers for their health care. Their vast knowledge of human existential conditions is applied for health consciousness. One traditional health practitioner and his family members in Mogalakwena community testified that they consult in the clinic and

hospital for treatment of conditions regarded as serious such as measles, fractures and operations. The respondent believed that modern medicine alleviates the symptoms of disease, and the indigenous medicine is required to eliminate the underlying cause of the disease.

The following sub-section provides analyses of the main reasons for reliance on traditional healing practices for preventive, protective and remedial care. The responses were given by the respondents (n=31) who use the indigenous health care practices to meet their primary health care needs.

a) Efficacy

Analysis of the responses proved that the medicines administered by traditional health practitioners are efficacious. Traditional health practitioners provide complete health care through administration of effective medicines and practices that are without any contraindications to their patients.

b) Accessibility

It was observed that traditional health practitioners are convenient and are generally accessible as they live in the same communities as their patients and speaking a common language. The healers live and work at community level; a condition that makes treatments available and affordable to most people. The practitioners mostly provide counseling as part of therapy; for example as part of treatment, the healers would enquire about the patient's

family relationships and maintenance of good relations with ancestral spirits, which includes the offering of sacrifices.

c) Affordable

Another factor that contributes the trend towards increased utilization of traditional health care practices is that the terms of payment for traditional healing services are flexible. Patients do not always need cash to pay for their services. Payment is often made in the form of livestock, ranging from one or three goats or sheep depending on the type of treatment to be offered

d) Acceptable

The type of health care systems offered to the patients, are accepted and trusted culture-bound systems of health maintenance. They are embedded in the minds of the healers and the elderly as acceptable systems of health care which were transferred throughout generations informally by word of mouth.

e) Holistic

Traditional health practitioners showed that treatment is meant for the spiritual, social and psychological well-being of the patient. Health care practices are meant to restore the body functionality and relationships of the patient with his/her family. Family involvement is an important part of the healing process, and people improve because of family involvement and support.

4.5 SECTION 4. THE INDIGENOUS MECHANISMS EMPLOYED FOR PREVENTIVE AND PROTECTIVE PURPOSES OF PRIMARY HEALTH CARE

This section presents analyses of responses provided during interviews in response to the question: Which indigenous knowledge mechanisms do you use to prevent attack by disease?

The respondents provided a set of belief systems and practices specific to their culture that have preventive and protective functions by reducing health risks. Therefore, promotion of health is achieved through the following:

4.5.1 Cultural belief systems and practices

4.5.1.1 Cosmological factors

In the indigenous cosmology of the Northern Sotho, the respondents observe a distinction between health and disease. According to the respondents (n=35) good health is a balance between the natural environment and human society. It is held that the elements that are responsible for many of the diseases that attack people are within their cosmology. Such elements include change in weather conditions and plant species. Plant species such as *mmale* (*Kleinia longiflorus*) are a danger to human health. The flowers of this species cause sore eyes. Contact with this plant is avoided.

The respondents were all aware of phenomena and elements in the natural environment that predispose people to disease. Knowledge about seasonal changes in the weather conditions is a helpful mechanism in minimizing chances to contract disease. In this case people prepare themselves for the cold winter months by putting on warm clothes all the time and

consumption of food such as beans, fat and milk to make their bodies less susceptible to diseases such as flu and cough. The respondents (72%) showed that knowledge about the most common diseases that attack people during certain seasons also helps to minimize the likelihood of contacting the disease or minimizing its severity by immunization. Immunization is mostly offered by traditional health practitioners who administer complex medicines for protective and preventive purposes. These findings are commended by Ngubane's (1977) study among the Zulu. The study shows that there is a special relationship between a person and his environment, and that plant and animal life somehow affect the environment and human health conditions.

4.5.1.2 Disease etiologies

It was observed that the indigenous explanations of the cultural elements responsible for disease emphasize some health risk factors. Of the respondents, 85% (n=51) provided that diseases are classified as natural and supernatural to make people aware of a variety of elements that are responsible for a variety of diseases. The causes of disease are classified as natural or supernatural, therefore, disease etiologies provide for a number of elements that are responsible for disease such as ancestral spirits, witches, sorcerers, defilement and natural phenomena. Avoidance of disease is maintained through the offering of sacrifices to ones' ancestral spirits, protection of oneself against witchcraft and sorcery and observance of cultural taboos to avoid defilement.

4.5.1.3 Isolation

The respondents observed that certain diseases are contagious and, therefore, people suffering from such diseases should be isolated and contact with the rest of the family and the community is limited. Patients with infectious conditions such as common cold, whooping cough, diarrhoea, leprosy, measles, chicken pox and scabies usually are isolated or are restricted close contact with other people, and would never share family facilities with the rest of the family.

The respondents (traditional health practitioners and 5 elders) indicated that a *moriti* (shadow or evil power that weakens the immune system) is carried by people who are ill, people in unusual stages (for example; *letšeka* - a child who developed upper teeth first than lower teeth) or a woman who has just got a miscarriage). The shadow weakens the patient and, therefore, aggravates the disease. Precautions are taken to protect the patients against the influence of *moriti*. Usually this is done by barring any person from entering the patient's hut, and some medicines are applied for protective purposes. The respondents provided several sources of *moriti* as follows:

- i. Baby twins: The respondents indicated that traditionally baby twins were regarded as taboo. It was unusual for parents to give birth to more than one child at the same time. This incidence was regarded as bad omen; and as a result baby twins were likely to be killed after birth because they carry a great evil spirit.
- ii. Childbirth: A woman who has just given birth is believed to carry an evil shadow. She is expected to stay in her hut and should neither prepare food nor fetch water for the family.

The woman is supposed to be in the hut until the child is magically strengthened or else she will also bring *moriti* contracted from contact with other people to the newborn baby.

iii. Girls over puberty: Menstruating girls are a potential danger to a sick person. They are restricted to enter the hut of a patient. It is believed that they will bring *moriti* to the patient. A menstruating woman is also feared as a potential source of *moriti* because menstrual period is regarded as dirt that should be avoided.

iv. Sexual intercourse: Sexual intercourse brings about a mild form of *moriti*. Traditionally, women could not have sexual intercourse during menstruation, because the dirty blood is said to cause impotency to the male partner by blocking the route of seminal fluid. During their menses, women are weak in the sense of being vulnerable to spirits, because they had lost blood.

v. *Letšeka* (a child whose upper teeth developed before the lower teeth): *Moriti* resulting from *letšeka* is considered dangerous. In most cases the mother of the child is feared as much as the child. The mother and the child are forbidden to enter the hut of a patient. Many parents do not feel comfortable having their children play with such a child because if he/she can bite another child, the wound is not treated.

vi. Death: Contact with a person who has just attended a funeral, for example, is prohibited. This person is regarded as a pollutant and therefore, contact with him/her is avoided. People fortify themselves from contamination by maintaining strict moral codes and observing protective rituals. Sometimes people would perform a ritual to avoid *makgoma* (ritual defilement) which always manifests itself as a severe stomach pain or a roaming stomach. Examples of rituals include smearing of the entire body with ash mixed with salt and licking it to prevent ritual impurity.

4.5.2 Cultural values

The respondents identified several cultural values which are important in promoting the health of community members.

4.5.2.1 Acculturation

Of the respondents, 67% (n=40) indicated that they have learnt the indigenous mechanisms of preventive health care through informal education in the households during enculturation (the process of educating children about cultural values). During enculturation into the cultural belief systems and values of society, the people slowly acquired knowledge of health care mechanisms. Behaviors, attitudes and actions that have preventive functions were learnt in the household. These are usually a series of guidelines specific to their cultural values about the correct behaviour for preventing ill health in oneself and in others. They include beliefs about the healthy way to conduct oneself, eat, and to a large extent understanding of human relations with the natural environment.

The respondents showed that information about the general health care mechanisms is communicated verbally to the younger generations in the household through observance of a sick member of the family, taking part in the healing rituals, and through riddles and folktales. Of the respondents, 5 elderly respondents showed that knowledge of health care is shared with family members, relatives and friends. For example; knowledge about the plant medicines for the treatment of common diseases such as flu and common cold is shared with one's family, friends and relatives.

The respondents (n=17) indicated that in some instances, health advice is offered by relatives, friends and neighbors with long experience of a particular disease. Examples given were people with extensive experience of certain life events such as elderly women, women who have raised children and herbalists. Traditional health practitioners showed that their knowledge is sacred and cannot easily share it with any other person except their trainees. They claim that the knowledge is not general because it is obtained through spiritual guidance.

4.5.2.2 Taboo

It was observed that particular cultural restrictions promote healthy living. Examples provided by the respondents include cultural prohibitions on sexual intercourse with pollutants (a menstruating woman, a woman who has just got a miscarriage, widow or a sickling). Other cultural prohibitions include avoidance of contact with polluting objects, people or places. Examples include a corpse, and a taboo-baby, *letška*. Diseases resulting from failure to observe cultural restrictions are associated with ritual defilement. Examples of such diseases include persistent stomach pain, headache and swelling of the stomach

4.5.2.3 Moral behaviour

Of the respondents, 57% (n=34) responded that better health is associated with good morals. The respondents observed that good conduct involves fulfillment of the moral expectations based on cultural values, such as respect and knowledge of the culturally defined moral codes. It was indicated that good behaviour ensures harmonious co-existence, but God or ancestral spirits through disease and misfortune punish the breaking of behavioral rules and taboos.

Misfortune, infertility, mental illness, physical deformity and unemployment, for example, are attributed to disrespect, disobedient and neglect. 30% (n=18) indicated that disrespectful individuals are vulnerable to witchcraft, curse and ancestral wrath, which manifest as persistent bad luck or disease. 13% (n=8) did not give any response relating to behavioral attribute as an indigenous mechanism that could lessen possibilities for attracting disease.

The respondents (n=7) indicated that non-abuse of one's property is strictly observed to avoid contracting diseases resulting from trespassing such as *sefolane* (persistent pain in a body part) and *topa* (swelling of the middle finger as a result of theft). The respondents observed that one's car, land, livestock and homestead, are magically protected so that anyone who tempts with or trespasses would contract a disease relating to theft. For this reason; other people's belongings are not abused or tempered with.

Other respondents (n=49) indicated that conflicts and arguments with neighbours and strangers are often avoided for fear of witchcraft and sorcery. Witchcraft is mostly feared and people avoid conflicts with neighbours who might resort to magical charms to strike back. These, it is believed might result in hatred and jealousy, stressing situations and related diseases such as mental illness and depression.

4.5.2.4 Traditional dietary affects

The respondents (n=42) identified good diet as a preventive measure against attack by disease. The respondents believed that traditionally domesticated and gathered food materials are primary sources of balanced diet that gives the body strength and less susceptible to

disease. The respondents showed that traditionally, cultivation of the land in which several vegetables and cereals were grown was the main source of food. Sorghum, millet, nuts, beans, melons and pumpkin used to be the staple food of the Northern Sotho and could give the body strength and make it less susceptible to disease.

Of the respondents below 18 years, they never mentioned consumption of traditionally grown foods as a means to decrease susceptibility to disease. The respondents (n=25) indicated that today, even though the young generation despises traditional foods in favor of exotic ones, whenever a family member is sick; the elderly people and traditional health practitioners would prescribe that the patient be given traditional foods such as sorghum meal porridge, beans, milk, traditional honey and vegetables depending on the type of the ailment. Sick people are discouraged from taking food with sugar, salt, pepper, and acid content until the patient has recovered. Edible wild animals are hunted as an additional source of food in the family. Fish from the rivers and lakes is an additional source of nutritious food. Livestock also is an important source of food for milk and meat production.

Traditional health practitioners (10%) showed that better health is associated with the consumption of household produced foods. Starchy foods are never served alone but are invariably supplemented with protein and vitamin-rich dishes such as beans, meat, milk and vegetables which are grown and collected in the courtyard. Poor diet is failure to take a combination of any of the above and can make people become undernourished and disease-ridden. Poor diet and shortage of food among children and infants may cause diseases such as marasmus and kwashiorkor.

Of the respondents, 38% (n=23) indicated that when winter approaches, despite the use of traditional medical practices such as vaccines in the form of incisions and powders, decoctions and infusions to prevent the body from attack by flu, cold, or whooping cough; food also plays an essential role in primary care. Consumption of fat and high protein foods such as pork and beans is mostly preferable during winter for lesser susceptibility to disease.

The respondents identified diseases related to poor diet as follows:

- i. *Phepo-mpe* (malnutrition) results from either dietary deficiency or excessive consumption patterns. It was identified by 97% (n=58) as the most common cause of disease attributed to inadequate food intake. The respondents were conscious about diseases resulting from lack of proper diet and they therefore, take food that is rich in protein and vitamins such as meat, beans, sorghum and vegetables produced in the household.
- ii. The respondents (95%) observed that diseases such as diabetes myelitis, heart disease, hypertension, and cancer are resulting from the introduced food stuffs into their culture. The respondents believe that certain foods are processed and preserved in acids and condiments that cause allergies. Elderly respondents (n=13) indicated that processed foods are mostly preferred today, and this is the reason why many people are suffering from diseases such as diabetes myelitis and high blood pressure, which were not known in the past centuries.
- iii. Other respondents (48%) observed that avoidance of certain foods during certain periods is strictly observed. It was indicated that some people conduct *go-loma* rituals (first fruits rituals). These rituals are held to thank *badimo* for a good harvest and

accordingly; until the ceremony is done, no one in the family or the entire community as was the case in the past, can ever consume the green crops. It is believed that failure to observe the rituals may result in ancestral wrath in the form of persistent defilement, drought and death of livestock.

- iv. All the respondents showed that another method used to avoid attack by disease is preparation of food in a clean environment using clean utensils. It was also mentioned that consumption of contaminated food may result in health conditions such as dysentery, diarrhoea and stomachache, whereas drinking dirty water may cause diseases such as cholera, dysentery, and typhoid.

4.5.2.5 Hygiene

It was observed that conditions, under which people live, have effect upon their health conditions. All the respondents considered proper cleanliness as a means of maintaining a good health. It is held that untidy and little ventilated households may cause ill health conditions such as asthma, cough and flu. They believe that the presence of flies and cockroaches is an indication of filthiness and this could render family members to invasion by germs, which would cause diseases such as diarrhoea and cough.

The respondents showed that hand washing before meals, drinking of clean water, and preparation of food in tidy environments may protect attack by disease. Personal hygiene prevents smells and is part of the daily activities. Sweeping of floors and the courtyard helps to maintain a healthy environment, as does renovation houses. Latrines have to be built away from the houses to prevent flies from entering the house.

Of the respondents 75% (n=45) indicated that prevention of possible attack by disease is done by disposal of waste in the form of burning or throwing into dumping areas outside the village site. The respondents observed that dirt in the house and courtyard may invite flies which are believed to be a contributory factor to ill health conditions.

4.5.2.6 Sanitation

The respondents (n=24) observed that defecating in the homestead should be avoided because it will attract flies which will cause disease such as diarrhoea. The respondents believed that households that do not have pit latrines use the nearby bushes. Therefore, after defecating, the excrements should be covered with soil. Other respondents (n=14) showed that lack of proper sanitation predisposes people to diseases such as dysentery and diarrhoea.

4.5.2.7 Water supply

The study respondents showed that diseases such as diarrhoea, typhoid, dysentery, bilharzia and cholera are caused by drinking of dirty water. It is believed that germs from dirty water may enter the body to cause disease. Drinking and cooking with contaminated water from unprotected water resources such as wells, springs, lakes and rivers is avoided.

4.5.2.8 Storage systems

Surplus corn is stored in traditionally made storage systems. The mostly used storage container is the *sešego* (a basket which is woven by women to store corn). Maize and sorghum are mixed with the ash of *sekgophana* (*Aloe ferrox*) and stored into *sešego* to protect it adequately against weevils to remain fresh and nutritious for a longer period. The basket is

placed in a special hut. This technological experience serves as a preventive measure against diseases resulting from eating contaminated foods. It is believed that if corn is not carefully stored, it will rot, and food prepared from it will cause disease related to dysentery and diarrhoea. The respondents (90%) agreed that surplus meat is sliced into thin biltong. Meat will dry-off still in a good condition to last for a longer period. Rotten meat attracts flies and could cause diseases such as ringworms, dysentery and diarrhoea.

Traditional health practitioners indicated that they dispense the medicines which are stored in tidy and ventilated thatched-roof dispensaries. The medicines are stored into sealed containers to avoid any form of contamination. The instruments which they use to make incisions are kept safe and are used singly to avoid the spread of disease.

4.6 SECTION 5. REMEDIAL CARE BY SELF-MEDICATION

4.6.1 Self-medication

This section presents analyses of responses to the fourth objective: To describe remedial care by home-made therapies among the study respondents. Self-medication in this study refers to the respondents' knowledge of applying home-made therapies to cure existing diseases that attack them and family members. The respondents gave the following reasons for their dependency on self-care to cure existing diseases:

The respondents (n=48) indicated that naturally occurring diseases and mild symptoms of diseases do not require the services of medical practitioners. The respondents believed that diseases or symptoms of disease perceived and observed by the patient or by a family

member, are treated by home-made therapies. Diseases classified as natural, are always treated by self-medication because they are not serious and do not last longer.

Of the respondents, 35% (n=21) held that they developed increased knowledge about the types of diseases that often attack them and their family members and the type of medical applications required for treatment. Diseases such as cough, flu, diarrhoea, fever and other general symptoms such as dizziness have become part of everyday living and of normal health condition.

Self-medication was regarded as a personal responsibility for health care by 92% of the respondents. The respondents indicated that it is their responsibility to maintain their own health, understand their health problems and looking for solutions to their health problems. The respondents believed that taking responsibility for their own health means that they can only consult with medical practitioners when self-care mechanism has failed.

Of the respondents held that being born into a family where self-care was practised from an early age, and the fact that a family member in the household provides health care to the people; knowledge about the disease and its treatment is gained by almost all family members. When a family member contracts a similar disease; another family member or the patient him/herself is able to apply the treatment that is required.

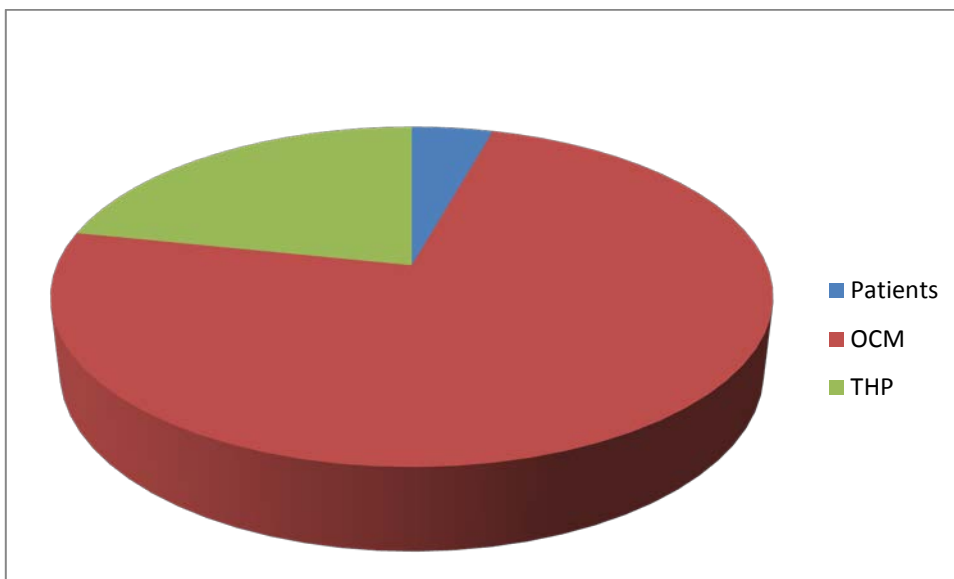


Figure 5: Respondents who were on self-care at the time of study

Figure 5 shows the statistics of the respondents who were on self-medication at the time of the study. Of the respondents, 38% (n=23) were using self-care for treatment of diseases which were regarded as minor ailments by the respondents. A large percentage of the respondents using self-care were other community members at 74% (n=17). The respondents indicated that they apply simple household products and such as lemon, orange, salt, cooking oil, ginger, garlic and medicinal plants such as *Lippia javanica* (Burm.F.) and *Artemisia afra* Jacq.ex.Will. to treat diseases such as flu, cough, diarrhoea, snakebites, fever, measles, mumps and pulsating fontanel. The respondents showed that they treat the symptoms of disease as they are observed on themselves and family members.

One patient was using self-care at the time of the study. The respondent was using lemon, oil and herbal preparations to treat flu which he regarded as minor. Self-care was used simultaneously with the traditional health practitioners' prescriptions. In certain instances the

patient said he would start with self-medication and if the condition could not be healed, he would consult with a traditional health practitioner for full treatment.

Traditional health practitioners (n=5) confirmed that self-care is the first health care mechanism that ensures responsibility for one's health maintenance. In self-care, medication is prepared and administered without diagnosis or advice of a healer or physician. The traditional health practitioners confirmed that they often use household products such as cooking oil, salt, pepper, and herbs to manage flu, cough and fever to treat themselves and family members. They confirmed that although they cannot treat themselves and family members, certain diseases are minor and would not require consultation with medical practitioners. The diseases are treated at home and soon forgotten.

Analyses of the responses show that a proportion of females using self-medication was significantly higher than their male counterparts. The female respondents gave more responses on self-care than the male respondents. The respondents reasoned that females possess knowledge of simple herbal remedies for common diseases and these remedies are usually applied for health care before they could consult with traditional health practitioners or at clinics and hospitals. A total of 16 female respondents (13 other community members and 3 traditional health practitioners) aged between 59 and 80 testified that they are knowledgeable about the application of home-made medicines to treat diseases that attack family members.

It was evident that the respondents have extensive knowledge of the medicines which they should apply for self-care. Elderly women mainly administer home-made therapies to keep the well-being of their families. Occasionally, they offer help to other people particularly when a request comes. A total of 7 male respondents were on self-medication at the time of the study. One male patient was supplementing the traditional health practitioners' prescriptions with self-care. The patient was administering the leaf infusion of *Lippia javanica* for flu.

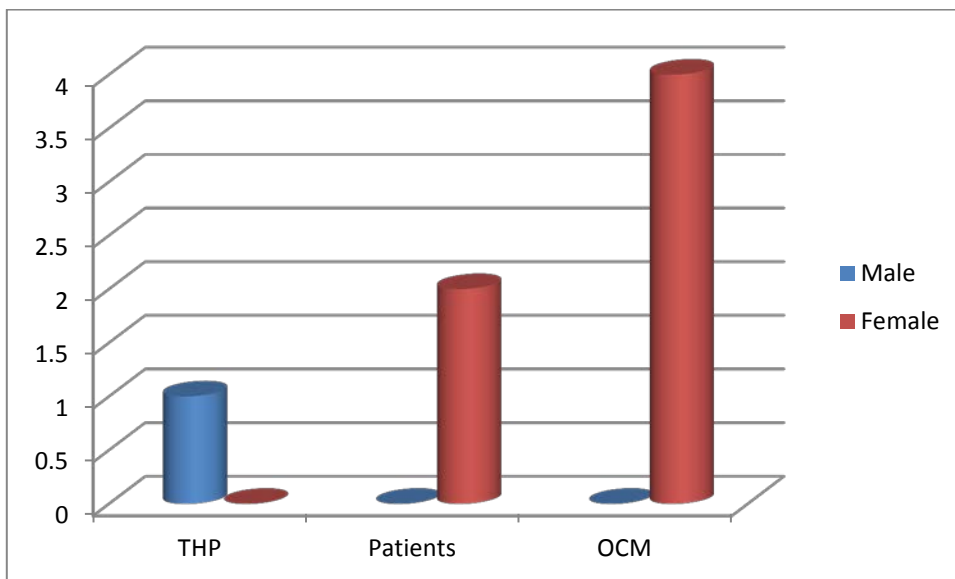


Figure 6: Respondents using self-medication by gender

Table 5. Plant medicines used by the respondents for self-medication

Botanical name	Vernacular	Part used	Admin & preparation	Use
<i>Aloe ferox</i> Mill	sekophana	leaves	oral infusion	external sores
<i>Artemisia afra</i> Jacq.ex Willd.	lengana	leaves	oral decoction	cough
<i>Harpagophytum procumbens</i> (Burch) DC. e.x. Meisin	mompate	leaves	oral infusion	accelerates birth
<i>CF.Hypoxix L</i>	phela	leaves	oral decoction	cough, fever, hemorrhoid
<i>Kleinia longiflorus</i> DC	mmale	leaves/stalks	infusion bath	sore eyes
<i>Lippia javanica</i> (Burm.F	mosunkwane	leaves	oral infusion	cough, fever
<i>Peltophorum africanum</i> Sond.	mosehla	bark	oral decoction	stomach and headache
<i>Ricinus communis L</i>	mokhure	leaves	fresh leaves	external wounds
<i>Siphinochilus aethiopicus</i> (Schweif.) B.L. Burt	serokolo	bulb	chew	cough, fever, stomach, headache, defilement
<i>Ziziphus mucronata</i> Willd.	mokgalo	leaves	fresh leaves	pulsating fontanel

4.7 SECTION 6. PRIMARY HEALTH CARE SOUGHT FROM TRADITIONAL HEALTH PRACTITIONERS

4.7.1 Introduction

This section presents analyses of the responses to the objective: To investigate preventive and remedial care of primary health care sought from traditional health practitioners. The responses were given by 11 community member, all the patients and traditional health practitioners. Therefore, a total of 51 respondents (85% of the total sample) provided the following responses to the question.

4.7.2 Preventive care provided by traditional health practitioners

Traditional health practitioners indicated that they dispense complex protective medicines which are known to them only. Knowledge of these medicines is with the traditional health practitioners and is rarely shared with patients or family members. The healers indicated that attack by certain diseases could be prevented through the administration of indigenous health care practices prepared and prescribed by them only. It was mentioned that traditional health practitioners' preventive measures are effected by *phoko* (a protective amulet). In most cases *phoko* is used to protect the *seriti* of a person to ensure good health and for protection against witchcraft and sorcery. Protection of this kind is needed when one undertakes a journey to disease stricken areas such as malaria endemic areas (Khehlakone), attending a funeral to avoid contraction of ritual defilement, or when one is visiting a patient to avoid contracting evil power.

Traditional health practitioners identified four commonly used medicinal plants as the main source of protective medicine. They are *sebjane* (*Amaranthus hybridus* L.) *monee* (*Berchemia discolor* Klotzsch hemsl.), *pha-bašimane* (*Drimia robusta* Bak.), *seredile* (*Cotyledon orbiculata* L.) and *serokolo* (*Siphnochilus ethiopicus* Schweif B.L Burt.). Traditional health practitioners showed that preventive medicine is used for self-fortification and to ward off evil spirits that might predispose people to disease. Preventive medicine prepared from these plants is usually in the form of powder, or a small portion of the root (amulet). The powder is mixed with fat or vaseline which is smeared on all body parts for preventive purpose. The amulet is carried in the pocket everywhere the person goes. If the amulet gets lost, it is immediately replaced with a new one.

The respondents (n=31) showed that in many instances they use *pheko* prescribed by the traditional health practitioner to render themselves immune to the malicious actions of *baloi*. The children are protected from the evil intentions of witches and *moriti* through magical charms. Protective medicine (prepared from *Amaranthus hybridus*) is administered to protect one from lightning struck and a variety of potential dangers one might meet while travelling. Protective medicine neutralizes the potency of harmful substances that are aimed at causing disease or any ill-health condition.

The most commonly used protective medicine; *tšhidi* was identified by traditional health practitioners and 13 patients. This medicine is prepared from the species *Berchemia discolor*. The roots are burnt and mixed with animal fat to be rubbed into the body to avert bad luck and stave off disease. It is prepared for both young and old people.

Another protective measure which is used for immunization against infections identified by the respondents is the *dupa* (a protective charm). Several protective medicines known by the healers are prepared and wrapped into a piece of cloth which is sewn and put around the neck of a child or an adult for protection against attack by any disease. *Dupa* is prepared from a mixture of *Berchemia discolor* and *Siphnochilus aethiopicus*.

Traditional health practitioners identified other elaborate procedures for prevention of disease. It is held that periodically the head of the family organizes the performance of *mophaso* (supplicatory sacrifice-usually made when assistance from ancestors is sought for protective purpose). During the ceremony, several magical herbs such as *Cotyledon orbiculata* and *Drimia robusta* are mixed together with the blood and offal of a sacrificial animal (usually a goat). The purpose of the ritual is to strengthen the family members both physically and spiritually so that they can repel any attack by disease and witchcraft attempts.

Table 6. Medicinal plants administered for protective and preventive care by traditional health practitioners

Botanical name & Vernacular	Part used	Value
<i>Amaranthus hybridus</i> L. (sebjane)	Root	immunization and charm
<i>Berchemia discolor</i> (Klotzsch Hemsl.) (monoko)	Root bark	immunization and charm
<i>Cotyledon orbiculata</i> L. (kheredile)	Leaves	charm
<i>Drimia robusta</i> Bak (pha-bašimane)	Bulb and leaves	immunization and charm
<i>Siphnochilus aethiopicus</i> (Schweif) B.L. Burt (serokolo)	Bulb	immunization

Of the indigenous plant medicines applied for preventive and protective purposes by traditional health practitioners, *Siphnochilus aethiopicus* is the most common herb used. The herb was identified by all the traditional health practitioners during the interviews. It was followed by *Drimia robusta* which was identified by 18 traditional health practitioners respectively. *Cotyledon orbiculata* is only known by traditional health practitioners at Khehlakone. *Amaranthus hybridus* and *Berchemia discolor* are also commonly known and used for their preventive qualities.

Table 7. Protective and preventive medicinal plants identified and used by traditional health practitioners per community

Species	Community	Respondents (TRAH)
<i>Amaranthus hybridus</i> L.(sebjane)	Dikgale	5
	Khehlakone	5
	Mogalakwena	-
	Mohlaletsi	3
<i>Berchemia discolor</i> (Klotzsch) (monoko)	Dikgale	5
	Khehlakone	5
	Mogalakwena	2
	Mohlaletsi	3
<i>Cotyledon orbiculata</i>	Khehlakone	5
<i>Drimia robusta</i> Bak (pha-bašimane)	Dikgale	5
	Khehlakone	3
	Mogalakwena	5
	Mohlaletsi	5
<i>Siphnochilus aethiopicus</i> (Schweif)B.L.Burt	Dikgale	5

(serokolo)	Khehlakone	5
	Mogalakwena	5
	Mohlaletsi	5

4.7.3 Remedial care provided by traditional health practitioners

Traditional health practitioners showed that their health care services are trusted by their patients because they share the basic cultural values and cosmologies of their communities, including the indigenous perception of disease and health. Patients consider traditional health practitioners' medicines as the more appropriate remedial care. Other community members, 55% (n=11) testified that they depend on traditional health practitioners for remedial care because they offer holistic treatment.

4.7.3.1 Diagnosis

Of the traditional health practitioners interviewed, they all indicated that remedial care usually starts with diagnosis about the cause of disease and the medicines that should be administered for treatment. Traditional health practitioners indicated that diagnosis of disease comprises a combination of procedures including divination, observation, case history and evaluation of body symptoms. Divination was the principal method of diagnosis employed by all traditional health practitioners. Divination is performed in an effort to request for ancestral intervention to guide the healer to provide information about the origin and nature of the disease and treatment thereof. Diagnosis of disease is also done through observation of the symptoms as seen and described by the patient or another person, especially a family member. Traditional health practitioners showed that where necessary they would ask guiding questions and

statements to their patients with the objective of obtaining the patients' history and personal behaviour and observe the patients' attitudes, gestures more carefully.

Other respondents (11 community members and all patients) indicated that diagnostic process is not only intended at obtaining answers about the origin of the disease, but what caused the disease, and why it has affected the patient at this time and what treatment could be offered.

4.7.3.2 Therapy

Traditional health practitioners identified several diseases which they are consulted with. Some of the diseases were identified by patients and other community members who understand that:

- a) Certain diseases are natural and regarded as minor ailments and do not require medical attention by traditional health practitioners
- b) Some diseases are of supernatural nature and would therefore; require the services of traditional health practitioners for remedial care.

The respondents showed that traditional health practitioners cure diseases that attack people of all age groups and genders. Curative care provided by traditional health practitioners is comprehensive and has curative and protective elements. The respondents mentioned the following therapeutic techniques:

- a. *Mophaso*, which is ritual and magical healing, is conducted to cleanse and strengthen the patients. Usually a sacrificial animal (chicken, goat or sheep) is killed and

particular parts such as hair, bones and skin are magically prepared to render remedial care to the patient. Blood is used to cleanse ritual defilement and evil spirits.

- b. Medicinal plant parts are prepared and administered in different methods according to the type of diseases requiring treatment. The main objective of the treatment is to cure the disease and to boost the immune system of the patient to prevent further attack by the disease. The following methods were identified by the respondents:
 - i. Infusion- medicinal plant parts such as bark and roots are infused into water to make the medicine which is applied orally or anally for treatment of diseases such as cough, constipation and stomachache.
 - ii. Decoction- medicinal plant parts such as leaves, bark or roots are boiled and the resulting medicine is administered orally to treat diseases tuberculosis, syphilis and painful legs.
 - iii. Bath- medicinal plant parts are boiled or infused into water and the resulting liquid is used to make a ritual bath to treat conditions such as impotency and infertility.
 - iv. Powder- barks and roots are sometimes grounded into a fine powder which is licked raw, mixed with fat or put into food to treat diseases such as backache and cancer. Sometimes incisions are made in the skin; the powdered medicine is rubbed into the incisions.
 - v. Poultice- the leaves are chewed and the resulting substance is used to treat pulsating fontanel and external sores such as abscess.

- vi. Steaming- medicinal plant parts such as scales, leaves and roots are boiled and the patient is let to inhale the steam for treatment of diseases such as insanity, headache, blood diseases and defilement.

The respondents identified the most threatening health problems during the study. The main health problems observed and treated by traditional health practitioners were grouped into several categories according to the age and gender of the patient, and the symptoms as observed by the patient, his/her family or the traditional health practitioners being consulted.

The main health problems were categorized as follows:

- *Malwetši-a-bana-* children's diseases (*khwaa-khwaa* (whooping cough), *mooko* (measles), *mauwe* (mumps), *hlogwana* (pulsating fontanelle), *nogana* (dysentery), *letšhollo* (diarrhoea), *medisa-meno* (teething), *mahlo* (sore eyes), *sekobonyane* (small pox) and *phepo-mpe* (early symptoms of kwashiorkor).
- *Malwetši-a-basadi-* women's diseases (*malwetsi a thobalano* (sexually transmitted diseases), *lehlapo* (menstrual pain), *popelo* (womb), *sesepedi* (breast or cervical cancer), *boopa* (infertility), *tšhofela* (syphilis).
- *Malwetši-a-banna-* men's diseases (*lekhutlo* (weakened erection or impotency) and *hlogo* (headache).
- *Malwetši-a-batšofadi-* diseases of old age (*go-lapa* (failing physical strength), *mororomelo* (rheumatism), *sehuba* (chest problems), *letšhollo* (diarrhoea), *moroto* (urinary tract problems), and *mahlo* (weakened senses).
- *Malwetši-a-hlago-* natural diseases (*mpsikela* (flu), *sehuba* (cough), *sehuba-se-segolo* (tuberculosis)).

- *Dikgobalo*- injuries in the leg, hand or any body part.
- Other diseases- (HIV and AIDS, bad dreams, poisoning, sores, burns, heart disease, kidneys, backache, hips and pregnancy).

It was observed that certain diseases that attack the respondents are culture-bound syndromes (diseases of supernatural origin). These types of diseases do not respond to allopathic medicine and therefore, curative care is through administration of traditional medicine. The treatment process involves either a full ritual with a sacrifice and herbal treatment. Treatment of culture-bound syndromes such as *bogafa* (mental illness), *thogako* (curse), *boloi* (witches), *sefolane* (pain in either body part), *malopo* (spirit possession), *makgoma* (ritual defilement) and *dikotwane* (epilepsy) requires the offering of sacrifices and herbal treatment prescribed by traditional health practitioners.

4.7.3.3 Consulting fee

Of the traditional health practitioners, 75% (n=15) indicated that they are consulted by patients more than four days in a week. Some traditional health practitioners (n= 3) claimed that they are consulted by patients any time during the day or night. Other traditional health practitioners (n=2) who have full-time employment other than traditional healing showed that they are consulted only in the late afternoon and on weekends.

Traditional health practitioners showed that they charge consulting fees. The fees are increasingly paid in cash and in kind. The consulting fee, which is the initial fee, is between R50 and R200. Payment for treatment is mostly done after the patients have received cure.

Payment is dependent upon the nature and complexity of the health condition, the type of medication and the period of medication prescribed for the patient. Patients (n=13) indicated that the healers services are affordable and they are able to pay in instalments if there is not enough cash. The fee ranged between R500.00 and R5000.00. When they were asked as to whether the healers' fees are higher than what they could pay in clinics and hospitals, the patients responded that what is important is the type of remedial care offered by the practitioners. The remaining patients (35%, n=7) indicated that often they experience difficulties in settling the practitioner's fees. They indicated that they pay in kind usually in the form of livestock. They also showed that never mind the payment, the type of health care provided by traditional practitioners is valued more than money.

Other community members (n=11) shared similar sentiments. They responded that they do not have any problems in settling consulting fees with traditional health practitioners. The effectiveness of the therapies the healers dispense, encourages the patients to pay for the health care services offered.

4.7.3.4 Referrals

Traditional health practitioners showed flexibility in their healing practices. However, they indicated that they may refer their patients to any health care alternatives if the patients cannot show any improvement after receiving therapy. Such referrals were mentioned by all respondents using traditional health practitioners' health care services. They indicated that the patients could be referred to medical specialists in instances where the traditional health practitioners are failing with their treatment. The respondents showed that modern medical

practitioners can handle certain diseases, such as measles, fractures, meningitis, stress, depression, and other naturally occurring diseases such as flu, common cold, cough and fever. In these instances; when the healers' therapy is failing, patients can be referred to medical specialists. At the same time, the respondents provided that there are certain diseases such as infertility, mental disorder, misfortunes, and defilement that can only be cured by traditional health practices.

4.7.3.5 Specialization

The respondents (traditional health practitioners, patients and 11 other community members) distinguished between two types of traditional health practitioners. A distinction was made between *ngaka* (diviner) and the *ngaka-ye-tšhupša* (herbalist). They are both addressed as *dingaka*. A diviner's vocation is mainly the diagnosis of diseases. Diviners specialize in diagnosis of unexplainable health conditions. They are capable of analysing the cause of the conditions and interpret the message to those who have consulted. Many of the diviners diagnose and dispense medicines.

The herbalists are ordinary people with extensive knowledge of magical qualities of plant materials. They prescribe medicine for a variety of diseases for remedial and preventive purposes of primary health care. They are mostly women and have acquired extensive knowledge of medical properties of plants from family members, neighbours and relatives. The herbalist and diviner both dispense medicines and provide for purposes of remedial and protective health care.

4.7.3.6 Medicinal plants used by traditional health practitioners for remedial care

A list of the plant medicines identified by traditional health practitioners in the four communities is provided below. Some plant species were encountered in all the communities. A few observations are important to mention. Fifty one (n=51) medicinal plants were identified by all traditional health practitioners (n=20). Of the respondents, more than five identified the medicinal use of all the species in one community. The species may be regarded as the most common medicinal plants used in the culture of the Northern Sotho. Other species were encountered in single communities. The species grow only in those areas. Examples are *Ipomoeia albivenia* sp., *Lycium* sp, *Syzygium cordata* Hochst.ex encountered only in the Dikgale community; *Adansonia digitata* L., *Asclepias fruticosa* herba, *Celtis africanum* Burm.F, *Diospyros mespiliformis* (Hochst) and *Encephalartos transvenous* Stapf. encountered only at Khehlakone; *Cadaba aphylla* (Thunb) Wild, *Datura stramonium* (LINN) and *Sansevieria hyacinthoides* (L)Druce. encountered only at Mogalakwena; and *Combretum molle* Rbr.ex, *Eucomnis autumnalis* (Mill) Chitt., *Haemanthus* sp. And *Rhiocissus tridentata* (L.F)Wild were encountered at Mohlaletsi. Fewer species were identified only in two or three communities. examples are *Asclepias, fruticosa* Herba, *Asparagus densiflorus* 'Sprengeri' , *Crinum macowanii* L., *Euclea undulata* Thunb., *Gnaphalium helichrysum* L., *Guilleminea hensa* L., *Gymnosporia senegalensis* L., *Kleinia longiflorus* DC., *Raphionacme* sp., *Senna italic* Mill. and *Scilla natalensis* Planch.

Table 8. Medicinal plants used by traditional health practitioners for remedial purpose

*D=Dikgale, K=Khehlakone, Mog=Mogalakwena, Moh=Mohlaetsi, AC=All communities

Species	Local name	Place identified	No. identified	Use
<i>Adansonia digitata</i> L.	muhuyu	K	5	accelerate growth
<i>Aloe ferox</i> Mill.	sekgophana	AC	18	stomachache, external sores
<i>Artemisia afra</i> Jacq.ex. Will.	lengana	AC	20	cough, flu, bronchitis, constipation
<i>Asclepias fruticosa</i> Herba.	fore	D, Mog	8	TB, cough
<i>Asparagus densiflorus</i> 'Sprengeri'.	lefalatša-maru	K, Mog	7	impotency
<i>Boophane disticha</i> L.F Herba.	lešoma	AC	20	HBP, mental disorder, headache
<i>Bridelia micrantha</i> (Hochst) Baill.	motsere	K	17	diarrhoea
<i>Cadaba aphylla</i> (Thinb) Wild.	monna-motsho	Mog	3	asthma
<i>Carrisa bispinosa</i> L. Desf.	mothokolo	AC	7	underweight in children
<i>Celtis africanum</i> Burm F.	modudu	K	6	infertility, impotency
<i>Combretum molle</i> RBR ex.	mokgwete	Moh	3	fever, convulsions, skin infection,

G Don.				stomachache
<i>Crinum macowanii</i> L.	letotse	Mog, Moh	10	blood, kidney, cough
<i>Datura stramonium</i> (Linn).	lešwe	Mog	4	impurity
<i>Dicoma gerrardii</i> (Harv. Ex. FC. Wilson).	phelalegolana	AC	12	cough, diarrhoea
<i>Diospyros mespiliformis</i> Hochst. Ex. ADC.	mudomma	K	5	ringworms
<i>Dombeya rotundifolia</i> (Hochst) Planch.	mohlabaphala	AC	7	diarrhoea
<i>Ekebergia capensis</i> Sparrm.	mmidibidi	AC	14	dysentery, headache
<i>Elephantorrhiza elephantine</i> Burkei Benth.	mošitšana	AC	7	diarrhoea
<i>Encephalartos transvenosus</i> Stapf.	mofaka	K	5	impurity, insanity, infertility
<i>Euclea undulata</i> Thunb.	mokwerekwere-badimo	D, Mog	5	toothache
<i>Eucomis autumnalis</i> (Mill) Chitt.	mathuba-difala	Moh	5	urinary disease, fever, venereal disease
<i>Euphorbia tirucalli</i> L.	mohloko	AC	6	snakebites

<i>Faidherbia albida</i> (Delile) A.Chev.	mokgaba	AC	20	infertility
<i>Ficus burkei</i> (Miq).	mokumu	AC	13	colds, constipation, throat infection
<i>Gnaphalium helichrysum</i> L.	mohlahlaila	D, Moh	12	indigestion
<i>Guilleminea hensa</i> L.	mošitši	D, K, Mog	10	diarrhoea
<i>Gymnosporia senegalensis</i> L.	sephato	D, Mog	3	infertility
<i>Haemanthus sp.</i>	lehome	Moh, K	5	Cough
<i>Harpagophytum procumbens</i> (Burch) DC ex. Meisin.	mompate	AC	20	indigestion, ease birth
<i>CF.Hypoxix L.</i>	phela	AC	20	cough
<i>Ilex mitis</i> L.	monamane	AC	11	indigestion
<i>Ipomoeia albivenia</i> sp.	leselahlolo	D	4	stopper
<i>Kleinia longiflorus</i> DC.	mmale	D, Mog	10	sore eyes, protective medicine
<i>Lippia javanica</i> (Burm F.).	mosunkwane	AC	20	cough, fever
<i>Lycium sp.</i>	ngangi	D	5	Stomachache, headache
<i>Peltophorum africanum</i>	mosehla	AC	20	stomachache

Sond.				
<i>Raphionacme sp.</i>	tsema	D, Mog	7	accelerate growth
<i>Rhoicissus tridentata</i> (L.F.) Wild & Drumm.	mopidikwa	Moh	6	bladder, kidney
<i>Ricinus communis</i> L.	mohkure	AC	20	charm, external wounds
<i>Sansevieria hyacinthoides</i> (L.) Druce.	mokgotle	Mog	4	hemorrhoids
<i>Schotia brachypetala</i> Sond.	molope	AC	16	diarrhoea
<i>Scilla natalensis</i> Planch.	letlopja	K, Moh	3	influenza, diarrhea, swollen legs
<i>Sclerocarya birrea</i> (A. Rich) Hochst.	morula	AC	20	stomachache
<i>Senna italica</i> Mill.	morotela-tšhoši	Mog, Moh	4	infertility
<i>Solanum panduforme</i> Bergens	thola	AC	6	impotency
<i>Syzygium cordata</i> Hochst. ex.	montlho	D	5	TB, respiratory disease
<i>Trichilia emetic</i> Vahl.subsp.	mmaba	AC	11	stomachache, dysentery, indigestion, kidney
<i>Urginea sorguinea</i> Shinz.	sekanama	AC	17	blood diseases

<i>Warbugia salutaris</i> (G. Bertol)	molaka	AC	20	cough, TB, intestinal worms, rheumatism, arthritis
<i>Ximenia caffra</i> Sond.	motšhidi	AC	9	dysentery, infertility
<i>Ziziphus mucronata</i> Willd.	mokgalo	AC	20	septic swelling, dysentery

4.7.3.7 Conclusion

Data presented in this section are analyses of responses provided about the type of preventive, protective and remedial care provided by traditional health practitioners. Analyses of data show that consultation with traditional health practitioners for preventive and remedial care is an important cultural practice that is acceptable and readily accessible and draws on local resources that are culturally acceptable as health care mechanisms.

4.8 SECTION 7. QUANTITATIVE DATA ANALYSES

This section presents quantitative data collected through administration of questionnaire on 180 respondents. The main goal of the survey was to collect quantitative data on the main health problems and their cause in the four communities, the indigenous methods of prevention and cure of disease, and the use of medicinal plants for preventive and remedial purpose.

4.8.1 The main diseases identified in the study communities

4.8.1.1 Types of diseases

The table below provides a list of all diseases identified by the respondents in the four communities. Data presented on the table include the disease identified, the community in which it was identified and the total number of respondents identified the disease. The most common diseases in the four communities are cough, fever, flu, tuberculosis, diarrhea, headache, stomachache, insanity and HIV and AIDS. Almost all the respondents identified the diseases. Certain diseases attack people in particular communities such as malaria and rheumatism in Khehlakone. Water-related diseases such as cholera, typhoid and bilharzia were identified in Mogalakwena. This is because the community is situated next to Mogalakwena River whose water is used for household consumption. Dirty water from the river predisposes community members to diseases such as cholera, bilharzia and typhoid.

Table 9. Diseases identified by the respondents per community

*D=Dikgale, K=Khehlakone, Mog=Mogalakwena, Moh=Mohlaetsi, AC=All communities

Disease	Local name	Place identified	No. identified
Cough	sekhuba	AC	180
Flu	mokomane, mpšikela	AC	180
Fever	letadi	AC	180
Whooping cough	khwaa-khwaa	AC	123
Tuberculosis	mafahla	AC	180

Diarrhoea	letšhollo	AC	125
Dysentery	teng-hubedu	D, K, Moh	97
Headache	hlogo	AC	180
Stomachache	mala	AC	167
External sores	dišo	D, Mog, Moh	60
High blood pressure	Madi-a-magolo	AC	70
Kidneys	dipšio	AC	45
Ringworms	dinogana	Moh, Mog	53
Toothache	meno	AC	31
Constipation	go-bipelwa	D, K, Moh	74
Veneral diseases	Malwetši-a-thobalano	AC	82
Epilepsy	dikotwane	D, Mog	44
Insanity	bogafa	AC	158
Hemorrhoids	mokola	Mog	32
Rheumatism	bonyelele	K	7
Boils	go-swa	D, K, Moh	19
Respiratory disease	mafahla	AC	59

Arthritis	bolwetši-bja-marapo	D, Moh	24
Asthma	sehuba-sa-leadla	Moh	5
Impotency	go-hwa-bonna	AC	17
Infertility	boopa	AC	63
Defilement	makgoma	AC	41
Goiter	kođu	K, Mog	16
Bronchitis	mafahla	AC	76
Malaria	ledadi	K	45
HIV/AIDS	bolwetsi-bjathobalano	AC	180
Cancer	sesepeđi	Moh	65
Ulcer	thosola, sešo-sa-ka-maleng	D, K	21
Spinal cord	mokokotlo	Mog	10
Diabetes	bolwetši-bja-swikiri	AC	28
Migraine	hlogo-e-kgolo	D, Mog, Moh	11
Cholera	kholera	Mog	49
Bilharzia	teng-hwibidu	Mog	5
Typhoid	teng-kgolo	Mog	18

Measles	mooko	AC	171
---------	--------------	----	-----

4.8.1.2 Seasonal diseases

Certain diseases attack community members during particular periods in the year only. Examples provided include malaria in Khehlakone and measles, flu, cough, whooping cough and mumps in all communities.

4.8.2 Causes of disease

The responses provided for this question were weather conditions, ancestors, witchcraft and other causes. Of the responses provided, 120 responses showed that weather conditions are the main cause of disease in the four communities, followed by beliefs in ancestor worship with 73 responses and beliefs in witchcraft with 54 responses. Other factors provided by the responses ranged between breach of cultural taboo mentioned in 12 instances and dirty water in 81, unhygienic in 150, faeces in 37 and waste materials in 62 instances.

4.8.3 Health care facilities utilized by respondents

The largest number of respondents (43%) consults in hospitals for their health care needs followed by those who seek medical care from clinics (26%). Other respondents (22%) consult with traditional health practitioners for their health care needs. Self-care is employed by fewer respondents. The largest number of respondents consulting in hospitals was encountered in Mhlaletsi community, followed by respondents in Mogalakwena community.

The largest number of respondents consulting with traditional health practitioners was in Khehlakone community.

Table 10. Number of respondents using available health care facilities

Community	Hospital	Family	Self	Traditional health practitioner
Dikgale	23	17	6	25
Khehlakone	32	18	12	28
Mohlaletsi	40	29	2	14
Mogalakwena	35	37	5	26
Total	130	101	25	93

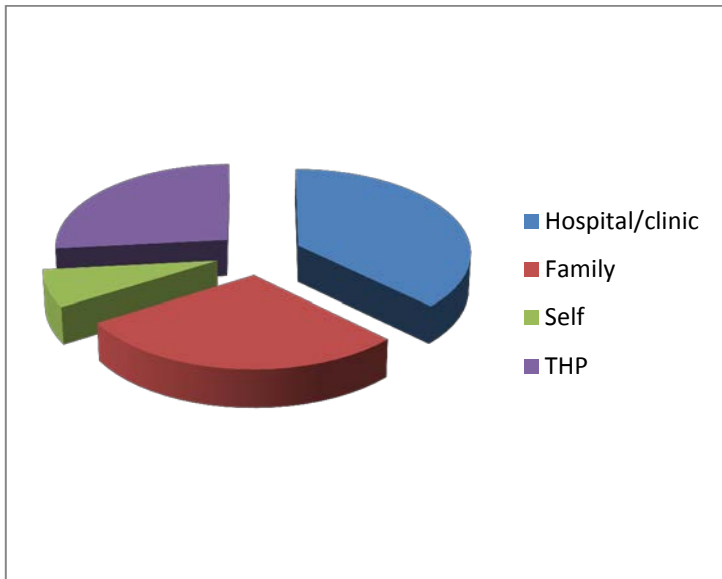


Figure 7: Number of respondents using available health care facilities

4.8.4 The indigenous methods of prevention and protection against disease used by respondents

A largest number of respondents (n=124) consults in clinics and hospitals for prevention of diseases that attack them. Self-care is employed by 11% (n=17) respondents. Traditional health practitioners' medical practices are employed by 39 respondents. Other methods mentioned by the respondents which have preventive value were balanced diet (mentioned in 87 instances), tidiness (mentioned in 135 instances) and observance of taboo (in 56 instances). The respondents using self-care for prevention of disease, identified hygiene and proper nutrition as preventive mechanisms. The respondents using traditional health practitioners' practices mentioned the use of medicines for protection against disease.

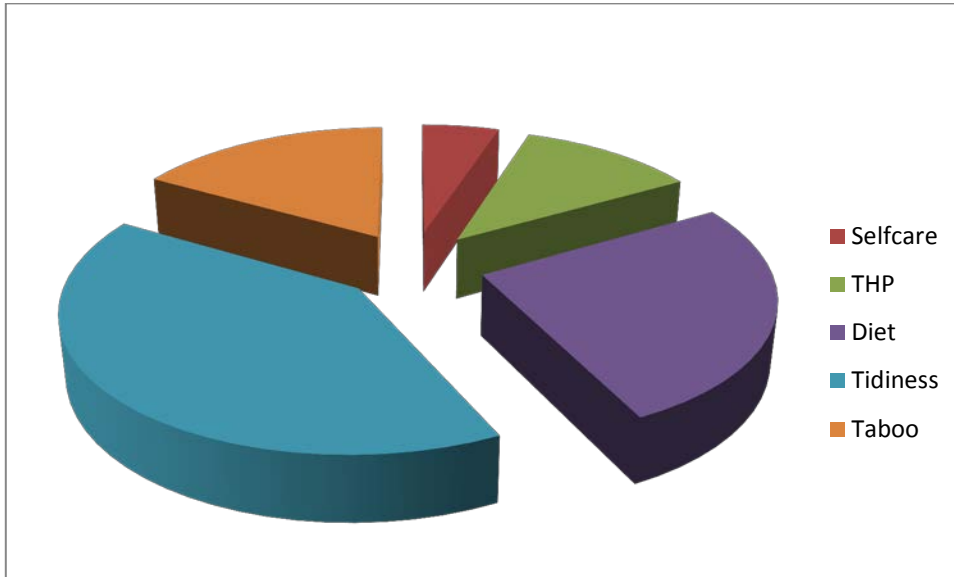


Figure 8: Indigenous methods of preventive care

4.8.5 Remedial methods used by respondents

4.8.5.1 Self-care

Of the respondents, 11% (n=17) identified several diseases that are cured by self-care. Such diseases include the following: cough, flu, fever, whooping cough, diarrhea, headache, stomach-ache, ringworms constipation and hemorrhoids.

4.8.5.2 Consultation with traditional health practitioners

Traditional health practitioners are consulted by 22% (n=39) to cure the following diseases as identified by the respondents: whooping cough, tuberculosis, diarrhoea, dysentery, headache stomach-ache, external sores, high blood pressure, kidneys, skin infections, ringworms, toothache, constipation, venereal diseases, epilepsy, insanity, hemorrhoids, rheumatism, boils, respiratory disease, arthritis, asthma, impotency, infertility, defilement, goiter, bronchitis,

malaria, HIV and AIDS, cancer, ulcer, spinal cord diabetes, migraine, cholera, bilharzia, typhoid and measles.

4.8.5.3 Indigenous plant materials used by respondents

The respondents were asked to freely mention the plant species that grow in their communities, which are used for health care, sources of food and fuel and plant species that are exploited to make household utensils. The main purpose of this question was to measure medical ethnobotanical knowledge of the four communities. Of the responses given, it was evident that the respondents are knowledgeable about varieties of plant species and their cultural value. Of the plant species identified (n=113), plants with medicinal value were mentioned in 41 instances, followed by sources of food mentioned in 33 instances. Sources of fuel were mentioned in 29 instances. Sources of household utensils were mentioned in 10 instances.

Table 11. Cultural uses of indigenous plants

Community	Medicine	Food	Fuel	Utensils	Total
Dikgale	13	10	4	1	28
Khehlakone	11	6	8	3	28
Mogalakwena	8	9	12	2	31
Mohlaletsi	9	8	5	4	26
	41	33	29	10	113

Table 12. Analysis of indigenous plant use by gender and age of respondents

Plant uses	Respondents				Total
	Sex		Age		
	Male	Female	>18	≤ 18	
Medicines	13	28	15	26	41
Food	15	18	9	24	33
Fuel	11	18	3	26	29
Utensils	8	2	0	10	10

It was observed that knowledge of indigenous plant use is culturally determined. The knowledge goes with the different cultural expectations and obligations assigned to men and women in their culture. Female respondents provided a large number of plants that are applied as medicine and as sources of food. To this evidence, literature supports that in the culture of the Northern Sotho, women are prime decision makers on health and food matters in their households (Rankoana, 2000). The responses to this question show that the women are more knowledgeable about the type of plant materials that should be exploited for fuel. It was observed also that older (>18 years) respondents are more knowledgeable about indigenous plant use than the younger respondents. The younger respondents provided the cultural uses of indigenous plant material in 27 instances.

Seasonal availability of indigenous plants

The indigenous plants that are available for use during winter months were mentioned in 15 instances. The species that are available during summer months were mentioned in 88

instances, followed by 10 instances of perennial species. The indigenous plant species that are harvested for medicinal purpose are harvested during summer months, and for this reason, their voucher specimens were collected during this period.

Table 13. Seasonal availability of indigenous plants

Community	Winter	Summer	Perennial
Dikgale	3	56	2
Khehlakone	5	14	1
Mogalakwena	5	11	3
Mohlaletsi	2	7	4

Table 14. Medicinal plant identified by respondents

Place identified: D=Dikgale, K=Khehlakone, Mog=Mogalakwena, Moh=Mohlaletsi, AC=all communities.

Respondents: THP= Traditional health practitioners, P= patients, OCM= other community members.

Plant part used: L= leaves, B=bark, BU=bulb, RH=rhizome, R=root, F=fruit, S=stalk, BR=branch, T=tuber

Species	Place Identified	Respondents	Condition	Part used
<i>Lefalatša-maru</i>	K, Mog	THP	impotency	R
<i>Lehwama</i>	AC	THP	blood disease, headache	BU
<i>Lengana</i>	AC	THP P & OCM	cough, flu, bronchitis, constipation	L
<i>Letlojja</i>	K, Moh	THP	influenza, diarrhoea, swollen legs	BU
<i>Mathuba-difala</i>	D, Mog	THP	infertility, impotency	R
<i>Mmale</i>	D, Mog	THP, OCM	sore eyes, protective medicine	S
<i>Mmidibidi</i>	AC	THP	dysentery, headache	B

<i>Mofaka</i>	K	THP	impurity, insanity, infertility	R
<i>Mohlabaphala</i>	AC	THP	diarrhoea	B
<i>Mohlahlaila</i>	D, Moh	THP, OCM	indigestion	L
<i>Mohloko</i>	AC	THP	snakebites	R, L
<i>Mokgaba</i>	AC	THP	infertility	BR
<i>Mokgalo</i>	AC	THP, P, OCM	septic swelling, dysentery	L
<i>Mokgwete</i>	Moh	THP	fever, skin infection, stomachache	R
<i>Mokgotle</i>	Mog	THP, P	hemorrhoids	R
<i>Mokhure</i>	AC	THP, P, OCM	charm, external wounds	L
<i>Mokumu</i>	AC	THP	colds, constipation, throat infection	B
<i>Molaka</i>	AC	THP, P, OCM	cough, TB, rheumatism, arthritis	B
<i>Molope</i>	AC	THP	diarrhoea	B
<i>Mompate</i>	AC	THP, P, OCM	indigestion, ease birth	L, R
<i>Monamane</i>	AC	THP, P	indigestion	L, R
<i>Monna-motsho</i>	Mog	THP	asthma	R
<i>Monoko</i>	AC	THP, P, OCM	immunization	R
<i>Mopidikwa</i>	Moh	THP	bladder, kidney	R, T
<i>Morotela-tšhoši</i>	Mog, Moh	THP	infertility	R
<i>Morula</i>	AC	THP, P, OCM	stomachache	B, R
<i>Mosehla</i>	AC	THP, P, OCM	stomachache	B
<i>Mošitši</i>	AC	THP, OCM	diarrhoea, dysentery	L
<i>Mošitšana</i>	AC	THP	diarrhoea	L
<i>Mošunkwane</i>	AC	THP, P, OCM	cough, fever	L
<i>Mothokolo</i>	AC	THP, OCM	underweight in children	R
<i>Motsere</i>	K	THP	diarrhoea	R
<i>Mudomma</i>	K	THP	ringworms	B
<i>Ngangi</i>	D	THP	stomachache, headache	R

<i>Phela</i>	AC	THP, P, OCM	cough	T
<i>Phelalegolana</i>	AC	THP, P, OCM	cough, diarrhoea	L
<i>Sekanama</i>	AC	THP	blood diseases	BU
<i>Sekgophana</i>	AC	THP, P, OCM	stomachache, external sores	L
<i>Serokolo</i>	AC	THP, P, OCM	stomach ache, pain	RH
<i>Thola</i>	AC	THP	impotency	R
<i>Tsema</i>	D, Mog	THP	accelerate growth	BU

N=41

The respondents were asked to provide full information about each plant species mentioned as a source of medicine. This table provides summary information about the species; its medicinal value and the plant part used as a source of medicine. Detailed information about each ethnobotanical species is provided in section 4.9 below. Traditional health practitioners identified all the plant species listed in the table. Patients could identify 15 and other community members identified 17. The plant species identified for their medicinal value by patients and other community members, are those that are commonly known and used in self-medication for health care.

4.9 SECTION 8. MEDICINAL PLANT LIST IDENTIFIED BY RESPONDENTS

The section presents the information regarding indigenous plant medicines identified by the respondents. The list comprises the plant species identified during interviews and questionnaire administration. The list presents plant species identified for self-care (N=10), those plant species identified as sources of preventive and protective medicine (N=5) and the plant species as sources of remedial medicine dispensed by traditional health practitioners

(n=51), as well as the plant species identified as sources of medicine during questionnaire administration (n=41). Some of the plant species were identified during interviews and questionnaire administration respectively. Therefore, all the lists of plant species identified during data collection process were combined to make a total of 56 plant species used for primary health care. The species are presented alphabetically according to the Family names. Each species' documentation presents information about family name, botanical name, common names (vernacular and English names), the species number for example; SAR 61, botanical description and distribution, part used, preparation and administration, disease cured or prevented. Information about family names and botanical description and distribution of the species was obtained from analysis of literature such as SANBI website, van Wyk et al (1997), Coates-Pulgrave (2002), van Wyk (2000), and Joffe (2005). The voucher specimens of each of the species were collected, pressed, identified and deposited in the University of Limpopo Herbarium.

AMARANTHACEAE

a. Amaranthus hybridus L.

Common names: **Sebjane**–Common pigweed

Species number: SAR 44

Description and distribution: It is an annual flowering plant. It is a weedy species. It occurs mostly on sandy soils in grassland.

Medicinal value: The root is prepared magically to prepare medicine which is mixed with the stems of *Kleinia longiflorus* for immunization against attack by disease at the beginning of summer every year in September. The type of medicine produced is either *dupa* or *tšhidi*.

b. Guilleminea hensa L.

Common names: Mošitši- Elephant root

Species number: SAR 23

Description and distribution: This herb is a common palatable potherb. It grows mostly in shady places in woodland and grassland. The species grows under shades of bigger species such as *Sclerocarya birea*.

Medicinal value: Infusion of the root is a good remedy for diarrhea.

AMARYLLIDACEAE

a. Boophane disticha L.F Herba

Common names: Lehwama- Bushman poisonous bulb.

Species number: SAR 61

Description and distribution: The species is a deciduous bulbous herb with a thick covering of dry scales above the ground. The large, round heads are sometimes on short stems that grow directly from the bulb. The colour of the flowers varies from shades of pink to red and is sweetly scented. The species is widely spread throughout the Limpopo Province. It was identified by all the traditional health practitioners during data collection process.

Cultural significance: The species has the following cultural significance: It represents one's ancestral spirit. Usually the species is transplanted from the wild to be planted in the household as a shrine, often watered and offered blood, snuff and beer. Sacrifices to the ancestral spirits are conducted on this plant. Sick members of the family are dedicated to the ancestral spirits on this shrine.

Medicinal value: Inhalation of bulb scales is administered for the treatment of mental disorder and migraine. No other ingredients are added during preparation and administration. The medicine can only be prepared by traditional health practitioners. The medicine could be administered until the patient recovers.

b. Crinum macowanii L.

Common names: Letotse- Orange River lily

Species number: SAR 20

Description and distribution: This is a perennial herbaceous plant with large, tunicate bulbs which produce a neck or a pseudo stem made up of sheathing bases of the old leaves. The leaves are linear to sword-shaped, sheathing at the base, arranged in a rosette or rarely in two opposite rows, often dying back in winter.

Medicinal value: An infusion of bulb is administered orally for kidney problems, cough and cleansing of blood.

c. Haemanthus sp.

Common names: Leome – White paint brush

Species number: SAR 12

Description and distribution: This species is an evergreen dump-forming perennial herb with a bulb. It occurs in forests and thickets.

Medicinal value: Decoction of the bulb is administered orally for the treatment of cough.

ANACARDIACEAE

a. Sclerocary abirrea (A. Rich) Hochst.

Common names: Morula-Marula

Species number: SAR 22

Description and distribution: The species is a large, deciduous tree with a round to spreading crown with dense foliage. It is widely distributed throughout the Limpopo Province. It grows in various types of woodland on sandy to sandy-loam soils. It is a well-known fruit tree in the province.

Medicinal value: Infusion of bark is a good remedy for stomachache and high blood pressure.

APOCYNACEAE

a. Carrisa bispinosa (L.) Desf.

Common names: Mothokolo – Num-num

Species number: SAR 71

Description and distribution: The species is occasionally tree-like and is more often a dense bush or rumbling shrub in wooded spots or scrub. It is evergreen and twiggy. The plant contains a milky sap and the branches are often hairy. The spines are once-or twice-forked, rarely single, and are sometimes absent. The leaves are opposite, simple, shortly petiolate, ovate with a smooth margin. The species is commonly known for its palatable fruits. It grows in deciduous to evergreen woodland.

Medicinal value: A decoction of root is administered as a mild purgative to children. The medicine is used to bath babies who are under-weight.

AQUIFOLIACEAE

a. Ilex mitis L.

Common names: Monamane-Cape holly

Species number: SAR 62

Description and description: It is an evergreen tree with a slightly elongated to rounded crown. The stem is normally round. Bark on the young tree is pale grey-brown with patches of white, smooth with fine transverse ridges and yellow-brown corky specks. As the tree becomes older it becomes evenly whitish grey with dark and rough spots. It occurs in evergreen woodlands in shady places and between the rocks in the veld. It grows well in a variety of ecological zones.

Medicinal value: Pieces of the bark are chewed as a purgative for indigestion problems.

ASCLEPIADACEAE

a. Asclepias fruticosa Herba.

Common names: Fore, Milkweed

Species number: SAR 69

Description and distribution: It is an erect, multi-stemmed shrublet with a long, thin stems and narrow, opposite leaves. All parts of the plant produce white, milky latex when broken. The green-yellowish flowers are borne in pendulous clusters, followed by large, bladder seed pods. Attached to the seeds are parachutes of long silky hairs.

Medicinal value: Dry stem is burnt and the resulting ash is taken with water to treat cough and tuberculosis.

ASPARAGACEAE

Asparagus densiflorus 'Sprengeri'.

Common names: Lefalatša-maru-Emerald fern

Species number: SAR 38

Description and distribution: The herb has long attractive arching fronds of needle-like foliage, tiny sweetly-scented white flowers, and small decorative shiny-red berries that are favoured by many birds. It is mostly encountered in a variety of woodlands.

Cultural significance: It is commonly used to dispel clouds during the reaping and threshing of corn. The entire plant will be burnt to dispel the clouds so that it should not fall.

Medicinal value: The root infusion is administered orally to treat impotency.

ASPHODELACEAE

Aloe ferox Mill.

Common names: Sekgophana– Bitter aloe

Species number: SAR 9

Description and distribution: This robust plant has persistent dry leaves on the lower portion of the single stem. The broad fleshy leaves are dull green or reddish-green with dark-brown spines along the edges and sometimes on the lower surface. Bright-red or orange flowers appear from May to August and are arranged in erect candle-shaped clusters. The species is widely distributed throughout the province especially in rocky areas. It is readily available and can sustain drought.

Medicinal value: It is the most commonly encountered source of medicine. Leaf sap is a good remedy for stomachache.

ASTERACEAE

a. Artemisia afra Jacq.ex.Willd

Common names: Lengana- African wormwood

Species number: SAR 31

Description and distribution: This highly aromatic species is a multi-stemmed perennial herb with feathery leaves which are finely divided and usually have a greyish-green colour. The flowers are borne along the branch ends. They are pale yellowish and inconspicuous. It grows well in a variety of woodlands. It is a very common herb in the province.

Medicinal value: Leaf infusion is taken orally for coughs, bronchitis, flu, and constipation.

b. Dicoma gerrardii (Harv.ex.FC Wilson)

Common names: Phelalegolana- Koorbossie

Species number: SAR 26

Description and distribution: The species is an annual herb with creeping branches spreading from a wood rootstock. The leaves are variable in shape, often oblong but sometimes very narrow, greyish-green in colour and covered with short, dense, white hair. The flower heads are pale mauve and inconspicuous, with a neat halo of numerous spreading bracts. It occurs in woodlands. It grows well in sandy soils along seasonal streams and disturbed places.

Medicinal value: Decoction of the roots is administered orally to treat coughs, dysentery and diarrhoea.

c. Gnaphalium helichrysum L.

Common names: Mohlahlaila– White bristle bush

Species number: SAR 75

Description and distribution: It is a deciduous shrub with a copiously branched, open crown. It grows in bushveld on sandy and loam soils.

Cultural significance: The dry and fresh twigs are harvested and tied together to make a broom used to sweep the courtyard. It is contributing to the economic growth of the province because women collect large bunches of twigs to make brooms which they sell in town, in the villages and townships.

Medicinal value: Infusion of the leaves makes tea which is taken orally for relief of constipation and indigestion problems.

CAESALPINIACEAE

a. Senna italica Mill.

Common names: Marotela-tšhoši- Wild senna

Species number: SAR 35

Description and distribution: It is a perennial herb with trailing stems from a woody black tap-root. The leaves are bipinnately compound with rounded tips and small finger-like glands in their axils. Flowers are in stalked, axillary, racemes with bright yellow petals. The petals secrete a nectary substance enjoyed by ants. The species grows in grassland and bushveld, often along roadsides.

Medicinal value: Dried stems are burnt to make powder used to treat chest and infertility problems.

CANELLACEAE

a. Warburgia salutaris (G. Bertol)

Common names: Molaka- Pepper-bark tree

Species number: SAR 19

Description and distribution: The pepper-bark is a medium-sized tree of about 10 metres in height, with a rough, mottled bark which is reddish on the inner side. The leaves are oblong, about 60mm long, glossy green above and paler below. Small greyish-yellow flowers are produced between the leaves on the stem, followed by round, green fruits with several flat seeds inside. The species occurs in evergreen montane forest to evergreen sandveld forest in the north-eastern parts of the country.

Medicinal value: Infusion of bark is taken orally for coughs, TB, intestinal worms, rheumatism and arthritis.

CAPPARACEAE

a. Cadaba aphylla (Thunb) Wild

Common names: Monna-motsho- Leafless worm bush/Wild black storm

Species number: SAR 42

Description and distribution: The shrub is well-known for its medicinal values. It grows on a variety of woodlands.

Medicinal value: The root is crushed to make powder which will be used as a strong protective measure against attack malicious actions and deeds of witches and sorcerers.

CELASTRACEAE

a. Gymnosporia senegalensis (Lam).

Common names: **Sephato**– Red spike thorn

Species name: SAR 58

Description and distribution: It is a semi-deciduous, multi-stemmed shrub that sometimes grows taller than four metres.

Cultural significance: It is a very popular species for firewood which is heavily exploited in both communities. It occurs on a variety of woodlands.

Medicinal value: Infusion of the roots is a good remedy for infertility problems.

COMBRETACEAE

b. Combretum molle RBR ex. G. Don

Common names: **Mokgwete** – Velvet bushwillow

Species number: SAR 21

Description and distribution: The tree has soft velvety leaves, often amazingly contorted trunk and deep-red four-winged papery fruits. The dark brown to blackish bark breaks up into small blocks that peel off. It has a fairly dense spreading crown of leaves that are velvety above and slightly rough below. The foliage turns yellow to bronze in autumn before falling. It grows in open woodland and on rocky hillsides.

Cultural value: Dry wood is preferable for fuel and has lasting coals.

Medicinal value: Infusion of the root bark is used to treat fever, skin infection and stomachache.

CONVOLVULACEAE

a. Ipomoeia albivenia sp

Common names: Leselahlolo/Legawase– Climbing kapok

Species number: SAR 52

Description and distribution: The species climbs from the trunks to the top of other plant species. It can climb from the trunks to the top of other plant species with its long, slender branches. It occurs on loam and clay soils in woodlands and grasslands.

Medicinal value: The fruits of this plant bear cotton wool-like products which are used to fat that is poured into the itching ear.

CRASSULACEAE

Cotyledon orbiculata L.

Common names: Kheredile – Pig's ear

Species number: SAR 48

Description and distribution: This is a succulent shrub with woody branches and thick, fleshy leaves. The leaves are bright green to grey, often with a reddish margin and usually covered with a waxy layer on the surface. Orange or red tubular flowers are borne on a long, slender stalk. It appears on a variety of ecological zones and conditions.

Medicinal value: Leaves are used as poultice for boils. Dried leaves are used as a protective charm.

DRACAENACEAE

Sansevieria hyacinthoides (L.) Druce

Common names: Mokgotle– Mother-in-law’s tongue

Species number: SAR 17

Description and distribution: It is a perennial herb with mottled, leathery tongue-shaped leaves, sharply tipped and sturdy flowering stalks which carry masses of tiny lightly-scented whitish flowers. The leaves are succulent and fibrous. An attractive elongated flower cluster appears in summer, with numerous small, white flowers. These form small berry-like fruits, which are green at first, gradually becoming yellow when they ripen. The species grows mostly in soft sandy soils in thick forests.

Cultural significance: The species is commonly known as a source of rope used for thatching and binding firewood.

Medicinal value: Infusion of the roots is applied orally for treatment of hemorrhoids.

EBENACEAE

a. Diospyros mespiliformis Hochst. ex. A.DC.

Common names: Mudomma – Jackalberry

Species number: SAR 30

Description and distribution: Jackal-berry is a large tree characterized by a dense rounded crown of slightly drooping glossy dark-green foliage, usually borne on a tall bare trunk. The rough dark-brown bark is often deeply fissured. Tiny sweetly, scented cream bell-shaped flowers are followed by roundish fleshy berries that slowly ripen yellowish to purplish. The species grows in the bushveld, often on termite mounds or along the riverbanks in heavy soils.

Medicinal value: Bark decoction is used to cure ringworms.

b. Euclea undulata Thunb.

Common names: Mokwerekwere-badimo– Common guarri

Species number: SAR 6

Description and distribution: This is a common and widely distributed plant of about 4 metres high. The leaves are small, about 30 mm long and 10 mm wide, usually yellowish-green with markedly wavy margins. Small, whitish flowers are followed by round, berry-like fruits of about 5 mm in diameter. The thinly fleshy, edible fruits are initially brownish-red, but turn black at maturity. The species grows on a variety of ecological conditions.

Cultural significance: The tree is well-known as a source of fuel.

Medicinal value: Root infusion heals toothache

EUPHORBIACEAE

a. Bridelia micrantha (Hochst) Baill

Common names: Mutsere/Motsere – Mitzeeri

Species number: SAR 55

Description and distribution: It is a medium to large deciduous tree up to 20m with a spreading crown. The bark is grayish brown, flaky, rough in older species, sometimes with small blunt spines at bottom of trunk or branches, twigs and lenticels. The leaves alternate, elliptic to obovate, 40-180 x 25-120mm, usually 70-80 x 35-40 mm, dark green, glossy above, pale green to the margin and forming a herring-bone pattern, apex tapering to rounded, margin entire. Flowers are in small tight yellow clusters in axils of leaves. The fruit is an oval

berry of about 8 x 4 mm, black when mature, edible and sweet tasting. It occurs in swamp forests, along forest edges and streams and in open woodland.

Cultural significance: It is commonly known as a fruit tree.

Medicinal value: Powdered root is taken with water for the treatment of diarrhoea.

b. Euphorbia tiriculli L.

Common names: Mohloko– Rubber tree

Species number: SAR 29

Description and distribution: The species is many-branched, succulent, usually 3-5 m but many reach 10m on occasion. The bark of old species is grey and rough with longitudinal dents and ridges that break up into very small fragments. There are sometimes conspicuous, small protuberances, such as a bulge, knob, or swelling on the bark, and occasionally black, rough, crosswise bands. The branches are cylindrical, smooth and glabrous-green, 5-8 mm in diameter, forming brush-like masses that are the best known feature of this species. The leaves are small and slender, rarely seen, as they fall every year. The flowers are yellow, inconspicuous and carried at the apex of the short branches. Fruits are tripartite capsules, about 12 mm in diameter, longitudinally very slightly lobed, pale green, with a pink tinge and conspicuously pubescent. The species grows on rocky hill slopes and old cattle kraal sites.

Medicinal value: A decoction of the root is taken orally to treat impotency. The leaves are burnt and ground into powder which is used lactically against snake bites. The medicine induces vomiting.

c. *Klienia longiflorus* DC.

Common names: Mmale – Sjambok bossie

Species number: SAR 68

Description and distribution: It is an evergreen multi-stemmed shrub that grows in dwarfed Acacia bushes. It grows mostly on loam and stony soil types in homesteads and in woodlands.

Medicinal value: Infusion of stems is applied for magical protective purposes. A sick person's hut is fumigated with the medicine in order to minimize the transmission of the disease to other family members. Before people undertake long journeys they bath in the infusion to prevent attack by diseases. The same medicine is administered for sore eyes.

d. *Ricinus communis* L.

Common names: Mokhure – Castor oil plant

Species number: SAR 27

Description and distribution: This is a large shrub with large hand-shaped leaves that appear on stout leaf stalks. The flower clusters appear near the tips of the branches. The fruits are three-lobed capsules, with spine-like projections on their surface. It occurs mostly in moist places.

Medicinal value: It is commonly known as a magic plant. The stalks are prepared magically to be used as love charms. The leaves are applied as poultice to heal external wounds.

FABACEAE

a. Elephantorrhiza elephantina Burkei Benth.

Common names: Mošitšana-Elandsbean

Species number: SAR 59

Description and distribution: The shrub has several unbranched, annual stems of nearly one metre in height from an enormous underground rhizome of up to 8 metres long. The finely divided leaves have numerous small, narrow leaflets. Clusters of small, cream-coloured flowers are produced along the lower half of the aerial stem. It occurs in grassland areas.

Medicinal value: A decoction of the rhizome/root is administered orally for the treatment of diarrhoea.

b. Faidherbia albida (Delile) A. Chev

Common names: Mokgaba- Ana tree

Species number: SAR 3

Description and distribution: The species is deciduous and can grow up to 30 m tall. It has branching stems and an erect to roundish crown. Greenish grey to whitish grey colour and smoothness is evident on the young stems, but grey and smooth to rough on older branches and stems. The straight, whitish thorns, which are in pairs, are up to 40 mm long. Pale grey-green leaves which are twice-compound, have a conspicuous gland at the base of each pair of pinnae. The fruit is orange to red-brown in colour, non-splitting and curved to twisted pod. The species grows in the forest along floodplains and dry river courses. The species was identified by all Traditional health practitioners in the research communities.

Cultural significance: The tree is commonly known in the province as a source of fuel.

Medicinal value: The branches are magically prepared for the treatment of infertility.

d. Peltophorum africanum Sond.

Common names: Mosehla- African wattle

Species number: SAR 1

Description and distribution: The species is an attractive, low-branching, widespread shade tree with a fairly dense crown of olive-green feathery foliage. The grey-brown bark is rough and furrowed. Large terminal sprays of bright-yellow crinkly pear-shaped flowers appear in summer, to be followed by flat oval grey-brown pods. The flowers are rich in nectar and pollen and they entice endless insects. It grows in wooded grassland. It grows mostly on well-drained soils.

Medicinal value: Infusion of bark is a good remedy for stomachache.

e. Schotia brachypetala Sond.

Common names: Molohe- Weeping-boer bean

Species number: SAR 64

Description and distribution: The tree is a medium-sized to large deciduous of up to 1 metre long in height, with a wide spreading crown and a rough brown bark. The leaves are divided into four to six pairs of small, glossy green leaflets, each about 30 mm long, with a distinctly asymmetric base. Large clusters of dark red flowers are borne on the old wood of the tree. They produce copious amounts of nectar, which drips from the florets. The fruits are large woody pods with a characteristic persistent rim, containing large, pale brown seeds. The

species is endemic to most parts of the province. It is a popular ornamental tree in gardens and parks. It grows in a variety of ecological zones.

Medicinal value: Bark decoction is applied orally for treatment of diarrhoea.

HYACINATHACEAE

a. Drimia robusta Bak.

Common names: Pha-bašimane – Brandui

Species number: SAR 76

Description and distribution: The herb is commonly known in the study area. The herb grows on soft sandy soils.

Medicinal value: Infusion of the bulbs and leaves is diuretic and is administered orally to clean the bladder and treat diseases of the uterus. The medicine is taken orally as a protective measure against attack by disease.

b. Eucomis autumnalis (Mill) Chitt.

Common names: Mathuba-difala– Pineapple flower

Species number: SAR 57

Description and distribution: The species is bulbous, with long, broad, soft textured leaves with wavy margins. Numerous small, yellowish-greenish flowers are borne on a thick central stalk. Above the flowers is a rosette of green leaves, a characteristic feature which gives the flower cluster the appearance of a pineapple. This herb occurs in grassland, especially in moist places or on rocky ridges.

Medicinal value: Decoction of the bulb treats urinary diseases, venereal disease and fever.

c. Urginea sorguinea Shinz.

Common names: Sekanama-Slangkop

Species number: SAR 7

Description and distribution: The inside of the bulb resembles human flesh; hence the Northern Sotho name likens it to human flesh. It is an herb with a bulb, partly above the ground. It grows in sandy loam soils in woodlands and grasslands.

Medicinal value: A red decoction of the bulb is administered for the treatment of blood diseases.

HYPOXIDACEAE

a. Cf Hypoxix L.

Common names: Phela – Star-flower

Species number: SAR 73

Description and distribution: The species is a geo-phytic herb that overcomes winter conditions in the form of an underground rootstock called the corm. Corms are hard, fleshy, mucilaginous and white or yellow-orange within. The flowers are bright yellow star-shaped and the leaves are hairy and strap-like. Flowering stems appear with the leaves after the first rains in spring. It is widely distributed in the province occurring on soft, sandy and loam soils in woodlands. The species is a well-known medicinal plant. It was identified as medicine for self-care, and it is also applied by Traditional health practitioners to cure varieties of ailments.

Medicinal value: Decoction of the tubers is a good remedy for coughs.

LILIACEAE

a. Scilla natalensis Planch.

Common names: Letlopja- Ginger bush

Species number: SAR 67

Description and distribution: It is a deciduous perennial herb of up to 1 m long. It sprouts annually from a large bulb located half-above the ground, occurring singly or as colonies in moist grassland, often in rocky places. The grey-green leaves are erect. The flowers are distinctively stalked up to 1 m high, usually produced with the new leaves.

Medicinal value: Infusion of the bulb is administered for various ailments including boils, infertility, and diarrhoea.

MALVACEAE

a. Adansonia digitata L.

Common names: Mohuyu – Baobab

Species number: SAR 28

Description and distribution: This remarkable tree is a conspicuous feature in Mopani District. It is often referred to as grotesque by some authors. The main stem may reach enormous proportions of up to 28m in girth. The trunk is usually massive with squat cylindrical trunk that gives rise to thick tapering branches that resemble a root-system. The stem is covered with a bark layer, which may be 50-100mm thick. The bark is grayish brown and normally smooth but can often be variously folded and seamed from years of growth. The leaves are hand-sized and divided into 5-7 finger-like leaflets. The leaves are dropped during

winter months and appear again in late spring or early summer. The species' medicinal value has been identified by the study informants in Khehlakone.

Medicinal value: The bark is infused and the resulting medicine will be applied to accelerate growth in new born babies. The other study informants use the bark of *Sclerocarya birea* for a similar purpose.

MELIACEAE

a. Ekebergia capensis Sparrm.

Common names: Mmidibidi – Cape ash

Species number: SAR 24

Description and distribution: It is a medium-sized tree of about 10 to 12 m in height. The bark is grey and rough, and peels off in thick flakes. A distinctively characteristic of the species is the thickened leaf scars on the twigs. The leaves are compound, with seven or nine broadly oblong leaflets. Small white or pinkish flowers in spring are followed by fleshy fruits in summer, which are rounded and reddish in colour. The species occurs in mostly green woodland, riverine, and in well-drained soils. 14 Traditional health practitioners identified this species as a good source of medicine.

Cultural significance: The species is a well-known tree for shading in the households

Medicinal value: Infusion of the bark is administered orally for dysentery and headache.

b. Trichilia emetica Vahl subsp.

Common names: Mmaba– Natal mahogany

Species number: SAR 74

Description and distribution: It is a beautiful evergreen tree of about 10 m high, and has a dense, rounded crown and smooth, grayish-brown bark. The large leaves are divided into four or five pairs of leaflets, which are 120 mm long with dark glossy green colour above, and are hairy below and are tapering towards the base. Yellowish-green flowers are produced in early summer, followed by distinctive round, greenish-brown fruits of about 30 mm in diameter. The fruits split open to reveal the black seeds which are almost completely covered by bright red fleshy arils.

Medicinal value: Infusion of the bitter bark is applied orally as a popular medicine for stomachache, dysentery, indigestion and kidney problems.

MORACEAE

a. Ficus burkei (Miq)

Common names: Mokumu– Common wild fig

Species number: SAR 37

Description and distribution: The tree is commonly domesticated or left to grow undisturbed in the courtyard as a source of shade. It grows well in wooded grassland, woodland and on the edges of forests. It does well on humus-rich or deep loamy soil.

Medicinal value: An infusion of the bark is administered orally for the treatment of constipation, colds, and throat infection.

MYRTACEAE

a. Syzygium cordatum Hochst. ex.

Common names: Monthlo - Waterberry

Species number: SAR 66

Description and distribution: The Waterberry is a neat well-shaped tree with a dense spreading crown of smooth blue-green leathery foliage and a rough dark-brown corky bark. In spring, the masses of fluffy flowers hide amongst the leaves, later to be followed by smooth glossy deep-purple berries. The sprays of cream to pale pink scented flowers yield excellent nectar that lures bees and other insects and attract insectivorous birds. The oval fleshy berries are edible, but sour. It occurs well along the streams in riverine bush and in swamp areas.

Medicinal value: Root decoction is applied orally to treat respiratory diseases and tuberculosis.

OLACEAE

a. Ximenia caffra Sond.

Common names: Motšhidi– Sour plum

Species number: SAR 4

Description and distribution: The species is a deciduous tree up to 6 m tall with an untidy open crown. The bark is dark grey and rough, but pale green brown on younger branches. Branchlets are spine-tipped. Sapwood is white and heartwood is hard and reddish brown. The root system is non-aggressive. The leathery, dark green leaves are often in clusters on short spur branchlets. The leaves are followed by thinly fleshy, oval, attractive fruits which are 25 mm long glossy with white spots. These are tart, but edible and are relished by birds, animals

and humans. The tree is found in woodlands and grasslands and on rocky outcrops and sometimes on termites mounds.

Cultural significance: The shrub is commonly known for its palatable fruits which are enjoyed during November and February.

Medicinal value: An infusion from the root is applied orally for treatment of dysentery and infertility.

PEDALIACEAE

Harpagophytum procumbens (Burch) DC. ex. Meisin

Common names: Mompate– Devil’s claw

Species number: SAR 2

Description and distribution: Devil’s claw is a prostrate, sprawling plant with a stout, perennial rootstock that has a group of secondary storage tubers arising from it. Trailing annual stems bear opposite leaves. The leaves are irregularly 3-5 lobed and grayish green because they are covered in tiny whitish mucilage cells. The flowers are trumpet-shaped and range in colour from dark velvety red or purple to pink while the tube base and mouth are yellowish. Distinctive spiny fruits, from which many of the common names are derived, are woody, oval and flattened capsules armed with 2 central spines and 2 lateral rows of 12-16 horny arms bearing hooked spines. This species grows mostly in the savanna biome and is associated with dry sandveld on deep Kalahari sand.

The species is a weedy perennial creeper with spreading stems that occur from a tuberous fleshy rootstock. It occurs mostly in sandy soils throughout the province.

Cultural and medicinal value: The species is commonly used in veterinary medicine to accelerate birth. The leaves are crushed and soaked into water to yield a mucilaginous mass formerly used as soap and hair shampoo substitutes, and is also used to expel the placenta in women and livestock. Infusion of the leaves and roots is administered orally for indigestion problems.

PERIPLOCACEAE

a. Raphionacme sp.

Common names: Tsema– Khadiwortel

Species number: SAR 13

Description and distribution: It is a summer annual herb that bears a fleshy underground bulb. It bears the bulb on sandy soils in varieties of woodlands.

Medicinal value: Infusion of the bulb is used to bath new-born babies to accelerate growth.

RHAMNACEAE

a. Berchemia discolor (Klotzsch) hemsl.

Common names: Monoko– Brown ivory

Species number: SAR 43

Description and distribution: The tree is semi-deciduous to evergreen. It grows in most parts of the province and it is commonly known as a source of fruit. It grows on well-drained soils in woodlands and along drainage lines.

Medicinal value: The root bark is an ingredient in the preparation of preventive medicine. The medicine is mixed in water to be sprinkled in the household to prevent attack by infectious diseases such as measles.

b. Ziziphus mucronata Willd.

Common names: Mokgalo– Buffalo thorn

Species name: SAR 14

Description and distribution: The species is a small to medium-sized tree of 3-10 m high, with a spreading canopy. The main stem is green and hairy when young; year old branches are often zigzag; the bark is reddish brown or roughly mottled grey, cracked into small rectangular blocks, revealing a red and stringy under-surface. Young stems are reddish brown. The leaves are simple, alternate, ovate or broadly ovate, very enormously in size from tree to tree, tapering or often mucronate apex, base strongly asymmetrical, cordate to rounded on one side; margin finely serrated, often badly eaten by insects. Flowers are borne in dense clusters in leaf axils, green to yellow, inconspicuous. The fruit is smooth, shiny, leathery, spherical drupe of 12-20 mm in diameter, reddish brown or deep red when ripe.

It grows under nearly all conditions. It occurs mostly in woodland and wooded grassland.

Cultural significance: This thorny tree is well-known of its bitter fruits which are mostly enjoyed by children and herd-boys.

Medicinal value: The leaves are chewed to make a poultice which will be used to treat pulsating fontanel. Sometimes a poultice is applied to septic swellings of the skin. An infusion of the root is taken orally for dysentery.

SOLANACEAE

a. Datura stramonium (Linn)

Common names: Lešwe– Thornapple

Species number: SAR 49

Description and distribution: The species is a robust annual of up to 1.5 m high. The large bright green leaves are irregularly toothed and have an unpleasant smell when crushed. Each leaf axil in the mature plant has a single, white or purplish tubular flower, followed by a characteristic four-locular fruit capsule. These capsules are 50mm in length and covered with numerous thin spines of about 10 mm long. Inside the spines are numerous brown, kidney-shaped seeds of about 3 mm long. The herb is commonly known as a weed.

Medicinal value: Weak infusion of the leaves is administered orally to waken up the spirit of a patient. (impurity). Sometimes the medicine is given to a child who is believed to be weakened by its parents' state of impurity.

b. Lycium sp.

Common names: Ngangi– Kraal honey-thorn

Species number: SAR 72

Description and distribution: It is large impenetrable, rounded shrub with drooping branches. It grows on all soil types in mixed bushveld.

Medicinal value: Fresh and dried roots are boiled and the resulting decoction is used for the treatment of head and stomachaches.

c. Solanum panduriforme (Bergense).

Common names: Thola– Poison apple

Species number: SAR 16

Description and distribution: It is a perennial shrublet, up to 0.5 m high, sprouting from an extensive system of underground stems, occurring in grassland and bushveld. Stems usually are without prickles. The leaves are lanceolate. The flowers are solitary or in small axillary clusters, petals mauve, anthers with very short filaments, coherent to form a central cone, bright yellow. The yellow fruit is round of about 20 mm in diameter.

Medicinal value: It is a common source of medicine. A few drops of the fruit juice are commonly used to turn fresh milk into sour. Powdered root is used to cure impotency.

STERCULIACEAE

a. Dombeya rotundifolia (Hochst) planch.

Common names: Mohlabaphala– Wild pear

Species number: SAR 25

Description and distribution: The species is a small, usually single-stemmed tree of about 6 m in height. The bark is dark brown and furrowed. The large, leathery leaves are rounded in shape with a dark green upper surface and a paler, hairy lower surface with five main veins arising from the base. Attractive white or rarely pale pink flowers are produced in masses in spring followed by small spherical capsules in summer. The tree is encountered in open woodland and bushveld, often on rocky north-facing hills and koppies.

Medicinal value: Decoction of bark is administered orally for treatment of diarrhoea.

UMLACEAE

a. Celtis africanum Burm. F

Common names: Modudu– White stinkwood

Species number: SAR 46

Description and distribution: It is a large deciduous tree which is well-known for its unpleasant smell when freshly cut. The smooth pale-grey trunk is striking and beautiful in winter. Spring foliage is a delicate soft-green and in summer, the fairly dense foliage is dark-green. Tiny yellowish flowers are followed by small round fruits that ripen yellow and are edible. The species is drought resistant and grows in any soil and veld types.

Medicinal value: Decoction of the roots is administered orally for the treatment of impotency and infertility.

VERBENACEAE

a. Lippia javanica Burm F.

Common names: Mošunkwane– Fever tea

Species number: SAR 78

Description and distribution: The species is an erect, multi-stemmed woody shrub of up to 2 m in height. The leaves are hairy with noticeable veins and when crushed gives off a strong lemon-like smell. The species is said to be one of the most aromatic of South Africa's indigenous shrubs. Small yellowish-white flowers are produced in dense rounded heads. The fruits are rather inconspicuous, small and dry. The species grows in all soil types, and also as a weed in between the crops.

Medicinal value: The species is a well-known medicinal plant that is used for self-medication. Infusion of the leaves is taken orally for the treatment of cough, flu and fever.

VITACEAE

Rhoicissus tridentata (L.F) Wild& Dumm

Common names: Mopidikwa- Bushman's grape

Species number: SAR 47

Description and distribution: The species is a shrubby creeper with the branches spreading outwards from the thick woody base. The dark green, glossy leaves have three leaflets, each wedge-shaped, with a serrated margin. The inconspicuous greenish flowers are followed by small berries. It grows well on the sandy loamy soils in Sekhukhune.

Medicinal value: Decoction of roots/tubers is administered orally as an enema. The medicines can also be administered for bladder and kidney problems.

ZAMIACEAE

a. Encephalartos transvenosus Stapf.

Common names: Mofaka– Modjadji cycad

Species number: SAR 77

Description and distribution: The species is a shrub with a stem that reaches a height of 1-1.5 m high. Typical of the species is the appearance of numerous dormat buds along the base of the stem. The new leaves are light green covered with fine brown hairs, while mature leaves develop to between 1.5 to 2.5 m in length and are dark green and glossy. The leaflets, attached to the leaf stalk are 160-250 mm, but reduce in size closer to the base of the leaf

stalk. The leaflets overlap and a distinguishing feature is that these leaflets are reflexed from the leaf stalk. The dark glossy green leaves make an attractive garden. Generally cycads are regarded as slow-growing plant species. However, given the ideal growing conditions, this species will, in five years, develop into a worthwhile garden subject with leaves of at least 1 metre in length. All cycads are regarded as being long-lived, surviving for hundreds of years. They are regarded as not being threatened from a conservation point of view. The Modjadji cycad is native to South Africa, occurring in Letaba area. The Rain-Queens of the Lovedu region have protected this locally common species for centuries.

Cultural significance: The pith from the stem of cycads is removed, then enclosed in an animal skin, fermented and ground into a meal which is used to make bread.

Medicinal value: The plant roots are harvested to treat diseases of the ancestral spirits such as spiritual impurity, insanity and infertility.

ZINGIBERACEAE

Siphinochilus aethiopicus (Schweif) B.L. Burt

Common names: Serokolo - Wild ginger

Species number: SAR 45

Description and distribution: The species is a forest floor plant with aromatic rhizomatous roots. The leaves are deciduous and sprout annually from the a small, distinctive, cone-shaped rhizome in spring, they may reach a height of up to 40 mm. The leaves are light green, lance shaped and borne on the end of stem-like leaf bases. Spectacular flowers appear at ground level in early summer. They are broadly funnel-shaped, pink and white in colour with a small yellow blotch in the middle. The leaves and rhizomes have a smell similar to that of a real

ginger. The small berry-like fruits are produced at or near the ground level after the flowers. Most species are bisexual, and they have much larger flowers than female plants. The male and female organs are borne on separate plants, female plants tend to be smaller than male plants. The herb is no longer growing in the province. It has not been growing in the areas for more than two decades. It was highly exploited for its highly valued medicinal properties. The study informants in all the communities confessed that they buy the rhizomes from *muti* shops in Polokwane, and they are highly prized for their medicinal value and for the fact that the species is extinct.

Medicinal value: It serves an important role in self-medication. The rhizomes are chewed and used to rub the body for protection against attack by all varieties of diseases.

4.10. SECTION 9. A COMPARATIVE EVALUATION OF MEDICINAL PLANTS USED BY THE NORTHERN SOTHO AND OTHER CULTURAL GROUPS IN SOUTH AFRICA, THE AFRICAN CONTINENT AND OUTSIDE AFRICA.

The study shows that the medical ethnobotanical knowledge of the Northern Sotho developed with other indigenous belief systems, knowledge and practices that helped the people to survive throughout generations. Maintenance of health care is through the use of certain herbal medicines. The ethnopharmacological investigation of the medicines can be complemented and broadened by comparing them with uses among other cultural groups who determined the medical properties of plants in similar ways. Correlating uses will be highly significant for further clinical investigation of the medicinal uses of these and other plant species. The scientific corroboration of the healing properties of ethnomedicine will open up

possibilities for development of medicinal plant monographs and propagation of the species which proved to be of great value for primary health care.

Table 15: Comparative evaluation of medicinal plants.

Species	Medicinal uses among the Northern Sotho	Medicinal uses among other groups
<i>Adansonia digitata</i> . (SAR 28)	The bark is infused and the resulting medicine is applied to accelerate growth in new born babies.	The Venda use bark decoction for venereal diseases. In West Africa, the bark and leaves are claimed to have inflammatory and diaphoretic properties and are regarded a remedy for mild diarrhoea and urinary disorders (Mabogo 1990:66 van Wyk et al 1997:30).
<i>Aloe ferox</i> . (SAR 9)	Infusion from the leaves is administered orally for stomachache, alimentary canal and urinary tracts. Leaf sap is applied topically to treat external sores. The sap is also smeared on the nipples when a baby is weaned.	Many communities in Southern Africa take a decoction of the shoots orally for stomach pains. Africans apply the sap to sheep for the treatment of scalp (Watt & Breyer-Brandwijk 1962:83, 681).
<i>Artemisia afra</i> . (SAR 31)	Leaf infusion is taken orally for coughs, bronchitis, flu, and constipation.	The plant is used by Europeans, Southern Sotho and the Zulu for measles, fever and malaria. In

		Tanganyika, the Sukuma use the plant as cough remedy. The Chagga apply the warm herb for throat inflammation and fever in small children (Watt &Breyer-Brandwijk 1962:201).
<i>Asclepias fritucosa.</i> (SAR 69)	Dry stem is burnt and the resulting ash is taken with water to treat tuberculosis.	Europeans use powdered leaf as snuff for treatment of pulmonary tuberculosis (Watt &Breyer-Brandwijk 1962:121).
<i>Asparagus densiflora.</i> (SAR 38)	The root infusion is administered orally to treat impotency, vomiting and malaria.	In Tanganyika the fruit and leaf are used to treat pneumonia (Watt &Breyer-Brandwijk 1962:689).
<i>Boophane disticha.</i> (SAR 61)	Represents one's ancestral spirit. Usually the species is transplanted from the wild to be planted in the household as a shrine, often watered and offered blood, snuff and beer. Sacrifices to the ancestral spirits are conducted on this plant. Sick members of the family are dedicated to the ancestral spirits on this shrine. Inhalation of scales treats insanity and migraine.	The Manyika grow the plant outside the hut as a charm to ward off evil dreams, to bring good luck and to bring rain (Watt &Breyer-Brandwijk 1962:23).
<i>Dicoma gerrardii.</i> (SAR26)	Decoction of the roots is administered orally to treat coughs, dysentery and diarrhoea.	Europeans use the root decoction as remedy for diarrhea and griping in humans and in cattle (Watt &Breyer-

		Brandwijk 1962:223).
<i>Bridelia micrantha</i> . (SAR 55)	Powdered root is taken with water for the treatment of diarrhea.	The Shamba use the root as remedy for severe epigastric pain (Watt &Breyer-Brandwijk 1962:397).
<i>Carrisa bispinosa</i> . (SAR 42)	Decoction of root is administered as a mild purgative to children. The medicine is used to bath babies with under-weight.	In the great annual ceremony of the Swazi, the black bull which is slaughtered is first struck on its back by the King with a switch of this species, which is believed to have aphrodisiacal properties. It makes the bull fierce so that it will not easily fall victim to the warriors who have to overcome it with their bare hands (Watt &Breyer-
<i>Diospyros mespiliformis</i> . (SAR 30)	Bark decoction is used to cure ringworms and dysentery.	In Sudan and Tropical Africa bark decoction is a remedy for dysentery (Watt &Breyer-Brandwijk 1962:389).
<i>Dombeya rotundiflorus</i> . (SAR 25)	Decoction of bark is administered orally for treatment of diarrhea.	The Zulu use bark infusion to treat intestinal ulceration (Watt &Breyer-Brandwijk 1962:1013).
<i>Ekebergia capensis</i> . (SAR 24)	Infusion of the bark is administered orally for dysentery and headache.	The Venda use bark and leaf decoction for headache, chronic cough, dysentery and backache. The Zulu use root decoction to treat dysentery (Mabogo 1990: 99, Watt &Breyer-Brandwijk 1962:744).

<i>Elephantorrhiza elephantina</i> . (SAR 59)	A decoction of the rhizome/root is administered orally for the treatment of diarrhoea.	The Zulu and Xhosa use root decoction as remedy for diarrhoea and dysentery (Watt &Breyer-Brandwijk 1962:596).
<i>Eucomis autumnalis</i> . (SAR 57)	Decoction of the bulb treats urinary diseases, venereal disease and fever.	The Southern Sotho take a decoction of the bulb to treat syphilis (Watt &Breyer-Brandwijk 1962:699).
<i>Euphorbia tirucalli</i> . (SAR 29)	A decoction of the root is taken orally to treat impotency. The leaves are burnt and ground into powder which is used lactically against snake bites. The medicine induces vomiting	The Xhosa use latex of the plant to treat headache. It is also used to treat sexual impotency in men. The latex is used in Tanganyika as remedy for sexual impotency (Watt &Breyer-Brandwijk 1962:415).
<i>Ficus burkei</i> . (SAR 37)	An infusion of the bark is administered orally for the treatment of constipation, colds, and throat infection.	The Zulu administer root and bark decoction for ulcer in the lungs (Watt&Breyer-Brandwijk 1962:774).
<i>Gymnosporia senegalensis</i> . (SAR 58)	Infusion of the roots is a good remedy for infertility problems.	In Senegal the bark infusion is used as remedy for dysentery (Watt &Breyer-Brandwijk 1962:184).
<i>Harpagophytum procumbens</i> . (SAR 2)	Leaves are crushed and soaked into water to yield a mucilaginous mass formerly used as soap and hair shampoo substitutes, and was also used to expel the placenta in women and livestock. Infusion of the leaves and roots is	In East Africa, the plant is used as remedy for gonorrhoea and hydrocele. The Southern Sotho give an infusion of the leaves to aid in the expulsion of the retained placenta in women and livestock (Watt &Breyer-Brandwijk 1962: 830).

	administered orally for indigestion problems.	
<i>CF.Hypoxix L.</i> (SAR 73)	Decoction of the tubers is a good remedy for coughs.	The Zulu use pieces of rootstock as ingredients of an infusion to treat intestinal parasites (Watt &Breyer-Brandwijk 1962: 39).
<i>Kleinia longiflorus.</i> (SAR 68)	Infusion of stems is applied for magical protective purposes. The same medicine is administered for sore eyes.	In Mashishing, the species is used to make lotion for bathing sores and sore eyes (Watt &Breyer-Brandwijk 1962: 286).
<i>Lippia javanica.</i> (SAR 78)	The species is a well-known medicinal plant that is used for self-medication. Infusion of the leaves is taken orally for the treatment of cough, flu and fever.	The Xhosa, Kwena and Tswana use leaf infusion for cough and bronchial problems. The Zulu use leaf infusion for gangrenous rectitis, measles and urticarial (Watt &Breyer-Brandwijk 1962: 1051).
<i>Peltophorum africanum.</i> (SAR 1)	Infusion of bark is a good remedy for stomachache.	The Tswana chew a fresh bark for relief of colic. The Kgatla use the root decoction to promote fertility and well-being of cattle (Watt &Breyer-Brandwijk 1962: 638).
<i>Ricinus communis.</i> (SAR 27)	A magic plant. It occurs mostly in moist places. The stalks are prepared magically to be used as love charms. The leaves are applied as poultice to heal	The Zulu use leaf infusion for stomachache. Powdered seeds are used as purgative for a calf that refuses to suck. A paste made from the root is used on aching

	external wounds.	teeth (Watt &Breyer-Brandwijk 1962:428).
<i>Scotia brychypetala.</i> (SAR 64)	Bark decoction is applied orally for treatment of diarrhoea.	The Venda use bark decoction for heartburn, dysentery and diarrhoea. The Zulu use bark decoction for diarrhea (Mabogo 1990:52, Watt &Breyer-Brandwijk 1962: 645).
<i>Scilla natalensis.</i> (SAR 67)	Infusion of the bulb is administered for various ailments including boils, infertility, and diarrhoea.	The Swazi use bulb decoction to treat boils and sores (Watt &Breyer-Brandwijk 1962:715).
<i>Sclerocarya birrea.</i> (SAR 22)	Infusion of bark is a good remedy for stomachache and infertility.	The Zulu use bark decoction as a prophylactic against gangrenous rectitis; the fruit is used to kill ticks. The Venda use powdered bark on an expectant woman to regulate the sex of the child; bark from a male tree ensures birth of a boy, and bark from a female tree leads to birth of a girl (Watt &Breyer-Brandwijk 1962: 53).
<i>Solanum panduforme.</i> (SAR 16)	A few drops of the fruit juice are commonly used to turn fresh milk into sour. Powdered root is used to cure impotency.	The Kwena and Tswana rub an ointment made out of the burnt plant on the legs for rheumatism (Watt &Breyer-Brandwijk 1962: 1000).

<i>Sygygium cordata</i> . (SAR 66)	Root decoction is applied orally to treat respiratory diseases and tuberculosis.	The Zulu use the plant as TB remedy and as an emetic. The Bemba use powdered bark for diarrhoea (Watt &Breyer-Brandwijk 1962: 1000).
<i>Trichilia emetica</i> . (SAR 74)	The tree is well-known for its bitter bark which is applied to treat stomach problems. Infusion of the bark is applied orally as a popular medicine for stomachache, dysentery, indigestion and kidney problems.	The Zulu use bark infusion as an enema to relieve sore back' hot pains in the back, and for rectal ulceration in children. The Xhosa use a similar enema to treat dysentery (Watt &Breyer-Brandwijk 1962: 752).
<i>Urginea sorguinea</i> . (SAR 7)	A red decoction of the bulb is administered for the treatment of blood diseases.	The Zulu apply bulb decoction for sweating sickness in calves. The Tswana use the same decoction for blood disease and treatment of several other ailments (Watt &Breyer-Brandwijk 1962: 112).
<i>Warbugia salutaris</i> . (SAR 19)	Infusion of bark is taken orally for coughs, TB, intestinal worms, rheumatism and arthritis.	The species is widely used in Africa as an expectorant for the common cold. It is one of the fever trees of which the bark is used as a malaria remedy. In East Africa, it is also used as purgative (Watt &Breyer-Brandwijk 1962: 158).

<i>Ximania caffra</i> . (SAR 4)	An infusion from the root is applied orally for treatment of dysentery and infertility.	The Zulu apply a cold leaf infusion for sore eyes. The Kgatla use root decoction in fertility rites for cattle. The Venda smoke the powdered root with horn shavings in a maize-cob pipe to stop bleeding from the mouth and nose (Watt &Breyer-Brandwijk 1962: 805).
<i>Ziziphus mucronata</i> . (SAR 14)	The leaves are chewed to make a poultice which will be used to treat pulsating fontanelle. Sometimes a poultice is applied to septic swellings of the skin and abscess. An infusion of the root is taken orally for dysentery.	The Zulu take powder from dried leaves and bark as emetic in chest pains. They also use a hot bark infusion liberally for cough. The Tswana take and the root infusion to treat dysentery. The Xhosa use this treatment for scrofulous swellings (Watt &Breyer-Brandwijk 1962: 884).
<i>Cotyledon orbiculata</i> . (SAR 48)	Leaves are used as poultice for boils. Dried leaves are used as a protective charm.	The South Sotho use the plant for many diseases and for making a charm for an orphan child. In the Willowmore district the heated leaf is used as poultice for boils and other accessible inflammation (Watt &Breyer-Brandwijk 1962:320).

The above table presents the medicinal applications of plant species by different cultural groups. The similarities were recorded for medicinal uses of the following species:

- i. *Artemisia afra* (SAR 31), *Lippia javanica* (SAR 78), *Hypoxis* (SAR73) and *Warbugia salutaris* (SAR 19) : Used to treat cough, flu and fever
- ii. *Asclepias fruticosa* (SAR 69): Used as remedy for treatment of tuberculosis
- iii. *Boophane disticha* (SAR 61): Used for religious purpose
- iv. *Bridelia micrantha* (SAR 55), *Dicoma gerrardii* (SAR 26), *Diospyros mespiliformis* (SAR 30), *Dombeya rotundiflora* (SAR 25), *Ekebergia capensis* (SAR 24), *Elephantoriza elephantina* (SAR 59), *Gymnosporia senegalensis* (SAR 58), *Schotia brychapatala* (SAR 64), *Trichilia emetica* (SAR 74) : Treat diarrhoea and dysentery
- v. *Eucomis automnalis* (SAR 57) : Treat venereal diseases
- vi. *Euphorbia tirucalli* (SAR 29) and *Solanum panduforme* (SAR 16): Treat impotency and infertility
- vii. *Aloe ferox* (SAR9), *Cotyledon orbiculata* (SAR 48), *Ricinus communis* (SAR 27), *Scilla natalensis* (SAR 67), *Ximenia caffra* (SAR 4) and *Ziziphus mucronata* (SAR 14): Treat boils and sores
- viii. *Urginea sorguinea* (SAR 7): Treats blood diseases
- ix. *Kleinia longiflorus* (SAR 68): Treats sore eyes
- x. *Harpagophytum procumbens* (SAR 2): Used in birth process

CHAPTER 5

DISCUSSION OF THE RESEARCH FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 KEY FINDINGS AND DISCUSSIONS

5.1.1 Background information

The Alma Ata Declaration emphasized the need for redistribution of functions and responsibilities of key stakeholders in health care services to reduce the cost and increase efficiency and productivity in the achievement of primary health care. In this case, the role of cultural values and belief systems was not clearly stated. More emphasis was on adoption of traditional healing practices such as herbal medicine and employment of Traditional health practitioners' services to meet primary health care. Many countries around the world adopted the use of traditional medicine to supplement primary health care services. Countries such as South Africa, India and Indonesia for example; are exploring possibilities for developing their well-known and tested herbal remedies for use in primary health care. Traditional health practitioners are undergoing training in primary health care for provision of health care that is readily available and affordable to all people (WHO, 2002; von Wolputte & Devisch, 2002). Little is researched on the role of culture in health care. This gap in knowledge of health care motivated the researcher to design a study to collect empirical data on the use of indigenous knowledge to meet primary health care needs.

The Northern Sotho indigenous knowledge systems used to meet primary health care have relevance to the Ethnomedical, Explanatory Model and the Health promotion Model (Pender,

2005; Sargent & Johnson, 1996). The key findings also give evidence that the Northern Sotho indigenous systems of primary health care have elements which are similar to the elements of primary health care stated by Keleher (2001).

5.1.2 Key findings

5.1.2.1 Biographical data of the respondents

A total of 240 respondents were randomly selected from four communities of the Northern Sotho in the Limpopo Province. The study sample was constituted by traditional health practitioners, patients and other community members between the age of 18 and 90. Traditional health practitioners were those registered as traditional health practitioners in terms of the Traditional Health Practitioners Act, Number 22 of 2007. The Act states that no person may practice as a traditional health practitioner within the republic of South Africa unless he or she is registered.

5.1.2.2 The use of indigenous knowledge to meet primary health care needs

The Ethnomedical Model gives evidence that the indigenous knowledge systems used for primary health care are embedded in cultural belief systems, practices, institutions, relationships and rituals developed by a group of people through generations of living in close contact with their natural environment (Sargent & Johnson, 1996; Pender & Nola, 2005). Locally available resources and skills are employed for remedial and preventive aspects of primary health care. Indigenous knowledge of health care is therefore, the basis for self-sufficiency and self-determination. Critiques of the importance of indigenous knowledge systems in primary health care maintain that every human culture has folk or indigenous

health care knowledge systems and practices which vary across cultures (Kreuteretal & McClure, 2004; Helman, 2007). Therefore, the indigenous knowledge systems of primary health care are embedded in peoples' cosmologies, kinship, social, political and economic aspects of culture (Mikhailovich *et al*, 2008; Huff & Kline, 2008).

Indigenous conceptualization of disease

The Explanatory Model proves that the Northern Sotho have developed models for disease and health (Pender & Nola, 2005). Understanding of the human existential conditions and perceptions of disease and health enable people to prescribe therapy suitable for the disease. Patients and other community members' understanding of phenomena and conditions that are responsible for disease, enable them to seek the correct therapy for the diseases and symptoms they experience and observe. Such perceptions fall within the framework of medical anthropology (Sargent & Johnson, 1996). The framework concerns culturally determined concepts about disease and illness, and the cultural significance of health practices offered through self-medication or consultation with traditional practitioners.

Prevention of disease through indigenous mechanisms

The Health Promotion Model qualifies the Northern Sotho cultural values and belief systems as good determinants of good health and wellbeing. The study results show that the Northern Sotho have developed models of describing disease, and therefore, adopted lifestyles and patterns of behavior which are aimed at the attainment of higher levels of wellness and positive health states. Preventive care is accomplished through observance of a set of cultural values, practices and activities. Examples include observance of cultural taboo, moral

behaviour, hygiene, nutrition, waste management, clean water supply and proper storage systems observed to lessen the chances of attack by disease.

The literature provides that no society lacks beliefs and practices having to do with avoidance of illness. The positive acts and the avoidance that constitute preventive medicine are often quite different from those of scientific medicine, but they are equally rational in that they are functions of what it is believed about the cause of disease. For example, where witchcraft is feared, people are careful to avoid offences to neighbours who might resort to sorcery or magical charms to strike back (Sindiga & Nyaigotti-Chacha, 1996; Hahn, 1999; Helman, 2007; Huff & Kline, 2008).

Preventive care sought from traditional health practitioners

Reliance on traditional health practitioners' practices for health care is evidenced by the WHO (2001) reports that traditional health practitioners such as herbalists, midwives and spiritual healer constitute the main source of assistance with health problems for at least 80% of the rural population in developing countries. Prevention of disease offered by traditional health practitioners is in the form of charms and amulets, healing rituals and administration of herbal medicine.

Although little attention is given to local innovations stemming from traditional knowledge management practices and institutions developed by communities, Ethnomedical studies proved that societies have developed health care mechanisms which have preventive and remedial practices of primary health care. Traditional medicine is developed for curative and

preventive purposes and for immunization against disease by sacrifices and offerings as well as the wearing of conservation objects to stave off illness, (Helman, 2000; Rankoana, 2001; Torri & Laplante, 2009).

Remedial care by self-medication

Instances of self-medication are evidence that the Northern Sotho knowledge of health and disease fulfill an important aspect of primary health care. This aspect is promoted by knowledge about the etiologies of the diseases that attack the Northern Sotho, as well as the type of medical applications required for treatment. Natural diseases such as cough, flu, diarrhoea, fever and other general symptoms such as dizziness have become everyday life and of normal health condition and therefore, are not considered serious conditions that require professional medical care. People take the responsibility for their own health and can only consult with medical practitioners when self-administered medication has failed.

Self-medication or the lay sector represents an important part of everyday health care system. Adults possess knowledge of self-medication and part of this knowledge is shared with other family members, relatives and friends. Self-medication is generally the first therapeutic intervention resorted to by most people across cultural groups before a traditional and alternative medical systems are sought for medical assistance (Helman, 2000).

Self-medication is at the basis of what is referred to as the 'hierarchy of resort in curative practice'. The various layers of this hierarchy interact with each other since patients pass freely from one to the other. In the United States of America and Taiwan, for example, it has

been established that about 80% of all illness episodes are managed within the lay sector (Cavender, 1991).

Since the 1974 Alma Ata Declaration on Primary Health Care, self-health care gained more recognition, and recent health policies stress the importance of individual responsibility for their own health, as well as community participation in health care. The White Paper for the Transformation of the Health Systems in South Africa, Chapter 2, Section 2.5.1 provides that: *“All South Africans should be equipped with the information and the means for identifying behavioral change conducive to improvement of their health. Much of the progress made in improving the health status of individuals depends on the existence of healthy environments and lifestyles”*.

Section 2.5.2 provides this idea:

“People should be afforded the opportunity for participation in various aspects of the planning and provision of PHC services.”

Remedial care sought from traditional health practitioners

In many parts of the world, especially in developing countries, primary health care devolves on traditional health practitioners. Traditional health practitioners are health care workers who offer services to people who depend on traditional health practices for their health care. They are true community health care workers in their communities. They invariably have the confidence of the community, and whatever their level of skills, it is essential that they should understand the real health care needs of their community. Their main function is in the

curative aspects of health care, but they also prepare and dispense preventive and protective medicine (Sindiga & Nyaigotti-Chacha, 1996; Helman, 2000; WHO, 2002).

Populations of developing countries rely on traditional medicine to cope with their health care problems. For this reason, there are traditional health practitioners readily available to offer health care in almost every community. Traditional health practitioners are respected by the community, partly because of their acquired knowledge, their age, their ability to provide answers and treatments that are meaningful to the community, and their position as the moral core of the community. Their moral influence is strong among the adults and the elderly (Courtright *et al*, 2000; Torri & Laplante, 2009).

In South Africa, traditional health practitioners play a crucial role in providing health care to the majority of the population. They are the first health care providers to be consulted in most cases after self-medication has failed. They are deeply interwoven into the fabric of cultural and spiritual life of their communities. It is for this reason that there has been recognition of traditional medicine practices in South Africa (Felhaber, 1997; MRC, 2008).

The Northern Sotho traditional health practitioners are consulted by members of their communities and patients from other communities seeking remedial care. The healers are trusted health providers who understand their cultural values, and have extensive knowledgeable about the most common diseases that attack their community members. They rarely refer their patients to other healers nor a spiritual healer and another traditional health practitioner. The most common diseases treated by traditional health practitioners include

cancer, HIV and AIDS, eyes, asthma, measles, malaria, diarrhea, hemorrhoids, rheumatism, blood diseases and a variety of culture-bound syndromes such as insanity, infertility, impotency and defilement. Remedial care follows a particular pattern. It starts with diagnosis of the cause of disease and the required therapy. Therapeutic practices include administration of infusions, decoctions, powders, baths, inoculation, poultice, inhalations, enemas, ointments and laxatives prepared from varieties of indigenous plant medicines.

Traditional health practitioners charge affordable fees. Nxumalo *et al* (2011) commend that although the costs of traditional healers are almost the same as for private health facilities, payment to the former is more flexible. For example, in the rural areas traditional health practitioners accept payment in cash or in kind (usually livestock), while other traditional health practitioners may follow a ‘no cure no pay’ practice. A once-off payment may be accepted for multiple services that extend over a period of time.

Observations about the role played by *dingaka* in the life of the Northern Sotho are similar to what Stuaard (1995) is saying about *ngaka* in Tswana culture. A Tswana *ngaka*, is a religious consultant, a legal and political advisor, marriage counselor and social worker. He further describes *ngaka* as a necessary precondition for the maintenance of social justice and harmony.

Despite the remarkable roles of traditional health practitioners as primary health care givers in their communities, their services are associated with witchcraft. Traditional health practitioners are regarded as witches and sorcerers. They are believed to have the mystical

ability to harm others and can; become possessed by evil spirits, change shape, use medicines to harm and send agents to do evil deeds. The witches use a force to manipulate outcomes, for the good or bad. The 2002 media-findings of the use of human body parts (cadaver parts derived from medical institutions) for *muti* (traditional medicine), by traditional health practitioners in South Africa is an example of the practitioners' evil deeds (Petrus, 2010). Around 1993-1996, homesteads were burnt down and traditional health practitioners and other community members were neck-laced for accusations of witchcraft. In the Limpopo Province villages were killing fields. Ugly women, elderly women and traditional health practitioners were hunted out and stoned to death for practising magic and witchcraft (Osei, 2003).

Medical ethnobotanical knowledge

Ethnomedical studies show that medicinal plants are a normative basis for the maintenance of good health. Indigenous plants have become more popular in the treatment of mild and simple ailments where the medicines are applied at household level for self-medication. The use of medicinal plants in traditional medicine finds its natural expression and further development in primary health care. Current assumptions state that in many developing countries a large proportion of the population relies heavily on traditional health practice and herbal medicine for their primary health care. Although allopathic medicine may be available, traditional herbal medicine has often maintained popularity for historical, holistic approaches and cultural reasons. Traditional herbal medicine is regarded as sources of vital energy, and in some sense a participatory entity, rather than a lifeless object used in healing (Iwu 1993; World Bank, 2003; Endanshaw, 2007).

Herbal medicines are gaining popularity worldwide as alternative and complementary therapies. The current estimates suggest that, in many developing countries, a large proportion of the population relies heavily on traditional practitioners and medicinal plants to meet primary health care needs. Although modern medicine may be available in these countries, herbal medicines have often maintained popularity for historical and cultural reasons. Traditional herbal medicine continued to play a significant role in the treatment and management of life threatening diseases such as malaria, tuberculosis and HIV and AIDS in developing countries, though no adequate scientific evidence has been documented about the safety, quality and efficacy of the medicines (MRC, 2008).

Medical ethnobotanical knowledge of the Northern Sotho, like other communities' medical ethnobotanical knowledge systems, stems from knowledge about the properties of plant species known and administered for maintenance of health care. Medical ethnobotanical knowledge is an innovation as described by Torri and Laplante (2009). The Northern Sotho played an active role in creating their medicinal plant knowledge in order to enhance local health practices.

Traditional health practitioners and elderly respondents among the Northern Sotho have extensive knowledge of health care maintenance and medicinal plant application. The adult males demonstrated knowledge of medicinal plant application by identification of several plant species which are exploited for their medical properties. The medicinal uses of 56 plants species were identified during the research process. The majority of these species are shrubs, trees and weeds. Ten plant species are harvested, prepared and administered by ordinary men

and women at household level for self-medication. Plant-derived treatments are prepared and administered by traditional health practitioners for preventive and remedial care.

Plant-based medicines are prepared and administered to cure existing diseases and for prevention from disease infection. Decoctions and infusions prepared from the plant parts are applied as enemas to treat conditions such as ritual impurity, constipation and to expel poisonous substances from the stomach. Purgative enemas are reliable treatments for infertility and impotency and expulsion of poisonous substances from the stomach. Emetics are applied to facilitate the body's expectoration process in the treatment of cough, dysentery, asthma and bronchitis. Steam bath is prepared through boiling of plant parts for the patient to inhale the steam for therapy. Salves and ointments are prepared from powder prepared ground dried roots, barks and stems. Sometimes plant parts are burnt on live coals and the resulting smoke is inhaled. Fomenting is usually accomplished by rubbing the painful body part by a plant part. Protective medicine is administered through scarification in which the medicine is rubbed on the scars for preventive purposes as well as charms and amulets are prepared from the roots to be worn on the body for protective purposes.

Comparative analysis of medicinal plants

Medicinal plants used by the Northern Sotho for primary health care needs are also considered useful by different cultural groups for similar medical purpose. Twenty seven (27) plant species identified by the respondents, are also applied by other cultural groups for similar medical conditions. The medicines prepared from the plant species are applied for conditions such as flu, fever, cough, diarrhoea, dysentery, impotency and infertility.

5.2 CONCLUSIONS

The cultural values of the Northern Sotho consist of indigenous health care mechanisms developed by communities for preventive, protective and remedial purposes of primary health care. The Northern Sotho indigenous mechanisms of health care address basic elements of primary health care such as fostering self-care and self-reliance, community participation and the use of traditional medical practices in health care. Despite the influence of western knowledge systems, availability and accessibility of primary health care facilities in the communities, observance of cultural traditions such as heeding a taboo, good morals, hygiene, sanitation, the application of herbal medicine, and consultation with traditional health practitioners; are still valued for maintenance of good health.

The treatment offered by traditional health practitioners embraces some important aspects of health care as outlined in the scope of primary health care. For example, traditional health practitioners encourage self-reliance by stressing the importance of diet and observance of cultural taboos, all of which may have preventive value. In addition, the services of traditional health practitioners fulfill four principles of primary health care, namely; health care services are acceptable and accessible to the people, identify the medical needs of the community which can be preventable, make maximum use of available manpower and resources to meet the medical needs of communities. The research findings find value in the World Health Assembly, the World Health Organization, and the Alma Ata Declaration on the use of traditional medicine, traditional medical practices and giving priority to utilization of traditional medicine in drug policies and regulation with the purpose of providing holistic care. The use of indigenous knowledge to maintain health care fulfills the objectives of

primary health care as outlined in the scope of primary health care in the Alma Ata Declaration and World Health Organization Policies.

5.3 RECOMMENDATIONS

Based on the findings of this study, the following are recommended:

5.3.1 The use of indigenous knowledge in primary health care programs

The indigenous knowledge of preventive, protective and remedial care should be incorporated into Primary Health Care Programs to promote the WHO principle that communities should plan and implement their own health care services.

5.3.2 Promotion of observance of cultural determinants of health

Government should promote observance of the cultural determinants of health for the maintenance of good health. The cultural beliefs and practices relating to ill health should be taken into consideration in the development and implementation of primary health care programs. Such belief systems and practices include a set of beliefs about health maintenance, guidelines about correct behaviour for prevention of disease in oneself and others and the use of charms and amulets to ward off misfortune, defilement and disease.

5.3.3 Health promotion

It was evident during the study that households play a leading role in educating family members about disease and health care. When children learn their cultural values, they also learn about health care maintenance. It is therefore, recommended that Government makes sure that when implementing health promotion programs to inculcate in both young and old

community members an understanding about healthy living by emphasizing hygiene, proper nutrition, supply of clean water, basic sanitation, education about common health problems and preventive measures, immunization against major infectious diseases and prevention and control of locally endemic disease, should also consider incorporating traditional ways of promoting good health.

5.3.4 Self-care and self-medication

In view of the extensive knowledge of self-care for preventive and curative health care among communities of the Northern Sotho, it is recommended that Government should promote and develop this knowledge of health care provision to supplement primary health care services and to promote the spirit of self-reliance and self-determination. In addition, promotion of self-care could increase the level of community participation in the provision of primary health care.

5.3.5 Collaboration between traditional health practitioners and the Department of Health

Collaboration between traditional health practitioners and other health care professionals is recommended for the following reasons:

- i. Traditional health practitioners are the first health care providers consulted in about 48% of cases in the four communities of the Northern Sotho.
- ii. Their health care practices are trusted because they are socially acceptable and affordable.

- iii. Health care is provided through administration of plant medicines collected in varieties of habitats such as mountains, the wild and rivers.
- iv. Although their medicines have proved to be effective and without any contraindications, the medicines should be taken to the Medicines Control Council (MCC) for approval and registration on the basis of safety, quality and efficacy.
- v. The medicines should also be scientifically tested for their long term safety and efficacy and the MRC could be approached to assist with the analysis.

5.3.6 Use of medical ethnobotanical knowledge

The Northern Sotho have extensive medical ethnobotanical knowledge. Herbal medicine is the first approach to health care for 69% of the respondents when they require preventive, protective and curative health care. It is therefore, recommended that Government should take initiatives to promote the use of traditional plant medicines for provision of primary health care. Government should let institutions and NGOs explore the medicinal properties of the indigenous plants that are applied for primary health care by means of inventorying and documenting the medicinal plants which are used to treat common diseases.

5.3.7 Recommendation for further research

- i. Development of monographs for the indigenous plant species identified as sources of medicines for primary health care during the study.
- ii. Qualitative studies on cultural determinants of health to promote the use and incorporation of communities' cultural values into primary health care programs.

- iii. Inform health workers about the indigenous systems of primary health care to develop ways to respond to the health care needs of local communities through databases.
- iv. Quantitative studies to make an inventory and documentation of medicinal plants that are used for primary health care.
- v. Scientific validation of the health benefits derived from the consumption or utilization of these plants should be encouraged.
- vi. Consider conservation and cultivation of these plants for future use by the next generations.

REFERENCE LIST

- Acocks, J.P.H. 1953. **Veld types of Southern Africa. Memoirs of the Botanical Survey of South Africa, No. 57.** Pretoria: Botanical Research Institute.
- Alcorn, J.B. 1995. **The scope and aims of ethnobotany in a developing world.** In: Schultes, R.E. & Von Reis, S. (eds). *Ethnobotany: evolution of a discipline.* London: Chapman & Hall.
- Babbie, E & Mouton, J. 2002. **The practice of social research.** Cape Town: Oxford University Press.
- Baloyi, L.F. 2009. **Problems in providing primary health care services: Limpopo Province.** M.A. Thesis. Pretoria: University of South Africa.
- Burns, N & Grove, S.K. 1999. **Understanding research.** 2nd edition Philadelphia: Saunders
- Cavender, A.P. 1991. **Traditional medicine and an inclusive model of health seeking behaviour in Zimbabwe.** *Central African Journal of Medicine*, 37: 362-369.
- Chipfakacha, V. 1994. **The role of culture in primary health care.** *South African Medical Journal* 1994, 84 (2); 860-62.
- Coates-Pulgrave, K. 2002. **Trees of Southern Africa, 3rd Edition.** Cape Town: Struik.

Cotton, C.M. 1996. **Ethnobotany: Principles and applications**. New York: John Wiley & Sons.

Cozby, P.C. 2001. **Methods in behavioral research. 8th edition**. Boston: McGraw-Hill.

Courtright, P.; Chirambo, M.; Lewallen, S.; Chana, H.; Kanjaloti, S. 2000. **Collaboration with Traditional health practitioners for the prevention of blindness**. London: World Scientific. Available on the web: www.who.int/ncd/division_2020_action_plan/documents/cath.pdf. Accessed April 2010.

Dennil, K., King, L. and Swanepoel, T. 1999. **Aspects of primary health care: Community health care in South Africa**. Cape Town: Oxford University Press.

Department of Health. 1997. **White Paper on the Transformation of the Health System in South Africa**. (*Government Gazette* No 17910). Pretoria: Government Printer.

De Vos, A.S, Strydom, H, Fouché, C.B & Delpont, C.S.L. 2005. **Research at grass roots: for the social sciences and human service professions**. Pretoria: Van Schaik.

Du Toit, B.M. 1998: **Modern folk medicine in South Africa**. *South African Journal of Ethnology*, 21(4)89-92.

Endashaw, B. 2007. **Study on Actual Situation on Medicinal Plants in Ethiopia.**

<http://www.endanshaw.com>. Accessed 10 July 2012.

El-Gendy. A.R. 2005. **Regional Overview: Eastern Mediterranean Region.** In G. Bodeker, C. K. Ong, C. Grundy, G. Burford and K. Shein eds. *WHO Global Atlas on Traditional, Complementary and Alternative Medicine*, WHO Centre for Health and Development, Kobe, pp. 153–158.

Ellen, R. and Fukui, K. 1996. **Redefining nature: Ecology, culture and domestication.** WashingtonD.C. : Berg.

Emeagwali, G. 2003. **African Indigenous Knowledge Systems (AIK): Implications for the curriculum.** In: Faloa, T (eds), 2003. *Ghana in Africa and the world: Essays in honor of Adu Boahen.* New Jersey: Africa World Press.

Fabrega, H. 1995. **The need for an ethnomedical science.** In Sindiga, I. & Nyaigotti-

Felhaber, T. and Mayeng, I. (eds). 1997. **South African traditional healers' primary health care handbook.** Cape Town: Kagiso Publishers.

Field, K. and Briggs, D. **Socio-economic and location determinants of accessibility and utilization of primary health care.** *Health and Social Care in the Community.*

9 (5) 294-308.

Gaitonde, B. K. and Kurup, P. N. V. 2005. **Regional Overview: South-East Asia Region.** In G. Bodeker, C. K. Ong, C. Grundy, G. Burford and K. Shein eds., *WHO Global Atlas on Traditional, Complementary and Alternative Medicine*, WHO Centre for Health and Development, Kobe, 2005, pp. 75–82.

Grenier, L. 1998. **Working with indigenous knowledge.** *International Development Research Centre.* Canada.

Gumede, M.V. 1990. **Traditional healers: A medical practitioners' perspective.** Cape Town: Blackshaws.

Gupta M. P. 2005. **Regional Overview: Region of the Americas.** In G. Bodeker, C. K. Ong, C. Grundy, G. Burford and K. Shein eds., *WHO Global Atlas on Traditional, Complementary and Alternative Medicine*, WHO Centre for Health and Development, Kobe, 2005, pp. 41–49.

Hadorn, D. 1991. **The role of public values in setting health care priorities.** *Social Science and Medicine* 1991, 32 (7), 773-781.

Hahn, R. 1999. **Anthropology and Public Health: Bridging differences in culture and society.** New York: Oxford University Press.

Helman, C.G. 2000. **Culture, health and illness. 4 edition.** London: Arnold Publishers.

Helman, C. (2007). **Culture, health and illness. 5th edition.** London: Arnold Publishers.

Huff, R.M and Kline, M.V. (2008). **Health promotion in the context of culture.** Available online at http://www.sagepub.com/upm-data/23214_Chapter_1.pdf. Accessed 3 March 2010.

Hutchings, A. (1996). **Zulu medicinal plants.** Pietermaritzburg: Natal University Press.

Iwu, M.M. 1993. **Handbook of African medicinal plants.** Florida: CRC Press. Inc.

Joffe, P. 2005. **Creative gardening with indigenous plants: A South African guide.** Pretoria: Briza Publications.

Kasilo O., Alley, S., Wambebe, C. and Chatora, R. 2005. **Regional Overview: Africa Region.** *WHO Global Atlas on Traditional, Complementary and Alternative Medicine*, WHO Centre for Health and Development, Kobe, pp. 3–12.

Keleher, H. 2001. **Why primary health care offers a more comprehensive approach for tackling health inequalities than primary care.** *Australian Journal of Primary Care*, 7 (2): 57-61.

Kerven, C., Dolva, H. and Renna, R. 1990. **Indigenous soil classification systems in Northern Zambia.** In Warren, D. M., Slikkerveer, L.J. (eds). 1995. *The cultural dimension of development: Indigenous knowledge systems.* Great Britain: SRP, Exeter.

Kokwaro, J.O. 1995. **Ethnobotany in Africa**. In: Schultes, R.E. & Von Reis, S. (eds).

Ethnobotany: evolution of a discipline. London: Chapman & Hall.

Kraus, R. 1999. **Why are we struggling to improve delivery of health services in South Africa?** *Health Systems Trust Update* ,40:12-13.

Kreuteretal, M.W. and McClure, S.M. (2004). **The role of culture in health communication**. *Public Health Journal*, Issue 25:439-455. Available at www.arjournals.annualreviews.org . Accessed & July 2010.

Kriel, J.D. 1992. *Die siektebegrip van die Noord-Sotho*. (The North Sotho's concept of disease and illness). D. Phill. Thesis. Pretoria: University of Pretoria.

Lewanika, M.M. 2001. **Eastern and southern Africa multi-stakeholders dialogue on trade, intellectual property rights and genetic resources**. Kenya: Nairobi.

Limpopo Employment, Growth and Development Plan (LEGDP).2009–2014. Limpopo Provincial Government.

Limpopo State of the Environment Report. 2000. Available at www.limpopo.org. Accessed November 2009.

Mabogo, E.D.M. 1990. **The ethnobotany of the Vhavenda.** M.A Thesis. Pretoria: University of Pretoria.

Mabunda, M.M. 1999. **A cultural evaluation of the causes and treatment of disease and other misfortunes among communities in the Pietersburg and Mankweng areas of the Northern Province.** Unpublished M.A. Thesis. Mankweng: University of the North.

Mailula, A.S. 2009. **The ethnotaxonomic principles of useful indigenous plants of the Mamabolo community in the Limpopo Province.** Unpublished Mini Dissertation. Mankweng: University of Limpopo.

Makhubela, B.H. 2002. **The self-care model of best practice: home-based care.** *Africa Journal of Nursing and Midwifery* 4(1):35-37.

Mikhailovich, K; Morris, P; and Arabena, K. (2007). **Evaluating Australian Indigenous Community health promotion initiatives:** A selective review available on www.rrh.org.op/published article . Accessed 6 July 2010.

Martin, G.J. 1995. **Ethnobotany: a methods manual.** London: Chapman & Hall.

Mathias-Mundy, E. and McCorkle, C. 1992. **Ethnoveterinary medicine and development: A review of the literature.** In Warren, D. M., Slikkerveer, L.J. (eds). 1995. *The cultural dimension of development: Indigenous knowledge systems.* Great Britain: SRP, Exeter.

Medical Research Council. 2008. **National Reference Centre for African Traditional Medicine: A South African Model (NRCTM).**

Neumann, W.L. 2005. **Social research methods: qualitative and quantitative approaches. 4th edition.** Boston: Allyn Bacon.

Nxumalo, N., Alaba, O., Harris, B., Chersich, M., and Jane Goudge, J. 2011. **Utilization of traditional healers in South Africa and costs to patients: Findings from a national household survey.** *Journal of Public Health Policy* (2011) 32, S124–S136

Nyamwaya, D. 1992. **An anthropological perspective for policy makers and primary health care managers.** Pietermaritzburg: AMREF.

Odora Hoppers, C.A. (eds). 2002. **Indigenous knowledge and the integration of knowledge systems: Towards a philosophy of articulation.** Claremont: New Africa Books (Pty) Ltd.

Ong, C, Erling, H, Bodeker, G. G. Burford, G., **Regional Overview: European Region,”** in Bodeker, C. K. Ong, C. Grundy, G. Burford and K.Shein eds., *WHO Global Atlas on Traditional, Complementary and Alternative Medicine*, WHO Centre for Health and Development, Kobe, 2005, pp. 109–116.

Osei, M.A. 2003. **Witchcraft in the religion of the Hlubi of Qumbu: Focusing of the issues of sickness and healing in the society.** PhD Thesis. UNISA.

Parliamentary Monitory Group. **Indigenous knowledge systems**. Available at www.pmg.gov.za. Accessed date March 2008.

Peltzer, K., Khoza, L.B., Lekhuleni, M.E., Madu, S.N., Cherian, V.I., Cherian, L. **Concepts and treatment of hypertension by traditional and faith healers in the Northern Province, South Africa**. *Health South Africa Gesond.* 2001a;6(3):59–67

Pender, L. and Nola, S.T. 2005. **The health promotion model**. St. Louis: Mosby.

Petrus, T. 2010. **Defining witchcraft-related crime in the Eastern Cape Province of South Africa**. *International Journal of Sociology and Anthropology* Vol. 3(1), pp. 1-8 January 2011

Pretorius, E. 1999. **Traditional Healers. Chapter 18**. South African Health review.

Available on the web: <http://lwgacy.hst.org.za/sahr/99/chapter18.html>. Accessed March 2009.

Rankoana, S.A. 2000. **Aspects of the ethnobotany of the Dikgale community in the Northern Province**. Unpublished MA in Anthropology. Mankweng: University of the North.

Rankoana, S.A. 2001. **Plant-based medicines of the Dikgale of the Northern Province**. *South African Journal of Ethnology*, 21(3)90-94.

Rapakwana, N.J. 2004. **Client satisfaction with regard to accessibility of Primary Health Care Services in Modimolle Municipality of Limpopo Province.** *Unpublished MA Cur dissertation.* Department of Health Studies. Pretoria: University of South Africa.

Republic of South Africa. 2004. **Traditional Health Practitioners Act**, Act 35 of 2007. Pretoria: Government Printers.

Richer, M. 2003. **Traditional medicines and traditional healers in South Africa.** Discussion paper prepared for the Treatment Action Campaign and AIDS Law Project. Available on the web: [http://www.tac.org.za/Documents/Research Papers/Traditional Medicine](http://www.tac.org.za/Documents/Research%20Papers/Traditional%20Medicine). Accessed June 2009.

Richer, M. 2004. **Traditional healing and human rights in South Africa.** Conference Paper. XV International AIDS Conference, Bangkok, 11-16 July 2004.(Abstract No. MoPeE42000).

Sargent, C. and Johnson, T.M. 1996. **Medical anthropology: Contemporary theory and method.** London: Praeger.

Setswe, G. 1999. **The role of traditional medicine in primary health care in South Africa.** *Health South Africa, Gesondheid*, Vol. 4 (2)60-68.

Sindiga, I. & Nyaigetti-Chacha, C. (eds).1996. **Traditional medicine in Africa**. Nairobi: East African Educational Publishers.

South African Health Review. 1999 www.hst.org.za/sahr/1999. Accessed September 2009.

South African Health Review. 2000 www.hst.org.za/sahr/2000. Accessed October 2009.

South African Health Review. 2001 www.hst.org.za/sahr/2001. Accessed October 2009.

South African National Botanical Institute (SANBI). **Medicinal plant list**. Available at www.sanbi.org. Accessed January 2010.

Starfield, B. 1998. **Primary health care: Balancing health needs, services and technology**. New York: Oxford University Press.

Statistics South Africa. 2009. **Community survey**. Available at www.statssa.gov.za. Accessed August 2010.

Stuagard, F. 1995. **Traditional medicine in Botswana**. Gaborone: Ipelegeng Publishers.

Torri, M.C and Laplante, J. 2009. **Enhancing innovation between scientific and indigenous knowledge: pioneer NGOs in India**. *Journal of Ethnobiology and Ethnomedicine*. 2009, 5:29.

Truter, I. 2007. **African Traditional Healers: Cultural and Religious Belief intertwined in a historic way.** *South African Pharmaceutical Journal*. September 2007. Pages 56-60.

Van Wyk, B.E & van Oudthoorn, B. 1997. **Medicinal plants of South Africa.** Pretoria: Briza Publications.

Van Wyk, B. 2000. **Aphotographic guide to wild flowers of South Africa.** Cape Town: Struik Publishers.

Von Wolputte, S. & Devisch, R. 2002. **Medical pluralism and lay therapy management in Kinshasa.** Congo: Uppsala University (Uppsala-Leuven Research in Anthropology (ULRiCA)).

Walter, M. 2006. (eds). **Social research methods: An Australian perspective.** New York: Oxford University Press.

Warren, D.M. 1990. **Using indigenous knowledge in agricultural development.** World Bank Discussion Paper 127. Washington DC: World Bank.

Warren, D.M. 1991. **Using indigenous knowledge in agricultural development. Discussion paper 127.** Washington, D.C.: World Bank.

Warren, D.M., G.W. von Liebenstein and Slikkerveer, L.J. 1993. **Networking for indigenous knowledge.** *Indigenous Knowledge and Development Monitor* 1(1):2-4.

Warren, D. M., Slikkerveer, L.J. (eds). 1995. **The cultural dimension of development: Indigenous knowledge systems.** Great Britain: SRP, Exeter.

Warren, D.M; Brokensha, D. and Slikkerveer L.J. (eds). 1995. **The cultural dimension of development: Indigenous knowledge systems.** Intermediate Technology Publications. London.

Warren D. Brokensha D. and Slikkerveer L. J. 1999. Introduction. In Warren D. M., Slikkerveer L. J. and Brokensha D. (eds): **The Cultural Dimension of Development: Indigenous Knowledge Systems.** Intermediate Technology Publications, London, UK.

Watt, J.M. & Breyer-Brandwijk, M.G. 1962. **The medicinal and poisonous plants of Southern and Eastern Africa.** Edinburgh: E. & S. Livingstone Ltd.

Weather Bureau, 1986. **Climate of South Africa: climate statistics up to 1984.** Pretoria: Government Printer.

World Intellectual Property Organization (WIPO). **“Intellectual Property Needs and Expectations of Traditional Knowledge Holders.”** WIPO Report on Fact-Finding Missions on Intellectual Property and Traditional Knowledge (1998-1999). Geneva: WIPO, 2001.

Wong, S. and Regan, S. 2009. **Patients perspectives on primary health care in rural areas: Effects of geography on access, continuity and efficiency.** *Rural and Remote Health* 9: 1142 [online]. Available at <http://www.rrh.org.au>. Accessed January 2010

World Bank. **Best Practice.** Available at www.worldbank.org. Accessed May 2009.

World Bank. 1993. **The importance of primary health care.** Available at www.worldbank.org. Accessed February 2009.

World Bank. 2003. **Indigenous knowledge systems.** Available at www.worldbank.org. Accessed May 2009.

World Health Organization, 1998. **WHO Policy and activities in the field of traditional medicine.** Geneva: WHO.

World Health Organization. **The World Health Report 2000. Health Systems: Improving performance.** Geneva: WHO. 2000. Available at http://www.who.int/whr2001/2001_archives/2000/en/conents.htm. Accessed June 2009.

World Health Organization, 2002. **Global Strategy for Traditional Medicine.** *Institute of Science in Society (ISIS) Report*, 1 August 2002. WHO.

World Health Organization, 2002. **WHO Traditional Medicine Strategy 2002–2005.**

Geneva: World Health Organization.

World Health Organization. 2004. **Tools for Institutionalizing Traditional Medicine in Health Systems of Countries in the WHO African Region.** WHO Regional Office for Africa, (WHO/ AFRO/EDM/TRM/2004.4).

World Health Organization . 2005. **Global Atlas on Traditional, Complementary and Alternative Medicine,** WHO Centre for Health and Development, Kobe.

World Health Organization Report: **Legal Status of Traditional Medicine and Complementary/Alternative Medicine.** *A Worldwide Review, 2001.* Geneva. World Health Organization.

World Health Organization. **Planning for cost-effective traditional medicines in the new century- a discussion paper.** WHO Centre for Health Development-web:
http://www.who.or.jp/tm/research/bkg/3_definitions.html. Accessed May 2009.

APPENDIX A
QUESTIONNAIRE

**THE USE OF INDIGENOUS KNOWLEDGE FOR PRIMARY HEALTH CARE
AMONG THE NORTHERN SOTHO IN THE LIMPOPO PROVINCE.**

Interviewer's information

complete this section for each respondent interviewed, then make sure to attach all copies of sections for each plant collected.

1. Name of interviewer _____
2. Location of study (district) _____
3. Name of community _____
4. Date of interview _____
5. Interviewee _____

Section A

Interviewee's information

1. Gender

Male	1
Female	2

2. Age

18-30	31-45	46-60	61-90
1	2	3	4

3. Marital status

Singled	Married	Divorced/separated	Other, specify
1	2	3	4

4. Educational level

No education	Primary	Secondary	Grade twelve	Post grade twelve	Graduate
1	2	3	4	5	6

5. Occupation

Unemployed	Pensioner	Professional	Self-employed	Other, specify
1	2	3	4	5

6. Special position in the community

Chief	Traditional health practitioner	Other, specify
1	2	3

Section B

Ecological knowledge

7. Which of the following plant species grow in your community?

Shrubs	Weeds	Trees	Grasses	Aloes	Other, specify
1	2	3	4	5	6

8. Which plant species are used for?

Medicine	Food	Fuel	Utensils	Other, specify
1	2	3	4	5

9. Which plants species are?

Available in winter	Available in Summer	All year round
1	2	3

10. Where do you collect useful plant species grow?

In or near the river	On mountains	In the veld	Others
1	2	3	4

Section C

Indigenous knowledge for primary health care

11. Which health care facilities are available in your community? Which one/s do you prefer?

Clinic /hospital	Traditional health	Family	Self	Other-specify

	practitioner			
1	2	2	4	5

12. Which facilities do you consult for your health care?

13. What are the main causes of disease in your community?

Weather conditions	Ancestors	Witchcraft	Other, specify
1	2	3	4

14. What do you do to prevent attack by disease?

15. Which method of health care do you use?

Self-care	Consult TRAH	Clinic/hospital care	Other, specify
1	2	3	4

16. If the answer is 1 above which medicines/practices do you employ?

17. If the answer is 2 which medicines/practices are employed?

18. Name diseases/conditions you cure, protect and prevent by self-medication

19. Which diseases are cured, protected and prevented by traditional practitioners?

Cured	Prevented

20. Which plant medicines do you use?

Section D

Herbal therapy

21. Information about each ethnobotanical specimen identified

- a) Botanical name of the plant.....
- b) Sotho name of the plant.....
- c) Why is the plant given that name.....
- d) Habitat.....
- e) Disease/condition it cures/prevents.....
- f) Part of the plant used.....

- g) How is it prepared/ preparation method.....
- h) Other ingredients.....
- i) Storage system(s).....
- j) Administration method.....
- k) Is the medicine administered under supervision.....
- l) Period of medication.....
- m) Contraindications.....
- o) Can anyone use the medicine.....

APPENDIX B

INTERVIEW SCHEDULE

The following questions will be asked during interviews and observations with participants:

1. Interviewee's information

a. Gender

Male	1
Female	2

b. Age

18-30	31-45	46-60	61-90
1	2	3	4

c. Marital status

Singled	Married	Divorced/separated	Other, specify
1	2	3	4

d. Educational level

No education	Primary	Secondary	Grade twelve	Post grade twelve	Graduate
1	2	3	4	5	6

e. Occupation

Unemployed	Pensioner	Professional	Self-employed	Other, specify
1	2	3	4	5

f. Special position in the community

Chief	Traditional health practitioner	Other, specify
1	2	3

2. How would you describe a disease/illness?

3. What are the main causes of disease in your community?

4. Describe the indigenous mechanisms you would use to prevent attack by disease/illness

5. What health care facilities are available in your community?
6. Which diseases do you cure and prevent by self-medication?
7. Which plant medicine do you apply for preventive, protective and curative care?
8. Which indigenous preventive and protective care is sought from Traditional health practitioners?
9. Which diseases are cured by Traditional health practitioners?
10. What is the traditional health practitioner's consultation fee?

No consultation fee	Below hundred rand	Above hundred rand	Another type of payment, specify
1	2	3	4

MEDICAL ETHNOBOTANICAL KNOWLEDGE

11. Where do you collect plant medicines?
12. Do you use the plant parts fresh or dried?
13. Do you have access to the plant resources?
14. What are the name, color, and taste of the medicine prepared?
15. How do you prepare and administer the medicine?
16. Do you mix it with any other ingredient(s)?
17. Do you administer it under anyone's supervision?
18. Are there any side effects?
19. For how long would you administer the medicine?
20. Can you store the medicine for future use?
21. Can you tell anybody about the value of the medicine?
22. Why?

APPENDIX C

INFORMED CONSENT FORM

I _____ hereby voluntarily consent to participate in the following project: *The Use of Indigenous Knowledge for Primary Health Care among the Northern Sotho in the Limpopo Province.*

I have been fully informed of the project where the procedures to be followed for taking part in the project have been explained to me. I understand that there are conditions to be met for me to participate in the study. One of these conditions is that I should speak Northern Sotho, and my indigenous knowledge of health care systems will be testified that will determine indigenous knowledge of primary health care. I will be required to answer questions relating to indigenous knowledge of health care and knowledge of herbal therapy use for primary health care. I am aware that I do not have to take part in the project and may voluntarily withdraw at any stage. Under these conditions I am willing to participate in the project.

Signature of Participant.....Date

Signature of Witness.....Date

Signature of Project LeaderDate

APPENDIX D

PROJECT INFORMATION

PROJECT: The Use of Indigenous Knowledge for Primary Health Care among the Northern Sotho in the Limpopo Province

I (Miss Agnes Rankoana) am from the University of Limpopo, and I am doing research on the use of indigenous knowledge to meet primary health care needs among the Northern Sotho. You are invited to enroll into the project as a participant. Your involvement in the project regards provision of information regarding the use of indigenous knowledge to meet primary health care needs. The project involves collection of information on indigenous knowledge of primary health care and the medicinal plant applications for curative and preventive care.

The methods and procedures applied to collect information, and the information itself, might contravene with the secrets, prohibitions and taboos governing indigenous systems of health care. You are encouraged to ask any questions that you might have in connection with the study at any stage. Information will be collected with due respect to intellectual property rights. I will abide by the principal ethical considerations. You will be anonymous throughout the study period and the information provided will be kept secret.

Thank you for your time.

Should you wish to contact me, my numbers are:

Miss. Agnes Rankoana

015 2682179

072 443 1321