

**AN ASSESSMENT OF USE OF TRADITIONAL MEDICINE IN  
PREGNANCY AND ASSOCIATED FACTORS AMONG  
BLACK SOUTH AFRICAN WOMEN DELIVERING IN  
BERTHA GXOWA HOSPITAL**

A research report submitted to the Faculty of Health Sciences,

University of the Witwatersrand, Johannesburg

In partial fulfilment of the requirements for the Degree of

Master of Medicine in Family Medicine

## **DECLARATION**

I, Dr Gugulethu Tokozani Mkize, hereby declare that the research report submitted for the Degree of Master of Medicine in Family Medicine at the University of the Witwatersrand is my own original work.

It has not been submitted for any other degree or diploma of any examining body.

Signature:.....

Signed on this.....day of .....

## **DEDICATION**

To my late father Reginald Mkize, who always encouraged me to do my best in all I do and never to give up.

To my loving mother who is a pillar of my strength.

To my only son who had to put up with a studying mother.

To my husband who was with me through it all.

To my friends and family who supported me in different ways.

# ABSTRACT

## INTRODUCTION:

Black South African women use traditional medicines during pregnancy. Data on the extent of women's use of these is limited. Research has reported that some traditional medicines used in pregnancy may have negative pregnancy outcomes. The aim of the study was to determine the prevalence of traditional medicine use during pregnancy, the types used and factors associated with use amongst black South African women delivering in Bertha Gxowa hospital.

## METHODS:

A cross sectional study was done on Black South African patients admitted in the post natal ward of Bertha Gxowa in May 2012 to June 2012. Women were interviewed by the researcher using a structured questionnaire. Data collected included demographic and obstetrical factors, prevalence of use of traditional medicines in pregnancy, the types of traditional medicines used and the reasons for their use. Information on knowledge of and attitudes to the use of traditional medicines in pregnancy was also collected. Data were analysed using statistical software SPSS 17.0. Descriptive statistics were used. Chi square tests were used to test for association between independent and dependent variables.

## RESULTS:

Of the 442 patients approached, a total of 357 completed the interview. 41.5% of women used traditional medicine in their current pregnancy. The mean age of the participants was 27 years.

Older women and Zulu speaking women were more likely to use traditional medicine in pregnancy ( $p < 0.05$ ). The most common traditional medicine used was Isihlambezo (63.6%) followed by Umchamo wemfene (19.6%).

Traditional medicine was usually ingested in the third trimester. The most common reason for the use of traditional medicine in pregnancy was for a quick delivery (44%).

#### CONCLUSION:

The study highlighted that use of traditional medicine in pregnancy amongst postpartum black South African women in Bertha Gxowa hospital was high. Healthcare professionals should have some knowledge of the traditional medicine commonly used by pregnant women in their areas and also inform women about the potential benefits or harms of using traditional medicine in pregnancy.

## ACKNOWLEDGEMENTS:

- I would like to firstly thank God almighty for giving me the ability to start and complete this research.
- I am sincerely grateful to the following people:
- My supervisor Professor Ian Couper, for giving me the opportunity to undertake this research under his guidance and for the patience, supports and encouragement he gave throughout the study.
- Dr Anne Wright, for the guidance, encouragement and support she gave me when I needed it most.
- Dr Thomas, a public health specialist in Ekurhuleni district who was a great mentor.
- Dr Edrone Rwakaikara, a senior family physician, for helping me in the initial stages of this research.
- Ms Annah Manga, a statistician working in the UNISA statistical department for her assistance during data analysis.
- My colleagues Dr Baholo and Dr Khumalo, for all the help they gave me when I was struggling and for the encouragement they gave when I wanted to give up.
- To all the people who took part in this study for their participation, time and patience.
- To all Healthcare professionals who work in Bertha Gxowa maternity unit and antenatal care, who were always willing to help.

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## LIST OF ABBREVIATIONS

ANC	Antenatal Care
B G Hospital	Bertha Gxowa hospital
CI	Confidence interval
HM	Herbal Medicine
HCP	Healthcare professional/Healthcare practitioner
KZN	Kwa-Zulu Natal
MOU	Midwife Obstetric Unit
MSL	Meconium stained liquor
OR	Odds ratio
THM	Traditional herbal medicine
TM	Traditional medicine
SA	South Africa
WHO	World Health Organisation

**A note on nomenclature usage:**

Due to various interpretations of terms, it is necessary to explain and clarify the terms in the context in which they are used in this study.

In this study, the concept traditional medicine is interchangeable with traditional herbal medicine, herbal medicines and traditional remedies. The term traditional medicine includes herbal medicines, animal parts and/or minerals used for medicinal purposes.

The terms therapies, remedies and medicines are used interchangeably when referring to medicines and compounds used by the people who took part in the study. Healthcare professionals/ practitioners in this study include doctors, (general practitioners and specialist obstetricians), and nurses including midwives.





## **CHAPTER ONE**

### **1.1 INTRODUCTION**

Traditional medicine is widely used during pregnancy by South African black women<sup>1-6</sup>. More than 80% of South African pregnant women use antenatal care services and deliver in clinics or hospital<sup>1-3</sup>, but at the same time, it estimated that about 60% of these women complement Western antenatal care with some form of traditional medicine<sup>1</sup>.

In 1994 the new South African (SA) government introduced free antenatal care and delivery services for all pregnant women<sup>7</sup>. Since then, the number of clinics and Midwife Obstetric Units (MOU's) has also increased. Even as more pregnant women use western health care facilities, the use of traditional practitioners during pregnancy has not declined, but instead black SA pregnant women now utilize these services in parallel<sup>2</sup>. Some women state that Western antenatal care manages the physical aspects of pregnancy as opposed to the traditional sector which treats the bio- psychosocial and spiritual aspects of pregnancy, hence they utilize both<sup>1</sup>.

Several studies have reported that the use of traditional medicine during pregnancy is high in SA, yet research on the potential benefits or harms of these products is scanty<sup>2,5,6,8</sup>. Little is known about the chemistry, mode of action, or even the safety of most of the plants used in making traditional remedies used in pregnancy. A few studies have reported that traditional medicine use during pregnancy may have negative outcomes<sup>6,9</sup>. These outcomes include foetal distress, as indicated by a high frequency of meconium stained liquor, which may lead to caesarean section and uterine hyper stimulation that may lead to uterine rupture<sup>2,5,6,9</sup>.

Results from a few studies validate traditional healers claim that some traditional medicines promote foetal and maternal health. Some of the plants used in making traditional herbal remedies have compounds such as proanthocyanidins which are amongst the most potent anti-oxidants in nature and sugars that could be a source of energy and nutrition<sup>5,8</sup>.

Traditional remedies ingested in pregnancy by black South African women are usually a mixture of different plant species. Some examples of plants include, *Agapanthus africanus*, called ubani in Zulu or blue lily in English and *Gunnera perpensa* called Ugobo in Zulu<sup>2,5,8</sup>. The most common traditional medicine used especially by Zulu and Xhosa women is 'Isihlambezo'<sup>2,5,6</sup>. Other traditional medicines that can be mixed with herbal plants or ingested alone include Umchamo wemfene which is popular amongst Xhosa women and crushed ostrich egg shell which is common amongst Sotho speaking women. Some traditional herbal medicine can be mixed with substances like mercury. This mixture is called Usigidi<sup>1,4</sup>. These traditional herbal medicines are usually taken orally as a tonic in the last trimester of pregnancy<sup>5,6</sup>. The commonly stated function of traditional medicine is to promote both maternal health and foetal well-being as well as ensure quick uncomplicated labour<sup>5,8</sup>.

Most studies done on the use of traditional medicine in pregnancy in SA were in rural areas, with limited studies done in urban settings like Germiston, which is located in an urban area in Ekurhuleni district, East of Johannesburg, Gauteng. Most studies focused on Zulu women, and to a limited extent on Xhosa and Sotho women. In urban areas like Germiston, there are mixed ethnic groups.

This study aimed to determine the prevalence of traditional medicine use, assess the common types used by black S A women delivering in B G hospital. It is hoped that the study will help midwives and other health care professionals in B G hospital and in the district to be aware of the commonest types of traditional medicine used by pregnant women, and of the evidence regarding the potential benefits or harms of traditional medicine used in pregnancy. Health care professionals (HCP's) will be encouraged to routinely include herbal medicines in their history-taking, when asking about the patients drug use. HCP's will be encouraged to provide pregnant women with relevant health education.

## **1.2 BACKGROUND TO THE RESEARCH**

Interest in the research topic developed whilst the researcher was working as an intern in Natalspruit hospital. On the researcher's first day in the labour ward, a patient came into the ward in the latent phase but within 2 hours, she had delivered. What shocked the researcher was the meconium stained liquor (MSL) passed during labour. Upon asking other health care professionals in the ward, the common answer was that this was typical of a patient using 'Isihlambezo' (a common traditional medicine) ingested by women during pregnancy.

Ten years later, whilst working in B G hospital maternity ward, the researcher made the same observation that the passage of meconium stained liquor by patients during labour was still common. The majority of doctors and midwives working in the maternity ward associated the passage of meconium stained liquor with traditional medicine ingestion during pregnancy. Clinicians often implicate ingestion of traditional remedies with bad obstetric outcomes such as foetal distress, uterine rupture, and low birth weights.

No study has been done in B G hospital to determine the magnitude of traditional medicine use during pregnancy and the factors associated with it, therefore the researcher was encouraged to do this study.

### **1.3 RELEVANCE OF RESEARCH**

High maternal, perinatal and under five morbidity and mortality is a challenge in South Africa<sup>10</sup>. SA committed to the Millennium Development Goals which include goals 4 and 5 which aim to reduce child and maternal mortality by 2015<sup>10</sup>.

The use of traditional remedies in pregnancy is high in SA<sup>1-6</sup>. It is associated with bad obstetric outcomes which include foetal distress that can lead to caesarean section and uterine hyper stimulation that may lead to uterine rupture<sup>2,5,6</sup>. These outcomes may ultimately lead to death. Any factor that can contribute to maternal and neonatal mortality is important and needs to be researched. The Saving Mothers Report (Department of Health, 2008 – 2010) indicates that in Gauteng most maternal deaths occurred in regional facilities. There was an increase in the number of maternal deaths in district hospitals and regional hospitals<sup>10</sup>.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Search strategy**

Relevant literature was searched using available electronic search engines, mainly PubMed and Google Scholar. Key words used included: African traditional medicine, childbirth, herbal medicine, labour, induction, isihlambezo, traditional medicine, pregnancy, prenatal, postpartum, and use. Literature search was only in English, firstly in any years then checked in the recent year (2013) as the research writing continued. Related articles and citation were followed up and full text accessed where possible. All articles that were relevant to the subject of traditional herbal medicine in pregnancy were then reviewed.

#### **2.2 Introduction**

Traditional medicine (TM) use in pregnancy remains widespread in developing countries, while access to complementary and alternative medicine (CAM) in pregnancy is increasing in developed countries<sup>11-16</sup>, yet the safety of these medicines is not well researched nor monitored<sup>2,9,11,12</sup>.

Since the thalidomide catastrophe in the 1960's where the drug was found to be a teratogen, the use of Western medication by pregnant women is strictly monitored and regulated<sup>2</sup>. Pregnant women around the world are now more cautious when taking pharmacological medicine as there may be a risk to the foetus<sup>2,12,14</sup>. Some pregnant women use herbal medicines (HM) because they are perceived to be more safe<sup>14,15</sup>.

The World Health Organization (WHO) defines traditional medicine as “the sum of knowledge, skills, and practices based on the theories, beliefs, and experiences indigenous to different cultures, whether explicable or not, used in the maintenance of health as well as in prevention, diagnosis, improvement, or treatment of physical and mental illness”<sup>17</sup>. Traditional medical practices can include plant, animal, and mineral-based medicines, massage, spiritual therapies, and a variety of other techniques unique to different regions and cultures<sup>18</sup>.

### **2.3 Studies on the use of herbal medicine in pregnancy in developed countries and Asia**

The use of complementary and alternative medicine (CAM) including herbal medicine in pregnancy has been reported to have increased in Australia, Europe, United States of America and other developed countries<sup>11-16</sup>. Studies in Australia indicated that between 10 and 56% of all pregnant women use herbal drugs<sup>11,13</sup>. A literature review by Ernest, based on Medline and Embase searches (1966- August 2001) suggested that the use of herbal medicine (HM) in pregnancy was increasing<sup>15</sup>. In the review, a series of surveys done in Finland reported that, between 1985 and 1988, the use of HM in pregnancy had risen from 4% to 15%, and the prevalence in the USA was reported to be between 13% and 15%.

In Australia, a study by Forester indicated that 36% of women took at least one herbal supplement during the current pregnancy<sup>11</sup>. Lapi et al in Italy reported that 48% of the surveyed women had used at least one CAM previously and during the current pregnancy<sup>12</sup>. A survey among 400 Norwegian women showed that 36% used herbal drugs in pregnancy<sup>14</sup>. In another study in Norway, only 0.9% of patients were reported to have used herbal drugs

during early pregnancy<sup>13</sup>. The wide range in prevalence may be explained by the use of different study methodologies, in addition to cultural and regional differences<sup>13,14</sup>.

The most frequently stated reason for the use of herbal medicine in pregnancy is the belief that herbal medicines are safe because they are natural<sup>12,14</sup>. Some of the commonly used herbal medicines during pregnancy in developed countries mentioned in several studies include ginger, chamomile, echinacea, raspberry leaf, and ginseng<sup>2,14,16</sup>. Other remedies often mentioned to induce labour include Blue Cohosh, Black Cohosh and castor oil<sup>2,15</sup>.

In Asia, the use of herbal medicine in pregnancy is common. In a study in the Tumpat district, Kelantan in Malaysia, 51,4% of participants used herbal medicine in pregnancy<sup>19</sup>. A study in Taiwan reported that 33,6% of women used at least one Chinese herbal medicine during pregnancy<sup>20</sup>. Sharma reported that herbal medicine utilization during pregnancy in India is common and there was a need to educate and counsel women of child-bearing age, regarding the advantages and disadvantages of traditional drug use during pregnancies<sup>21</sup>.

## **2.4 Studies on the use of traditional medicine in pregnancy in Sub Saharan Africa**

In the African context, traditional medicine still plays an important role in pregnancy and labour even after the introduction of Western oriented medicine<sup>1,9</sup>. In Africa about 80% of the population uses traditional medicine for the treatment of different illnesses and this includes pregnant women<sup>18</sup>. Contributing factors to high use of traditional medicines include poverty, inaccessibility of health facilities, not being able to afford Western services and acceptability of traditional medicine as part of African culture<sup>3, 22</sup>.

Several studies conducted in Sub-Saharan Africa indicated that the use of traditional herbal medicine in pregnancy is common<sup>5,22-26</sup>. In Nigeria, a study by Tamuno et al reported that 31,4 % of women use herbal medicine in pregnancy<sup>22</sup>. A study by Fakaye et al reported a higher prevalence at 43%<sup>23</sup>, but a study by Gharoro et al reported a lower prevalence, at 10%<sup>24</sup>. The two earlier studies acknowledged the common use of traditional medicine in pregnancy and emphasized the need for health care professionals to educate pregnant women on the dangers of the use of traditional medicine in pregnancy.

A study done in Mbeya Referral Hospital, Tanzania, in 2010 reported that 55% of women used herbal medicines during pregnancy and the use of TM in pregnancy was associated with low education levels of pregnant women and long distances to the health facility<sup>9</sup>. These findings were higher than results from a study that was done by Mbura et al in Tanzania 27 years before the one mentioned above. The prevalence at that time was (43.4%) in urban women as compared to (40,2%) in rural women<sup>25</sup>. One of the factors stated as contributing towards the increase in prevalence in the Mbeya study, was the rapid increase in the promotion of traditional medicine in society and the media.

A study done in Zimbabwe in 2011 by Mureyi et al reported a prevalence of 52%, supporting the trend that use of TM in pregnancy is common in Sub Saharan countries<sup>26</sup>. A study by Mutambirwa done in 1983 reported that most pregnant women preferred traditional delivery care, even in areas of Zimbabwe with easy access to Western facilities.

Other studies that focused on the use of traditional medicine during pregnancy have been conducted in countries like Zambia<sup>28</sup>, Malawi<sup>29</sup> and Uganda<sup>30</sup>.

## **2.5 Studies on the use of traditional medicine in pregnancy in South Africa**

SA is different from most African countries. Antenatal care and maternity services, like other primary health-care services, are rendered free of charge<sup>1,3</sup>. More than 90% of women deliver in Western health facilities, but a significant number of these women complement their healthcare with traditional antenatal care<sup>1,3</sup>.

Studies done in SA show that the use of traditional medicine in pregnancy is common but to date research which focused on use of traditional medicine (TM) in pregnancy has been limited<sup>2,5,8</sup>. Most of the research done on traditional medicine in pregnancy is amongst Zulu speaking women living in the rural areas of Kwa Zulu-Natal (KZN)<sup>4,5,6,31</sup>.

A survey done by Varga et al acknowledged that a lot of Zulu women used traditional herbal medicine during pregnancy<sup>5</sup>. The most common TM used by these women was 'Isihlambezo'<sup>5</sup>. The study further reported that the most frequently cited reason for use was that it provided quick and painless delivery<sup>5</sup>. Another study done in KZN, reported the prevalence of the use of traditional medicine in pregnancy to be high, with 75,4% in clinic deliveries as opposed to 51,2% in hospital deliveries<sup>3</sup>.

A survey of 577 pregnant women attending their first antenatal visit at King Edward VIII hospital in Durban, reported the prevalence of use to be around 44%<sup>32</sup>. A follow up study to the former study, reported that the prevalence was also high (55%), confirming that the use of traditional medicine during pregnancy is common amongst Zulu women in KZN<sup>6</sup>.

A qualitative study done by Van der Kooi on Tswana speaking women in the North West Province of SA, estimated that 60% of these women use traditional herbal medicine during

pregnancy for various reasons<sup>1</sup>. The most important reason stated for use was to induce labour. The TM used for this was crushed ostrich egg shell<sup>1</sup>. The other TM used by these women was 'kgaba medicine', which is similar to Isihlambezo.

Findings in a qualitative study by Abrahams et al reported that the majority of the Xhosa speaking women used TM in pregnancy for the sake of both themselves and their babies because of the need to "strengthen" the womb against sorcery, to prevent childhood illnesses, and to treat symptoms they perceived that biomedical services would not be able to treat. The commonly used traditional medicine taken orally was umchamo wemfene<sup>4</sup>.

A trend in most studies done in South Africa was that the use of TM in pregnancy is high, but a study by Chalmers stated a different view. Results in this study suggested that women were turning to medical professionals, particularly nurses, as sources of knowledge about pregnancy, birth and infant care rather than to traditional sources of such information<sup>33</sup>.

## **2.6 Culture and Ethnic groups**

Cultural beliefs and values, family beliefs as well as own beliefs play a major role in the health-care-seeking behaviour of pregnant women<sup>34</sup>. Black African pregnant women staying in urban areas are more likely to be westernized, but to some, indigenous practices still remain important, hence some women utilize both<sup>3,5</sup>. They use Western antenatal care (ANC) to address mostly biomedical problems, whilst traditional ANC uses the holistic approach, addressing the bio psychosocial problems that include treatment to protect the mother and foetus from evil spirits and sorcery<sup>4</sup>.

SA has diverse cultures, with four main racial groups namely: Blacks, Whites, Coloureds and Indians. Black Africans are part of the highest racial group at 79 % and can be further divided into many different indigenous groups. Major ethnic groups include Zulu, Xhosa, Basotho (South Sotho), Bapedi (North Sotho), Tswana, Ndebele, Swazi, Venda and Tsonga<sup>35</sup>. Different ethnic groups have different cultures and beliefs. In the past, different ethnic groups stayed in separate geographic areas. Ethnic groups and the geographical areas often influenced the type of medicine used in pregnancy, for example the use of Isihlambezo by Zulu women and kgaba remedies by Tswana women<sup>1</sup>.

## **2.7 Types of pregnancy related traditional medicine used in South Africa**

- Isihlambezo

The Zulu ethnic group originally stayed in Kwa Zulu Natal. The common traditional herbal medicine ingested in pregnancy by Zulu women is Isihlambezo. The term Isihlambezo (from the Zulu verb “ukuhlambeza”, which means to wash ceremonially for protection or to purify), refers to various liquid herbal mixtures<sup>5</sup>.

Many different plants can be used as Isihlambezo ingredients and the recipes vary depending on factors such as the traditional healer consulted, the general state of health of the woman, the geographical area or the tribal community<sup>5,34,36</sup>. The ingredients are boiled or infused in water and the "tea" or tonic is then taken daily by the spoonful or cupful depending on the prescriber<sup>5,36</sup>. Additional materials can be added to Isihlambezo such as fish heads, snake skin, crocodile parts and mercury and fluid from boiled gramophone records, etc<sup>5,34</sup>. These can be prescribed in a raw form or they can be bottled and be ready to use<sup>5</sup>. Isihlambezo is usually taken in the third trimester of pregnancy. The primary function of Isihlambezo is to

ensure adequate foetal growth and foetal well-being and promote general maternal health and a quick uncomplicated labour<sup>5,8,36</sup>.

- Imbelekisane and Inembe

Other traditional herbal medicines used by Zulu women are Imbelekisane and Inembe<sup>5,34</sup>. Imbelekisane is used in extreme cases to treat prolonged labour. Inembe is a potent labour induction herbal mixture that can cause abortions and even cause uterine rupture. These two remedies are regarded as dangerous by traditional healers in Kwa-Zulu Natal<sup>2,5,34</sup>.

- Umchamo wemfene

The Xhosa ethnic group originally stayed in the former Transkei and Ciskei (now Eastern Cape). The commonest pregnancy related traditional medicine taken orally by Xhosa speaking women is Umchamo wemfene and Isihlambezo<sup>4</sup>. Umchamo wemfene, literally meaning “baboon urine”, is a much sought-after medicine used to treat menstrual difficulties, or as a diuretic and to ease childbirth<sup>37</sup>. Umchamo wemfene is in fact not baboon urine as the name implies, but solidified imbila (Cape hyrax, dassie) urine and faeces known scientifically as hyraceum<sup>5,34,37</sup>.

- Kgaba remedies and crushed Ostrich eggshell

The commonest pregnancy related traditional herbal medicine taken orally by the Tswana speaking, is kgaba, which is a mixture, made from different plant species<sup>1</sup>. One of the plants that are commonly used for making the TM is kgaba etona, known as *Rhoicissus Tridentata* in English. Another popular traditional remedy is crushed ostrich eggshell, which is used to stimulate labour. The pharmacological properties of this mineral are unknown<sup>1</sup>.

- Usigidi

Usigidi is mercury. A drop of mercury can be given orally in prolonged labour to induce labour<sup>5</sup>. Usigidi can also be added to other TM like Isihlambezo<sup>5</sup>.

- Gramophone record

A gramophone (vinyl) record is broken into pieces and boiled in water to make a solution which can be taken to induce labour<sup>34</sup>.

- TM in Limpopo

Mpundulo is the herb that is drunk daily to strengthen the pregnancy in preparation for labour, Mbheswana is boiled and drunk to enhance labour and prevent foetal distress and Xirheti or Xiveve is drunk to accelerate labour<sup>3</sup>.

- Other

Information on TM used by the Swati, Ndebele, Tsonga and Venda ethnic group is very scanty.

## **2.8 Traditional Medicine Accessibility**

In the past, traditional medicines were usually prescribed by traditional healers or traditional birth attendants. In recent times, with the growth of the traditional health sector, traditional herbal remedies are widely distributed and commercialized and their availability and accessibility has increased. They are sold by traditional herbalists or they can be bought from traditional chemists or in open herbalist markets<sup>2,5,8,34,36</sup>.

## 2.9 Mode of action of pregnancy related traditional medicines

Many different plants can be used as ingredients to make pregnancy related traditional herbal like Isihlambezo. A review by Veale et.al in 1992 revealed that 57 plant species were used during pregnancy and childbirth by South African women<sup>36,38,39</sup>.

Of the 57 plants reviewed, there are six that are commonly cited and researched.

1. *Agapanthus africanus* called ubani in Zulu or blue lily in English<sup>5</sup>.
2. *Rhoicissus tridentate* called isinwazi in Zulu<sup>5,8,36</sup> or kgaba etona in Tswana<sup>1</sup>.
3. *Combretum kraussii* called Umdubu in Zulu<sup>8,36</sup>.
4. *Gunnera perpensa* called Ugobo in Zulu<sup>5,8,36</sup>.
5. *Pentanasia prunelloides*<sup>36,39</sup>.
6. *Clivia miniata* or orange lily<sup>36</sup>.

A seventh plant, *Callilepis laureola* called Impila is also frequently mentioned<sup>5,34,36</sup>. It is reported to be extremely poisonous and has been responsible for many fatalities due to hepato- renal failure<sup>5,36</sup>. Studies by Kaido, Veale and co-workers demonstrated that aqueous extracts of, *Clivia miniata*, *Agapanthus africanus* and *Pentanasia prunelloides* showed direct smooth muscle activity on the isolated uterus and ileum of rats whilst *G. perpensa* was exhibited to have direct smooth muscle activity on the uterus only<sup>36,38,39</sup>. *Clivia*, *Agapanthus* and *Rhoicissus* significantly augmented the initial response of the uterus to oxytocin and were able to produce initial phasic contractions followed by tonic contractions at higher doses<sup>36</sup>.

Brookes carried out pharmacological tests related to uteroactivity of 'Isihlambezo' on the other three plants commonly used, namely: *Combretum kraussii*, *Gunnera perpensa* and *Rhoicissus tridentate*<sup>8</sup>. Results showed these plants had uterotonic properties. The most active

component in all three plants stimulates contractions of isolated uterine muscle directly<sup>8</sup>.

Herbal remedies containing the six plants mentioned above must therefore be considered to have the potential to cause uterine hyper stimulation and other associated toxicity<sup>8,36</sup>.

*Rhoicissus tridentata* has seasonal effect on the potency of uterotonic activity. It was found that tubers harvested in the wet months of summer and autumn were more potent than those harvested in the drier months of winter and spring<sup>8,36,40</sup>. It is important for prescribers of TM to be aware of these variations, so that they can adjust doses of the TM used in pregnancy accordingly to avoid toxicity.

## **2.10 Benefits and risks of taking traditional medicine during pregnancy**

The pharmacological analysis of TM ingested by women during pregnancy has shown beneficial and harmful effects<sup>5,8,36,41</sup>.

Studies have shown that some TM ingested in pregnancy contains sugars and compounds like proanthocyanidins, phenol glycosides which have documented benefits of good health. Sugars found in these plants include glucosides and free glucose sugars; these could be a source of energy and nutrition for pregnant women<sup>5,8</sup>. Proanthocyanidins are potent antioxidants with health benefits for the heart, cardiovascular system and immune system.

As stated above, TM ingested in pregnancy like *Isihlambezo* are herbal oxytoxics and they cause uterine contractions thereby causing quick and easy labour<sup>5,8,36</sup>. This validated the traditional healers' claims that *Isihlambezo* decoctions promote foetal and maternal health and cause quick labour<sup>8</sup>.

On the contrary, some TM used in pregnancy may lead to bad obstetric outcome. These include passage of meconium stained liquor (MSL), uterine hyper stimulation and low neonatal birth weights<sup>2,5,6</sup>. Passage of MSL is often an indication of foetal distress, which may result in delivery by Caesarean section. Uterine hyper stimulation can be defined as an exaggerated uterine response i.e. hypertonic or tachysystolic contractions with late foetal heart rate decelerations or foetal tachycardia. This can result in foetal hypoxia and uterine rupture<sup>36</sup>.

Although most studies usually associate passage of MSL which is often an indication of foetal distress with ingestion of traditional herbal medicines<sup>2,6,42-45</sup>, MSL can occur in absence of foetal distress particularly in post term pregnancies<sup>2,44</sup>. Other studies have stated that MSL passage can be due to the laxative effect of Isihlambezo<sup>44,45</sup>.

## **2.11 Conclusion**

Traditional medicines are widely used during pregnancy by black South African women. Some of the plants used to make these remedies can be beneficial whilst some can be harmful, leading to bad obstetric outcomes. Caution should be taken when using them. Pregnant women should be informed about the benefits and harmful effects of these medicines.

## **CHAPTER THREE**

### **METHODS**

#### **3.1 AIM**

To determine the prevalence of traditional medicine use during pregnancy, the types used and factors associated with use amongst black South African women delivering in Bertha Gxowa hospital.

#### **3.2 OBJECTIVES**

- To determine the prevalence of traditional medicine use during pregnancy in Bertha Gxowa hospital.
- To identify the common types of traditional medicine used and determine the reasons for use.
- To identify the socio-demographic and obstetrical factors associated with the use of traditional medicine during pregnancy.
- To explore other factors associated with the use of traditional medicine during pregnancy.

#### **3.3 RESEARCH DESIGN**

A descriptive, cross sectional study was used.

### **3.4 SITE OF STUDY**

The study was done in Bertha Gxowa hospital (B G hospital) maternity ward. B G hospital is a district (level one) hospital located in Ekurhuleni district, East of Johannesburg, Gauteng.

In the apartheid era, the hospital served mostly the white community, but now it is open to all races. The majority of pregnant women that deliver in this hospital are Black Africans. Black African women include local South African citizens and those from neighbouring countries like Zimbabwe.

The hospital caters for women staying in Germiston suburbs, surrounding informal settlements and Katlehong, which is the nearby township. In and around the Germiston area, there are no midwife obstetrical units, so most women deliver in hospital. A lot of deliveries are normal vaginal delivery done mostly by midwives, and complicated cases are delivered by caesarean section. The maternity ward is divided into an admission ward, labour ward and post natal wards.

### **3.5 STUDY POPULATION:**

The study population was all black South African women that delivered in B G hospital from May 2012 to July 2012. Black patients are the majority of patients that deliver in B G hospital. They include SA born and non-SA born black African women. The minority of patients that deliver in this hospital are whites, coloured and Indians but they were not included in the study because the study is specifically about black South Africans.

### 3.6 SAMPLING

#### Sample size

The sample size was calculated from the formula

$$n = \left( \frac{Z_{\alpha/2}}{E} \right)^2 p(1 - p)$$

Where p is the proportion of success, E is the maximum error acceptable ( $E = 1 - \text{power}$ ) and

$Z_{\alpha/2}$  is the Z score.

With  $\alpha = 0.05$ ,  $Z_{\alpha/2} = 1.96$ , and we use  $p = 0.5$  as there is no previous estimate available.

Choosing a power of 94.9% and then  $E = 0.051$ , the estimated sample size is

$$n = \left( \frac{1.96}{0.051} \right)^2 0.5(1 - 0.5) = 369.2$$

There are about 340 to 380 deliveries per month and around 4200 a year. The researcher sampled for two months. With a rate of 340 to 380 deliveries per month, the sample size was 370.

#### Sampling method

A non-random sample of participants who were eligible for the study was used. All women who gave birth in B G hospital at the time of the study were evaluated for eligibility.

All black South African women that were admitted in the postnatal ward for at least 6 hours post normal vaginal delivery and those that were on their third day post caesarian section were recruited with assistance of midwives.

A six hour period was chosen to allow the participants to recover physically. Women that delivered by caesarian section were usually discharged on the third day, so it was a better day to invite them to participate in the study.

Women were first approached as a group in order to explain the purpose of the activity and then invited to be interviewed individually in a private room. As soon as the interview was finished with one woman, the next available patient was invited to participate. The number required for the day was between 10 to 15 participants depending on availability and time.

### **3.7 INCLUSION AND EXCLUSION CRITERIA**

Inclusion criteria:

- All black African women admitted in the postnatal ward above the age of 18 years.
- All black African women that were admitted in the postnatal ward for at least six hours post normal vaginal delivery.
- All black African women who were on their third day post caesarian section.
- All black women who were born in South Africa. The study was not aimed at women that are from neighbouring countries who deliver in B G hospital.

Exclusion criteria:

- Women that refused to participate.
- Women who were too ill at the time of recruitment.

### **3.8 MEASURING TOOL**

Data collection was done using a structured questionnaire. The questionnaire was formulated by modifying the validated questionnaire that was used in a Tuscan study done by Lapi et al<sup>12</sup>. The Tuscan study questionnaire asked about the use of complementary and alternative medicine. The current study questionnaire specifically asked about traditional medicine. Other questions were added to the questionnaire. The added questions were from a modified questionnaire from a South African study done by Mupfumira<sup>2</sup>.

The first section comprised of questions about the patient's demographic data (e.g. age, race, ethnicity, education, marital status) and obstetric factors (e.g. parity, type of delivery, pregnancy outcome). The second section comprised of questions on the use of traditional medicine, addressing the use in previous pregnancies, the use during the current pregnancy, the timing of administration, the type used, the reason for use and the source of information. Other questions were on knowledge, beliefs, perception and attitudes on the use of traditional medicine in pregnancy.

The questionnaire was translated into Zulu with the aid of a colleague fluent in Zulu. The questionnaire was then piloted among 20 participants before being adopted as the study's data collection tool. (Appendix 1).

### **3.9 DATA COLLECTION**

Data was collected over a period of two and half months. This was done three times per week, on Tuesday, Thursday and Saturday.

The researcher was working in B G hospital as part of the researcher's registrar rotation at the time of the study.

Eligible participants in the postnatal ward were first approached as a group in order to introduce the researcher and to explain the purpose of the activity. The women were then invited individually to a private room where they received more details about the study objectives. The researcher took time to give information about the study. The study's working definition of "Traditional Medicine" was explained to the women. After the explanation and clarification of any questions arising from the women, only the women that had knowledge on the use of traditional medicine were interviewed.

The participants were given an information leaflet that explained the study further. The researcher explained the contents of the information leaflet in an African language for those who did not understand English or those who could not read or write. (Appendix 2). After they finished reading, they were asked to sign a consent form if they agreed to participate in the study. (Appendix 3). After obtaining informed consent, the participants were interviewed by the researcher using a structured questionnaire. All completed questionnaires were stored in a safe place for data capturing and analysis.

### **3.10 DATA ANALYSIS**

Data was entered and analysed using statistical software SPSS 17.0. The information was presented in frequency tables and bar charts for all variables in order to determine the distribution of variables. Odds ratio (OR) and 95% confidence intervals (95% CI) were calculated by logistic regression model to determine the factors associated with the use of

traditional medicine, Contingency tables were provided to determine relationships between factors and the use of traditional medicine, and then the chi square test of independence was carried out to test whether the relationships found between factors and use of traditional medicine were real, that is, not by chance alone but a true reflection of the population. Level of significance was set at  $p \text{ value} < 0.05$ .

### **3.11 PILOT STUDY**

A pilot study was done to test if the set of questions asked were relevant and to check if they were well understood by the participants. The pilot study was done on 20 participants in March-April 2012. Adjustments were made to the questionnaire on the basis of the results obtained from the pilot study.

### **3.12 ETHICS**

Wits University Human Research Ethics Committee approval was obtained before the study was conducted. The ethical clearance number is: M110616.

The researcher gave information about the study to all participants. Written information was made available in English to all participants (Appendix 2).

Participants were requested to sign an informed consent form. They were informed that participation was voluntary they had the right to withdraw from the study at any point without having to give reasons (Appendix 3).

They were also made aware of the confidentiality and anonymity of all their personal information.

## **CHAPTER FOUR**

### **RESULTS**

#### **4.1 Background of Participants**

442 women were invited to participate in the study. 33 women (7.5%) approached were from neighbouring countries, so they were automatically excluded. 39 women (8.9%) declined to participate. A total of 370 post-partum women were interviewed. There were errors in 13 patients and the final total number of participants was 357.

#### **4.2 Socio Demographic characteristics of all participants (n=357)**

The socio demographic characteristics of all participants are shown in Figures 1 to 4.

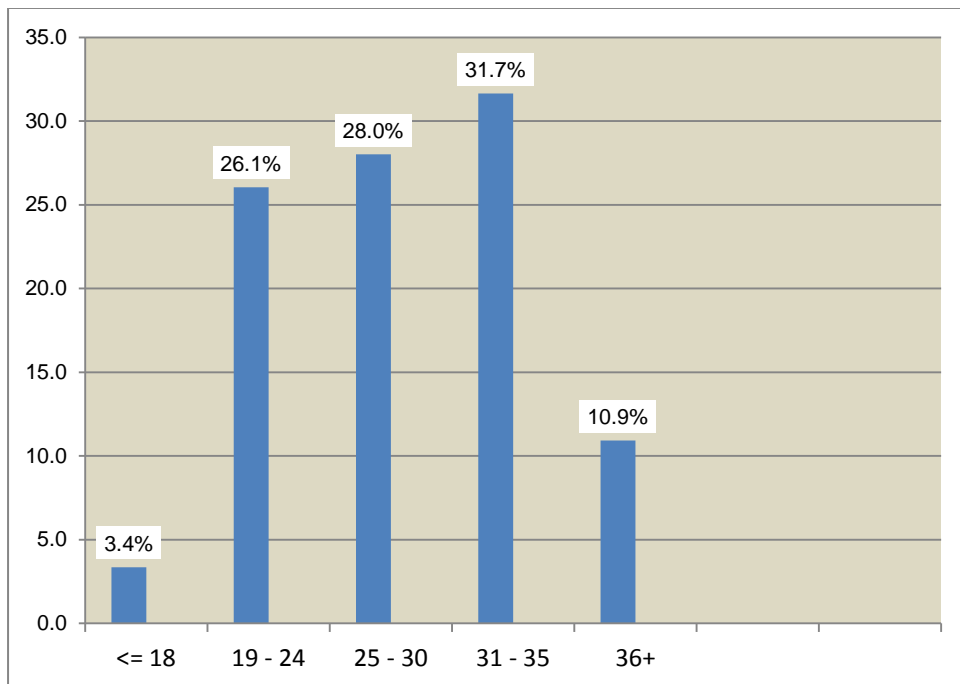
The age group distribution of the participants shows the majority of women (31.7%) belonged to the age group 31-35 years and their mean age was 27.8 years (SD=5.990). The use of herbal medicines during pregnancy was associated with women over the age of 30 years ( $p$  value  $< 0.05$ ).

The highest ethnic group was Zulu (44.2%), followed by Sotho and Xhosa (11.5%) and (11.2%) respectively. There was a statistically significant association between the use of herbal medicines during pregnancy and belonging to the Zulu ethnic group ( $p$  value  $< 0.05$ ).

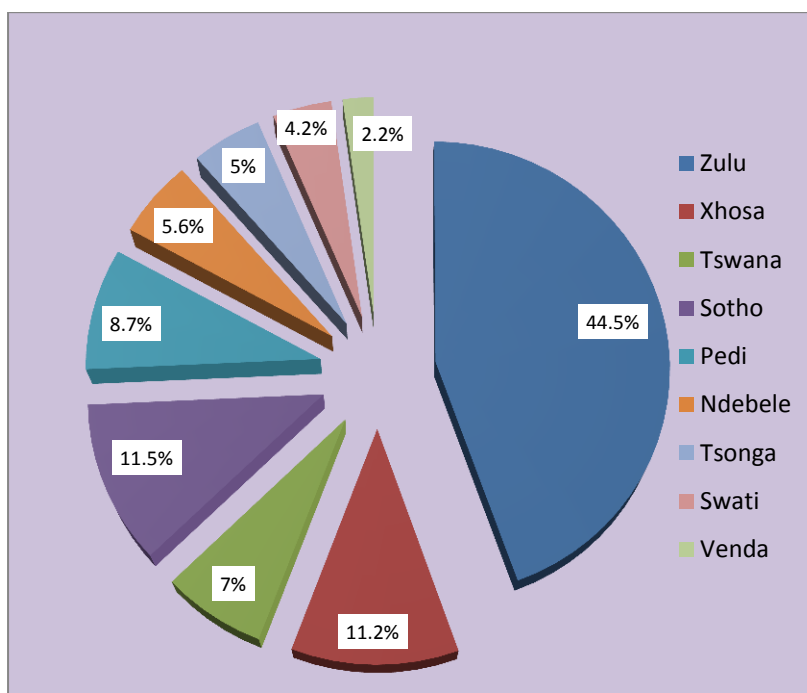
With regards to marital status, the majority of women (54.9%) were single.

The group with the highest level of education was Matric (43.7%). There was no statistically significant association between use of herbal medicine and level of education and parity ( $p > 0.05$ ).

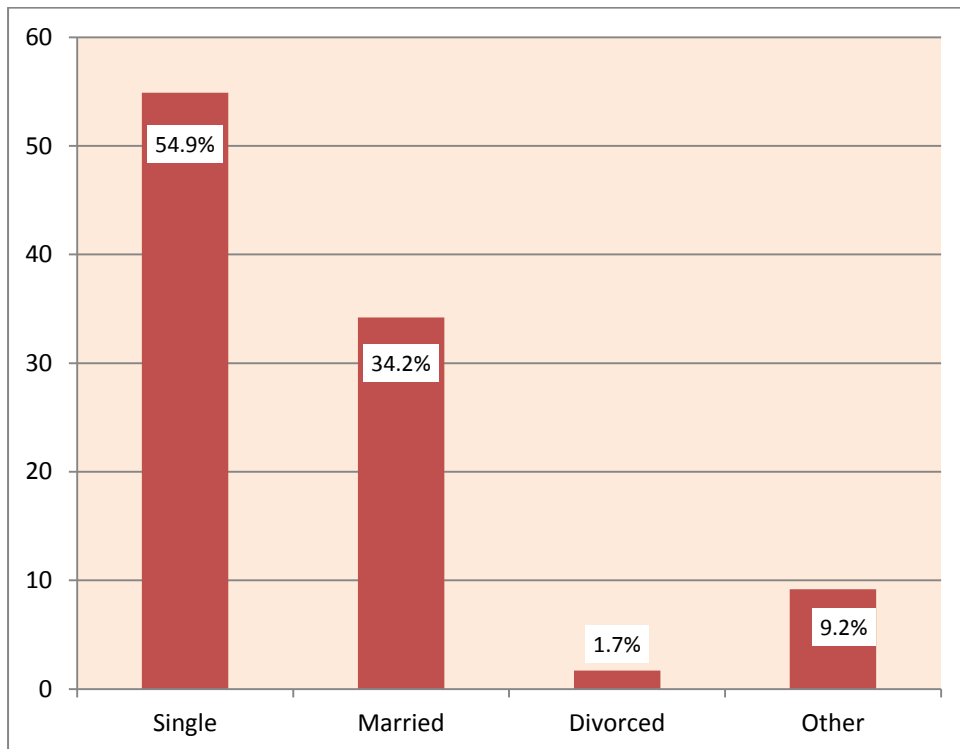
**Figure 1: Age distribution of post-partum women interviewed.**



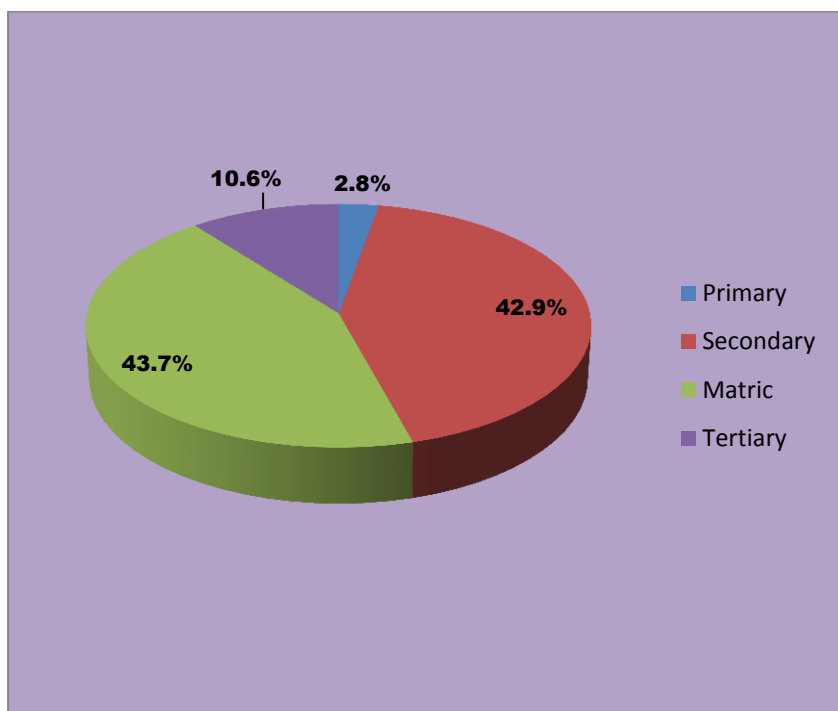
**Figure 2: Ethnic group distribution of post-partum women interviewed.**



**Figure 3: Marital status distribution of post-partum women interviewed.**



**Figure 4: Education Distribution of post-partum women interviewed**



### 4.3 Obstetric factors

The majority of women had given birth before (65.0%), whilst 35% were nulliparous. The majority of participants (67.2%) had no pregnancy related illnesses. The proportion of participants with complications during labour was 20.4%. Complications included foetal distress, having an episiotomy, excessive bleeding and retained placenta. Most deliveries were normal vaginal deliveries (80.4%). (See table 1)

Table 1: Obstetric factors

<b>VARIABLE</b>	<b>YES</b>	<b>NO</b>
Parity (Is it your first pregnancy?)	<b>125 (35.0%)</b>	<b>232 (65.0%)</b>

P=0.791

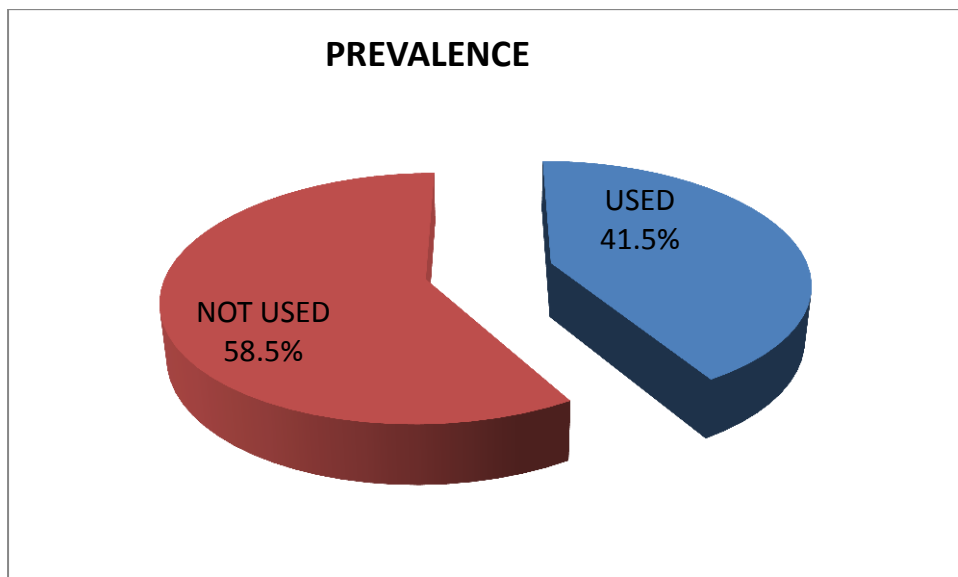
<b>VARIABLE</b>	<b>YES</b>	<b>NO</b>
Any Pregnancy related illness?	<b>117 (32.8%)</b>	<b>240 (67.2%)</b>
Any complications during pregnancy?	<b>73 (20.4%)</b>	<b>284 (79.6)</b>

<b>VARIABLE: Mode of Delivery</b>	<b>NUMBER</b>	<b>PERCENTAGE</b>
Normal vaginal delivery	287	80.4%
Assisted delivery	10	2.8%
Caesarean delivery	60	16.8%

#### 4.4 The prevalence of traditional medicine use during pregnancy

Of the 357 participants, 148 (41.5%) used traditional medicine in the current pregnancy. A higher number of participants, 186(52.1%) had used TM in the previous pregnancy or outside pregnancy.

**Figure 5: Prevalence of traditional medicine use during pregnancy of post-partum women interviewed.**



#### 4.5 Types of traditional medicines used during pregnancy and reasons for use

##### Types:

The most common traditional herbal medicine used by those participants who used TM in the current pregnancy was Isihlambezo (63.6%). Traditional medicines used in pregnancy which may or may not contain herbal plants are shown in Table 2. TM labelled as 'Other' included Isiwasho, dagga water and unknown mixtures.

Table 2: Types of traditional medicines used during pregnancy (n = 148)

VARIABLE		
TYPES OF TM	NUMBER	PERCENTAGE
Isihlambezo	94	63.6%
Umchamo wemfene	29	19.6%
Ostrich egg shell	12	8.1%
Usigidi	12	8.1%
Old record	13	8.7%
Elephant stools	4	2.7%
Imbiza	1	0.7%
Home-made Traditional mixture	1	0.7%
Other	5	3.4%

\*Some users mentioned more than one type of traditional medicine. So the percentage of traditional medicine shown in table 2 is not equal to 100%.

#### Reason for use:

The most common reason mentioned for using traditional medicines during pregnancy was for quick deliveries (43.9%). Other reasons are mentioned in table 3.

Table 3: The reasons for the use of traditional medicine in pregnancy (n =148)

VARIABLE		
REASON FOR USE	NUMBER	PERCENTAGE
Quick Delivery	65	44
Baby to grow well	43	29
Protect baby against witchcraft and evil	24	16.2
Easy delivery	13	8.8
Induce labour	12	8.1
Prevent complications	7	4.7
Decrease swelling & drain water	6	4.0
Safe delivery	3	2.0
Decrease labour pains	3	2.0
Cleanse womb	1	0.7

#### **4.6 Factors associated with the use of traditional medicine in pregnancy**

Associated factors were divided into time in pregnancy when traditional medicine was taken and frequency, source of information, knowledge, and attitude.

#### 4.6.1 Period and frequency of use of traditional medicine in pregnancy

The majority of users (73%) used traditional medicines during the third trimester of pregnancy. 68.2% drank traditional medicine more than ten times.

Table 4: Period and frequency of use of traditional medicine in pregnancy

(n =148)

VARIABLE	NUMBER	PERCENTAGE
<b>Period</b>		
1st trimester	4	2.7%
2nd trimester	16	10.8%
3rd trimester	108	73%
Labour	22	13.5%
<b>Frequency</b>		
1-5	35	23.7%
6-10	12	8.1%
➤ 10	101	68.2%

#### 4.6.2 Source of information on use of traditional medicine in pregnancy

The source for the majority of women during pregnancy was relatives such as their mothers (82.4%).

Table 5: Source of information on use of traditional medicine in pregnancy

VARIABLE	NUMBER	PERCENTAGE
<b>Source of information</b>		
Relative: Grandmother, mother, mother in law.	122	82.4%
Friends	16	10.8%
Other	10	6.8%

#### 4.6.3 Knowledge and perception of use of traditional medicine in pregnancy

Only 9.5% of users said traditional medicine was safer to use in pregnancy than Western medicine. Nearly 42% believed both traditional and Western medicine were equally effective in keeping a woman and her baby healthy during pregnancy because they work differently. The majority of users (71, 6%) believed there could be no harm or complications caused by the use of traditional medicine in pregnancy.

Table 6: Knowledge and Perceptions on use of traditional medicine in pregnancy (n =148)

QUESTION	NUMBER	PERCENTAGE
<b>What do you think of the safety of TM when compared with Western medicine?</b>		
Safer	14	9.5%
Equally safe	43	29.2%
Less safe	48	32.4%
Don't know	43	29%
<b>Which medicine is effective in keeping mother and foetus healthy?</b>		
Traditional	16	10.85%
Western	56	37.8%
Both	62	41.9%
Don't know	13	8.8%
Other	1	0.7%
<b>Could there be harm or complications when using traditional medicine in pregnancy?</b>		
Yes	35	23.7%
No	106	71.6%
Don't know	7	4.7%
<b>Do you think you benefited from using traditional medicine in pregnancy?</b>		
Yes	111	75%
No	37	25%

#### 4.6.4 Attitudes of patients regarding the use of traditional medicine in pregnancy:

Half of the users (50%) said they felt more comfortable to consult a Western health care professional for their pregnancy related problems. The majority of users (79.7%) said it was acceptable to use both Western antenatal care and traditional medicine at the same time. 52.7% of the users would not tell healthcare professionals about using traditional medicine during their current pregnancy. The majority of users (59.9%) were allegedly asked by healthcare professionals if they had used traditional medicine in the current pregnancy. Only 36.5% said they would stop using traditional medicine if told to do so by health care professionals.

Table 7: Attitudes on use of traditional medicine in pregnancy (n =148)

QUESTION	NUMBER	PERCENTAGE
<b>Who would you be most comfortable to consult during pregnancy?</b>		
• Traditional healer	6	4.0%
• Western healthcare professional	74	50%
• Both	66	44.6%
• Other	2	1.4%
<b>Is it acceptable to use TM and use Western ANC at the same time?</b>		
• Yes	118	79.7%
• No	30	20.3%
<b>Would you tell your healthcare professional about use of TM during pregnancy?</b>		
• Yes	70	47.3%
• No	78	52.7%
<b>Has a Western health care professional asked you about use of TM in pregnancy?</b>		
• Yes	214	59.9%
• No	143	40.1%
<b>Would you stop using TM during pregnancy if asked to stop by a health care professional?</b>		
• Yes	54	36.5%
• No	94	63.5%

## **CHAPTER 5**

### **DISCUSSION and CONCLUSION**

#### **5.1 DISCUSSION**

The study confirms the clinical impression that black South African women use traditional medicine (TM) when pregnant. The prevalence of TM use in pregnancy reported by black SA women delivering in B G hospital was 41.5%. This finding is lower than the prevalence found in other studies done in South (SA)<sup>6,32</sup>. However, it is similar to studies done in Nigeria and Tanzania with a prevalence of 43%<sup>23,25</sup>. The lower prevalence was expected because the study was done in an urban area. Most of the research done on the use of traditional medicine in pregnancy in SA showed it is widespread<sup>2-6,31,32</sup>, but most studies focused on Zulu speaking women living in the rural areas of Kwa Zulu-Natal (KZN)<sup>4,5,31</sup>.

Contributing factors to the high use of traditional medicines during pregnancy in rural areas included poverty, inaccessibility of health facilities and not being able to afford Western services<sup>3,22</sup>. Antenatal care (ANC) and maternity services are now free in SA, so accessibility has improved but it is still a problem in some areas especially rural areas. Women that deliver in B G hospital attend ANC in a clinic nearest to their homes and they only go to hospital if referred by HCP or to deliver. Some studies done in urban areas in SA showed a higher prevalence, but they were done before maternity services were rendered free in SA<sup>5,6,32</sup>. Then it was cheaper to buy traditional medicine than to use Western ANC. Other contributing factors to the lower prevalence could be that the participants were from different ethnic groups. Women from different cultural groups may have different patterns of herbal medicine use and this could have influenced the lower prevalence.

Even though the prevalence is lower than most studies done in SA, 41.5 % is still a high figure. The high prevalence of the use of TM in pregnancy in black SA women delivering in BG hospital can be attributed to a strong belief that TM has beneficial effects on pregnancy outcomes and that use of TM in pregnancy is still regarded as part of African culture<sup>1,3,5</sup>. 75% of participants in this study believed they benefited from use of TM in pregnancy. Other contributing factors to this high prevalence could include unrestricted access to TM in SA<sup>2</sup>, traditional medicines used in pregnancy are widely distributed and commercialized and they are easily available<sup>2</sup>. TM can be prescribed by a traditional healer, they are sold by traditional herbalists or they can be bought from traditional chemists or in open herbalist markets<sup>5,36</sup>.

The use of herbal medicines during pregnancy was associated with women over the age of 30 years ( $p$  value  $< 0.05$ ). This finding was similar to a study done in Italy which found that women aged between 30 and 40 constituted the majority that used herbal medication in pregnancy<sup>12</sup>. Studies done in Australia and Norway also showed that older women were more likely to use herbal medicine in pregnancy<sup>11,13</sup>.

Most participants had a secondary level education. The level of education had no influence on the use of herbal medicine in pregnancy. This agrees with findings from a study by Mabina in Durban<sup>31</sup>. In contrast, studies done in Tanzania and Nigeria reported that the number of women using herbal medicine declined with an increasing level of education<sup>9,23</sup>. The reason for this was that educated women are more knowledgeable and they are more likely to do research and analyse issues before using TM. The trend is different in developed countries, where the use of herbal medicine or CAM is associated with highly educated women<sup>11,12</sup>.

The majority of participants that used TM in pregnancy were from the Zulu ethnic group (51%). There was a statistically significant association between use of herbal medicine and belonging to the Zulu ethnic group. These results were in keeping with other reports which found the prevalence of use of TM in pregnancy to be high amongst Zulu speaking women<sup>5,6,31,32</sup>. The minority participants that used TM in pregnancy belonged to Venda, Tsonga, Swati and Ndebele ethnic groups. The researcher could not find any research done on these four ethnic groups. Although they are the minority amongst the black ethnic groups in SA, more research is needed on these other ethnic groups.

In this study, primigravidas women were least likely to use TM in pregnancy. However, no statistically significant association was found between the use of TM in pregnancy and parity ( $p > 0, 05$ ). These findings were similar to studies done by Holst et al and Morris et al which found that parity did not significantly influence use of herbal medicine in pregnancy<sup>13,31</sup>. This was different from a study done in Australia where primiparous patients were more likely to use herbal medicine in pregnancy<sup>11</sup>.

In all the participants, 20.4% reported some form of complication during labour. There was a slight increase in the rate of complications in those that used TM in pregnancy. Amongst the participants that had used TM in pregnancy, 25% had complications and 14.9% delivered by caesarean section, compared to 17.2% and 15.7% in non-users. The complications stated included having prolonged labour, retained placenta, foetal distress and postpartum bleeding. A study by Mabina et al found that the use of TM may have negative effects on the pregnancy outcome. In the study mentioned above, 55.6% of women that used TM in pregnancy had meconium staining of liquor which is an indication of foetal distress, and 38.5% of these women delivered by caesarean section<sup>6</sup>.

The most common traditional herbal medicine used was Isihlambezo (63.6 %). This finding was similar to studies done in South Africa which stated that Isihlambezo is the most common traditional medicine used in pregnancy<sup>2,5,8,36</sup>. Isihlambezo can be made from different ingredients, depending on the prescriber, the ethnic group, the geographical area and the condition of the pregnant women<sup>6,34,36</sup>. A limitation in this study was that further details on the type, the ingredients or on the form of Isihlambezo the women took was not requested. This could have added more information on the various types of Isihlambezo available in the market in and around the Germiston area. Of note is the fact that Isihlambezo was not only used by Zulu or Xhosa women as stated in the literature<sup>34</sup>, but it was also popular in other ethnic groups.

Umchamo wemfene was the second most common TM (19.6%). This traditional medicine is often reported to be used by Xhosa women. In this study 45% of Zulu women used Umchamo wemfene whilst only 32% of Xhosa women used Umchamo wemfene in pregnancy. Isihlambezo and Umchamo wemfene usually perform the same function, so women are advised by the prescriber to use either but not both simultaneously<sup>34</sup>.

Usigidi which is a traditional medicine mixed with mercury was used by 8.1% of participants. This was used mostly to induce labour or it was taken in cases of prolonged labour as reported in other studies<sup>7,34</sup>.

Crushed ostrich eggshell was used by 8.1% of participants; the majority of the users were Tswana women. This was usually taken once to induce labour or accelerate labour. There still is little research on the pharmacological properties of Usigidi and crushed ostrich egg shell.

An interesting finding was that 8.7% of participants drank a solution that was made from breaking an old gramophone record (vinyl record) and boiling it to make the tonic. The women who took this tonic were reluctant to give details about it. They mentioned they took it to either induce or accelerate labour. Only one study was found that mentioned the use of a tonic made from old records as TM in pregnancy<sup>34</sup>. Further research is still needed on these minerals.

The most common reason mentioned for the use of traditional medicine in pregnancy was for a quick delivery (43.9%). These results were similar to studies done in KZN<sup>5,31</sup>. 29.1% of participants used traditional medicine for the baby to grow well and 16.2% used it to protect both mother and baby against witchcraft and evil. This agrees with finding from other SA studies<sup>4,5</sup>.

The majority of women in this study (86.5%) took traditional medicines in the third trimester. This was similar to studies done in Tanzania and Asia<sup>9,19</sup>. Mabina et al reported that some women took TM less than 12 hours before admission to hospital for delivery<sup>6</sup>. Taking herbal medicines during the third trimester may lead to complications like intrauterine growth retardation and foetal distress<sup>1,5</sup>, whilst taking herbal medicines in the first trimester increases the possibility of the foetus having a congenital malformation<sup>9,45</sup>. In this study, 2.7% of patients used TM in the first trimester. Although there is scientific evidence that TM can cause damage to the foetus, of concern is that 71.6% of the women that used TM in this study believed there could be no harm or complications caused by using traditional medicine. This emphasizes the need for health care professionals (HCP) to educate pregnant women on the possible harms of using TM in pregnancy.

Amongst the participants that used TM in pregnancy, 79.9% stated that it was acceptable to use both traditional and Western antenatal care at the same time, because they fulfilled different roles. Western antenatal care (ANC) clinics are run by professionally trained healthcare workers who can diagnose and treat illnesses like hypertension which can be a danger to both mother and foetus. In Western ANC facilities, doctors use advanced technology like sonars to detect foetal problems. However, according to patients, using traditional TM in pregnancy as ANC can protect the foetus from witchcraft and prevent complications like obstructed labour or caesarean section.

The most common sources of knowledge about the use of TM in pregnancy were relatives (82.4%), showing the power of family influence. This finding is similar to other studies which found that older family members were the most common persons who recommended the use of herbal medicines during pregnancy<sup>9,19,34</sup>. In this study, some participants reported that they did not know much about TM in pregnancy but were forced or coerced to take TM by a family member. In a study by Ngubeni, women stated that they were forced by mother in laws to use TM in pregnancy<sup>34</sup>. This showed that there was a need for HCP's to inform pregnant women as well as the general public about the possible dangers of taking TM in pregnancy.

Besides relatives, 10.8% of women reported that it was friends who had recommended its use. Other sources of information included neighbours, women that were co attending ANC clinics and colleagues.

A different finding was reported in studies done in Italy and Asia, which found that it was HCP's that suggested the use of herbal medicines in pregnancy<sup>12,19</sup>. Nearly half of the women

using TM in pregnancy said they would not tell healthcare professionals about having used traditional medicine, even if they had used it. They believed HCP's were against the use of TM and admitting to it would result in them being shouted at or getting bad medical care<sup>2,46</sup>. The negative attitude by HCP's is a concern because in most studies it is mentioned as a common reason for patients not disclosing the use of TM to their HCP's<sup>2,34,46</sup>.

Only 59.9% of the participants that used TM were allegedly asked by a HCP about the use of TM in pregnancy. In a study by Furlow, the majority of women used CAM in pregnancy at their own initiation because their physician never asked about their use of CAM<sup>49</sup>. This supports the suspicion that some HCP's do not ask about use of TM in pregnancy. A concerning fact was that 63.5% of women indicated that they would have continued to use TM in pregnancy even if they were requested to stop by a HCP, because they believe they benefited from using it. This emphasized the importance of giving health education in ANC. This also showed that it is important that HCP's inform pregnant women of the possible dangers of using TM in pregnancy and also to routinely ask about the use of TM in pregnancy.

## **5.2 LIMITATIONS**

Non-randomized convenience sampling was used for the study. This method could have introduced bias in the selection of subjects to be interviewed. Women who were too ill to participate, women who declined to participate (9%), and patients below 18 were excluded. This could have led to over or under reporting in the study.

Conducting interviews in a health care facility could have influenced the decision of women to decline to participate. Some of the women approached were not free to participate because they were aware that the researcher was a health care professional. They may also not been fully honest in their response.

### **5.3 CONCLUSION**

In this study, the prevalence of use of traditional medicine in pregnancy by postpartum women in B G hospital was high (41.5%). The results showed that various types of TM were used in pregnancy. The commonest used TM in pregnancy was Isihlambezo. The commonest indication for use was to ensure quick delivery. The use of traditional medicine was associated with belonging to an older age group and belonging to the Zulu ethnic group. TM is commonly used by black SA women in pregnancy because they value it as important to African culture. Most women who used TM in pregnancy believed that they benefited and they would use TM in future pregnancies.

### **5.4 RECOMMENDATIONS:**

1. The findings of this study should be presented and discussed with healthcare professionals (HCP) working with pregnant women in B G hospital and in other hospitals in Gauteng.
2. Most women in this study were not asked if they used TM in pregnancy by a HCP. It is thus recommended that HCP are trained to routinely ask about the use of TM in pregnancy and inform women of the possible harmful effects that can be caused by using TM in pregnancy.

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## APPENDICES:

### APPENDIX 1

Questionnaire on:

The use of traditional herbal medicine during pregnancy in black South African women delivering in Bertha Gxowa hospital.

Patients Code: ..... Date .....

1. "Do you know what traditional herbal medicine (THM) in pregnancy is used for"?

Yes

No

2. Have you ever used it"?

Yes

No

If you have answered Yes to the above question, please continue to answer the following questions:

#### Section 1

3. AGE: How old are you? .....

4. ETHNICITY: Which ethnic group do you belong to? .....

5. MARITAL STATUS: What is your marital status?

Single

Married

Divorced

Other

6. EDUCATION: What is the highest level of education completed: .....

7. AREA OF RESIDENCE: Where do you stay?

In a Suburb  
Township  
Informal settlement  
Other

8. PARITY: Is it your first pregnancy?

Yes  
No

9. If No, state number.....

10. CONCURRENT DISEASE: Did you have any pregnancy related illnesses or diseases during the recent pregnancy?

YES  
NO

11. If YES, please specify:

Hypertension  
Diabetes Mellitus  
Morning sickness  
Epilepsy  
Other .....(Please specify)

12. DELIVERY: How did you deliver?

Normal vaginal delivery  
Assisted delivery  
Caesarean section

13. Did you experience any complications during labour?

Yes  
No

14. If Yes, please explain further.

Section 2:

In this study, the term THM stands for medicines of plant, animal or mineral origin prepared by traditional healers , which are taken orally, for example ‘Isihlambezo’(a cleansing tonic used in pregnancy), including traditional medicine prepared by relatives – granny, mother in law, etc.

Questions on use:

15. Have you used THM in the current pregnancy?

Yes

No

16. If yes, in which period of pregnancy?

- a) 1<sup>st</sup> trimester (0-3 months)
- b) 2<sup>nd</sup> trimester (4 – 6 months)
- c) 3<sup>rd</sup> trimester (7- 9 months)
- d) In labour
- e) Combination (1<sup>st</sup> trimester and labour etc.)

17. How many times did you use THM during this pregnancy

- a) 1-5
- b) 6-10
- c) 11 or more

18. Could you name THM used during pregnancy and state the reason for use?

Do not give more than 5 answers

NAME OF THM	REASON FOR USE
1)	
2)	
3)	

4)	
5)	

19. Do you think you benefited from using THM during pregnancy?

Yes

No

20. Do you think there could be side effects or complication arising from taking THM during pregnancy?

Yes

No

21. If yes, please elaborate.....

22. Who was your source of information on the use of THM in pregnancy? Or who recommended that you use THM during pregnancy?

a) Relative, please specify, e.g. – grandmother, mother, mother in law.

b) Friends

c) Other, please specify

23. Who would you feel more comfortable to consult with for your pregnancy related problems?

a) Traditional healer

b) Health Care Practitioner (HCP)

c) Both

d) Other.....(please specify)

24. State the reason why?.....

25. Which kind of medicine do you think is most effective in keeping a woman and her baby healthy during pregnancy?

- a) Traditional
- b) Western
- c) Both
- d) Don't know
- e) Other.....(please specify)

26. What do you think about safety of THM compared with Western medicine?

- a) Safer
- b) Equally safe
- c) Less safe
- d) Don't know

27. Is it acceptable to use THM and attend ANC at the same time?

- a) Yes
- b) No

28. Would you tell your HCP about THM use during antenatal visit?

- a) Yes
- b) NO

29. If No, Why?

30. Has a HCP asked you about the use of THM during your ANC visit?

Yes

No

31. What would you do if your HCP asked you to stop using THM during pregnancy?

.....

## APPENDIX 2

### INFORMATION SHEET:

Good Day,

I am Gugu Mkize; I am A Family Medicine registrar at the University of Witwatersrand (Wits) medical school. I am doing research on the use of traditional medicine (TM) in pregnancy for my Masters degree. In this study, the term TM stands for medicines of plant, animal or mineral origin prepared by traditional healers , which are taken orally, for example 'Isihlambezo'(a cleansing tonic used in pregnancy).

I would be grateful if you would consider participating in this work.

**Why am I doing this?** A few studies done in SA show that the use of TM in pregnancy is widespread amongst black women, yet information on the benefits or harms of its use is scanty. The reason for this research is to see if pregnant women in Bertha Gxowa (B G) hospital use TM in pregnancy, and to establish the reason for use, also to establish the common THM used.

**What do we expect from the participants?** You are recruited to participate in the study because you are black SA women that have delivered in B G hospital. All the SA born black women who delivered in B G hospital during the time of the study have been invited to participate.

A set of questions will be asked by the researcher. The first section will comprise of questions about your socio demographic data (e.g. age, race, ethnicity, education, marital status) and obstetric factors (e.g. parity, type of delivery, pregnancy outcome). The second section will comprise of questions about the use of THM outside or in previous pregnancy, the use of THM during the current pregnancy, the timing of administration, the type used, the reason for use and the source of information. All completed questionnaires will be stored in a safe place for data capturing and analysis. After analysis the results will form part of the research report that will be submitted to the Department of Family Medicine at Wits.

**Are there benefits to the participants?** Yes. Information from this study will help health care practitioners (HCP) in B G hospital to have a better understanding of the role of TM in pregnancy. Consequently, HCP will be able to ask relevant question regarding use of TM and then provide relevant health education.

**May I withdraw from the study?** Yes. You may do this at any time without having any reason to do so. The study is completely voluntary; there are no penalties of any sort if you decide to withdraw or not to take part.

**What about confidentiality?** Codes instead of names will be used on results, so confidentiality will be maintained.

If you are happy to take part in the study, please read and sign the attached consent form.

Thank you

Dr Gugu Mkize

## APPENDIX 3

### INFORMED CONSENT:

I hereby confirm that the researcher has given me all the information on this study to my satisfaction. I understand the purpose of the study, the procedures involved, risks and benefits and my rights as a participant in this study.

I have received the information leaflet about this study, had enough time to read the information and asked questions on points that needed clarification. Any questions that I had have been answered to my satisfaction.

I have been assured that any information that I give will be confidential and that the information will be anonymously developed into a research report that may be published. I am aware that the report and any publications from it will be shared with the Wits University, my supervisors and the departmental management. The researcher will keep me informed on the progress of the research if I wish to know.

I am aware that I can withdraw my participation from this study at any time and I willingly give my consent to participate in the study.

Participants Name (Print).....

Participants Signature .....

Researcher's name (Print).....

Researcher's signature.....

## APPENDIX 4

### Table of Hypothesis (p value)

**AGE: How old are you? (Binned) \* Have you used THM in the current pregnancy?**

Count

		Have you used THM in the current pregnancy?		Total
		Yes	No	
AGE: How old are you? (Binned)	<= 18	5	7	12
	19 - 24	37	56	93
	25 - 30	37	63	100
	31 - 35	42	71	113
	36+	27	12	39
Total		148	209	357

#### Model Fitting Information

Model	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	51.242			
Final	37.186	14.055	4	.007

**ETHNICITY: Which ethnic group do you belong to? \* Have you used THM in the current pregnancy?**

Count

		Have you used THM in the current pregnancy?		Total
		Yes	No	
ETHNICITY: Which ethnic group do you belong to?	Zulu	76	83	159
	Xhosa	20	20	40
	Tswana	5	20	25
	Sotho	20	21	41
	Pedi	5	26	31
	Ndebele	7	13	20
	Tsonga	5	13	18
	Swati	7	8	15
	Venda	3	5	8
Total		148	209	357

**Model Fitting Information**

Model	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	53.841			
Final	32.679	21.162	8	.007

**MARITAL STATUS: What is your marital status? \* Have you used THM in the current pregnancy?**

Count

		Have you used THM in the current pregnancy?		Total
		Yes	No	
MARITAL STATUS: What is your marital status?	Single	68	128	196
	Married	58	64	122
	Divorced	4	2	6
	Other	18	15	33
Total		148	209	357

**Model Fitting Information**

Model	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	26.508			
Final	17.069	9.439	3	.024

**EDUCATION: What is the highest level of education completed: \* Have you used THM in the current pregnancy?**

Count

		Have you used THM in the current pregnancy?		Total
		Yes	No	
EDUCATION: What is the highest level of education completed:	1	0	3	3
	4	1	2	3
	6	1	3	4
	7	4	7	11
	8	8	6	14
	9	6	5	11
	10	24	23	47
	11	32	38	70
	12	59	97	156
	13	13	25	38
Total		148	209	357

Likelihood Ratio Tests

Effect	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood of Reduced Model	Chi-Square	df	Sig.
Intercept	30.619 <sup>a</sup>	.000	0	.
Education	40.638	10.019	9	.349

PARITY: Is it your first pregnancy? \* Have you used THM in the current pregnancy?

Count

		Have you used THM in the current pregnancy?		Total
		Yes	No	
PARITY: Is it your first pregnancy?	Yes	53	72	125
	No	95	137	232
Total		148	209	357

Likelihood Ratio Tests

Effect	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood of Reduced Model	Chi-Square	df	Sig.
Intercept	11.128 <sup>a</sup>	.000	0	.
Parity	11.198			.791

		PARITY: Is it your first pregnancy?		Total
		Yes	No	
Have you used THM in the current pregnancy?	Yes	53	95	148
	No	72	137	209

	Value	95% Confidence Interval	
		Lower	Upper
Odds Ratio	1.062	0.683	1.650

## APPENDIX 5

Permission from district:



**health and  
social development**

Department: Health and Social Development  
**GAUTENG PROVINCE**

Enquiries: Mrs. M. C. Mndaweni  
Tel no: 011 – 345 – 1267/69  
Fax no: 011 825 - 5425  
E-mail: ChristinaMn@gpg.gov.za  
01 June 2011

To Whom It May Concern

**RESEARCH PROJECT: TRADITIONAL HERBAL  
MEDICINE IN PREGNANCY - DR. G. MKIZE**

Permission is hereby granted for Dr. G. Mkhize to do a Study on  
Traditional Herbal Medicine in Pregnancy at Germiston Hospital.

The Ekurhuleni Ethics Committee will give the ethical clearance  
for this study.

Kind regards

Mrs. M. C. Mndaweni  
Chief Executive Officer

## APPENDIX 6

### Ethical Clearance:

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG  
Division of the Deputy Registrar (Research)

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)  
R14/49 Dr GT Mkize

CLEARANCE CERTIFICATE

M110616

PROJECT

A Survey of the use of Traditional Herbal Medicine  
during Pregnancy in Black South African Women  
Delivering in Germiston Hospital

INVESTIGATORS

Dr GT Mkize.

DEPARTMENT

Department of Family Medicine

DATE CONSIDERED

24/06/2011

DECISION OF THE COMMITTEE\*

Approved unconditionally

Unless otherwise specified this ethical clearance is valid for 5 years and may be renewed upon application.

DATE

29/09/2011

CHAIRPERSON

  
(Professor PE Cleaton-Jones)

\*Guidelines for written 'informed consent' attached where applicable  
cc: Supervisor : Prof Ian Couper

DECLARATION OF INVESTIGATOR(S)

To be completed in duplicate and ONE COPY returned to the Secretary at Room 10004, 10th Floor, Senate House, University.

I/We fully understand the conditions under which I am/we are authorized to carry out the abovementioned research and I/we guarantee to ensure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I/we undertake to resubmit the protocol to the Committee. I agree to a completion of a yearly progress report.

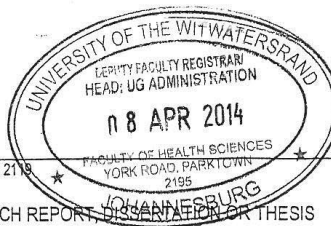
PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES...

## APPENDIX 7

### Approval of change of title:

Postgraduate Office, Faculty of Health Sciences

Wits Medical School, 7 York Road, PARKTOWN, 2193, Johannesburg • Tel: (011) 717 2000 • Fax: (011) 717 2119



#### APPLICATION FOR CHANGE OF TITLE OF APPROVED RESEARCH REPORT, DISSERTATION OR THESIS

Motivation / Reason for title change:

Initially the researcher wanted to do a survey on the use of traditional medicine by pregnant women, but later changed and added other factors. The researcher changed the study from a survey to a cross sectional study. The name of the hospital where the study was changed from Germiston Hospital to Bertha Gxowa Hospital.

Recommendation of Department / School:

The change is recommended because it is more specific to the topic and reflects the current name of the hospital.

Student Surname and Initials: MLIZE G-T Student Number: 344070

Degree: M. Med - Family Medicine

Department: Family Medicine Telephone: 011 782 2859 E-mail: gugumize@live.co.za

Previous Title: A survey on the use of traditional herbal medicine during pregnancy in Black South African women delivering in Germiston Hospital.

New Title: An assessment of use of traditional medicine in pregnancy and associated factor among black South African women delivering in Bertha Gxowa Hospital.

Supervisor/s: IAN COOPER

Departments: Family Medicine

Supervisor/s Telephone: X72602

Supervisor/s E-mail: ian.cooper@wits.ac.za

Signatures of Student: [Signature] Supervisor 1: [Signature] Supervisor 2: \_\_\_\_\_

\*HEAD OF DEPARTMENT / HEAD OF SCHOOL: (Where the HOD is Supervisor, the HOS must sign)

PROF. LUKHELE M.  
(Surname and Initials)

(Signature)

28/02/2014  
(Date)

DECISION OF CHAIR OF THE PG COMMITTEE:

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

