

IDENTIFYING PROMOTERS AND REASONS FOR MEDICINAL HERB USAGE DURING PREGNANCY IN MASERU, LESOTHO

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Africa Journal of Nursing and Midwifery
Volume 17 | Number 1 | 2015
pp. 4–16

Print ISSN 1682-5055

ABSTRACT

Lesotho has one of the highest maternal mortality ratios in Southern Africa. Notwithstanding the efforts to reduce maternal deaths in Lesotho, unsafe use of medicinal herbs during pregnancy remains a threat to achieving that goal. This study assessed the reasons and promoters of medicinal herb usage during pregnancy in Maseru, Lesotho, with the aim of establishing a baseline for intervention. This was a semi-structured questionnaire-based cross-sectional quantitative study on 72 purposively sampled pregnant women who attended antenatal care at one referral district hospital in Maseru District between March and April 2014. Overall, 34 (47.2%, n=72) women conceded use of herbs during pregnancy. The majority (52.9%) of the participants had no specific reasons for using the herbs except as a tradition. Besides unspecified reasons, three (8.8%, n=34) women cited prevention of placenta praevia, while leucorrhoea of pregnancy, prevention of abortion and promoting foetal growth were each cited by two women (5.9%) as the main reasons for using herbs. By proportion of pregnant women, grandmothers (52.9%), traditional healers (26.5%), mothers-in-law (14.7%) and traditional birth attendants (5.9%) were cited as the major promoters and providers of traditional herbs. Use of herbs was not significantly associated with age ($p=0.233$), marital status ($p=0.113$), literacy level ($p=0.719$), previous loss of pregnancy ($p=0.490$), *parity* ($p=0.147$) and *gravidity* ($p=0.234$). Grandmothers, traditional healers, mothers-in-law and traditional birth attendants (TBAs) are the main promoters of herb use during pregnancy. There is need to incorporate information on potential dangers of using medicinal herbs during pregnancy into the training curriculum for TBAs and midwives. Further qualitative research is necessary to unveil the precise cultural reasons for using herbs.

Keywords: Lesotho, Maseru, medicinal herbs, pregnancy, promoter, purpose

INTRODUCTION

The use of traditional medicine is common in African settings, including the use of medicinal herbs during pregnancy. Some of the reasons for using medicinal herbs during pregnancy include inducing labour, reducing pain during delivery and expelling the placenta after birth (Abasiubong, Bassey, Udobang, Akinbami, Udoh & Idung, 2012:3; Mothupi, 2014:433). Cultural beliefs and practices associated with the use of herbs during pregnancy are important determinants of maternal death during pregnancy in many African countries, including Lesotho (Ngomane & Mulaudzi, 2012:30–31).

Reducing maternal death during pregnancy and delivery is one of the Millennium Development Goals (MDGs) adopted by the Government of Lesotho (G.O.L.) (G.O.L., 2013:16–19). Lesotho is a small landlocked country completely surrounded by its only neighbour, South Africa. Maseru is one of the 10 administrative districts in the country. Like other developing countries, Lesotho has not made much progress towards achieving MDG 5, to improve maternal health (Satti, Motsamai, Chetane, Marumo, Barry, Riley,

McLaughlin, Seung & Mukherjee, 2012:1). Lesotho has one of the highest maternal mortality ratios in Southern Africa. Available data shows that the maternal mortality ratio increased from 762 deaths per 100 000 live births in 2004 to 1 155 deaths per 100 000 live births in 2009 (G.O.L., 2013:17). There was, however, a slight decline to 1 143 per 100 000 live births in 2011. The global target is set at 90 per 100 000 live births. To address the problem of maternal death, the Government of Lesotho, in collaboration with donor agencies such as Nursing Education Partnership Initiative (NEPI), in 2011 started training more midwives and traditional birth attendants (Middleton, Howard, Dohrn, Von Zinkernagel, Parham Hopson, Aranda-Naranjo, Hall, Malata, Bvumbwe, Chabela, Molise & El-Sadr, 2014:S24).

Since 2009, traditional birth attendants in Lesotho receive formal training, which covers specific topics of maternal health (Satti et al., 2012:2). The curriculum used for the training is known as Partners In Health (PIH) standard community health worker curriculum and covers a wide range of midwifery topics. However, the curriculum does not include information on the benefits and possible dangers of herb usage during pregnancy.

Notwithstanding the gains made towards reducing maternal deaths in Lesotho, unsafe use of medicinal herbs during pregnancy remains a threat to the goal of reducing maternal deaths. One author observes that unsafe use of medicinal herbs during pregnancy needs to be addressed to reduce maternal death (Mothupi, 2014:432).

The main drivers of the use of herbs in African settings include cultural practices enforced by elderly family members such as mothers-in-law and grandmothers, who tend to prefer herbs to clinical remedies. Traditional birth attendants and traditional healers also commonly prefer to administer herbal and clinical medicines concurrently to pregnant women (Ngomane & Mulaudzi, 2012:34).

Various medicinal plants, including some that are potentially toxic, are used during pregnancy in African communities. For example, *Clivia miniata*, *Bowiea volubilis* and *Combretum erythrophyllum* are used during pregnancy and yet are considered potentially toxic (Abdillahi & Van Staden, 2013:597–598). In addition, *Ledebouria marginata* (*Bokhoe* in vernacular) is used in Lesotho and South Africa for soothing pain in the fourth month of pregnancy (Bolofofor & Johnson, 1988:125). *Pentanisia prunelloides* (*Setima-mollo* in vernacular) is also used in Lesotho to facilitate childbirth and expulsion of the placenta (Moteetee & van Wyk, 2011:224). The continued use of these herbs suggests that they are perceived to be effective. Traditional birth attendants often provide the herbs to their clients in the belief that they are effective.

However, concurrent use of herbs and clinical drugs during pregnancy is not without dangers, and may need to be administered with caution since most herbs have not been clinically tested. Some herbs are poisonous, while others are known to interfere with the normal physiology of pregnancy and labour resulting in complications during delivery (Abdillahi & Van Staden, 2013:597–598). Herbs may potentiate or suppress the effect of oxytocin (Gharib, Mazlomi, Goshaiesh, Vakilzadeh & Heidari, 2010:133). Concurrent use of herbs and antiretroviral (ARV) drugs during pregnancy is common in

southern African countries, given the high prevalence of HIV in the region. Some herbs interfere with drug metabolic pathways such as the cytochrome P450 system, resulting in decreased plasma levels of some drugs to toxic levels (Izzo, 2011:405). For example, *Sutherlandia frutescens*, which contains a chemical known as L-Canavanine, was found to significantly decrease nevirapine levels when used during pregnancy (Cordier & Steenkamp, 2011:57).

STATEMENT OF THE RESEARCH PROBLEM

Most health ministries and governments in African countries, including Lesotho, are silent regarding the use of herbs during pregnancy because of a lack of clear policies and guidelines secondary to the absence of scientific evidence to their effectiveness or dangers. In addition, information on factors that promote herb usage during pregnancy is lacking in most African countries. Moreover, the training curricula for traditional birth attendants and midwives often lack information that sensitises them to the use of herbs during pregnancy. As a result, the use of these herbs is usually not reported to the clinicians, including midwives and doctors, thereby contributing to high maternal mortality ratios. Moreover, those who reveal use of the herbs often do not reveal the nature of the herbs. Consequently, documentation of the use of these herbs in the context of Lesotho is minimal, making it difficult for health care providers to intervene.

RESEARCH QUESTIONS

1. To what extent are medicinal herbs used during pregnancy in Lesotho?
2. What are the reasons and promoters of medicinal herb usage during pregnancy in Lesotho?
3. Who are responsible for providing medicinal herbs used during pregnancy in Lesotho?

STUDY OBJECTIVES AND PURPOSE

This study investigated the reasons and the promoters of medicinal herb usage during pregnancy as well as factors that influence their use. The purpose of the study was to provide the training curriculum for traditional birth attendants and midwives in Lesotho with valuable information on the main reasons why some women use medicinal herbs during pregnancy and who the providers of the herbs are.

DEFINITIONS OF KEY WORDS

Abortion refers to the expulsion of a foetus from the womb by natural causes or deliberately before it is able to survive independently (Merriam-Webster Online Dictionary, 2014).

Grandmother refers to the mother of one's father or mother (Oxford English Online Dictionary, 2015).

Gravida refers to a woman's status regarding pregnancy and is usually followed by a number designating the number of times the woman has been pregnant (Merriam-Webster Online Dictionary, 2014).

Labour refers to the process of childbirth from the start of uterine contractions to delivery (Merriam-Webster Online Dictionary, 2014).

Leucorrhoea of pregnancy refers to odourless vaginal discharge caused by increased blood flow to the vagina during pregnancy and may be mistaken for sexually transmitted infections (Merriam-Webster Online Dictionary, 2014).

A **medicinal herb** refers to a plant with seeds, berries, roots, leaves, bark, or flowers that have medicinal properties (Ubani, 2011:2).

A **midwife** is a person who is trained to assist women in childbirth (Merriam-Webster Online Dictionary, 2014).

Mother-in-law in this article refers to the mother of a married woman's husband. However, in general, the term mother-in-law refers the mother of one's husband or wife (Oxford English Online Dictionary, 2015).

Parity refers to the number of times a female has had pregnancies lasting for more than 20-weeks, including stillbirths. Pregnancies consisting of multiples, such as twins or triplets, count as *one* birth (Merriam-Webster Online Dictionary, 2014).

Placenta praevia refers to improper implantation of the placenta near the uterine cervix, which is usually associated with severe maternal haemorrhage during labour (Merriam-Webster Online Dictionary, 2014).

Pregnancy refers to the condition or period usually spanning nine months or 36 weeks of foetal development (Merriam-Webster Online Dictionary, 2014).

Promoter refers to a supporter of a cause or aim (Oxford English Online Dictionary, 2015).

A **traditional birth attendant** (TBA), also known as a traditional midwife, community midwife, is usually a woman who provides care during pregnancy and childbirth in specific communities in some developing countries. TBAs are regarded as lay midwives because they are usually not formally trained (Ngomane & Mulaudzi, 2012:30).

Traditional healers are practitioners of traditional medicine in specific communities who use vegetable, animal and mineral substances to provide health care (Elujoba, Odeleye & Ogunyemi, 2005:48).

METHODS

Study setting and sampling

The study was conducted at one referral district hospital in Maseru District, Lesotho. This referral hospital serves Maseru District, which has a population of about 430 000 people. Maseru District constitutes about 22.9% of Lesotho's population (Bureau of Statistics, 2006:2). On average, about 50 pregnant women attend antenatal care at the hospital per month.

Study design and data collection

This was a cross-sectional quantitative study on pregnant women who attended antenatal care (ANC) at one referral district hospital in Maseru, Lesotho, between March and April 2014 and were willing to participate in the study.

The study used purposive sampling. The sample size was calculated assuming a target population size of 100 over two months, a 5% error margin at a 95% confidence interval, and assuming a response rate of 50%. The calculated minimum sample size required was 80 (Raosoft, 2014). However, the questionnaire was administered to a total of 72 pregnant women who consented to participate in the study over the two months.

The data were obtained by means of a semi-structured questionnaire that was designed by the researchers and translated to the vernacular language (Sotho). The questionnaire was pilot tested with 10 pregnant women who attended antenatal care at another hospital in Maseru District in Lesotho. These 10 women were not part of the 72 women sampled for the study.

The research protocol was approved on the 10th of January 2014 by the Ministry of Health of Lesotho (File number: ID145-2013). Permission to conduct the study was obtained from the relevant hospital authority. The respondents were provided with information on the background of the study. The respondents were also informed that their participation was voluntary, they could decline to answer certain questions and that they could withdraw their participation at any time. No information on respondents' identities was collected. In addition, confidentiality of their information was also

assured. Subsequently, each respondent signed a written consent form and was asked to complete a predesigned questionnaire in privacy.

The questionnaire collected information, including demographic data, herbs used, source of herbs, trimester when herbs were used and the reasons for using the herbs.

Data analysis

Data was analysed using the statistics program, STATA[®] version 12 (StataCorp, Texas, USA). The proportion of pregnant women using herbs was calculated and the respondents' characteristics associated with the usage of herbs were determined. Tests of association between use of herbs and categorical demographic variables such as marital status, level of education and literacy level were performed using Fischer's exact test. Variables such as age, number of pregnancies (gravida) as well as the number of children (parity) were tested for association with the use of herbs using *t*-test.

ANAYSIS

Demographic characteristics of the pregnant women

The ages of the 72 respondents who attended ANC ranged from 15 to 40 with a median age of 24 (Interquartile range (IQR): 19–27). Thus the participants' ages were skewed towards the younger age groups with the 15–18 (22.2%), 22–24 (19.4%) and the 25–27 (22.2%) age groups being the largest groups attending the ANC in this population.

Overall, 80.6% (n=58) women were married and 13.9% (n=10) were single. One woman (1.4%) was widowed, two (2.8%) were separated and one (1.4%) was divorced.

When literacy level was considered, 58.3% (n=42) of the women had primary school education, 40.3% (n=29) had secondary education and 1.4% (n=1) had tertiary education. The number of pregnancies experienced by respondents (gravida) ranged from one to six. However, 36.1% (n=26) women were pregnant for the first time, followed by 26.4% (n=19) who were pregnant for the second time, and 18.1% (n=13) pregnant for the third time. Only 19.4% (n=14) women were pregnant for the fourth time or more.

When parity or the number of children alive was considered, 41.7% (n=30) women indicated that they had no children alive. About 31.9% (n=23) had one child and 13.9% women (n=10) had two children alive. Only 12.5% (n=9) women had 3 or more children alive. The ratio of the number of pregnancies to the number of children alive (gravida to parity ratio) indicated that 63.9% (n=46) of the women had lost at least one pregnancy and only 36.1% (n=26) had not lost any pregnancy.

Use of herbs

Overall, 47.2% (n=34) women conceded use of herbs at least once during pregnancy. Fifty percent (50.0%) (n=17) women used herbs in the second trimester and 29.4% (n=10) in the first trimester. Only 20.6% (n=7) of the women used herbs in the third trimester.

Figure 1 presents the reasons for herb use by the 34 women who indicated that they used herbs during pregnancy. Of the 34 women who used the herbs, 55.9% (n=19) women did not specify any reason why they used herbs, beside cultural practices.

Alongside unspecified reasons, 8.8% (n=3) women cited prevention of placenta *praevia*, while *leucorrhoea* of pregnancy, prevention of abortion and promoting foetal growth were each cited by 5.9% (n=2) women as the main reasons for using herbs. Other reasons mentioned include oedema, spiritual cleansing and relief of labour. Names of herbs used by women, parts of plants used and uses of the herbs are presented in table 1.

Pregnant women's own grandmothers provided herbs to 52.9% (n=18) women. Traditional healers provided herbs to 26.5% (n=9) pregnant women. Mothers-in law supplied herbs to 14.7% (n=9) of the women, while traditional birth attendants (TBA) provided herbs to 5.9% (n=2) of the women.

Use of herbs was not significantly influenced by age (p=0.233), marital status (p=0.113), literacy level (p= 0.719) and previous loss of pregnancy (p=0.490). Parity (p=0.147) and gravida (p=0.234) were also not significantly associated with use of herbs during pregnancy.

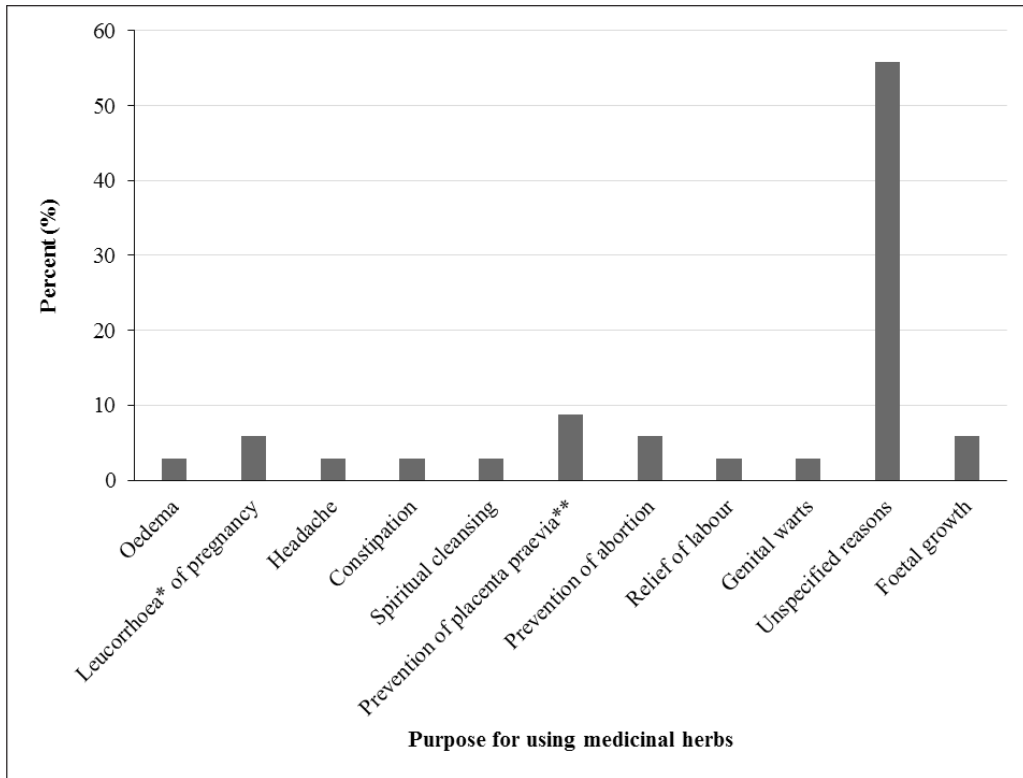


Figure 1: Reasons for using medicinal herbs during pregnancy

Table 1: Names of herbs used during pregnancy and their uses

Vernacular name	Botanical name	Part of plant used	Purpose for use of herbs
Qobo	<i>Gunnera perpensa</i>	root bulb	Relieves labour pains
Setima-mollo	<i>Pentanisia prunelloides</i>	tubular roots	Prevents placenta praevia
Seletjane	<i>Hermannia depressa</i>	roots	Soothes painful waist, prevent placenta praevia
Mohalalitoe	<i>Zantedeschia albomaculata</i>	root bulb	Prevents abortion
Mathethebane	<i>Eucomio autumnalis</i>	tubular	Relieves labour pains, treat leucorrhoea of pregnancy
Hoonya	<i>Dicoma anomala</i>	tubular	Treats headache; constipation
Bohome bo boputsoa*	-	Leaves, roots	Promotes foetal growth
Bokhoe	<i>Ledebouria marginata</i>	root bulb	Soothes painful waist and treat leucorrhoea of pregnancy and genital warts

*Botanical name unknown

DISCUSSION

The proportion (47.2%, n=72) of women using herbs during pregnancy in this study was comparable to the findings in Zimbabwe where 52% (n=248) participants were using medicinal herbs during pregnancy (Mureyi, Monera & Maponga, 2012:166).

About 55.9% of the women who used herbs in this study did not specify any reason why they used them, beside cultural practices. This highlights the role played by culture and tradition in influencing the use of herbs during pregnancy. Grandmothers, village traditional healers and mothers-in-law emerged as the main promoters of using medicinal herbs during pregnancy. Apparently, these groups of people are culturally expected to take care of pregnant women and assist during delivery. The influence of the elderly women and traditional healers was also reported in Zimbabwe where parents and elderly relatives as well as traditional birth attendants were found to have the most influence on younger generations of pregnant women with respect to pregnancy safety (Mureyi et al., 2012:166). Another study in Malawi highlighted that traditional birth attendants have an influence on pregnancy safety in local communities (Chen, Wang, Ward, Chan, Chen, Chiang, Kolola-Dzimadzi, Nyasulu & Yu, 2011:649). This indicates that elderly women as well as traditional healers have profound influence on pregnant women and therefore, there is a need to educate the elderly such as grandmothers on the safe use of herbs. Pregnant women's own mothers were not cited as providers or promoters of

herb use in this study. This indicates that mothers-in-law play a more important role in promoting and providing herbs to their married daughters in this population compared with biological mothers. A study in Lesotho found that, during pregnancy, married women are more influenced by their mothers-in-law compared with the influence they get from their biological mothers (Phafoli, Van Aswegen & Alberts, 2007:17f).

Traditional birth attendants also provided herbs to 5.9% of the women in the current study. This highlights the need to incorporate indigenous beliefs and practices into the training curriculum for traditional birth attendants and professional midwives to increase awareness of the safe usage of medicinal herbs during pregnancy.

In 55.9% of the cases, elderly women provided herbs to pregnant women without giving full information about the herbs. Seemingly, the promoters of the practice are reluctant to divulge such information in preservation of their secrets about medicinal herbs. This highlights the possible dangers pregnant women are exposed to in such cases. For example, medicinal herbs may potentiate or suppress the effect of oxytocin, resulting in labour complications (Gharib et al., 2010:133). In addition, medicinal herbs have been reported to interact with ARVs in HIV-positive pregnant women, resulting in drug toxicity (Cordier & Steenkamp, 2011:57).

In this study, herb usage by pregnant women was not influenced by age ($p=0.233$), parity ($p=0.147$) and gravida ($p=0.234$). Moreover, marital status ($p=0.113$), literacy level ($p=0.719$) and previous loss of pregnancy ($p=0.490$) were also not significantly associated with medicinal herb usage by pregnant women. This implies that the main reason for the use of herbs during pregnancy is cultural norms.

LIMITATIONS OF THE STUDY

One limitation of this study was that it was conducted in only one district of Lesotho. In addition, the study did not have a mechanism for controlling confounding variables that may influence use of herbs during pregnancy. However, this study highlights the extent to which cultural norms associated with the use of herbs during pregnancy may be affecting maternal-child health in Lesotho.

CONCLUSION

A high proportion of women in Maseru District of Lesotho use herbs during pregnancy, despite the dangers posed by the herbs. Herb usage by pregnant women is independent of age, marital status, literacy level and previous loss of pregnancy. The majority of the pregnant women use herbs for no apparent reason, but just as a tradition or custom enforced by their elders. Apparently, the suppliers of the herbs deliberately withhold such information from the users in an effort to preserve their secret information on medicinal herbs. Grandmothers, village traditional healers, mothers-in-law and traditional birth attendants are the main promoters of herb use during pregnancy.

RECOMMENDATIONS

There is a need to incorporate information on cultural beliefs and practices into the training curriculum for traditional birth attendants and professional midwives to increase awareness of such practices and the dangers of using herbs during pregnancy. Further qualitative research is necessary to unveil the precise cultural reasons for using herbs, possibly from the identified promoters of the practice.

ACKNOWLEDGEMENTS

The authors would like to thank the Ministry of Health of Lesotho and the hospital authority for authorising the study.

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