REVIEW ARTICLE

South African women's use of African traditional medicine during pregnancy: A scoping review

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Abstract

In South Africa, about 72% of black South Africans are said to rely on traditional medicine. This contributes to a high prevalence of traditional medicine (TM) used by women during pregnancy, especially in rural areas. This paper explored literature knowledge on the use and reasons of using African traditional medicine in pregnant women who reside in South Africa. This was a scoping review search conducted in October 2021. The search was done with the aid of PubMed, Science Direct, JSTOR and EBSCOHost. This study included only studies on pregnant women's use of traditional African medicine, conducted in South Africa which were published between 2011 and 2021, written in English. Six studies were found to be relevant to the phenomenon. Lack of research and regular health education on the safety and efficacy of traditional medicine during pregnancy is a major cause of traditional medicine induced pregnancy-related complications in South Africa. *(Afr J Reprod Health 2023; 27 [11]: 91-98).*

Keywords: Pregnant women; traditional medicine; herbal medicine; herbal remedies; South Africa

En Afrique du Sud, environ 72 % des Sud-Africains noirs auraient recours à la médecine traditionnelle. Cela contribue à une forte prévalence de la médecine traditionnelle (MT) utilisée par les femmes pendant la grossesse, en particulier dans les zones rurales. Cet article a exploré les connaissances documentaires sur l'utilisation et les raisons de l'utilisation de la médecine traditionnelle africaine chez les femmes enceintes résidant en Afrique du Sud. Il s'agit d'une recherche d'examen exploratoire menée en octobre 2021. La recherche a été effectuée avec l'aide de PubMed, Science Direct, JSTOR et EBSCOHost. Cette étude comprenait uniquement des études sur l'utilisation de la médecine traditionnelle africaine par les femmes enceintes, menées en Afrique du Sud et publiées entre 2011 et 2021, rédigées en anglais. Six études se sont révélées pertinentes pour le phénomène. Le manque de recherche et d'éducation sanitaire régulière sur la sécurité et l'efficacité de la médecine traditionnelle pendant la grossesse est une cause majeure des complications liées à la grossesse induites par la médecine traditionnelle en Afrique du Sud. *(Afr J Reprod Health 2023; 27 [11]: 91-98).*

Mots-clés: Femmes enceintes; médecine traditionnelle; phytothérapie; remèdes à base de plantes; Afrique du Sud

Introduction

There are increased pregnancy-related complications such as excessive uterine contractions, foetal distress, and or high rate of caesarean deliveries as well as abortions which are associated with the use of traditional medicine in South Africa, particularly in rural areas[1-5]. Just like any other pregnancy-related complication, these can be fatal or can cause life-long damage to the mother and the child[6]. Currently, strategies that are available worldwide aimed in curbing maternal mortality and complications amongst pregnant women do not take into account traditional medicine utilization and its complications[6]. Statistically, about 72% of black South Africans rely on traditional medicine, and the use varies from 2-100% in Africa as a continent[1-3]. Generally, the use of traditional medicine in pregnancy is perceived as naturally safe, culturally accepted, and is regarded as a complementary alternative to Western medicine in most part of Africa[4,5]. The South African perspective study conducted in 2013 showed that about 20 plant species are used to make traditional medicine during pregnancy[7]. The type of traditional medicine used depends mainly on the traditional healer or traditional health practitioner consulted, well-being of the woman and geographical location [5]. According to the South African traditional health practitioner's act, traditional health practitioners are divided into herbalists (*Izinyanga or amaxhwele*), diviners (*izangoma, amagqirha or umthandazi*) and traditional surgeons (*ingcibi*)[8]. In South Africa,

older women (age 50 and above) are found to be more knowledgeable about the use of traditional medicine in pregnancy as compared to Zambia and Nigeria[5]. There is no clear evidence from the literature into why pregnant women continue to use African traditional medicine despite the dangers associated with it. The belief of Southern African people in their ancestors drive the common use of traditional medicine[3].

Traditional health practitioners such as herbalists and diviners are the most known influencers of traditional medicine use in South Africa; however, friends, , parents, grandparents, and relatives are now also sources of information for traditional medicine[1-3]. Based on the few studies conducted in South Africa, particularly in KZN, the most used traditional medicine during pregnancy were *isihlambezo* (herbal decoction) and *umchamo wemfene* (a traditional medicine, consisting of salt-like substances)[1-5]. Although the use of traditional medicine during pregnancy in South Africa is evident, the prescription is not scientifically regulated[3]. In the South African context, most evidence has described traditional medicine as unscientific and irrational, thus, making it difficult to study its safety and efficacy[3,4].

The available literature on South African studies mostly reports on the prevalence of traditional medicine usage amongst pregnant women. There is lack of information, however, on why pregnant women use African traditional medicine. This scoping review was set out to achieve the following objective:

To explore literature knowledge on the use and reasons for using African traditional medicine in pregnant women who reside in South Africa.

Methods

This scoping review followed a methodological framework set out by Arksey and O'Malley[9] including Population, Intervention, Context (PICo) search strategy tool. The review followed a 5-step process of conducting scoping review as outlined by Arksey and O'Malley[9] The steps are as follows: 1) Identifying the research question, 2) identifying relevant studies, 3) Study selection, 4) Charting the data, Collating, summarising, and 5) reporting of results.

Identifying the research question

In this step Arksey and O'Malley[9] recommended starting with wide definitions for study Population, Intervention, Context, (PICo) to ensure extensive coverage in the search and then set parameters based on the scope and volume of references generated. Based on the above, the research question for this scoping study was: What is the literature knowledge on why pregnant women in South Africa continue to use African traditional medicine despite availability of data on the dangers associated with it? The key words for this study are shown in Table 1

Identification of relevant studies

A Boolean search was conducted using the following key phrases: "Pregnant women" AND ("African traditional medicine" OR "traditional medicine" OR "herbal medicine" OR "herbal remedies") AND "South Africa". The following search engines were used: PubMed, Science Direct, JSTOR and EBSCOHost. These different search engines were used to ensure best recall, preciseness and ensure that desirable results are obtained during the search process. The inclusion criteria for the identified literature were all articles written in English and relevant to the phenomenon which were published between 2011 and 2021(10 years' time frame).

The literature search for this review consisted of peer reviewed articles. In obtaining the literature, a systematic search of 5 data bases was performed. The results were as follows: Pubmed-1, EBSCOHost-4, Science direct-269 and JSTOR-68. Reference list from the acquired relevant literature was also analysed to identify any relevant literature not included in the original search.

Study selection criteria

This study selection was conducted in October 2021 and was not updated with latest publication thereafter. A ten-year period (2011-2021) was set to capture most recent information around the topic under investigation. To determine the relevance of selected databases, scope of literature covered, and key terms used to search the literature, a systematic

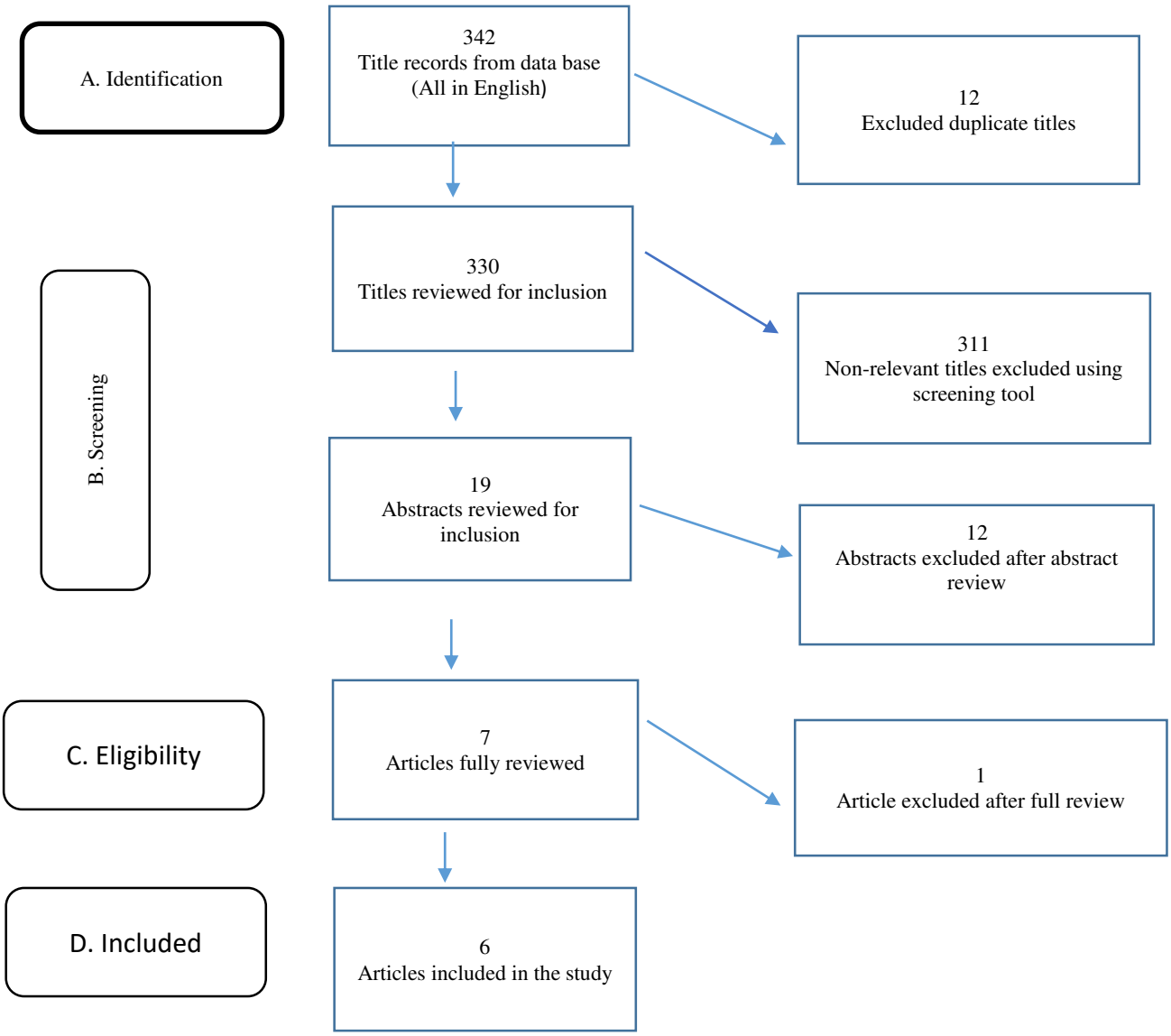

Figure 1: PRISMA flowchart of search process

literature search strategy was first piloted. When conducting the actual study, studies that were found on the different databases during the search process were all uploaded on EndNote 20 reference manager. The selection process was then conducted and all the duplicates as well as those that did not address research question were excluded. The reviewer conducted a systematic screening of titles from the selected databases. The final generated EndNote library with all relevant titles was shared for further independent screening and evaluation of abstracts by different authors using the inclusion and exclusion criteria. The inclusion and exclusion criteria were developed based on the research question to ensure correct identification and selection of relevant studies.

The following inclusion criterion was used to guide the search of literature: English-language published studies, and studies that are relevant to the phenomenon. The reviewer excluded all studies that were not published in English and those that were not relevant to the phenomenon. In addition, after the abstract screening was completed full-text articles were screened and stored for charting. The study selection process was summarized using the Preferred Reporting

Items for Systematic Reviews and Meta-Analysis (PRISMA) diagram.

Data charting

For this scoping review, data synthesis and interpretation followed a narrative or descriptive approach. The data was charted in an excel spreadsheet using the following headings: Name(s) of author(s); year of publication; title of study; study's geographical setting; research aim; description of interventions; study participants; level of implementation; implementation strategies used; implementation frameworks used; implementation models used; study approach; activities conducted; measurement of implementation outcomes; study findings; conclusion; gaps; and recommendations. The above process assisted in ensuring that all relevant information extracted from selected articles was synthesized and interpreted accordingly.

Collating, summarising, and reporting the results

According to Arksey and O'Malley[9], when collating summarising and reporting the results emphasis should not be placed on the "weight of evidence" nor on evaluating the quality of evidence, but a thematic framework to guide the narrative account of existing literature is recommended. For this study, the number of studies identified and selected for inclusion in the scoping review were reported using the PRISMA diagram (Figure 1) followed by a narrative description of the results. This process included collation of data followed by analyses and summary of the results. In this process, the author performed a thematic analysis, and all resulting themes were cross-examined for their association with the research question.

Results and Discussion

Table 1:

Population	Phenomenon of interest	Context
	Primary key words	
Pregnant women	African traditional medicine	South Africa
	Secondary keywords	
	Traditional medicine	
	Herbal medicine	
	Herbal remedies	

Table 2: Geographical context and type of study

Geography	Systematic review	Scoping review	Qualitative ethnographic	Qualitative descriptive	Total
South Africa	2	1			3
Northern Maputaland			1		1
Limpopo			1	1	2

Table 3: Terms used for population of interest

Authors and year of publication	Terms used
S. Ngomane, F.M. Mulaudzi. 2012	Pregnant women
V Tripathi, C Stanton, F. W.J. Anderson. 2013	Near birth/pregnant women
H. S. Abdillahi and J. Van Staden. 2013	Maternal healthcare, pregnant women.
H. de Wet, S.C. Ngubane. 2014	Women
M A. Mogawane, T M. Mothiba & RN. Malema. 2015	Pregnant women
Ahmed SM, Nordeng H, Sundby J, Aragaw YA, de Boer HJ. 2018	Pregnant women

Table 4: Study conclusions /recommendations per year of study

Year of study	Aim/Objective of the study	Study recommendation
2012	Objective to explore and describe the indigenous beliefs and practices that influence the attendance of antenatal clinics by women in the Bohlabelo district in Limpopo, South Africa.	Indigenous beliefs and practices should be incorporated into the midwifery curriculum, so that the health sector is able to meet the needs of all members of the community.

2013	To review the current status of plant species used in maternal healthcare, including infertility, in South Africa, in terms of scientific evaluation for efficacy and safety.	In this respect, medicinal plants play a significant role in reducing maternal mortality and ensuring the birth of healthy children.
2013	To describe (1) use of traditional preparations in Sub-Saharan Africa intended to have uterotonic effects at or near birth; and (2) results of pharmacologic investigations of the uterotonic properties of such preparations.	Numerous plants are used for uterotonic effects in Sub-Saharan Africa; uterotonic activity has been confirmed in many through pharmacologic evaluation. Such use may increase the risk of adverse outcomes. Further research is needed on the uterotonic efficacy of traditional preparations and on interventions to address use during labor.
2014	To conduct an ethnobotanical survey, focussing on lay people's knowledge on plants used to treat gynaecological and obstetric complaints.	This wealth of new knowledge gained with the current survey reinforces the importance of documenting lay people's indigenous medicinal plant knowledge in rural communities. Results also strongly suggest that the availability of plants is not the only criteria for usage; cultural influence may play a pertinent role in the choice of plant species. Literature indicates that there is very little research done on assessing the safety and efficacy of botanical remedies taken during pregnancy and lactation. Pregnant women should therefore be made aware of the risks they take when consuming herbal remedies.
2015	To explore and describe the Indigenous practices of pregnant women at Dilokong hospital in Limpopo province.	Indigenous practices are regarded as an honourable health intervention by traditional health practitioners (THPs), families and pregnant women. Indigenous practices like cords around women's waists are still observed during physical examinations. However, there is a reduction of prescribed indigenous oral medication used to accelerate labour because of their potential toxicity.
2018	To analyse prevalence of use of Medicinal Plants (MPs) during pregnancy, regional distribution, types and prevalence, MP properties, potential health risks, and consensus of MPs use, and suggests relevant measures to mitigate negative effects on pregnancy.	The use of MPs among pregnant women in Africa is prevalent, and the most used plant species are not known to have harmful foetal effects during pregnancy. However, many of the MP species are poorly studied and teratogenic effects cannot be ruled out. Collaboration between healthcare providers and traditional practitioners to inform about the safe use of MPs may promote safer pregnancies and better health for mothers and infants.

Prevalence and reasons for use of traditional medicines

All the sampled relevant articles have reported on the prevalence of traditional medicine use in pregnancy or reproductive health. They have all confirmed the use of traditional medicine during pregnancy in South Africa. These findings were also supported by a study conducted by Mkhize[1] which focussed on use of traditional medicine in pregnancy and associated factors among black South African women delivering in Bertha Gxowa hospital of Johannesburg.

These findings were further duplicated by latest Africa based studies including the Ghana based study conducted by Mark[2], which assessed factors associated with the use of herbal medicine among pregnant women in the Nkwata north and south districts of Oti region and the Zambian based study conducted by Hajj, Sital, Vwalika and Holst[14]

which was an explorative qualitative study on traditional medicine use during pregnancy among selected women in Lusaka province.

According to the South African perspective study conducted by Abdillahi and Van Saden[7], about twenty plant species were used during pregnancy, while twenty-six plant species were also used to ease childbirth in South Africa. In addition, nine plant species were used for postpartum healing and for any problems after childbirth[7]. In Africa as a continent about two hundred and seventy-four plant species were reported being used as pregnancy related herbs[3]. In terms of the distribution, most of these medicinal plants were from East Africa followed by West Africa, then Southern Africa with the least reported in North Africa[3].

The common plant species reported in South Africa were Zingiber officinale Roscoe, Allium sativum L. and Cucurbita pepo L[7]. The most cited common reasons for the use of traditional medicine during pregnancy across these articles were unhealthy pregnancy and birth complications[3,7,10], protection from evil spirits or preservation of pregnancy, induction of labour, alternative to failed modern treatment or inability to access modern health care, and the belief that herbal remedies are more effective and safer than modern antenatal care[3,7-13].

These finding were backed by a study conducted by Peprah, Mawuli-Abalo, Nyonyo, Okwei, Agyemang-Duah and Amankwaa on women's perception and attitudes toward modern and traditional midwives and the perceptional impact on health-seeking behaviour and status in rural Ghana[15]. They were further supported by the World Health Organisation global report on traditional and complimentary medicine[16]. Similar reasons were also reported on a study conducted by Illamola, Amaeze, Krepkova, Birnbaum, Karanam and Job et al, titled "Use of Herbal Medicine by Pregnant Women: What Physicians Need to Know"[17].

Parts of the plants used, their preparation method and administration route

Most of these articles reported the use of concoctions from leaves which were taken orally as the most common preparation method for medicinal plants[3,10-12]. Moreover, culture was also found to play a crucial role on the part of medicinal plant used[10]. Even though findings for this review reported leaves as the most dominant part used in making traditional medicine, other parts of the plant such as roots, stems, bark, fruit, bulbs, whole plants, rhizomes, seeds, as well as flowers were also reported in other studies[15].

In terms of preparation, there were diverse methods reported in other studies. These included making infusions, soaking, squeezing the plant and extract product, chewing, decoction, bathing, inhaling as well as ingestion of raw medicinal plants[15,17,18].

Safety concerns in using traditional medicine

There was lack of evidence on the efficacy and safety of traditional medicine during pregnancy in the sampled materials. Most studies particularly in South Africa have shown that most women believe that it was safe to use traditional medicine during pregnancy[3,10-13]. However, in few of these studies, the use of traditional medicine was also perceived to cause adverse effects to the new-born and have toxicity[3,11,12]. Evidence showed that most of the reported medicinal plants during pregnancy were less studied thus contributing to the lack of safety and efficacy[3]. Some evidence suggested that collaboration between healthcare providers and traditional practitioners to inform about the safe use of medicinal plants may promote safer pregnancies and better health for mothers and infants[3].

The results of this review were backed by most studies which also found similar findings[14,15,17,18]. These studies have supported the fact that the efficacy and safety of traditional medicine was based on the previous generations[14,15,17,18]. Moreover, some in vivo studies conducted in rats have shown that the use of traditional medicine during pregnancy was associated with foetal hypoxia and premature delivery due to uterine hyperstimulation induced by traditional medicine, however there was no evidence that suggests the existence of the findings found in animal studies to be applicable in humans[18]. The embryotoxicity effects found in animal studies make it difficult to conduct prospective studies in humans[18]. Evidence suggests that a review of retrospective studies will be more appropriate in humans[18].

Gaps

Across all the relevant articles, efficacy and safety of traditional medicine use during pregnancy or in the management of reproductive-related disorders is a major concern. There is a need of incorporating traditional knowledge into the health care system to reduce pregnancy related complications that are secondary to the use of traditional medicine. There is also lack of engagement between health sector and traditional health practitioners or community with regards to use of traditional medicine during pregnancy. Furthermore, the inability to conduct prospective studies in humans on this matter plays a huge role on the available literature.

Therefore, based on the above information, one can conclude that lack of research and or health education on the safety and efficacy of traditional medicine during pregnancy is a major cause of traditional medicine induced pregnancy related complications in South Africa.

Conclusion

No latest results were available in KwaZulu-Natal during the period of the search. Recent studies were mainly conducted in the Northern part of the country i.e. Northern Maputaland and Limpopo. All articles have reported on the prevalence of traditional medicine use in pregnancy or reproductive health. They have all confirmed the use of traditional medicine during pregnancy in South Africa. The most cited common reasons for the use of herbal remedies during pregnancy across these articles were protection from evil spirits or preservation of pregnancy, induction of labour, alternative to failed modern treatment or inability to access modern health care, and the belief that herbal remedies are more effective and safer than modern antenatal care.

Recommendations

There is a need for more research across all provinces. Since prospective studies are difficult to conduct in humans regarding this topic, reviews of retrospective studies are recommended.

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Conflict of interest

The authors declare that they have no financial or personal relationship(s) that may have inappropriately influenced them in writing this article.

Author contributions

The article is based on Nyameko Sydney Dlamini's master's work. He developed the study, conducted the search, selected studies, analysed and wrote the first draft of the transcript. Gabriel Gyang Darong, was the research supervisor. He guided Dlamini in the development of the study and reviewed the paper drafts. Ntombifikile Maureen Nkwanyana, the research co-supervisor, reviewed the paper drafts.

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