Complementary medicine seeking behaviour among Sudanese infertile women

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Abstract

Background This study was conducted in Sudan, which is a sub-Saharan Africa country with similar problems regarding infertility, to explore the perspectives of currently married infertile Sudanese women on complementary medicine seeking behaviour with more emphasis on traditional self-management strategies. **Methods** A cross-sectional survey involving 203 infertile women in Khartoum, Sudan, using a convenient sampling method at the women's visits of infertility treatment clinics. A validated questionnaire was used for data collection. **Results** Findings of the study revealed that 43.3% of participated women had rich experience with infertility self-management strategies, and 65.0% of them used these strategies to treat infertility. Also 59.1% of the participants mentioned unaffordability of modern treatment as a main factor for trying self-management strategies. 45.3% of the participating women believe that the best strategy for self-management of infertility is Qura'an and Sunna treatment provided by Shaikh. Only 42.9% of the participants agreed with the statement that their 'cognitive knowledge about self-management of infertility does not encourage its use'. **Conclusion** The study revealed women's rich experience and wide use of different types of self-management strategies together with formal infertility health care services either simultaneously or subsequently. Also, unaffordability of formal treatment services was reported as one of the most encouraging factors towards seeking traditional treatment options. Therefore, most important literature gap this study hoped to fill is its focus on traditional treatment strategies of infertility, and thereby, can help policy makers and public health activists tailor more efficient plans to handle this complicated problem.

Background

Infertility is a reproductive health disorder that affects one in 10 couples in the world today [1]. Therefore, the World Health Organization considered it as a public health issue worldwide. According to Vander and Wyns (2018) infertility defined as the inability of an individual or a couple to conceive after 1 year of unprotected adequately time intercourse [2]. Infertility can be further sub-classified as primary or secondary, depending on whether the woman has been pregnant before, irrespective of the outcome of that pregnancy [3]. It was found that about 10–15% of couples have difficulty conceiving at some point in their reproductive lives and seek specialist fertility treatment [4]. However, rates of infertility vary dramatically between countries and regions [5]. Estimates suggest that the overall burden of infertility in the developing countries is over three times higher than developed world. In sub-Saharan Africa, the prevalence of infertility varies from 9% in Gambia to about 10% in Togo and Rwanda to shoot high to around 32% in Nigeria [6, 7].

In addition to be an important public health issue, in developing countries infertility has serious social consequences. In developing world traditional societies parenthood is highly emphasized. One of the reasons is that societies in those countries are structured in a way in which children are required for care and maintenance of older parents. This is not only in deprived societies, but even in societies with social support systems children are expected to provide much of the care for the elderly [8]. Therefore, bearing in mind this importance given to parenthood, it is not surprising for childless couples to experience negative

consequences with regard to respect and status in the society. It is normal in those traditional societies for childless couples to experience a sense of failure, loss, and exclusion [8, 9]. Not only the society, but even the couples themselves view infertility as a tragedy with social, economic and psychological consequences. However, the childlessness in developing world affects women to a greater degree when compared with men [10, 11].

It is not surprising in developing countries with such psychological, familial and community pressure to produce child, most of the couples, especially women, in addition to conventional medicine, seek various traditional methods and religious practices, including visits to holy places, observing tantric rites, wearing charms, participating in rituals and visiting astrologers [12–14]. Several studies reported that women first seek treatment from traditional healers and afterward take help from orthodox medicine [15, 16]. Some women also follow traditional methods with allopathic treatment, either simultaneously or subsequently [17].

In Sudan, which is a sub-Saharan Africa country, similar problems to other sub-Saharan Africa countries regarding the issue of infertility are present. Firstly, the country is facing various problems including low socioeconomic status, transportation, education and health problems. In literature, it is generally believed that the prevalence of infertility worldwide is 10%. However, this is not distributed evenly and data shows that in sub-Saharan countries, prevalence rates of childlessness ranged between 11 and 20%, and may reach to as high as ranges between 20% and 40% [18–20]. The impact of this infertility problem can be perceived differently. These include economic, social and psychological which adversely affect the infertile woman. Although the inability to bear children is a problem to both couples, but in many developing countries infertility is still viewed as a women's problem [21]. In Sudan, like other developing countries, the traditional emphasis of a women's role is defined in terms of her fertility, and consequently, her whole social and personal security may depend on it. For those women unable to bear children, then, they may experience psychological distress and difficulties in coping due to a perceived inability to fulfil their prescribed gender role. Seeking resolution to this infertility problem may take Sudanese women down paths that are often untested, perhaps expensive, and can aggravate ill-health in search for delivering the long desired outcome of a live baby. Bearing in mind the high prevalence rates of childlessness among married women in Sudan, it is assumed that there will be an increasing number of women ready to try those untested, potentially unsafe, methods to achieve motherhood. This suggests that a lot of women may try informal self-management strategies, using both conventional and non-conventional medication, to conceive.

This study sought to contribute to the literature on infertility by providing an understanding of the perspectives of currently married infertile Sudanese women on self-management of infertility. It helps to throw more light on the subject of treatment seeking behaviour of the infertile with more emphasis on self-management strategies. The most important gap that this research fills therefore is its focus on traditional treatment strategies. Better knowledge about extent, types and factors that encourage self-management of infertility among Sudanese women can help policy makers and public health activists tailor more efficient plans to solve this complicated problem.

Methods

Participants and setting

A cross-sectional study was conducted between July and August 2017 to explore the perspectives of currently married infertile Sudanese women on complementray medicine seeking behaviour with more emphasis on traditional self-management strategies. Married women with infertility problem aged 18 years and older were interviewed during their visits to private outpatient infertility clinics in Khartoum, the capital city of Sudan. The inclusion criteria for participants were currently married women, aged more than 18 years, attending an infertility clinic and consenting to participate in the study. A sample of 203 participants was interviewed using a convenient sampling procedure.

Data collection tool

The data was collected on structured pre-tested questionnaire. The questionnaire was developed based on themes described in the objective of the study. It was further informed by a literature review of previous studies. The questions were adapted from previous studies looking into management of infertility problems, and were modified during the pilot study. Variables measure included demographics, indicators of: Sudanese women perspectives on their experience with self-management of infertility; factors that influence Sudanese women's selection and use of self-management strategies; types of strategies Sudanese women use for infertility self-management; and Sudanese women's perspectives on the effectiveness or harmfulness of infertility self-management strategies. All non-demographic variables were measured on a 5-point Likert scale. The questionnaire was initially developed in English and translated to Arabic. The Arabic version was back translated to English. The back-translated English version was checked against the original English version to ensure accuracy. Prior to the distribution of the survey, the instrument was subjected to face validation by five experts from Directorate of Health Research - Ministry of Health - Khartoum State. These experts were requested to make suggestions on the relevance, adequacy, language level, content and comprehensiveness of the questionnaire items. A pilot study was conducted with women possessing similar population characteristics to test the feasibility, reliability and validity of the proposed study design. Reliability test was carried out and the reliability coefficients for the 14 items ranged between 0.601 and 0.671 with an overall reliability coefficient of 0.628. The interviewers were recruited and given a formal training.

The women responses were aggregated into three categories: "strongly agree" and "agree" condensed into 'agree'; "strongly disagree" and "disagree" into 'disagree'; and the last category is 'neutral'. Data were entered and analysed by using SPSS version 16.0. Descriptive methods (frequency and percentage) were used for data summary and data presentation. Since the study was descriptive no inferential methods were used.

Results

The age of the respondents clustered at the two middle groups (28–37 and 38–47). In relation to educational level, nearly half of the respondents had higher education (49.8%), while those whose level less than primary were least (3.0%). For annual income, to some extent, the sample distributed evenly all through the groups. Demographic profile of the respondents was presented in Table 1 below.

Insert Table 1 here

Findings of the study revealed that high percentage (43.3%) of participated women had rich experience with infertility self-management strategies, and majority (65.0%) of them used these strategies to treat infertility. It was also revealed that majority (59.1%) of the participants mentioned unaffordability of modern treatment as a factor pushing women suffering infertility problem towards trying self-management strategies. More than half (53.7%) of participating women viewed the unsuccessful use of modern medicine as a possible cause for trying self-management strategies. The study also revealed that nearly half (45.3%) of the participating women believe that the best strategy for self-management of infertility is Qura'an and Sunna treatment provided by Shaikh.

In this study, although more than half of the respondents perceive self-management strategies of infertility as dangerous, but still less than half (42.9%) agreed with the statement that their 'cognitive knowledge about self-management of infertility does not encourage its use'.

Perceptions about experience with self-management of infertility, factors that influence selection and use of self-management strategies, types of self-management strategies, and effectiveness or harmfulness of self-management strategies are presented in Table 2 below.

Insert Table 2 here

Discussion

In Sudan, having children is a social obligation to the extent that marriage is considered incomplete when there are no children. In addition, the pronatalist culture continues to persist, especially in rural areas, thereby making the burden of infertility even more pronounced. This creates an endless search for conception from various treatment options. At the same time, social values are placing high emphasis on biological parenthood while still praising the traditional ways of dealing with infertility. This study explored the experiences of infertile married women and their perceptions about self-management of infertility, factors that influence selection and use of self-management strategies, types of self-management strategies, and effectiveness or harmfulness of self-management strategies.

The study has proved that Sudanese women experience with self-management of infertility is very rich. The finding that majority of the participants mentioned that Sudanese women use self-management strategies to treat infertility has strong support in the literature which had reported use of a variety of self-management strategies, especially modalities which perceived by women as natural [22–24]. However, despite the reported high use of traditional treatment options, researchers believe actual use is still higher.

This is because it is documented in the literature that use of self-management strategies is under-reported because those who use complementary and alternative medicine to treat their infertility do not disclose use of these strategies even to the fertility specialists they consult [25–28].

When it comes to factors that may lead women to go for self-management strategies, unaffordability of modern treatment options was mentioned by the majority of the women participated in the study as a factor pushing women suffering from infertility problem towards trying self-management strategies. In fact unaffordability of modern treatment strategies of infertility, especially reproductive technologies, is widely reported in the literature in both developed and developing countries. For example, a study conducted in the United States reported that out of the fifty states of the country only fourteen give insurance coverage for assisted reproductive technologies [29]. This uncovered cost is prohibitive and may result in only very few numbers chose to go for infertility treatment via this means. Also a study conducted in the United Kingdom revealed similar findings of prohibitive unaffordable cost experienced by low income earning British South Asians who wish to utilize assisted reproductive technologies service as infertility treatment option [30]. Other studies conducted in other parts of Europe documented similar experiences [31].

The situation in developing countries is even more severe with regard to unaffordability of modern treatment options of infertility. This is because national health insurance in those countries rarely covers infertility treatment [32, 33]. For example, in Egypt, the neighbouring country of Sudan, a single trial of in-vitro fertilization could cost more than twice the annual income of the average Egyptian [32]. Similar findings were reported in Nigeria and Ghana [34, 35].

The issue of unaffordability of modern infertility treatment options is exacerbated by the low success rates of procedures across regions. For example, success rates of assisted reproductive technologies are estimated at 27% in the United States [29] and around 20% in Latin America [36]. When it comes to the Sub-Saharan Africa region, where Sudan is located, success rates of in vitro fertilization procedures are estimated at between 5% and 15% [34]. This therefore complicate further the issue of unaffordability as it leads to a situation of repeated in vitro fertilization procedures making it more difficult for the average citizen to be able to afford it. In addition, repeated failure of this modern treatment procedures also bring mixed feelings of hope followed by despair when success is not achieved after every trial which may lead to dropping modern treatment options altogether and shifting to self-management strategies as had been shown in the current study where more than half (53.7%) of participating women viewed the unsuccessful use of modern medicine as a possible cause for trying self-management strategies. It is also reported in the previous literature the use of complementary or alternative medicine as a consequence of dissatisfaction with, or poor outcomes associated with modern medicine [37, 38].

Sudanese societies are very conservative and exhibit high level of religiosity in their perceptions about infertility. Additionally, infertile women at a point during their treatment seeking journey fed up with the lack of success with formal treatment services and thus become more inclined towards spiritual efforts based on the belief that God is the ultimate giver of children. Therefore, it is not surprising for Sudanese

women to put Qura'an and Sunna treatment provided by Shaikh as the top preference among other types of self-management strategies. A Shiakh is a traditional healer closely connected with the muslim faith. Shaikhs provide treatments, most often something connected with Qura'an reciting, or Qura'an writings prepared to be worn on the body as amulets, or concoctions drinks. They are widely consulted by many Sundanese for all kinds of problems. However, these traditional beliefs connected with 'Shaikhs' are common throughout African continent, although the way the help presented by 'Shaikhs' may differ from region to another. In the neighbouring Egypt, Shaikhs deals with a mysterious infertility cause called 'Kabsa' [39], and in Zimbabwe Shaikh represented by the 'nganga' who treat the infertility problem due to the annoyance of the ancestors because the husband has failed to pay enough bride price [40]. Other studies in other developing countries outside Africa reported that women follow religious practices, either simultaneously or subsequently, when allopathic treatment does not work [41, 42]. Also in Sudan many societies had a belief that infertility attribute external supernatural agents operate out of envy and jealousy. The only remedy in such situations is religious practices provided by Shiakhs.

One of the interesting issues revealed in this study that was not been addressed in the previous literature is that one-quarter of the respondents agreed with the statement "The best strategy for self-management of infertility is conventional medicines recommended by relative and friends who had experience with these medicines". In fact use of conventional medicines based on the recommendations of relatives and friends for several treatment purposes is not uncommon in Sudan and deserve further study.

However, despite all that rich experience and wide use of self-management strategies to treat infertility, the study revealed that more than half of the respondents perceive self-management strategies of infertility as dangerous. Also, slightly less than half (42.9%) agreed with the statement that their 'cognitive knowledge about self-management of infertility does not encourage its use'. These negative perceptions about safety of self-management strategies of infertility may look contradicting with the wide use, but it can be explained in light of the pressure from husbands, in-laws and society in general to conceive. A study conducted in Jordan revealed similar findings that in spite of the risk encountered when using herbal medicine with conventional medicine, participants still using them [43]. In addition, the unsuccessful previous trials or decreased potential of conventional medical interventions may lead to that some women become 'desperate' to try anything to achieve the desired motherhood. Support of these findings has been widely documented in previous literature [14, 44–47].

Limitation

Being a clinic-based study, we cannot comment on the perceptions of infertile women who never seek formal treatment. This is important limitation because that group of women may be quite significant in developing countries and hold different perspectives about infertility management. A community-based study would be a better approach to address the perspectives of that group of women. However, it is rather difficult to access infertile women outside health facilities.

Conclusion

The results of the present study demonstrated women's rich experience and wide use of different types of self-management strategies together with formal infertility health care services either simultaneously or subsequently. Unaffordability of formal treatment services was reported as one of the most encouraging factors towards seeking traditional treatment options. Inclusion of infertility health care among services covered by health insurance may help in encouraging more use of formal health care services. Findings revealed in this study can help Sudanese policy makers and public health activists better handling this complicated public health issue of infertility self-management. Further studies are needed to explore whether traditional treatment options of infertility have to be legally acknowledged or otherwise discouraged.

Abbreviations

Not applicable

Declaration

Ethics approval and consent to participate

Ethical approval to conduct this study was granted by Research Ethics Committee in the Department of Health Research, Ministry of Health, Khartoum State. The consent for interviewing the women was taken from the General Directorate for Private Clinics, Doctors in-charge of infertility clinics and from the infertile women. As it is not assumed that all participants are literate, only verbal consent was secured after the respondents were informed that all data were for academic research purposes only. The participants were interviewed at the clinic premises during follow-up clinic visits.

Consent for Publication

Not applicable

Availability of Data and Material

The datasets generated during and/or analyzed during the current study are available from the corresponding author on request.

Competing interests

I declare that none of the authors have any competing interests.

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No funding was obtained for this study.

Authors' contributions

SAB participated in the design of the study and performed the statistical analysis and participated in drafting the manuscript. GOA participated in the design of the study and critically reviewed the draft of the manuscript. AIH participated in the design of the study and critically reviewed the draft of the manuscript. AAA drafted the manuscript and participated in critically reviewing the manuscript. All authors read and approved the final manuscript.

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Tables

Table 1: Demographic Profile of the Sample

Variable	Category	Response Information
<u>Age</u>	18-27	43 (21.2%)
	28-37	71 (35.0%)
	38-47	73 (36.0%)
	>47	16 (7.9%)
<u>Education levels</u>	Pre-elementary	6 (3.0%)
	Primary	29 (14.3%)
	Secondary	67 (33.0%)
	Higher education	101 (49.8%)
<u>Economic status</u>	<600	28 (13.8%)
	600-1200	56 (27.6%)
	1201-1800	52 (25.6%)
	1801-2400	35 (17.2%)
	>2400	32 (15.8%)

Table 2: Frequencies and Percentages of the Responses of Participants

Variable	A	DA	N
Sudanese women's experience regarding self-management of infertility			
Sudanese women's experience with self-management strategies of infertility is rich	88 (43.3%)	68 (33.5%)	47 (23.2%)
Sudanese women use different strategies to manage different types of infertility	129 (63.5%)	26 (12.8%)	48 (23.6%)
Sudanese women often use self-management strategies to manage infertility	132 (65.0%)	23 (11.3%)	48 (23.6%)
Factors that influence Sudanese women's selection and use of self-management strategies			
The most probable reason that causes women to use self-management strategies to manage their infertility is the unsuccessful use of modern medicine	109 (53.7%)	50 (24.6%)	44 (21.7%)
My relatives and friends approve my decision on self-management of infertility	90 (44.3%)	62 (30.5)	51 (25.1%)
My relatives and friends think that I should use self-management of infertility	75 (36.9%)	76 (37.4%)	52 (25.6%)
The unaffordability of modern strategy of infertility management cause Sudanese women to try self-management strategy	120 (59.1%)	59 (29.1%)	24 (11.8%)
The unavailability of modern strategy of infertility management cause Sudanese women to try self-management strategy	91 (44.8%)	78 (38.4)	34 (16.7%)
There are a lot of contestations exist between women and others over self-management choices on infertility	80 (39.4%)	45 (22.2%)	76 (37.4%)
Variable	A	DA	N
Types of strategies Sudanese women use for self-management of their infertility			
The best strategy for self-management of infertility is herbs that enhance fertility prescribed by the traditional herbalist	42 (20.7%)	115 (56.7%)	46 (22.7%)
The best strategy for self-management of infertility is conventional medicines recommended by relative and friends who had experience with these medicines	49 (24.1%)	102 (50.2%)	52 (25.6%)
The best strategy for self-management of infertility is Qura'an and Sunna treatment provided by Shaik	92 (45.3%)	50 (24.6%)	61 (30.0%)
Sudanese women's perspectives on the usefulness or harmfulness of self-management strategies they use to manage their infertility			
My cognitive knowledge about self-management of infertility does not encourage its use	87 (42.9%)	55 (27.1%)	61 (30.0%)
Self-management of infertility can be dangerous	108	57	38

(53.2%) (28.1%) (18.7%)

A = Agree or strongly agree, DA = Disagree or strongly disagree, N = Neutral