

ORIGINAL RESEARCH ARTICLE

A qualitative synthesis of the impact of infertility on the mental health of African women

DOI: 10.29063/ajrh2022/v26i12.6

Labinjo Temitope

Information School, University of Sheffield, Sheffield, United Kingdom

*For Correspondence: Email: t.labinjo@sheffield.ac.uk

Abstract

Infertility is a reproductive problem that affects all gender, race, or social class. In many African countries, the burden of infertility is usually associated with economic, psychological, and socio-cultural factors. This review aimed to explore the factors that impact the mental health of African women with primary infertility. A qualitative evidence synthesis was used to summarise and analyse primary qualitative studies focused on the impact of primary infertility on African women. Seventeen studies met the eligibility criteria and were included in the review. The review found that social pressure, stigma from family and community members, and financial constraints led to psychological distress. In addition, social stigma also led to marital problems which led to significant psychological distress and low self-worth, especially on the wife. Recommendations to reduce stigma among African infertile women were as follows: advocacy and community mobilisation, education by health professionals, and holistic person-centred care. An intersectional approach to inform public health and social policy was also suggested. (*Afr J Reprod Health* 2022; 26[12]: 49-57).

Keywords: Infertility, culture, stigma, psychological distress, Africa

Résumé

L'infertilité est un problème de reproduction qui affecte tous les sexes, races ou classes sociales. Dans de nombreux pays africains, le fardeau de l'infertilité est généralement associé à des facteurs économiques, psychologiques et socioculturels. Cette revue visait à explorer les facteurs qui ont un impact sur la santé mentale des femmes africaines atteintes d'infertilité primaire. Une synthèse qualitative des preuves a été utilisée pour résumer et analyser les études qualitatives primaires axées sur l'impact de l'infertilité primaire sur les femmes africaines. Dix-sept études remplissaient les critères d'éligibilité et ont été incluses dans la revue. L'examen a révélé que la pression sociale, la stigmatisation des membres de la famille et de la communauté et les contraintes financières entraînaient une détresse psychologique. En outre, la stigmatisation sociale a également entraîné des problèmes conjugaux qui ont entraîné une détresse psychologique importante et une faible estime de soi, en particulier chez l'épouse. Les recommandations pour réduire la stigmatisation chez les femmes africaines infertiles étaient les suivantes : plaidoyer et mobilisation communautaire, éducation par les professionnels de la santé et soins holistiques centrés sur la personne. Une approche intersectionnelle pour éclairer la santé publique et la politique sociale a également été suggérée. (*Afr J Reprod Health* 2022; 26[12]: 49-57).

Mots-clés: Infertilité, culture, stigma, detresse psychologique, Afrique

Introduction

From the beginning of time, the desire to have children and childlessness has been part of humanity¹. In many societies, most individuals were brought up to believe that they will have children, especially after marriage. Therefore, when infertility sets in, couples experience disappointment and shock at the inability to have the children they desire². Even though the process of reproduction is a private affair, having children and becoming a parent is a public one³.

Infertility is a reproductive problem that affects all gender, race, religion, social class etc. There are several definitions of infertility, however, according to World Health Organization, infertility is the inability to achieve a pregnancy after twelve months of unprotected sexual intercourse⁴. However, due to several socio-cultural constructs, this definition has been argued because infertility has different meanings to individuals, couples, and communities. For example, a couple that experiences recurrent miscarriages may be regarded as infertile⁵. In addition, in some African cultures, the inability of a

couple to have a certain gender, for example, male children may be seen as infertile⁶.

Globally, about 186 million people experience infertility while a prevalence of 30-40 % of this population is resident in Africa. In many cultures in Africa, there is the belief that a married couple should give birth within the first few years of their marriage. The question 'when are you having children' appears as humour in the first year of marriage and then becomes a big blow or insult in later years when struggling with infertility⁷.

There is currently an absence of holistic qualitative synthesised evidence on the experiences of childless women in Africa. These can affect the implementation of appropriate interventions to effectively manage infertility⁸. Previous reviews have focused on the clinical or biomedical models and synthesised evidence on the experiences of African infertile women from a holistic perspective is lacking. In addition, synthesised evidence about the socio-cultural impact of infertility on African women's wellbeing is non-existent. This is despite the prevalence of primary research studies⁸.

Aim of review

This review explored factors that impacted the mental health of African women with primary infertility by identifying, synthesising, and summarising published qualitative studies.

Methods

Qualitative evidence synthesis (QES) is a process of evaluating and contextually integrating the findings of qualitative studies into a critical report^{9,10}. Users of qualitative synthesis believe that using this approach describes the complicated nature of human experiences in a way that is understandable to the evidence-based community⁹.

QES is becoming common in research about complex human associations¹¹. This approach is also known as meta-ethnography. This approach can be used not only in ethnography but across different types of qualitative research. The main point is to identify key points from studies and translate them into others¹².

Search methods

A series of search strategies were used to identify qualitative studies that examined the experiences of

infertile African women to understand the impact of infertility on their lives. Search terms used were infertility, African women, experiences, and psychological distress. The following database was used in the review: Medline, Google Scholar, ASSIA, CINAHL and PsycINFO.

Eligibility criteria

Studies included in the review were:

Primary qualitative studies that examined the experiences of African infertile women to understand the impact of infertility on their lives. Studies using mixed methods were included only if the qualitative aspect is recorded. Primary studies located outside Africa were excluded.

The study sample was African women with primary infertility. Studies on secondary infertility and male and couple infertility were excluded. Studies focused on infertility treatment or in vitro fertilisation or assisted reproduction technology were excluded as the experiences of couples or individuals undergoing assisted reproduction and its impacts could be different.

Search outcome

The total number of studies retrieved from the databases was 294 out of which 17 studies met the review inclusion criteria. The review consisted of (384) African women participants with infertility across seven countries in Africa namely Cameroon, Gambia, Ghana, Mali, Mozambique, Nigeria, and Tanzania. NVIVO provided a platform for managing the large number of references directly imported from RefWorks ProQuest. It allowed for systematic screening of all 294 references. The display of the references on NVIVO was very important to ensure an accurate audit trail^{11,13}.

Quality appraisal

A quality appraisal is a very important process in the qualitative synthesis. An appraisal guide should be implemented comprehensively but also interactively in each study to be used in the review¹⁴. There have been arguments about whether quality appraisals should be used for eliminating low-quality studies or to filter studies on the strength of their findings¹⁵. However, studies with low-quality methodology may produce significant findings and provide useful knowledge¹⁵⁻¹⁷. Therefore, in this

review, quality appraisal of the studies was used alongside data extraction to ascertain the impact of the inclusion of relevant studies that appear of lesser quality¹⁸.

Data extraction

A format for the extraction of data from the original qualitative primary studies was provided using an Excel spreadsheet. Data extracted include: (a) author(s) names (b) year of publication (c) study design/ methodology (d) study population (e) intervention (f) study setting (g) aim of study (h) geographic location (I) outcome of study (j) conclusion. In addition, these data were uploaded to NVIVO 12 software including all textual data, themes, and codes from each study.

Data synthesis

The following are the processes in NVIVO that resulted in the development of the synthesized findings from the studies included in the review:

1. Interpret the results from each study into NVIVO. Each result was defined into a node by highlighting each key concept in each study.
2. The NVIVO findings were described by using actual text from the studies in the form of quotes and summarised each text in the studies.
3. The nodes were then grouped into categories and reviewed and compared continuously to identify any missing nodes or texts from the studies.
4. The nodes and actual texts from the studies were then categorised into synthesised themes.

Cultural beliefs about causes of infertility

The studies in this review highlighted the social impacts of infertility on African women. The first impact was the cultural beliefs of people in the community toward African women with infertility. One of these was the belief in the causation of infertility. The majority of the studies attributed the cause of infertility to supernatural factors such as witchcraft or demonic possession, jealousy, envy etc^{19,20}.

“It can be curses emanating from families...that can also affect...it’s only God who knows best...because God did not create a barren woman” (Participant 10, Ashanti region: Ghana reference¹⁹).

There were also descriptions among relatives and community members that attributed the causation of infertility to contraceptive use and abortion. These studies disclosed that participants believed that women who experienced infertility used contraceptives or undertook several abortions²⁰.

“To me...in the beginning, I thought it was abortion that caused it...I have not done that but have no child, so I think that’s not it...so I see it as the...word of God! (Participant 5, Ashanti region, Ghana reference;¹⁹.

Blame

It was found that these women constantly blamed themselves for the inability to conceive^(22,24-26). Finally, they explained that having children was a necessity and the inability to fulfil this basic requirement made them feel inferior or unworthy.^{21,27}

“When a Malian woman does not have a child, she is inferior to all fertile women. She is not a true woman. She feels a void. Some women feel that life is useless without having a child.” (Quote from 21, pg. 66 - Mali).

Another reason for these women’s inability to conceive was that other people such as family and community members and sometimes their spouses blamed them for the inability to conceive or have children. Therefore, sometimes these women are treated as outcasts or rejected both in their families and in the community at large²². These constant blame by family and community members has a massive negative impact on their mental health, self-worth and wellbeing^{22,27}

‘Some community members would say “she takes family planning tablets which destroys her stomach that is why she could not have children”, some will say “the woman has jinnée [spirits] that is why she could not have children”, but their minds would never tell them that because of the husband she cannot have children.’ (Interview 7, pg 6, Gambia).

Financial problems

The qualitative studies identified that women with infertility experienced financial problems. It was found that African women with infertility experienced financial problems and were more prone to experiencing social stigma and pressures from family and community members which

impacted negatively on their mental health and wellbeing^{22,27}

'The economic impact is that you tend to spend a lot. Like me, I have spent a lot, a lot of my savings, three quarters of my savings, going to doctors, and doing different tests. I do research online and buy supplements that you can use to boost your fertility. Whatever you name it, I have tried.' (Interview 2; Gambia²²).

However, women from higher socioeconomic status experienced lesser consequences of social stigma and pressures both within the family and in the community. This was compared to women from lower socioeconomic status who are less valued and more stigmatised. This was because women with higher economic power tend to use their available resources to provide a safe space and undertake fertility treatments which are usually very expensive but sometimes offer a chance of success²².

Social stigma

All studies showed that there was strong pressure on African women to procreate and it was regarded as a necessity. These pressures led to social stigma. Even though women from higher socioeconomic status experienced a higher position to cope with the social pressure, compared to women from lower socioeconomic status who experienced harsher consequences of a social stigma²². However, it was found that irrespective of social status or position, women with infertility in Africa still experienced relative social stigma^{19,21,23,28,29}.

One of the main sources of social pressure was criticism from community members. For example, infertile women were seen as 'useless' and respect was given to those who had a child or even if their child had died²⁶. This puts an immense pressure on their mental health, self-esteem and self worth^{23,29}.

Another source of social pressure that led to social stigma was insults or comments from family members. For example, there were some misconceptions among family members and relatives about infertility such as wombs being removed spiritually by others due to envy¹⁹. There were also comments that the inability to bear a child was seen as being disloyal and disrespectful to the family both nuclear and extended including in-

laws²⁹. These comments put these women in constant feelings of psychological distress²⁹.

'My mother-in-law on her side, ah!. She prepares bags for other people, but concerning me in particular she doesn't give anything because according to her she does not know who is going to eat the food since I have no children to feed, so, why will she give me her food?' (Quote from 29, pg 103, Cameroun).

Marital problems

This qualitative review found that African women with infertility sometimes experienced marital problems such as emotional and physical violence. They explained that the effect of infertility had put a strain on their marriages thereby resulting in psychological distress, low self-esteem and low self-worth^{22-24,29-31}. It was found that due to the inability to conceive or bear children, sometimes these women's husbands engaged in extramarital affairs or marry a second wife, believed to be fertile to bear children²⁹. Therefore, these marital problems due to infertility can lead to conflict in homes, separation and sometimes divorce^{22,30}. These outcomes have a negative consequence on these women's mental health and self-worth as they constantly blamed themselves for the inability to have children and the subsequent failure of their marriages²²

'My husband's brother divorced his wife after ten years of marriage because they could not have a child. The lady decided to break the marriage due to the social stigma and the in-laws' (Quote from 22)

Coping methods

Another sub-theme that came up in the literature was coping strategies used to cope with infertility. One of the main strategies was religion. These studies described religion as a way that women with infertility coped in their respective communities in Africa. It was apparent that due to the belief in supernatural causes, it is not surprising that many women used religion to cope with the impact of infertility^{19,20}.

In addition to using religion as a coping strategy, these women also used religion as a treatment option for infertility. The supernatural

beliefs underpinned the traditional treatment options. For example, African women were found to visit traditional healers or spiritualists for infertility treatment. This was evidenced in the study by²¹ as shown below

—' I know of cases, many cases [of women] who pray; these women have had children. I know them. It is a reality. That happens frequently in the church'. (21, Mali).

Finally, another sub-theme that came up in the literature that these women used as a coping method was that they self-isolated themselves. These studies explained that due to the experiences of infertility and its associated pressure from family, relatives, and the community, they had to isolate themselves from social activities and interactions. They also shared that they decided to relocate to another community to avoid the stigma and shame of being infertile^{21,22,23}.

'I don't have a calm mind. I only pray at home. I stay at home. I keep away from people. I cry' (Mali)²¹.

Summary

All studies included in this review found that the social impact of infertility such as social stigma, self-blame and blame from family and community members, resulted in psychological distress. Some of the psychological distress identified were anxiety, loneliness, sadness, lack of self-worth/ lack of self-esteem and trauma (21; 23; 30).

"I cry. It's the desire [to have a child] that kills. When one is married, one desires a child' (Quote from 21).

The qualitative studies in the review showed that infertile women experienced these symptoms of psychological distress due to the social stigma of infertility shown by family and community members. Many women shared that society blamed them and faced greater social pressure and social stigma than their partners (23).

"They criticize because my husband has another child but it's not mine. My husband says that when Allah makes it better, [a pregnancy] will happen. He says I shouldn't listen to their words. His older sister and mother, they [criticize] me" (Quote from 21).

Discussion

The main theme that came up was the cultural beliefs about infertility among family and

community members toward African women in all studies. They believed that supernatural beliefs were associated with infertility. For example, many believed that infertile women's wombs were removed spiritually due to jealousy or envy¹⁹. These spiritual beliefs made these women seek help spiritually from traditional healers or spiritualists. Unfortunately, there have been cases where some infertile women become desperate and engage in extramarital affairs with these so-called spiritualists to conceive^{19,26}.

It was reported that women with infertility in these African countries experienced insults and pressures from family and community members. This was because of the assumption that an infertile woman was responsible for her infertility^{19,22}. Therefore, these cultural beliefs and assumptions led to significant psychological distress and trauma for these women. In addition, these women were treated as 'outcasts'²¹.

The cultural norm in Africa for a woman to obtain respect was to be married, have children or both. Therefore, some studies included in the review found that women with infertility were not respected²¹. Many countries in Africa still have a deeply patriarchal system where concepts of 'masculinity' and 'femininity' were outcomes of society's expectations. African women were trained to be delicate, sensitive, and nurturing³². Therefore, these women were found unable to fulfil these roles due to the impact of infertility.

Having a child was a necessity or requirement, especially for women who were married. These were set expectations from society and when these expectations were not followed, they are shown no respect. For example, women who had a child or had a child that died were shown more respect than women who were childless²⁶. In addition, females from childhood were trained to care for their home, however, when a young married African woman is infertile, she is seen as a failure to herself and her family²¹. This showed that in the African society, there are fixed expectations for women to get married and have children and when this does not happen, these women are pressured resulting in stigma and thereafter psychological distress especially when they receive no support from family and community members.

The impact of infertility also puts pressure on marital relationships. There were descriptions of marital strains resulting in emotional and psychical

violence, marital conflicts and ultimately separation or divorce. Studies found that infertile couples experienced great dissatisfaction, tension, and resentment in their marriages^{21,26}. For example, there were reported cases where the husbands engaged in extramarital affairs or married a second wife to bear children²². Sometimes, pressure from family and/or community members, puts a great psychological toll on the wife^{21,31}. In addition, the cultural beliefs and comments from family and community members exacerbate these feelings among these couples, thereby putting more tension on their relationship^{21,29}. Therefore, the impact of infertility leads to marital strains in their marriages thereby resulting in psychological distress and low self-worth.

It was also found that financial difficulties were another barrier to infertile women's experiences in Africa. Infertility is very expensive to treat and can impact finances^{22,33}. Even though the review did not include qualitative studies on infertility treatments and assisted reproduction, it should be noted that women or couples who decide to go through that route spend a lot of their resources including money, time etc to undertake fertility treatment. Most times, these are not covered by insurance and must pay out of pocket, making some experience financial strain or even bankruptcy²². Unfortunately, women from low socioeconomic status do not have the associated privilege to undertake any form of infertility treatment or assisted reproduction due to a lack of available resources and must rely on their husbands for financial support compared to women from higher socioeconomic status who can afford infertility treatments and negotiate relationships between their spouses, family, and community members²². Therefore, women from low socioeconomic background tend to experience worse effects of psychological distress and low self-esteem due to heavy reliance on their husbands for fertility treatments or support.

Social pressure from the family such as nuclear, extended and in-laws and community members resulted in social stigma toward these women. In many families in African countries (e.g. Ghana and Nigeria), pressures by family members and even sometimes by her husband are usually placed on the woman when a couple are unable to conceive^{31,39}. A study by Hess et al.²¹ explained that women experienced more pressure, comments, and

insults than their spouses (husbands). Unfortunately in many African families, the pressures or insults and sometimes maltreatment from nuclear and /or extended families and in-laws usually falls on the wife thereby affecting the mental health and self-worth of the woman^{28,31,39}. This social stigma comes in the form of comments, insults, assumptions etc., These social pressures greatly impact these women leading to psychological distress such as anxiety, loneliness, low self-esteem, sadness, and trauma^{21,22}. In summary, the social impacts of infertility led to psychological distress among African women with infertility.

Studies included in this review gave several recommendations to help improve the experiences of infertile women in Africa such as advocacy and community mobilisation. This involves organisations including non-governmental organisations providing support to help provide more knowledge and sensitisation about infertility to help reduce the social stigma of infertility in the lives of African women by community members³³.

Education by health professionals: medical and/or health professionals should continue to educate both individuals, families and communities about infertility and its impact or consequences. This will also help reduce the social stigma and in the long run, reduce the impact on the lives of African women who are usually a direct consequence of the impact of infertility³⁴. Efficient referral system: medical hospitals and facilities should provide an effective and efficient referral system for individuals and couples with infertility³³.

Enactment of supportive laws: The government of African nations need to provide laws that support improving the lives of infertile women in Africa. Laws that treat infertile women as 'outcasts' or 'useless'²⁶ need to be prohibited and failure to adhere to such laws should lead to sanctions³³. studies also found that there is a need to examine cultural-bound meanings of symptoms of infertility both from the perspective of these women themselves and the communities at large. Therefore, specific care strategies should be proffered to meet these women's physical, spiritual, psychological, and social needs²⁹.

To achieve these, health professionals need to understand that due to the cultural or supernatural beliefs about the causation of infertility, Africans are usually willing to use both medical and non-medical treatments for infertility^{35,36}. Therefore, a

good relationship between medical, spiritual, and traditional healers is vital. This is because spiritual and traditional healers can play a major role in referring patients to medical facilities. However, Leavy and King³⁷ explained that even though traditional or spiritual healers usually provide emotional support and care to distressed infertile African women, they are reluctant to move from spiritual guidance and support to referring visits to hospitals. This is especially due to the strong belief that infertility is caused by supernatural factors such as witchcraft possession or demonic forces. Therefore, collaboration through training involving medical professionals and religious or traditional healers will help reduce the stigma of infertility among African women.

Finally, Dierickx *et al.*²² explained that an intersectional approach is effective to identify in certain scenarios how some specific groups are more vulnerable than others. For example, in the urban Gambia, the effects of the impact of infertility which appeared in the form of financial, social, and emotional problems were usually dependent on the economic and social position of the infertile woman in the society. This meant that women from a high socioeconomic status tend to be more resilient to the stigma of infertility. Therefore, a financially independent woman had more power to negotiate relationships with her spouse and in-laws. These women were more resistant to the pressures from the community by creating an independent or isolated space away from these pressures. In addition, these women were less dependent on their spouses for healthcare and were easier to seek private treatment or go abroad for fertility treatments. Therefore, women from lower socioeconomic status experienced more social pressures and stigma³⁸. In addition, taking into account their intersectional position including cultural beliefs, religion, educational background and having an income influenced the experiences of infertile African women.

Limitation

Using NVIVO showed that it was an appropriate and relatable tool for undertaking qualitative synthesis. However, there were some limitations. The studies were in seven countries in Africa. Therefore, the findings may not be generalisable to all countries in Africa. In addition, the findings were

supported by quotes in studies included in the review. This may result in underrepresenting the findings from studies that were not reflected in the review. However, emphasis was given to all findings that were included in the review by collating and appraising the studies.

A final limitation was the decision to exclude studies on fertility treatments and couples experiencing infertility. It was found that most of the studies included in the review identified financial difficulties as a barrier. This was also highlighted in studies specific to infertility treatment and couples with infertility. However, the focus of the review was on the impact of primary infertility among African women and not on couples with infertility or people seeking infertility treatment. However, as financial difficulties and marital constraints were significant in the literature, this means that studies in infertility treatment and studies on couples with infertility in Africa need to be explored.

Conclusion

This review identified that social stigma from family and community members is underpinned by social pressure due to their cultural beliefs and the individual's financial constraint. Social stigma towards infertile African women by their family and/or community members resulted in psychological distress such as anxiety, loneliness, low self-esteem etc. In addition, social stigma also led to marital strains in their respective marriages which sometimes led to separation or divorce. Several recommendations were made such as advocacy and community mobilisation, education by health professionals, ensuring an efficient referral system, enactment of supportive laws, provision of holistic person-centred care and ensuring an intersectional approach to inform public health and social policy.

Author's contribution

Temitope's broad research interests include identity, gender, and diversity within different areas of public health, wellbeing, migration, mental health, and reproductive health. She recently completed her doctoral research at Health, Wellbeing and Life sciences department at Sheffield Hallam University, United Kingdom. Her PhD

research explored the experiences of mental health among internal migrants in Nigeria. She currently works as a research associate at the information school, The University of Sheffield, United Kingdom titled 'Understanding Fairness in AI for Mental Health.

Conflict of interest

No potential conflict of interest was reported.

References

1. Benasutti RD. Infertility: Experiences and meanings. *Journal of Couple & Relationship Therapy*. 2003 Oct 21;2(4):51-71. https://www.tandfonline.com/doi/abs/10.1300/J398v02n04_04
2. Hammer BL and Covington S. Infertility counseling. *Parthenon, New York*. 1999.
3. Hakim RB, Gray RH and Zacur H. Infertility and early pregnancy loss. *American journal of obstetrics and gynecology*. 1995 May 1;172(5):1510-7. [https://doi.org/10.1016/0002-9378\(95\)90489-1](https://doi.org/10.1016/0002-9378(95)90489-1)
4. World Health Organisation. Multiple definition of infertility [internet.]. Geneva: World Health Organization; http://www.who.int/reproductivehealth/topics/infertility/multiple_definitions/en/. 2016; Oct [cited 2018 Feb 02].
5. Inhorn MC and Patrizio P. Infertility around the globe: new thinking on gender, reproductive technologies and global movements in the 21st century. *Human reproduction update*. 2015 Jul 1;21(4):411-26. <https://doi.org/10.1093/humupd/dmv016>
6. Dyer SJ, Abrahams N, Hoffman M and van der Spuy ZM. Infertility in South Africa: women's reproductive health knowledge and treatment-seeking behaviour for involuntary childlessness. *Human reproduction*. 2002 Jun 1;17(6):1657-62. <https://doi.org/10.1093/humrep/17.6.1657>
7. Sharma S, Mittal S and Aggarwal P. Management of infertility in low resource countries. *BJOG: An International Journal of Obstetrics & Gynaecology*. 2009 Oct; 116:77-83. <https://doi.org/10.1111/j.1471-0528.2009.02311.x>
8. Tanywe A, Matchawe C, Fernandez R and Lapkin S. Experiences of women living with infertility in Africa: a qualitative systematic review protocol. *JBI Evidence Synthesis*. 2018 Sep 1;16(9):1772-1778.
9. Thorne S. The role of qualitative research within an evidence-based context: Can metasynthesis be the answer?. *International journal of nursing studies*. 2009 Apr 1;46(4):569-75. <https://doi.org/10.1016/j.ijnurstu.2008.05.001>
10. Sandelowski M and Barroso J. Handbook for synthesizing qualitative research. *springer publishing company*; 2006 Jul 24.
11. Houghton C, Murphy K, Meehan B, Thomas J, Brooker D and Casey D. From screening to synthesis: using nivo to enhance transparency in qualitative evidence synthesis. *Journal of clinical nursing*. 2017 Mar;26(5-6):873-81. <https://doi.org/10.1111/jocn.13443>
12. Thomas J and Harden A. Methods for the thematic synthesis of qualitative research in systematic reviews. *BMC medical research methodology*. 2008 Dec;8(1):1-0. <https://doi.org/10.1186/1471-2288-8-45>.
13. Houghton C, Casey D, Shaw D and Murphy K. Rigour in qualitative case-study research. *Nurse researcher*. 2013 Mar 1;20(4). doi: 10.7748/nr2013.03.20.4.12.e326
14. Sandelowski M, Barroso J, Voils CI. Using qualitative metasummary to synthesize qualitative and quantitative descriptive findings. *Research in nursing & health*. 2007 Feb;30(1):99-111. <https://doi.org/10.1002/nur.20176>
15. Noyes J, Hannes K, Booth A, Harris J, Harden A, Popay J, Pearson A, Cargo M and Pantoja T. Qualitative research and Cochrane reviews. 2015: 1-26.
16. Dixon-Woods M, Agarwal S, Jones D, Young B and Sutton A. Synthesising qualitative and quantitative evidence: a review of possible methods. *Journal of health services research & policy*. 2005 Jan;10(1):45-53. <https://doi.org/10.1177/135581960501000110>
17. Gough D. Weight of evidence: a framework for the appraisal of the quality and relevance of evidence. *Research papers in education*. 2007 Jun 1;22(2):213-28. <https://doi.org/10.1080/02671520701296189>
18. Thomas J and Harden A. Methods for the thematic synthesis of qualitative research in systematic reviews. *BMC medical research methodology*. 2008 Dec;8(1):1-0. <https://doi.org/10.1186/1471-2288-8-45>.
19. Ofosu-Budu D and Hänninen V. Ways of reducing the stigma of infertility: Views of infertile women and their herbalists. *African Journal of Reproductive Health*. 2021 May 19;25(2):110-9. eISSN: 1118-4841
20. Nieuwenhuis SL, Theobald S, Liu X and Odukogbe AT. The impact of infertility on infertile men and women in Ibadan, Oyo State, Nigeria: a qualitative study. *African Journal of Reproductive Health*. 2009 Sep 1;13(3):85-98. <https://hdl.handle.net/10520/EJC124166>.
21. Hess RF, Ross R and Gililand Jr JL. Infertility, psychological distress, and coping strategies among women in Mali, West Africa: a mixed-methods study. *African journal of reproductive health*. 2018 Apr 18;22(1):60-72.
22. Dierickx S, Rahbari L, Longman C, Jaiteh F and Coene G. 'I am always crying on the inside': a qualitative study on the implications of infertility on women's lives in urban Gambia. *Reproductive health*. 2018 Dec;15(1):1-1. <https://doi.org/10.1186/s12978-018-0596-2>.
23. Fledderjohann JJ. 'Zero is not good for me': implications of infertility in Ghana. *Human Reproduction*. 2012 May 1;27(5):1383-90. <https://doi.org/10.1093/humrep/des035>.
24. Gerrits T. Social and cultural aspects of infertility in Mozambique. *Patient education and counseling*. 1997 May 1;31(1):39-48.

25. Hollos M, Larsen U, Obono O and Whitehouse B. The problem of infertility in high fertility populations: meanings, consequences and coping mechanisms in two Nigerian communities. *Social science & medicine*. 2009 Jun 1;68(11):2061-8. <https://doi.org/10.1016/j.socscimed.2009.03.008>.
26. Hollos M and Whitehouse B. Women in limbo: life course consequences of infertility in a Nigerian community. *Human Fertility*. 2014 Sep 1;17(3):188-91. <https://doi.org/10.3109/14647273.2014.936052>.
27. Larsen U, Hollos M and Obono O and Whitehouse B. Suffering infertility: the impact of infertility on women's life experiences in two Nigerian communities. *Journal of biosocial science*. 2010 Nov;42(6):787-814. <https://doi.org/10.1017/S0021932010000271>.
28. Ofosu-Budu D and Hanninen V. Living as an infertile woman: the case of southern and northern Ghana. *Reproductive health*. 2020 Dec;17(1):1-9. <https://doi.org/10.1186/s12978-020-00920-z>.
29. Nguimfack L, Newsom K and Nguekeu MR. Brief report: A Cameroonian woman's cultural-bound experience of infertility. *Journal of Feminist Family Therapy*. 2016 Jul 2;28(2-3):100-10. <https://doi.org/10.1080/08952833.2016.1201381>.
30. Dierickx S, Coene G, Jarju B and Longman C. Women with infertility complying with and resisting polygyny: an explorative qualitative study in urban Gambia. *Reproductive Health*. 2019 Dec;16(1):1-1. <https://doi.org/10.1186/s12978-019-0762-1>.
31. Naab F, Lawali Y and Donkor ES. "My mother in-law forced my husband to divorce me": Experiences of women with infertility in Zamfara State of Nigeria. *PloS one*. 2019 Dec 19;14(12):e0225149. <https://doi.org/10.1371/journal.pone.0225149>.
32. Makama GA. Patriarchy and gender inequality in Nigeria: The way forward. *European scientific journal*. 2013 Jun 30;9(17).
33. Oladokun A, Arulogun O, Oladokun R, Morhason-Bello IO, Bamgboye EA, Adewole IF and Ojengbede OA. Acceptability of child adoption as management option for infertility in Nigeria: Evidence from focus group discussions. *African Journal of Reproductive Health*. 2009;13(1). eISSN: 1118-4841
34. Ofosu-Budu D and Hänninen V. Explanations for infertility: The case of women in rural Ghana. *African Journal of Reproductive Health*. 2021 Oct 14;25(4):142-52. eISSN: 1118-4841.
35. James P B, Wardle J, Steel A, & Adams J: Traditional, complementary and alternative medicine use in Sub-Saharan Africa: A systematic review. *BMJ Global Health*. 2018., 3, e000895. doi:10.1136/bmjgh-2018-000895
36. Labinjo T, Serrant L, Ashmore R and Turner J. Perceptions, attitudes and cultural understandings of mental health in Nigeria: A scoping review of published literature. *Mental Health, Religion & Culture*. 2020 Aug 8;23(7):606-24. <https://doi.org/10.1080/13674676.2020.1726883>.
37. Leavey G and King M. The devil is in the detail: partnerships between psychiatry and faith-based organisations. *The British Journal of Psychiatry*. 2007 Aug;191(2):97-8. <https://doi.org/10.1192/bjp.bp.106.034686>.
38. Inhorn MC. Interpreting infertility: medical anthropological perspectives. *Social Science and Medicine*. 1994;39(4):459-61.
39. Tabong PT and Adongo PB. Infertility and childlessness: a qualitative study of the experiences of infertile couples in northern Ghana. *BMC Pregnancy and Childbirth*. 2013, 13:72. <http://www.biomedcentral.com/1471-2393/13/72>.