

Factors influencing men's decisions whether or not to utilize sexual and reproductive health services in Low-Middle-Income countries: A narrative review

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Systematic Review

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Abstract

Background

Low-Middle-Income countries (LMIC) present with a high aversion to the utilization of Sexual and Reproductive Health (SRH) services by men. Nevertheless, in both Low-Middle-Income and High-Income countries, low SRH utilization is mainly related to men's poor Health Seeking Behaviour (HSB). Identifying SRH inhibitors and facilitators remains an essential approach to improve SRH utilization and avert higher mortality and earlier morbidity associated with poor HSB among men. This literature review identifies factors contributing to men's decisions not to utilize SRH services, particularly to inform a conceptual model illustrating men's SRH utilization in LMIC.

Methods

In this narrative review, we searched articles published between 2004 and 2021 from international databases, including Google Scholar, Science Direct, EBSCOhost, Scopus, PubMed, Medline, and reference lists of retrieved published articles.

Results

A total of 2219 articles were retrieved, from which 51 articles met the inclusion criteria. We reveal lack of access and availability of SRH services, poor health-seeking behavior among men and, SRH facilities often not being seen as "male-friendly" spaces and not providing men's services under one roof as the underlying factors contributing to the poor uptake of SRH services by men. Further influences to decline in SRH utilization by men included lack of focus on adult men's sexual and reproductive health; the lack of inclusion of men in a meaningful way; and the insufficient evidence about large-scale and implementable approaches to address men's SRH needs. Our reviews reveal that dealing with negative or inhibiting factors to manage low utilization of SRH services had improved men's SRH utilization where this was carried out. We conclude by proposing a framework to illustrate men's engagement with SRH services.

Plain English

Sexual and Reproductive Health service utilization refers to accessibility, affordability, availability, and quality of sexual health services that are provided in a convenient and suitable manner. The utilization of SRH services provides a state of physical, mental, and emotional well-being. SRH services include assistance with contraception, prevention and treatment of HIV/AIDS and other Sexually Transmitted Infections (STIs), Medical Male Circumcision (MMC), condom use, psychosocial interventions such as sexual health counseling and education, Vasectomy, prevention and treatment of male cancers such as

prostate and testicular, infertility services, sexual dysfunction developmental anomalies, malignancy, trauma, developmental and lifecycle issues, sexual identity and orientation, and partnership issues.

We have found that there is a lack of literature investigating factors associated with adult men's utilization of SRH. To our knowledge, this is the only review that comprehensively focuses on adult men's utilization of SRH services. Empirical evidence indicates the enormous under-utilization of SRH services by men. Very few men are reported to be accessing and utilizing SRH services. Consequently, men die from curable SRH problems that can be prevented, contributing to higher mortality and earlier morbidity among men. The factors influencing men's decision to utilize SRH services include cultural, religious, psychosocial, economic, and socio-demographic characteristics.

We conducted a systematic review of articles between 2004 and 2021 and identified an initial 2219 papers, of which 51 were included in the analysis and then analyzed narratively. We extracted information about the factors influencing SRH service utilization among adult men from published and unpublished peer-reviewed literature. Identifying SRH inhibitors and facilitators remains an essential approach to improve SRH utilization.

Background

Sexual and Reproductive Health (SRH) is a global public health concern [1, 2]. SRH problems account for major health challenges and constitute almost 14% of the disease burden which contributes to higher mortality and earlier morbidity in men [3]. Globally, SRH is one of the fundamental human rights for every individual [1], but only less than one-quarter of men report accessing and utilizing SRH services [4].

The utilization of SRH services refers to having suitable and convenient access to these services [5, 10]. The services provide a state of physical, mental, and emotional well-being related to sexuality and reproduction, and are essential for the socio-economic development of communities and countries [2, 6–8]. SRH services include providing contraception, prevention and treatment of mental disorders, communicable and non-communicable diseases, medical male circumcision, and psychosocial interventions such as sexual health counseling, [5, 8–12].

Under-utilization of SRH services is evident despite several international conventions and adopted programmes and policies that seek to engage men and boys in the context of reproductive health services [11]. The Lancet Commission (2018) posited that 4.3 billion people of reproductive age would inadequately utilize sexual and reproductive health services throughout their lives. The Commission further stated that two million people were newly infected with HIV while more than 350 million men and women needed treatment for curable STIs [2]. Factors influencing men's under-utilization are multifaceted. These factors include the lack of focus on men's SRH by international programmes such as Sustainable Development Goals (SDGs) and Family Planning 2020 (FP2020), which largely focus on women and youth [14–17]. Furthermore, SRH service provision is often fragmented or poorly structured to address men's health needs, and is mostly needlessly expensive [3, 17, 18].

The purpose of the review is to synthesize available evidence on factors contributing towards adult men's engagement with SRH services in LMICs. The review focused on LMICs because of resource constraint challenges that largely lead to relative poorer access to and higher unmet need for SRH services. The literature review was conducted as part of a doctoral research project. These findings contribute to the development of appropriate interventions to guide men's engagement with SRH services.

Methodology

The systematic quantitative literature review method was followed to search and identify relevant literature. The search included published peer-reviewed articles, reports, and grey literature. Peer-reviewed articles were searched in the following databases: Google Scholar, Science Direct, Scopus, and EBSCOhost. Additionally, electronic databases: CINAHL, PubMed, Medline, Academic Search Complete, Health Source - Consumer Edition, Health Source: Nursing/Academic Edition and MEDLINE, electronic journals, and reference lists of retrieved published articles were also searched.

The following MESH terms were used to retrieve relevant articles for this review: "sexual and reproductive health services", "men", "factors influencing / inhibiting / facilitating SRH service utilization", "Utilization of Sexual and Reproductive Health services by adult men". To cover comprehensive SRH services, studies were also searched by individual SRH services, e.g., utilization of condoms. Studies that investigated Health Care Workers' (HCW) knowledge and perceptions about men's use of SRH services were also included.

Studies conducted in 2004 were sourced because the World Health Organisation (WHO) recognized the immense global health burden (including extensive mortality and morbidity) associated with sexual and reproductive health conditions and poor quality of care for people's sexual and reproductive health in 2004 [12]. The database was constructed to extract important dimensions of factors influencing SRH service utilization. We extracted only relevant results about populations eligible for inclusion in this narrative review. For example, where data was collected for males and females, we extracted only data presented on males.

Eligibility criteria

This review included quantitative and qualitative papers published in English between 2004 and 2021. Studies reporting exclusively on the factors influencing SRH service utilization among adolescents or women were excluded. Studies reporting on the interventions and the evaluation of interventions to improve SRH utilization; clinical decision-making algorithms; studies conducted in HICs; and studies not reporting on barriers or facilitators of SRH utilization were also not considered.

Assessment of Publications

The database search generated 2219 records which were grey literature, health services reports, research reports, theses, and dissertations. The Principal Investigator assessed titles and abstracts for inclusion.

On a review of titles, 2042 were excluded because they were duplicates unrelated to this narrative review topic or exclusively focused on adolescents and women. On a review of abstracts, 96 papers were excluded because they reported on the evaluation of SRH services, management of SRH problems, or male involvement in partner family planning. These were policies and documents that did not report on factors facilitating or hindering SRH service utilization. The latter were systematic reviews.

Of 73 potentially relevant full-text papers, 22 were excluded because results did not yield factors hindering or facilitating SRH service utilization. Fifty-one papers met the inclusion criteria and were captured in the database. Secondary to the heterogeneity of papers, we present a narrative synthesis describing study characteristics and key findings. We further summarize overarching themes and the consistency of key findings. Discussions between team members were used to build consensus on the narrative synthesis.

Constructing the database

A database was constructed to summarise the studies identified for the review. The following information was captured in the database (Table 1): author (s), year of publication, the country(s) where the study was conducted, the age and target population for the study, the study design, barriers to and facilitators of the utilization of SRH services, and SRH issues investigated.

Figure 1 presents the search algorithm indicating the number of identified studies, included and excluded studies, and reasons for exclusion.

Results

A total of 2219 articles were retrieved, from which 51 studies met the inclusion criteria for review. Table 1 presents the author, year of publication and study location, participant characteristics (age and gender), and study design. Table 2 presents barriers, facilitators, and sexual and reproductive health issues. All articles (qualitative and quantitative studies) extracted from the literature were descriptive. The results are summarized narratively.

Description of included studies

1. Study location

Most of the studies were conducted in South Africa (22%) [21-31], and five (10%) of studies were conducted in Kenya [32-36], Uganda [37-41], and Ghana [42-46]. Four (8%) studies were published in Zimbabwe [47-50]. Three (6%) studies were conducted in Nigeria [51-53] and Nepal [54-56]. In Rwanda [57, 58], there were two (4%) studies identified, whilst only one (2%) study each conducted in Swaziland [59], Papua New Guinea [60], Tanzania [61], Zambia [62], Botswana [63], Lesotho [64], Mexico [65], Philippines [66], Ethiopia [67], Egypt [68], Myanmar [69], Lao [70] and one both in Zimbabwe and South Africa [71].

2. Age and gender

The studies included all targeted adult men. In studies that mixed male and females, as well as those which included younger ages, we only extracted information pertaining to adult men. The majority (55%) of studies identified exclusively targeted men [22-26, 28, 30, 31, 33, 35, 37, 39, 41, 43, 44, 45, 48, 49, 53, 57, 59, 60, 62, 63-66, 71]. The balance (45%) focused on both men and women [21, 27, 29, 32, 34, 36, 38, 40, 42, 46, 47, 50-52, 54-56, 58, 61, 67-70]. The majority (86%) of studies targeted adults 26 years and above [21-39, 41-44, 46-51, 53, 57-66, 71]. Studies which targeted adolescents were excluded, however those targeting youth or young adults age between 15-25 years (14%) were included [40, 45, 52, 54-56, 67-70].

3. Study design

The majority (55%) of studies that met the inclusion criteria were conducted qualitatively, and employed either Focus Group Discussions (FGDs) (16%) or In-depth Interviews (IDIs) (18%), and some both FGDS and IDIs (24%) [22, 24, 26, 28, 31-34, 36, 38, 39-41, 45-47, 49, 50, 52, 56, 59, 60-62, 65, 67, 68, 70, 71]. Twenty-five percent of quantitative studies employed cross-sectional study design [23, 25, 27, 29, 42, 43, 45, 51, 53, 54, 57, 58, 69], and two (4%) employed National Health and Demographic Survey (NHDS) [35, 66]. The later (16%) used mixed [21, 30, 37, 44, 48, 55, 63, 64]. There was only one mixed study that included Randomized Control Trial (RCT).

4. Study setting

Forty-nine percent of studies were conducted in both urban and rural settings. In some studies, the exact locations where data was collected were not specified [33, 34, 40, 43, 45, 46, 56, 59, 60, 61, 63, 65-68, 70]. Some of the studies were conducted in public and private-sector health facilities (clinics and hospitals) [24, 25, 29, 58, 64]; private rooms or offices in community centres; Non-Governmental Organizations sites [27, 32, 35], and households in towns and rural villages [28, 48, 69]. In studies conducted exclusively in urban settings (27%), data was collected in towns and townships in which households were visited.

Some participants were recruited on the streets [21, 23, 30, 47], district health offices [26], hospital and clinical settings [36, 38, 44, 53, 62], and there were two unspecified studies [42, 54]. Studies solely conducted in rural settings (24%) approached households in villages [22, 37, 39, 41, 49, 51, 52, 55, 57, 71], traditional healers' places, school and community halls, community tuck-shops, faith-based organizations' premises, hospital and clinic waiting rooms. [31, 50].

5. SRH issues

The SRH issues identified were Vasectomy; Family Planning (FP); Medical Male Circumcision (MMC); condom use; management and prevention of STIs; HIV services; Prostate Cancer (PC) screening; and Erectile Dysfunction (FD).

6. Barriers to men's decisions to utilize or not utilize Sexual and Reproductive Health Services

Several barriers have been associated with the decision to utilize or not utilize S.R.H. services. These can be summarized into individual/personal factors, knowledge, socio-cultural and religious, socio-economic factors, geographical, and health service system factors, as detailed below.

Individual / personal factors

In this review, individual/personal factors are described as behavior and characteristics demonstrated by participants which determined whether they utilized SRH services or not. Individual factors presented as barriers to SRH utilization were identified. Fear emerged as a barrier to utilizing SRH services. Among the studies focused on PC screening, fear of post-operative complications such as pain, delayed recovery, infections, morning erections, as well as the post-procedure abstinence period deterred most men from undergoing MMC [21,23, 32, 33, 39, 48, 49, 53, 57, 61-64, 59,71]. The requirement to do HIV testing before getting circumcised deterred most men from undergoing Medical Male Circumcision (MMC). They feared the possibility of testing positive, and hence death related to HIV complications. because of self-knowledge of reckless lifestyles. Men also feared the stigma associated with HIV, and the possibility of being blamed and rejected by significant others such as partners, family members, and friends, as well as the pressure from employees to quit the job after being diagnosed [24, 26, 27,31, 43, 47-52, 64, 69]. Post circumcision myths such as the inability to sexually satisfy partners, less natural lubrication, and decreased penile sensitivity on a circumcised penis also deterred individual men [21, 22, 33, 37, 39, 46, 59].

Factors associated with barriers involving Condom use included poor quality of condoms and embarrassment to buy condoms [28, 44, 66, 70]. Furthermore, the perception of low-risk also hindered men from using condoms and undergoing MMC [32, 33, 50, 57, 69, 70]. In Hassan's (2015) study, some men in Nigeria were reluctant to screen for Prostate Cancers they perceived it as a low-risk since there was no family history [53].

Lack of Knowledge

Men's underutilization of SRH services was associated with a lack of awareness of disease screening services such as HIV and prostate cancer, and the lack of knowledge of the existence of SRH services. Consequently, some men did not know where to go for SRH services [27, 35, 46, 53-56, 67, 69, 70]. Lack of knowledge and understanding of HIV was evident when men often inferred their status from their female partners' results [27, 31, 52]. As a result of this lack of knowledge and of reliable information, men claimed less or no benefits of MMC if they were already HIV-positive, had good hygiene, were already practising other HIV prevention methods such as the 'Abstinence' 'Be faithful' 'Condomise' (ABC) method, or their partner(s) was sexually satisfied [33, 49]. Furthermore, in non-circumcising communities in South Africa, men did not know that the MMC service was offered for free at the local clinic or hospital [21]. Furthermore, some men associated infertility with circumcision [39, 48].

In addition to lack of knowledge, myths resulted in men opting not to use condoms after getting circumcised, citing reasons such as the circumcised penis would tear a condom; or putting a condom on

an exposed circumcised penis would cause pain [47]. Furthermore, misconceptions such as the nutritional benefit from sperm, condom porousness, lubricant related infections, and the belief that white men had infected condoms with HIV hindered Condom use [28, 40, 45, 50, 56, 70]. Men often confused Vasectomy with castration and wrongly associated it with loss of libido, decreased sexual activity, and loss of masculinity [46, 66].

Socio-cultural and religious factors

Factors associated with culture, such as the threat to masculinity, prevented men from undergoing MMC as non-circumcising communities presumed circumcision to be an alien culture or part of a foreign religion [21, 23, 30, 39, 45, 47, 49, 59, 60]. Some men alluded to undergoing MMC as tampering with God's creation [33, 47, 49, 59]. Most cultural and religious practices consider discussing sexual matters a taboo. Therefore, the sensitivity of discussing SRH issues had hindered most men from accessing psychosocial health therapy and counseling [35, 42, 45, 46, 55, 56, 67].

Socio-economic factors

SRH service utilization was hindered by the perceived high costs of SRH products such as condoms, particularly in rural areas [40, 56, 67]. In addition, the inaccessibility and unavailability of condoms due to fewer shops contributed to low utilization [23, 25, 29, 30, 44, 45, 69]. Fear of losing income (work) due to long-period off work due to pain or post-procedure healing period deterred some men from undergoing MMC [21, 32, 33, 39, 61, 62]. Traveling costs to healthcare establishments also emerged as a major deterrent [27].

Geographical factors

In most LMICs, health facilities are concentrated in the urban area, whereas most men in these populations reside in rural areas [67, 56, 63]. Consequently, long distances and poor transport (especially in rural areas) to the health facility became barriers to accessing and utilizing SRH services [29, 33, 40, 42, 54, 69]. The distance of health centres from men's workplaces often leads to men failing to utilize SRH services. Furthermore, poor transport infrastructure can prevent access to services in rural areas [30].

Health service system (Physical accessibility, availability, accessibility, affordability)

Poor quality of the services and lack of materials such as condoms and medicines hindered the utilization of SRH services by men [29, 42, 54, 55, 63, 67, 68, 70]. Inconvenient service hours or limited opening hours at the delivery point were also barriers to SRH services utilization [27, 36, 40, 54, 55, 67, 68]. The inconvenience of the location of the SRH services at the local clinic seems to be a barrier to accessing the SRH care, especially for young men [44, 67]. Long waiting times because of queues influenced men's decisions to avoid coming to a healthcare centre [29, 30, 36, 40, 42, 50, 63, 64, 67].

Some studies revealed that most health care providers lack the necessary training and knowledge to make men feel comfortable discussing SRH issues [36, 56, 67]. Physicians indicated discomfort in

counseling on sexuality and safer sex for unmarried youth [68]. Lack of privacy, respect, and potential breaches of confidentiality from the health care workers at the health facilities deterred men from utilizing SRH services [25, 36, 40, 41, 44, 55, 67, 70].

Men avoided utilization of SRH services due to hostile and judgmental attitudes from female health service providers [27, 29, 30, 40, 45, 56], especially towards young and unmarried men. There is still much sensitivity needed regarding pre-marital sexuality [26, 29, 36, 56, 67, 69, 70]. Consequently, the non-availability of same-sex health workers was a barrier since some men felt embarrassed to discuss their health issues and be examined by female health workers [30, 33, 45, 55, 64, 68]. Frequently changing HIV prevention programmes led to distrust in the health system, discouraging men from testing and treating HIV [49, 59]. A further deterrent was partial protection of condoms and lack of empirical efficacy of MMC for HIV prevention as people can die even after circumcision [39].

7. Facilitators to men's engagement with Sexual and Reproductive Health Services

There was a limited number of studies that focused on factors facilitating the utilization of SRH services. Facilitators to men's decisions to utilize SRH services are summarized into individual/personal issues, knowledge, socio-cultural and religious factors, socio-economic factors, and health service system factors as detailed below.

Individual / personal factors

Some studies discussed above concluded that men were reluctant to undergo MMC due to poor sexual performance. Conversely, other studies found that sexual appeal and satisfying women motivated men to perform MMC sexually. Men believe that post circumcision, they better satisfy women as they last longer before ejaculating, and also wearing condoms was much easier after the foreskin was removed [21, 22, 33, 38, 47, 60, 61, 64, 59]. Curiosity to feel the difference between sex with an uncircumcised penis and a circumcised one motivated some men [47]. Furthermore, personal gain or prestige from research activities such as free medical care for ailments, financial incentives, and a sense of being responsible by participating and contributing to research, motivated men to undergo MMC [27, 39, 50].

Role modeling positive HIV status disclosure and adherence to Anti-Retroviral Therapy (ART) motivated men to engage in HIV treatment initiatives [24, 27]. Furthermore, an individual desire to limit family size encouraged some men to undergo a Vasectomy since it was perceived as a permanent method with a low risk of complications, thus limiting the side effects of other female-controlled hormonal methods [58].

Knowledge

Knowing the benefits of undergoing MMC, such as protection against diseases and improved hygiene motivated most men to perform the procedure [21, 33, 34, 37-39, 47, 48, 57, 60-62, 64, 59]. Some men were motivated by myths such as the increased size of the penis post circumcision (Humphries 2015).

Socio-economic factors

Financial constraints motivated undergoing a Vasectomy [58]. The fact that some SRH services are provided at no cost, also motivated men [38].

Health service system (Physical accessibility, availability, accessibility, affordability)

Health workers' welcoming friendly attitudes, and respect for men's privacy and confidentiality motivated men to access and utilize SRH services [55, 63, 68]. Access to the right information about SRH services via advertisements such as pamphlets and radio/television programmes [27, 63] and the support from healthcare providers also played a vital role in encouraging SRH service use by men [24, 41, 50].

Discussion

This literature review aimed to establish the factors that influence men's decisions to utilize or not to utilize SRH services. In this review, only studies conducted in LMICs were included for synthesis. Identified studies were conducted mostly in the Africa regions (Southern, Eastern, and Western regions), and ten percent in South-Asia. Although studies were conducted in either rural or urban or in both rural and urban areas, findings in these settings remained comparable. Qualitative methods were the most used methods, either employed Focus Group Discussions (FGDs) or In-depth Interviews (IDIs) and some utilized both FGDS and IDIs. All studies included in this review targeted adult men. In studies that mixed males and females, as well as those that included younger ages, we only extracted information pertaining to adult men. Adult men were targeted because the literature review revealed less focus on studies investigating SRH service utilization among adult men.

The most prevalent SRH issues identified incorporated Medical Male Circumcision, management and prevention of STIs, HIV/AIDS services, Family Planning (FP), and condom use. Less noted were Prostate Cancer (PC) screening, and Erectile Dysfunction (ED), and Vasectomy surgeries. This may be because services for these SRH issues are expensive, and most men in LMICs cannot afford them and sometimes they are against their cultures and religious beliefs [46, 58].

The identified barriers and facilitators of SRH service utilization encompassed individual or personal factors, lack of knowledge, socio-cultural and religious factors, socio-economic factors, geographical and health service systems. The most prevalent barrier identified was the personal perceptions (personal factors) in which men largely demonstrated embarrassment, insecurity (which have to do with their self-esteem and reputation), and fear. Fear played a vital role in inhibiting men's use of SRH services. Consequently, men were discouraged to utilize SRH services such as MMC, Vasectomy services, family planning, STI / HIV services, screening for prostate cancer, and Condom use [23, 26, 27, 33, 42, 43, 46, 47, 49, 50, 59, 63, 64, 66]. Some studies revealed that men were largely deterred by fear of MMC post-procedure complications [32, 33, 39, 61, 62]. Most men find it embarrassing to go to SRH services and consider it a very negative experience when they are seen, ridiculed, and disrespected by people known to them [28, 44, 66, 70]. These negative experiences may motivate men not to go back to the clinic.

Under-utilization of SRH services was associated with a range of cultural barriers. Most studies indicated that socio-cultural factors inhibited men's utilization of SRH services. For example, cultural and religious backgrounds that perceived discussing sexual matters as a taboo deterred men's engagement with SRH services [35, 42, 45, 46, 55, 56, 67]. The threat to masculinity was also a major barrier, and was associated with post MMC or Vasectomy procedure misconceptions and myths. These are beliefs about the inability to produce more children, the loss of manhood, and infertility [48, 39, 40]. Despite the availability of services, poor utilization was associated with limited knowledge of the availability of the different SRH services. Lack of knowledge or awareness of the existence of SRH services such as vasectomies, screening for prostate cancer, STI / HIV testing, MMC, centres for counseling, and provision of information, hindered men's utilization [27, 35, 46, 53–56, 67, 69, 70].

Cost-related issues prevented access to and utilization of SRH services such vasectomies, condoms, HIV testing. Although most SRH services are provided for free in LMICs, some men, especially those from rural areas, alluded to cost as a hindrance to accessing SRH services [40, 56, 67]. Such difficulties in accessing SRH services may be due to unemployment. In rural areas, most health facilities are far from the communities. As a result, people in rural communities have to walk long distances due to a lack of money and transport. In the health service system, health care workers' conduct significantly influenced men's decisions to utilize or not to utilize SRH services. Predominantly, men's utilization of SRH services was deterred by bad health workers' attitudes and lack of privacy and confidentiality.

The review identified only a few studies that focused on factors facilitating the SRH service utilization by men. Among studies that investigated SRH facilitating factors, virility was found to have motivated men to undergo MMC. Having done MMC, some men claimed to be stronger sexually, and that wearing condoms was much easier [21, 22, 33, 38, 47, 60, 61, 64, 59]. Conversely, some studies found that men were reluctant to undergo MMC in case it resulted in poor sexual performance. Barriers to SRH service were prevalent among societies who did not regard MMC as part of life, whereas, facilitators to SRH service utilization were predominant among those who embraced MMC.

Individual factors such as curiosity motivated SRH utilization. For example, some men were inquisitive about the differences experienced during the sexual act with an uncircumcised penis as compared to a circumcised one [47]. Moreover, personal gain from research activities cannot be ruled out as most men showed interest in financial incentives post MMC [27, 39, 50]. Knowledge was instrumental in encouraging SRH service utilization. Men who understood the benefits of undergoing MMC were motivated to perform the procedure [21, 33, 34, 37–39, 47, 48, 57, 60–62, 64, 59,]. Bad attitudes from healthcare workers can be a barrier to SRH service utilisation, however, professional and good treatment from healthcare workers was found to facilitate SRH service utilization [55, 63, 68].

This review of the literature revealed a limited number of studies conducted exclusively in the area of adult men's SRH service utilization. More studies that focus on adult men need to be conducted, especially in LMICs. Given the lack of focus on men's SRH by international programmes such as SDGs and Family Planning 2020 (FP2020) [14–17], research focusing on men may bring about evidence-based

knowledge that can be utilized by policy makers to ensure accessibility and availability of SRH services for adult men. Subsequently, high morbidity and mortality among men adult men may decrease.

The analysis also reveals that men generally ignore the warning signs of sexual health problems, and are reluctant to seek and engage with SRH services for anything other than severe illness [67, 41]. Nevertheless, if factors influencing men's decisions to seek and utilize SRH services are known and understood comprehensively and in the local context, men's engagement with SRH services could improve.

Furthermore, this analysis can be used by policymakers, service administrators, and service providers who want to identify the barriers experienced by men to make services more accessible.

Strengths of the review

This review consolidated knowledge about barriers and facilitators that influence men's decisions to utilize SRH services. While reviews conducted in past decades have identified barriers and facilitators to SRH services, this current systematic review is the first to focus on adult men only and to comprehensively focus on all SRH services. The findings from this review have implications for clinical practice and policy.

Limitations of the review

This review restricted the inclusion criteria to studies conducted in LMICs. Therefore, findings may not be generalizable to other settings. However, during analysis, the authors extracted findings of adult men only. The writers of the review also restricted the criteria only to include studies published in English due to a lack of resources for translation. This may limit how findings from this review can be transferable to all low and middle-income countries. Another limitation of this review is that data extraction was not performed in duplicate, which could result in bias results. We did not do additional study quality assessments or remove studies based on the risk of bias, given our goal to describe the relevant studies identified.

Conclusion

Despite the need for SRH utilization by men, there is little evidence suggesting the implementation of proposed interventions. Consequently, low SRH utilization has become a major concern regarding men's health. Men's SRH service utilization needs to be investigated comprehensively to comprehend men's problems fully. None of the identified studies comprehensively investigated SRH issues. There is also a lack of studies investigating vasectomies and their influence on infertility.

Furthermore, most papers identified described adolescents and young adults, predominantly focusing on barriers rather than facilitators. There is, therefore, a need to explore the utilization of SRH services among adult men. There is a need to motivate men to participate in SRH services so that the high level of morbidity and mortality among men can be averted. Although SRH includes mental health issues, little is

known about mental health issues related to sexual health. The same applies to the impact of physical disabilities and chronic illnesses on sexual well-being. Further research may be warranted in this regard. Governments need to increase the awareness and education of the public to fight against myths and misconceptions linked to the utilization of SRH services and to improve the capacity of the healthcare providers to engage men better.

Men perceive many hindrances in obtaining SRH services from the time they access the services until they leave. These hurdles must be reduced as they could prevent them from even initiating seeking advice or care. Some obstacles (e.g., access, service delivery) are easier to remove than others (e.g., living place issues). There is a need to advertise the services widely, to indicate who can seek these, and to offer convenient opening hours.

Abbreviations

SRH

Sexual and Reproductive Health

LMICs

Low- and Middle-Income countries

HSB

Health Seeking Behaviour

HIV

Human Immunodeficiency Virus

AIDS

Acquired Immunodeficiency Disease Syndrome

STI

Sexually transmitted infection

UNFPA

United Nations Population Fund

WHO

World Health Organization

HCW

Healthcare worker

MMC

Medical Male Circumcision

PC

Prostate Cancer

ED

Erectile Dysfunction

FP

Family Planning

IPPF

International Planned Parenthood Federation
S.D.G.s
Sustainable Development Goals
F.G.D.s
Focus Group Discussions
I.D.I.s
In-depth Interviews.

Declarations

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Authors' contributions

M.N. conceived the study and developed the design of this review with valuable contributions from T.D. M.N. performed the searches, conducted the title and abstract screening and the full-text screening, and performed the data abstraction and thematic analysis. M.N. drafted the first manuscript. T.D. oversaw the project and contributed valuable feedback to the manuscript. All authors read and gave approval of the final manuscript.

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Consent for publication

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Competing interests

The authors declare that they have no competing interests.

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Tables

Table 1: Author, year of publication and study location, participant characteristics (age and gender), study design and study setting

Authors	Year	Study location	Participant characteristics (age and gender)	Study design	Study setting (Urban or Rural)
Hoffman et al.	2015	South Africa	Men and women 18 and above	Mixed - analytical cross-sectional study design	Urban
Humphries et al.	2015	South Africa	Men 18-54	Qualitative - FGDs	Rural
Lissouba et al.	2011	South Africa	Men 15-49	Quantitative - Community-based cross-sectional study	Urban
Zissette et al.	2016	South Africa	Men 24-80	Qualitative – IDIs	Urban
Khan et al.	2014	South Africa	Men 18-50	Survey questionnaire	Urban
Mambanga et al.	2016	South Africa	Men 18 and above	Qualitative - semi-structured interviews	Urban
Mohlabane et al.	2016	South Africa	Men and women 16 and above	Quantitative – cross-sectional survey (semi-structured questionnaire)	Urban and Rural
Stern et al.	2014	South Africa	Men 18-55	Qualitative – FGDs	Urban and Rural
Morison et al.	2016	South Africa	Men and women 20-90	Quantitative – Survey - A Healthcare User questionnaire	Urban and Rural
Mthembu et al.	2015	South Africa	Men 18 and above	Quantitative - Survey questionnaire Qualitative - IDIs	Urban
Chikovore et al.	2016	South Africa	Men 17-64	Qualitative - IDIs, FGDs	Rural
Evens et al.	2014	Kenya	Men and women 18-35	Qualitative - FGDs, IDIs	Urban and Rural

Herman-Roloff et al.	2011	Kenya	Men 18-40	Qualitative - FGDs	Urban and Rural
Macintyre et al.	2014	Kenya	Men and women 25-49	Qualitative - FGDs, IDIs	Urban and Rural
Withers et al.	2015	Kenya	Men 15-64	Quantitative - Kenya Demographic and Health Survey (KDHS).	Urban and Rural
Godia et al.	2013	Kenya	Men and women 27-50	Qualitative – FGDs, IDIs	Urban and Rural
Mbonye et al.	2016	Uganda	Men 18-35	Mixed: Quantitative - interim serosurvey; Qualitative - IDIs	Rural
Muhamadi et al.	2013	Uganda	Men and women 18 and above	Qualitative - IDIs, FGDs	Urban
Ssekubugu et al.	2013	Uganda	Men 15-49	Quantitative - RCT Qualitative - FGDs	Rural
Nalwadda et al.	2010	Uganda	Men and women 15-25	Qualitative - FGDs	Urban and Rural
Siu et al.	2013	Uganda	Men 27-51	Qualitative - IDIs	Rural
Sunnu et al.	2016	Ghana	Men and women 15-65	Quantitative - cross-sectional survey	Urban
Dako-Gyeke et al.	2014	Ghana	Men 15-49	Quantitative - cross-sectional survey	Urban and Rural
Leblanc et al.	2015	Ghana	Men 18 and above	Mixed: Quantitative – self-administered structured questionnaire. Qualitative – IDIs, FGDs	Urban
Addo et al.	2016	Ghana	Men and women	Quantitative - cross-sectional survey	Urban and Rural

			15-25		
Adongo et al.	2014	Ghana	Men and women 18 and above	Qualitative – IDIs, FGDs	Urban and Rural
Chikutsa et al.	2015	Zimbabwe	Men and women 18-49	Qualitative - FGDs, IDIs	Urban
Hatzold et al.	2014	Zimbabwe	Men 15-49	Mixed: Quantitative - National, population-based survey, Qualitative - FGDs	Urban and Rural
Moyo et al.	2015	Zimbabwe	Men 15-79	Qualitative - FGDs	Rural
Skovdal et al.	2011	Zimbabwe	Men and women 18 and above	Qualitative - IDIs, FGDs	Rural
Thomas et al.	2015	Nigeria	Men and women 18-30	Quantitative - interview schedule - pre-tested questionnaire (scale)	Rural
Jones et al.	2017	Nigeria	Men and women 18-24	Qualitative - IDIs	Rural
Hassan et al.	2015	Nigeria	Men 25-60	Quantitative - descriptive cross-sectional	Urban
Tamang et al.	2017	Nepal	Men and women 15-24	Quantitative - cross-sectional household survey	Urban
Gautam et al.	2018	Nepal	Men and women 15-24	Qualitative - IDIs	Rural
Regmi et al.	2010	Nepal	Men and women 18-22	Qualitative - IDIs and FGDs	Urban and Rural
Gasasira et al.	2012	Rwanda	Men 15-59	Quantitative - cross sectional study	Rural

Shattuck et al.	2014	Rwanda	Men and women 24-45	Quantitative - cross-sectional descriptive	Urban and Rural
Adams et al.	2015	Swaziland	Men 18-49	Qualitative – FGDs, IDIs, participant observation	Urban and Rural
Kelly et al.	2012	Papua New Guinea	Men 16 and above	Qualitative – FGDs, IDIs	Urban and Rural
Plotkin et al.	2013	Tanzania	Men and women 18-39	Qualitative - FGDs	Urban and Rural
Price et al.	2014	Zambia	Men 18 and above	Qualitative - semi-structured interviews	Urban
Sabone et al.	2013	Botswana	Men 18 and above	Mixed: Quantitative - survey was cross-sectional, - Qualitative – IDIs, FGDs	Urban and Rural
Skolnik et al.	2014	Lesotho	Men 18 and above	Mixed: Quantitative – cross-sectional Qualitative - FGDs	Urban and Rural
Yabeny et al.	2018	Mexico	Men 20-39	Qualitative - IDIs	Urban
Parcon et al.	2010	Philippines (Western Visayas)	Men 15-54	Quantitative - National Health and Demographic Survey (NDHS)	Urban and Rural
Muntean et al.	2015	Ethiopia	Men and women 15-24	Qualitative - IDIs	Urban and Rural
Oraby et al.	2013	Egypt	Men and women 15-24	Qualitative – IDIs, FGDs	Urban and Rural
Thongmixay et al.	2019	Lao	Men and women 15-25	Qualitative - IDIs	Urban and Rural
Zaw et al.	2012	Myanmar	Men and	Quantitative - cross-sectional	Urban

			women 15-24	study	and Rural
Khumalo-Sakutukwa et al.	2013	Zimbabwe, South Africa	Men 18 and above	Qualitative – IDIs, FGDs	Rural

Table 2: Barriers, Facilitators, and SRH issues

Authors	Barriers	Facilitators	SRH issues
Hoffman et al.	Intra and Post and procedure complications Low-risk perception, Lack of social support High costs Fear HIV test	Protection against diseases (HIV, STIs, cancers) acquisition Hygiene Virility Good societal standing	MMC
Humphries et al.	Post-procedure complications Low-risk perception	Virility Social support	MMC
Lissouba et al.	Intra-procedure complications Non-culture High costs	Safety Social support	MMC
Zissette et al.	Threat to masculinity (stigma around HIV) Fear of losing manhood	Social support Good standing example	HIV testing and management
Khan et al.	Lack of confidentiality High costs		HIV counselling and testing (HCT)
Mambanga et al.	Fear HIV test (stigma around HIV) Cultural practices preference Low-risk perception	None	HIV counselling and testing (HCT)
Mohlabane et al.	Fear of HIV test (stigma around HIV) Staff attitudes Lack of knowledge (testing sites, understanding HIV) Inconvenient opening hours Fear of death Ignorance (lack of condom use) Low-risk perception High costs (traveling) Lack of social support	Knowledge Incentives for those who test for HIV Good staff attitudes Role modes	
Stern et al.	Condom use– Virility (sex interruption, uncontrollable sexual	None	Condom use

	<p>urge)</p> <p>Lack of knowledge of HIV transmission</p> <p>Substance abuse</p> <p>Low-risk perception</p>		
Morison et al.	<p>Long waiting times</p> <p>Unavailability of medicines and equipment</p> <p>Staff attitudes</p> <p>Lack of privacy and confidentiality</p> <p>High costs (traveling)</p>	None	<p>HCT</p> <p>Family Planning</p> <p>Condoms use</p> <p>HIV and STI treatment and counselling</p>
Mthembu et al.	<p>Staff attitudes</p> <p>Long waiting times</p> <p>High costs</p> <p>Absence of male health workers</p>		HCT
Chikovore et al.	<p>Fear HIV test</p> <p>Low-risk perception</p> <p>Preference of traditional medicine</p>	None	HCT and management
Evens et al.	<p>Myths (circumcised penis would tear a condom)</p> <p>Nonculture / Nonreligion</p> <p>Lack of trust in government</p> <p>witchcrafts beliefs</p> <p>Low-risk perception</p> <p>Fear HIV test</p>	Virility	MMC
Herman-Roloff et al.	<p>Fear of losing a job</p> <p>Noncultural, nonreligious</p> <p>Intra and Post procedure complications</p> <p>Lack of knowledge</p> <p>Vulnerability to ignorance</p> <p>Distance to health facilities</p> <p>Female service providers</p>	<p>Hygiene</p> <p>Social acceptance</p> <p>Virility</p> <p>Protection against diseases</p> <p>Convenience (easier to use condom)</p>	MMC
Macintyre et al.	<p>Nonculture, nonreligion</p> <p>Low-risk perception</p>	Hygiene	MMC

		Protection against diseases	Social support
Withers et al.	Lack of knowledge or awareness Religious prohibition Unvirility Hindrances to community development	None	Family planning
Godia et al.	Limited knowledge and competency of HSP Staff attitudes Lack of medicines and equipment Lack of confidentiality and privacy Long waiting times High costs. Inconvenient hours	None	Family Planning STI/HIV services, Condom use
Mbonye et al.	Post-procedure complications Fear HIV test	Protection against diseases Hygiene	MMC
Muhamadi et al.	None	Protection against diseases Hygiene Social support Virility	MMC
Ssekubugu et al.	Post-procedure complications Fear HIV test Myths (infertility) Partial protection against diseases Long waiting times Fear of losing a job	Protection against diseases Hygiene Social support Incentives.	MMC
Nalwadda et al.	Myths (infertility, porous and infectious condoms) Virility Low-risk perception	None	Family Planning STI/HIV services,

	Incontrollable sexual urge Staff attitudes Lack of privacy and confidentiality, Lack medicines and equipment High costs Long distance to health facilities Inconvenient opening hours, Long waiting times		Condom use
Siu et al.	Threat to masculinity Fear HIV test Long waiting times Lack of confidentiality and privacy	None	HIV services
Sunnu et al.	Lack social support Nonreligious, noncultural Staff attitudes Distance to health facilities	None	Family planning
Dako-Gyeke et al.	Fear HIV test	None	HCT
Leblanc et al.	Cultural beliefs (non-condom use) Embarrassment Desire for children Fear of HIV test (stigma) High costs Lack of confidentiality	None	HIV services Condom use
Yeboah et al.	Embarrassment High costs Female health Staff attitudes Religious doctrines	None	Family planning STI services
Adongo et al.	Lack of social support Unvirility	None	Vasectomy Condom use

	<p>Vulnerability to ignorance</p> <p>Intra and Post procedure complications</p> <p>Lack of knowledge</p> <p>Religious doctrines</p>		
Chikutsa et al.	<p>Myths (circumcised penis would tear a condom, foreskin may be used in satanic rituals.)</p> <p>Nonculture, nonreligion</p> <p>Lack of trust in government</p> <p>Low-risk perception</p> <p>Fear HIV test</p>	<p>Virility</p> <p>Protection against diseases</p>	MMC
Hatzold et al.	<p>Intra procedure complications</p> <p>Low-risk perception</p> <p>Lack of social support,</p> <p>High costs</p> <p>Fear of an HIV test</p> <p>Myths (infertility)</p>	<p>Protection against diseases</p> <p>Hygiene,</p> <p>Virility</p> <p>Set good example</p>	MMC
Moyo et al.	<p>Lack of knowledge</p> <p>Fear of HIV testing</p> <p>Myths (foreskin to be used in witchcraft)</p> <p>Lack of trust in government</p> <p>Threat to masculinity</p> <p>Female health care provider</p> <p>Unvirility</p>	None	MMC
Skovdal et al.	<p>Fear of HIV test</p> <p>Stigma</p> <p>Embarrassment</p> <p>Threat to masculinity</p> <p>Low-risk perception</p> <p>Lack of knowledge</p>	<p>Social support</p> <p>Role models</p>	HIV services

Thomas et al.	Fear of HIV test Stigma Nonculture	None	HIV services
Jones et al.	Stigma Inaccessibility Lack of knowledge Inaccessibility Low-risk perception	None	HIV services
Hassan et al.	Low-risk perception Lack of time Intra procedure complications Fear of PC test outcome Lack of knowledge	None	Prostate Cancer screening
Tamang et al.	Embarrassment Poor health services Lack of knowledge Inaccessibility	None	Condom use Family planning
Gautam et al.	Embarrassment Lack of knowledge Staff attitudes Lack of privacy and confidentiality Lack of medicines and equipment	None	All
Regmi et al.	Embarrassment Poor health services Lack of knowledge Substance abuse Inaccessibility High costs	None	Condom use
Gasasira et al.	Low-risk Intra procedure complications	Protection against diseases Hygiene	MMC

Shattuck et al.	None	Financial relief (limit family size) Complications of other family planning methods Permanent method Low-risk of complications	Vasectomy services
Adams et al.	Threat to masculinity Virility Intra and post procedure complications Partially protective against diseases Lack of trust in government Noncultural, nonreligious Lack of knowledge Myths (foreskins used for witchcraft)	Virility Protection against diseases Convenience (wearing condoms)	MMC
Kelly et al.	Vulnerable to ignorance Noncultural, nonreligious	Protection against diseases Hygiene Culturally appropriate Virility	MMC
Plotkin et al.	Post procedure complications Fear of losing job	Protection against diseases Hygiene Social support Virility	MMC
Price et al.	Intra and post procedure complications Lack of time	Social support Hygiene Protection against diseases	MMC
Sabone et al.	Lack of medicines and equipment Long waiting times Poor transport to health facilities Post procedure complications	Advertisement Social support Right staff attitudes	MMC

Skolnik et al.	Intra procedure complications Fear of HIV test High costs Female health workers Long waiting times	Protection against diseases Hygiene Social support Virility	MMC
Yabeny et al.	Low-risk perception	Fear of illness Mistrust in relationship	Condom use
Parcon et al.	Lack of knowledge Myths (loss of libido) Unvirility decreased sexual activity, loss of vitality, Inconvenience Embarrassment	Protection against diseases	Vasectomy Condom use
Muntean et al.	High costs Long distance to the health facility Staff attitudes Inconvenient location of facilities Inconvenient hours Lack of privacy and confidentiality Embarrassment Lack of knowledge Noncultural	None	All
Oraby et al.	Inaccessibility Absence of male health workers	None	All
Thongmixay et al.	Lack of medicines and equipment Low-risk perception Lack of knowledge Lack of privacy and confidentiality Substance abuse Noncultural, nonreligious	Protection against diseases Social acceptance	Condom use Family planning

	Embarrassment		
	High costs		
Zaw et al.	High costs	None	Family planning
	Lack of confidentiality		HIV services
	Lack of transport		Condom use
	Staff attitudes		
	Fear of HIV test		
	Embarrassment		
	Lack of knowledge		
Khumalo-Sakutukwa et al.	Noncultural	None	MMC
	Intra and post procedure complications		

Figures

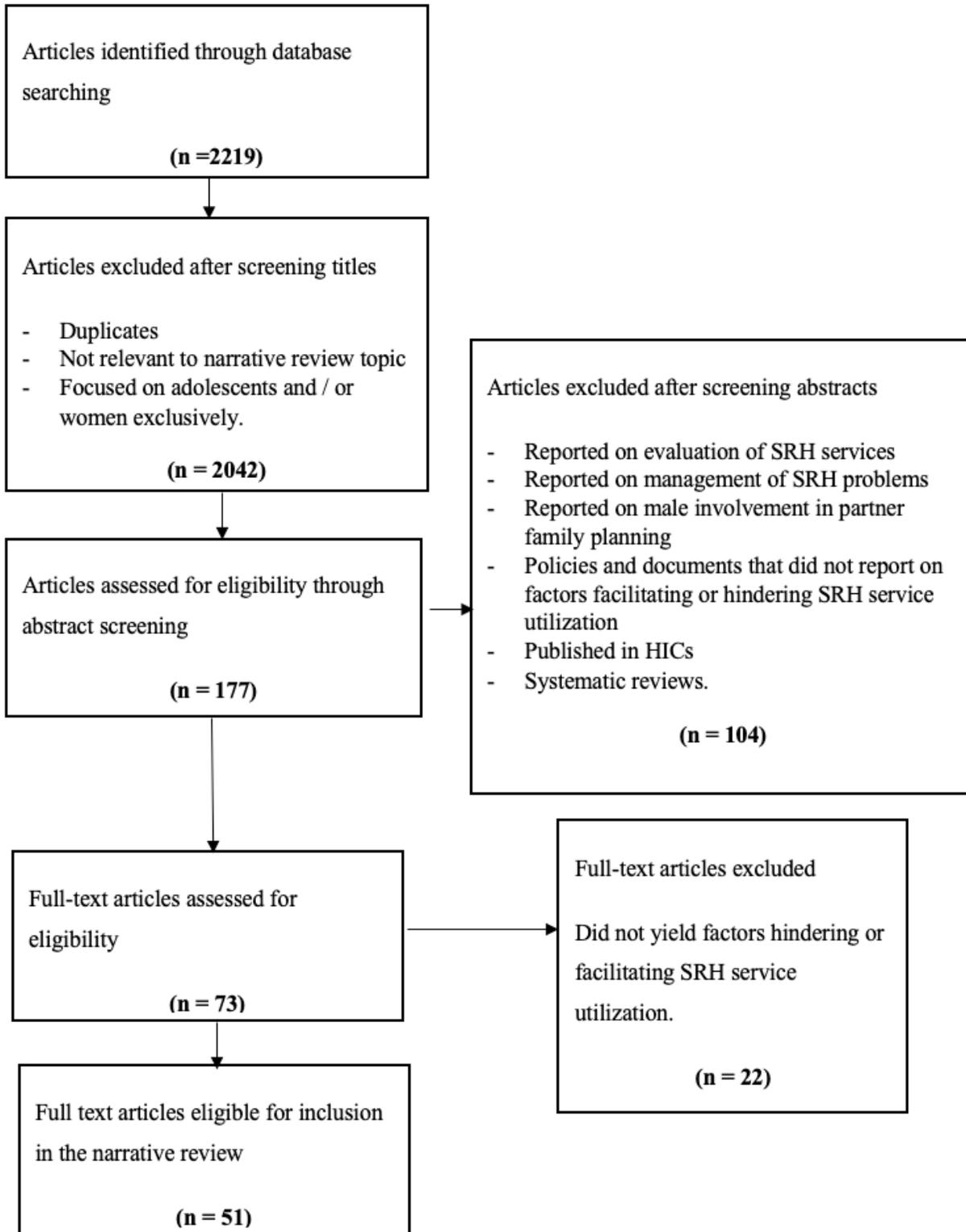


Figure 1

Flow chart mapping out the number of articles identified, screened, excluded together with reasons for exclusion

Conceptual Framework

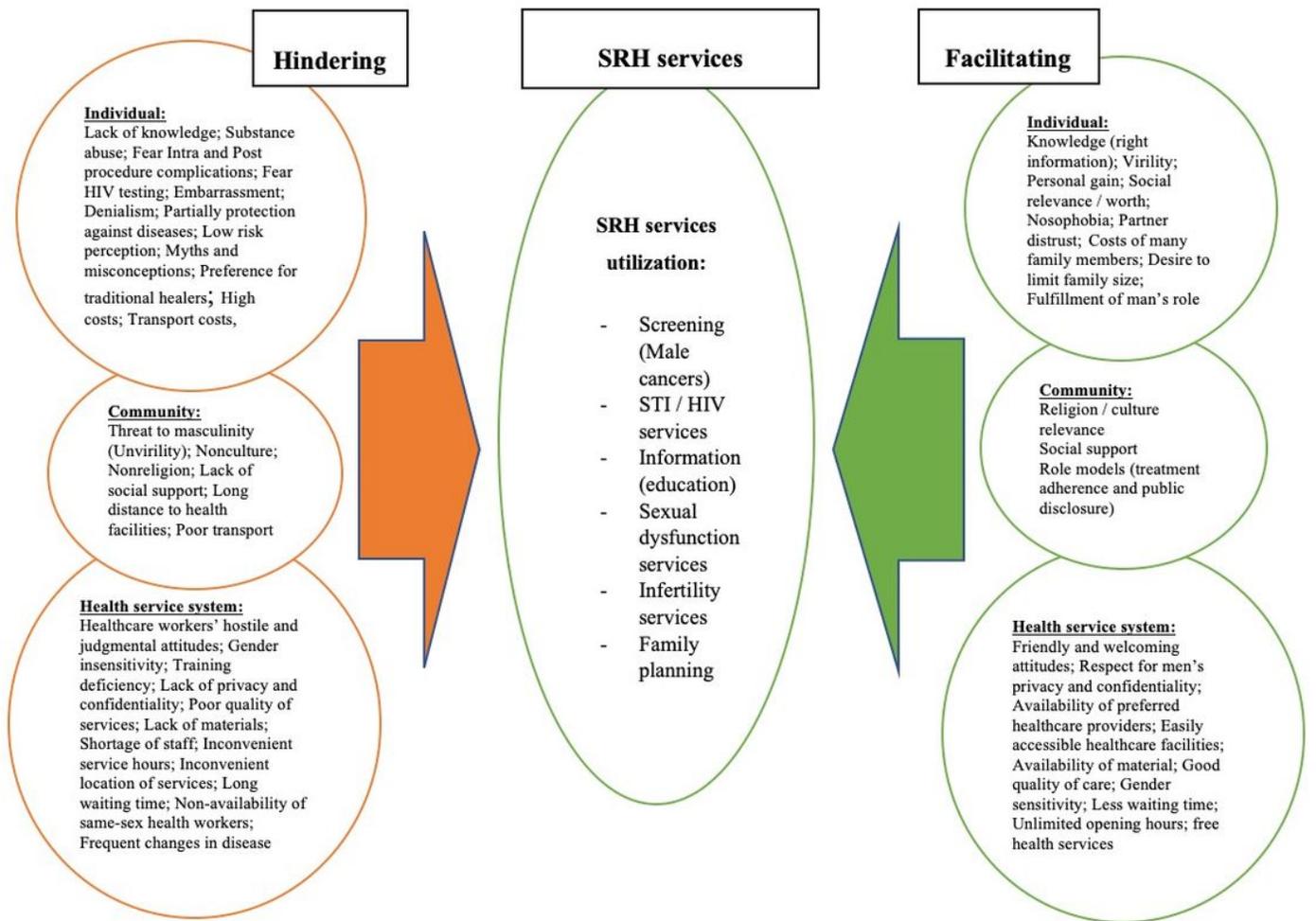


Figure 2

Conceptual Framework