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Authors
Sileo, Katelyn M
Fielding-Miller, Rebecca
Dworkin, Shari L
et al.

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What Role Do Masculine Norms Play in Men's HIV Testing in Sub-Saharan Africa?: A Scoping Review

Katelyn M. Sileo[1,2,5], **Rebecca Fielding-Miller**[2], **Shari L. Dworkin**[3], and **Paul J. Fleming**[4]

[1]Center for Interdisciplinary Research on AIDS, Yale University, New Haven, CT, USA

[2]Division of Global Health, School of Medicine, University of California San Diego, San Diego, CA, USA

[3]School of Nursing, University of California San Francisco, San Francisco, CA, USA

[4]Department of Health Behavior & Health Education, University of Michigan School of Public Health, Ann Arbor, MI, USA

[5]Center for Interdisciplinary Research on AIDS, Yale University, 135 College Street, Suite 200, New Haven, CT, USA

Abstract

Men living with HIV/AIDS in sub-Saharan Africa are less likely to test for HIV than women. We conducted a scoping review in May of 2016 to identify how masculine norms influence men's HIV testing in sub-Saharan Africa. Our review yielded a total of 13 qualitative studies from 8 countries. Masculine norms create both barriers and facilitators to HIV testing. Barriers included emotional inexpression, gendered communication, social pressures to be strong and self-reliant, and the fear that an HIV positive result would threaten traditional social roles (i.e., husband, father, provider, worker) and reduce sexual success with women. Facilitators included perceptions that HIV testing could restore masculinity through regained physical strength and the ability to re-assume the provider role after accessing treatment. Across sub-Saharan Africa, masculinity appears to play an important role in men's decision to test for HIV and further research and interventions are needed to address this link.

Keywords

HIV/AIDS; HIV testing; Masculinity; Gender norms; Sub-Saharan Africa; Men

Introduction

Men in sub-Saharan Africa are less likely to test for HIV than women and more likely to be diagnosed with advanced disease stage [1–4]. For example, South Africa has the largest

Katelyn M. Sileo, katelyn.sileo@yale.edu.

Compliance with Ethical Standards

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population living with HIV including an estimated 2.7 million men [5]. Thirty-two percent of men aged 15 years and older are undiagnosed compared to only 19% of women living with HIV of comparable age [6]. HIV testing is the first step to receiving the care and treatment needed to reduce mortality and stem ongoing HIV transmission [7]. Thus, lower prevalence of HIV testing among men in sub-Saharan Africa is one factor contributing to elevated AIDS-related mortality among men, despite there being a higher overall HIV prevalence among women [3, 8, 9].

Gender norms related to masculinity may play a critical role in men's relatively low HIV testing rates [10, 11]. Gender norms are "those qualities of femaleness and maleness that develop as a result of socialization rather than biological predisposition" (p. 146) [12]. Men's social status often depends on their ability to create a masculine identity that fits into the behavioral norms and social scripts deemed appropriate [13–15]. Importantly, masculine identities intersect with other identities (i.e. ethnicity, class, etc.), resulting in a multitude of expressions of masculinity depending on the specific context [16, 17]. Like all behaviors, seeking HIV testing has specified contextual meaning within a society and is gendered. For example, HIV testing can be viewed as contributing to or detracting from a man's masculinity and status. Given that gender norms play a powerful role in shaping behaviors [13]—including HIV related behaviors [18]—it is important to better understand how perceptions and enactment of masculinity may contribute to men's HIV testing uptake in sub-Saharan Africa.

We report findings from a scoping review on the relationship between masculine norms and HIV testing among men in sub-Saharan Africa to highlight key findings and identify a future research agenda focused on men's HIV testing in the region. A scoping review includes the 'mapping' of evidence originating from a broad range of methodologies to convey the breadth, depth, and gaps of a field through a team-based iterative review and analytic reinterpretation of the literature [19]. This approach is ideal for our topic because it allows for an assessment of research on broad topics (i.e. gender norms) from a wide range of study designs (i.e. qualitative, quantitative) [19]. A scoping review on this particular topic is needed; while there has been increased examination on the role of masculine norms on HIV-related behaviors [18] and health-seeking behaviors generally [20, 21], the influence of masculinity on HIV testing behavior has received less attention. It is also timely, as evidence builds on a large gender gap in HIV testing in sub-Saharan Africa, which needs to be addressed in order to achieve UNAIDS goals of 90–90–90 [22, 23]. Reviews have been undertaken on this topic among men who have sex with men (MSM) in developed settings [24], and on related topics in sub-Saharan Africa, such as facilitators and barriers to HIV testing [25] and facility versus community-based HIV testing [26]—which have made important contributions to the scientific literature on factors that influence men's testing behavior. However, to our knowledge, no rigorous reviews exist on the role of masculine norms and HIV testing uptake in sub-Saharan Africa.

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Methods

Database and Search Strategy

This review was part of a broader review aimed to assess the influence of masculine norms across the stages of the HIV care continuum. We report in this paper a synthesis of the studies that specifically included HIV testing behaviors. In May 2016, we searched three databases—Pubmed, PsychInfo, and Web of Science—using a mix of controlled vocabulary and free text terms related to masculinity, HIV/ AIDS, and HIV testing (see Table 1 for search terms). This review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines where applicable [27].

Study Selection

Studies were eligible for inclusion in this review if they reported on empirical quantitative and/or qualitative data examining the influence of masculine gender norms on men's HIV testing uptake. We included studies if they were peer-reviewed, written in English, published before May 2016, and conducted with men in sub-Saharan Africa. Studies focused exclusively on MSM were not eligible because a previous systematic review focused solely on that population [24]. Studies that centered solely on women or on healthcare providers were excluded.

Studies identified during searches were merged using Endnote (version X7), and duplicate records were removed. The first-author (KMS) reviewed titles and abstracts to determine eligibility based on the inclusion criteria. If the title and abstract did not provide enough information to determine eligibility, the full text was reviewed. For all of the potentially eligible studies, we retrieved the full-text documents for review. Three authors (KMS, RFM, PJF) then reviewed full-text articles for inclusion against the review's inclusion criteria. Any study in question or with inconsistent classification between authors was discussed between the three reviewers and consensus was reached.

Data Abstraction

We created and used a data abstraction form to systematically document the abstraction of study information and findings. The following key information was extracted from studies: study design and data collection methods, population and setting, outcomes, main study findings on masculinity and HIV testing, participant quotes reflecting major findings or themes, conclusions, and limitations. The first author and two trained graduate- level research assistants conducted initial data extraction independently. All data abstraction forms were reviewed by a fourth team member for consistency and accuracy, at which point discrepancies were resolved with input from this author.

Data Analysis Approach

Though the inclusion criteria was open to both quantitative and qualitative studies, no quantitative-only studies were identified, and of two mixed methods studies identified, the quantitative data did not address our research questions. Therefore, only qualitative studies were included, which we analyzed using a thematic analysis approach [28]. A preliminary coding scheme was developed before abstraction to classify the study findings; for each

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finding, labels were applied to classify whether masculinity was discussed as a barrier or facilitator to HIV testing and the notion(s) of masculinity/gender roles (e.g., strength, provider) described. The coding scheme developed a priori was modified to include themes that emerged specific to masculine gender roles that were not captured in our original scheme. All qualitative findings were coded line-by-line by two authors. Following a thematic analysis approach, we identified major themes through an iterative review of the coded data by three of the authors. Our process of identifying themes required synthesizing and integrating similar themes from across studies. Upon identification of preliminary themes, we re-reviewed articles to ensure that the themes accurately represented the articles identified.

Results

A total of 642 unique records were identified in the search and reviewed by title and abstract for inclusion. Of the 642 records, 72 were selected for full-text review. During the full-text review, fifty-nine articles were excluded for the following reasons: study design was not empirical (e.g., reviews of the literature) (n = 4), study did not examine HIV testing (n = 18), study did not examine masculine norms (n = 30), or the study population did not include men in sub-Saharan Africa (n = 7). A final total of 13 studies met our inclusion criteria (Fig. 1).

Studies spanned eight sub-Saharan African countries: Botswana (n = 1), Cameroon (n = 1), Lesotho (n = 1), Malawi (n = 1), South Africa (n = 3), Uganda (n = 3), Zambia (n = 1), Zimbabwe (n = 2). There were no multi-country studies. The studies were with men living with HIV (n = 5), men at risk of HIV or of unknown status (n = 4), or both HIV positive and negative/unknown men (n = 4); 5 studies also included qualitative data collection with women, though data were abstracted only from males for this review. All studies employed cross-sectional, qualitative methods, including individual interviews (n = 8), focus groups (n = 1), or both (n = 4). Two mixed methods studies were identified, but the quantitative data did not address our specific research question. Five studies also included direct participant observation. Table 1 describes each study and their main findings.

The Role of Masculine Norms in HIV Testing

Across the thirteen studies, we identified seven themes related to masculine norms as barriers and/or facilitators to HIV testing: (1) the family man ideal, (2) sexual prowess, (3) intersection of HIV stigma and masculinity, (4) gendered communication, (5) strength and self-reliance, (6) role as provider, and (7) clinics are perceived as spaces for women (Table 2).

The Family Man Ideal

In nine studies, the social value placed on men's role in the family (i.e., husband, father) was identified as a barrier to HIV testing [29 –37]. Notably, there were no studies that emphasized this as a facilitator. Men recruited from an HIV support group in urban Uganda [36] and men on ART in rural Zimbabwe [37] explained that men delay HIV testing because an HIV positive test would destabilize their marriages by causing conflict between spouses.

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In addition, men feared HIV testing revealing their infidelity in Lesotho [29], Ugandan mining communities [30, 31], rural Zimbabwe [37], and rural South Africa [33]—fearing subsequent abandonment and losing their masculine role as husband. Studies from Malawi, South Africa, Uganda, and Zimbabwe reported younger, single men similarly feared their potential for future marriage would be comprised by testing positive for HIV, resulting in men avoiding HIV testing altogether [32, 34–37]. In two studies with men living with HIV in Malawi and South Africa, men expressed concern that as a consequence of not being able to find or keep a spouse, they would also lose the opportunity to become a father, which influenced them to delay HIV testing [34, 35].

Sexual Prowess

Across seven studies [29–33, 38, 39], we identified three different ways in which masculine norms endorsing men's sexual prowess reduced men's uptake of testing. First, men in Lesotho [29] and Ugandan miners [31] cited avoiding testing for fear of having to change their sexual behavior after testing positive in a way that may be incongruent with norms related to sexual prowess. Further, men were resistant to couples-testing, stating that insisting on a test with non-marital partners might result in lost opportunities for sex [31]. As described in the previous section, four studies reported that men feared a positive test result would result in conflict or abandonment for their partners [29 –33]; this fear is tied to men's sexual prowess, as men feared testing would reveal their infidelity. Finally, four studies from Lesotho, Botswana, Zambia, and Uganda reported men avoid testing because they assumed they were HIV positive, based on their own risk behavior [29, 31, 38, 39].

Intersection of HIV Stigma and Masculinity

Seven studies focused on the intersection of HIV stigma and masculinity [29–31, 33, 36, 37, 39]. In these studies, respondents reported that men's engagement with multiple sexual partnerships and sexual risk behavior led to community beliefs that men were driving the spread of the HIV epidemic. For this reason, men on ART in rural Zimbabwe said, before they tested, that they felt they would be assumed positive if seen testing at the clinic, and accused of "sleeping around carelessly" [37]. The Zimbabwean men interviewed also felt that they were more likely to be stigmatized compared to women because men were blamed in communities for spreading HIV through their sexual risk behavior, a finding reflected among Ugandan miners and Zambian men [30, 31, 37, 39].

In two studies in South Africa [33] and Uganda [30], men associated an HIV positive diagnosis with shame and reduced self-worth, as well as a fear of discrimination/stigma from others. While these issues of stigma are also prevalent for women, for men, stigma limited a man's ability to meet dominant masculine norms, which may heighten its effect. For example, men in South Africa reported declining home-based HIV testing to avoid a loss of respect for oneself, and to avoid "being laughed at" if seen at the clinic testing from others in the community [33]. For men in Ugandan mining villages, testing was not considered private enough and men were concerned about confidentiality for this reason. Issues of dignity and respect were especially important in older men in mining communities [30]. Finally, one study with men in an urban slum in Uganda found the fear of discrimination on men's HIV testing was further compounded by a fear that they would lose

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opportunities for work, thus compromising their role as provider [36]. In only one study in South Africa, in cases where men felt positive recognition for testing from the community, did men's masculine notion of respectability serve as facilitator to testing [40].

Gendered Communication

Five studies reported that men's willingness to test for HIV was influenced by social norms related to gendered communication [29–31, 39, 41]. First, study participants in Cameroon, Lesotho, and Uganda felt that discussions about HIV and sexual behavior with a wife or family member were inappropriate [29, 31, 41]. In a study with men in Cameroon living with tuberculosis and offered HIV testing, men reported they were accustomed to being the sole decision-maker, and therefore did not feel such discussions were important [41]. Studies in Cameroon, Zambia, and Uganda reported men's position of power in the household meant that women could not approach their husbands about testing and were unable to influence men to test [31, 39, 41]. Further, discussions about HIV testing, and couple-based testing with one's partner, were viewed by some men in Ugandan mining towns as a threat to male power by giving women the authority to question their behavior and "humiliate them" in front of health care providers [30, 31].

Yet in this same study, Ugandan miners' relationships with other male peers was identified as a facilitator to HIV testing [31]. Men described discussions about sexual relationships with women as a point of bonding between male peers and coworkers in the mining occupation [31]. This allowed peers to have frank discussions about their sexual histories, assess their risk for HIV, and encourage each other to test.

Strength and Self‐reliance

Six studies focused on the social construction of men as mentally and physically strong, and self-reliant, which reportedly reduced men's willingness to access HIV testing in five studies [30, 31, 36, 38, 40], and served as motivation for HIV testing in one study [41]. In Botswana [38] and Ugandan mining communities [30, 31], men felt the ability to delay an HIV test was a sign of bravery, resilience, and strength. It was not until men's symptoms started to affect their ability to work and remain self-reliant that they went for testing. Siu et al. [30, 31] characterized this as an over-reliance on physical appearance in the decision to seek an HIV test among men in Ugandan mining towns, with men not seeing the need for a test as long as they looked physically strong, especially for young men. Related to strength was men's desire to be self -reliant; two studies in urban and rural Uganda [31, 36] and one with both rural and urban South African men [40] reported that men avoided HIV testing because they did not want to ask for help from others, and feared that a positive test result could mean a loss of independence. In contrast, Barnabas Njozing et al. found Cameroonian men living with tuberculosis and accepting an HIV test were motivated to test as a way to prove their strength, and thus, manliness [41].

Clinics are Perceived as Spaces for Women

Men's belief that the clinic was a place for women was found to contribute to a reluctance to seek an HIV test in four studies [29, 34, 36, 40]. Studies comparing men and women's experience in accessing testing in South Africa and Lesotho attributed this perception in part

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to women's greater opportunity for contact with health and HIV services, particularly their increased access to HIV testing through antenatal care [29, 40]. Consequently, the perception that HIV testing was for women was common, and South African men reported feeling excluded from and not welcome in clinics offering testing, deeming testing a "woman's domain" [40]. In another study in rural South Africa, some men reported the preference for traditional healers, which were viewed as more male-friendly than clinics [34].

Role as Provider

The fear that HIV would compromise men's ability to work and provide for their family resulted in the avoidance of HIV testing in three studies [29, 34, 36]. For men in Lesotho, this assumption was tied to the belief that HIV was a "death sentence" and being ill would make men "useless" in fulfilling their gender roles [29]. Zissette et al. reported that men living with HIV in a peri-urban district of South Africa had delayed testing, and consequently treatment, for as long as they were physically well enough to work and carry out their role of provider [34]. In contrast, one study in Ugandan mining communities identified men's role as provider as a facilitator to care [31]; men reported wanting to "test and live a few more years," knowing an HIV test was the entry point to life-saving treatment, in order to gain more time to raise their children [31].

Discussion

This scoping review is the first to our knowledge to consolidate the literature on the role of masculine norms in men's HIV testing behavior in sub-Saharan Africa. We identified thirteen articles that met our inclusion criteria. In this body of literature, we found seven themes that emphasized how masculine norms influence men's decision to test for HIV. Key themes included: the family man ideal, sexual prowess, and the intersection of HIV stigma and masculinity. Overall, studies found masculine norms that emphasized marriage, sexual prowess, strength, and independence to be a barrier to HIV testing uptake among men because seeking HIV testing was seen in those settings to threaten those characteristics/ roles. However, several studies noted that masculine norms emphasizing these same characteristics could be a facilitator to HIV testing if testing was perceived to help men regain respect and their ability to provide for their family. Norms related to appropriate communication about sex were also gendered and both positively and negatively afected men's uptake of testing. Discussions about sex and HIV testing between men and women were viewed as inappropriate—but among male peers, men could speak frankly about sex and encouraged each other to test in some settings.

HIV-related stigma was a key barrier identified by men. HIV-related stigma affects people of all genders [42, 43], but it manifests differently for men and women. The studies included in this review suggest men identify stigma as particularly problematic because of its negative impact on their ability to provide for their family or achieve respect and higher social status typically afforded to men. In this way, HIV-related stigma intersects with norms of masculinity that emphasize the provider role. For women, HIV-related stigma may similarly prevent HIV testing [44]. However, it may manifest differently for women; for example,

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fear that HIV testing will result in discrimination and intimate partner violence from one's partner is a common barrier to HIV testing for women in sub-Saharan Africa [44, 45]. Though HIV testing may be stigmatizing for both genders, the specific social meaning attached to HIV testing for men is important to consider for programming to increase men's HIV testing uptake.

The relationship between masculine norms and HIV testing is nuanced. HIV testing behavior can be given negative social meaning if it is viewed as threatening conformity to masculine norms. Siu et al. [30] showed that delaying testing was considered a show of strength by men in a Ugandan mining community. In contrast, other studies showed positive social meaning was attached to HIV testing if it bolstered conformity to masculine norms, which increases men's willingness to test for HIV. Men who perceived HIV testing as an important step in their path to recouping their strength and thus their sense of masculinity sought testing, despite other masculinity-related barriers such as being perceived as weak or losing their independence.

Context is extremely important when considering the nuanced relationship between masculine norms and HIV testing uptake. Half of the papers we identified reported on data collected from Uganda or South Africa. While masculine norms share similarities across the globe [46], these vary between and within countries. Future research should explore how different contexts shape the link between masculine norms and HIV testing in other high prevalence settings with a gender disparity in HIV testing, such as Swa-ziland, Lesotho, and Mozambique—countries that were notably absent or sparse in this review. In particular, it is important to identify the specific contexts in which HIV testing as a behavior conforms to or threatens masculinity. Moreover, fully understanding the link between masculine norms and HIV testing will require additional foundational work to understand how masculine norms shape health promoting behaviors overall.

It is important to note that gender norms impact HIV testing at more than just the individual level. Several studies in our review noted that HIV testing sites are considered to be female spaces. Dovel and colleagues argue that men's low HIV testing in Africa is due to institutional policies that have established health systems in Africa as female-dominated spaces that do not meet men's needs [3]. It is unclear from our review how these institutional-level factors compare to the more individual masculinity-related barriers highlighted in the studies. But, these two issues are not separate, gender norms emphasizing men's strength and women's vulnerability have contributed to the organization of health systems that prioritize women's health needs [10]. The structure and design of clinics and health systems to be more male-friendly could help offset some of the individual-level barriers and begin to break down masculine norms that make health-seeking behavior seem non-conforming. Given these perspectives, any effort to increase men's HIV testing needs to not only address masculine norms at the individual and interpersonal level, but also those operating at the institutional level.

The studies we identified rely primarily on qualitative data collection methods. We recommend future qualitative studies move beyond documenting a link between masculine norms and HIV testing. Interrogating how social meaning is attached to HIV testing, and

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which contexts consider HIV testing masculine versus non-masculine, would add depth to the existing literature. It is also important to examine questions about the role of masculine norms on HIV testing using population-level survey data. For example, integrating certain validated psychometric scales into survey data collection instruments could help answer key questions on this topic: are men with a more equitable gender ideology— as measured by Gender Equitable Men Scale [47]—more likely to test for HIV? Are men with greater concern about demonstrating masculine characteristics—as measured by the Gender Role Conflict/Stress scale [48, 49]—less likely to test for HIV? Are these relationships moderated by men's social or geographic context (e.g. relationship status, class, ethnicity, country)? By complementing qualitative research with population-level quantitative analyses, researchers and practitioners can gain a fuller understanding of how masculine norms influence men's HIV testing decisions.

Numerous health outcomes that are shaped by gender norms (i.e. violence against women, sexual risk behaviors, uptake of contraceptives) can be improved by utilizing interventions that use principles of critical consciousness to reshape gender norms at the community level [50, 51]. Prominent examples of these interventions include One Man Can by Sonke Gender Justice and Program H by Promundo [52, 53]. These types of interventions—often described as 'gender transformative'—have rarely been applied specifically to increasing HIV testing in Africa, but some recent studies suggest it may be a promising approach. Researchers in South Africa conducted a qualitative evaluation of One Man Can to determine whether it has any impact on men's HIV testing behaviors even though the program focuses specifically on changing gender norms and does not specifically target a change in HIV testing behaviors [54]. They found that many men reported greater willingness to test for HIV after participating in One Man Can because One Man Can changed their views about gender equity and gender norms. Thus, men had less fear about the stigma associated with HIV testing and were more willing to communicate with female sexual partners about couples counseling and testing. Another recent study by Ghanotakis et al. [55] in Uganda showed that using a 10-week curriculum with men focused on transforming gender norms improved men's willingness to go to a health facility and willingness to test for HIV. Together, these findings suggest that gender transformative interventions may be a promising approach for addressing masculinity-related barriers and leveraging masculinity-related facilitators to increase men's HIV testing.

Limitations

There are several limitations to note about this scoping review. Our ability to identify articles studying gender norms was limited by the fact that not all authors define masculine norms similarly. Further, our review specifically focused on masculine norms and HIV testing rather than gender norms and HIV testing. By not including studies of women—and norms of femininity—we have limited capacity to state how these dynamics for men in the region differ from women. By reviewing qualitative studies, our review identified studies that report on qualitative associations between masculine norms and HIV testing, but not the absence of findings. This skews our data towards capturing results in support of our hypothesis. In addition, themes were presented as standalone findings. While our thematic assessment did not focus on discerning patterns or thematic co-occurrence, overlap between themes was

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observed. Finally, the studies we found were primarily small qualitative studies and thus we cannot generalize within or across settings. Therefore, the specific findings we report in this review should be applied cautiously to other settings. Formative research to identify context-specific elements of the relationship between masculine norms and HIV testing should be conducted in future efforts to integrate these findings into programming or interventions.

Conclusions

The findings in this review point to potential barriers and facilitators that might be leveraged in interventions, but also indicate a need to further understand the dynamics underlying masculine norms and HIV testing. To improve HIV-related outcomes for men and women and achieve 90–90–90 goals in the region, the role of masculine norms in shaping men's HIV testing must be recognized.

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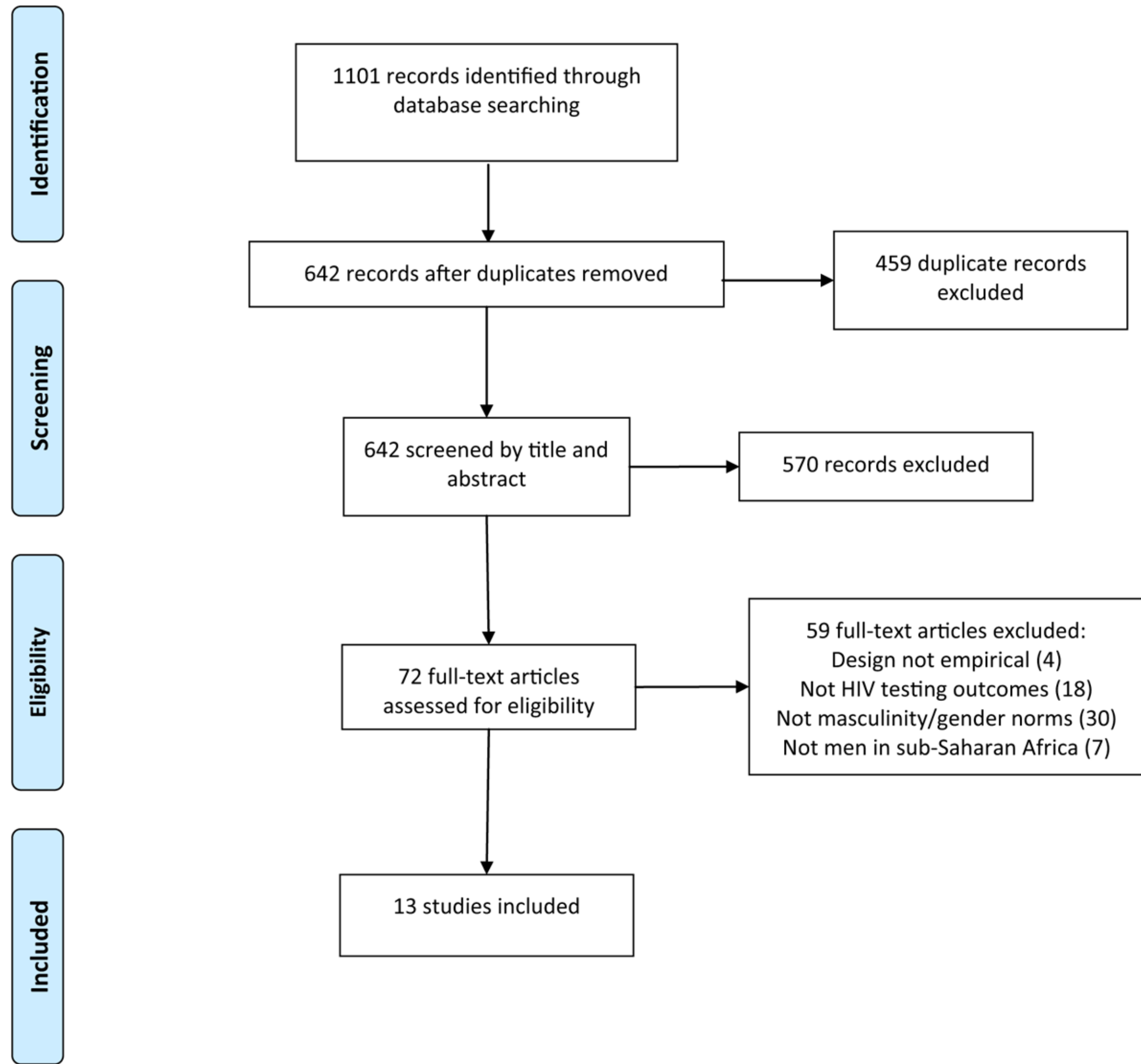

Fig. 1.

Flow diagram. Adapted from [26]

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Table 1

Search terms—PUBMED search

Masculinity terms	(masculin* OR "male gender" OR machismo OR "mens gender norms" OR "manliness" OR manly OR "male norms") AND
HIV/AIDS terms	(HIV OR AIDS OR "HIV/AIDS" OR " human immunodeficiency virus" OR "acquired immune deficiency syndrome" OR PLWH OR PLWA OR PLWHA OR PLHIV) AND
Testing, care, and treatment terms	("HIV test" OR "HIV testing" OR engage* OR ART OR adherence OR antiretroviral OR HAART OR anti-retroviral OR cART OR "loss to follow up" OR "lost to follow up" OR "viral load" OR "HIV treatment" OR linkage OR "HIV care" OR cd4 OR cascade)

This table displays the search terms used for the PUBMED database search, which was adapted for searches in PsychINFO and Web of Science. Note that this review was specific to HIV testing, but was part of a larger review inclusive of the full HIV treatment cascade; therefore, search terms include those related to HIV care and treatment, in addition to HIV testing

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Table 2

Summary of studies included in the review

First author, year published	Country (location details)	Year of data collection	Study design/data collection method(s)	Male study population and sample size	Study objective	Key findings on notions of masculinity as barriers and/or facilitators to HIV testing
Barnabas- Njozing, 2010	Cameroon (Northwest Region)	2007–2008	Qualitative/individual interviews	10 males living with tuberculosis (TB) and offered HIV testing 6 accepting 4 refusing	To explore the facilitators and barriers to HIV testing among TB patients in four selected HIV/AIDS and TB treatment facilities	Barriers to HIV testing *Gendered communication.* Belief that HIV testing is a man's decision; not discussed with wives and women cannot influence men to test Facilitators to HIV testing *Strength and self-reliance.* Men were motivated to test because it shows strength and courage
DiCarlo, 2014	Lesotho (Mafeteng and Mohale's Hoek Districts)	2011	Qualitative/individual interviews	30 men (HIV status not reported)	To explore how gender influences relationship dynamics, sexual communication and behavior, and perceptions of HIV testing and prevention in a setting with high HIV prevalence	Barriers to HIV testing *Sexual prowess and marriage.* Men avoided testing because they feared having to reduce their number of partners after testing positive, that a positive result would reveal their infidelity and destabilize their marriage, and they assumed were already positive based on own risk behavior *Gendered communication.* Discussions about sex during couples/home-based testing were viewed as inappropriate with spouse and family *Clinics are perceived as spaces for women.* Linked to women's greater opportunities to interface with the clinic and test during antenatal care *Role as provider.* Men avoided testing because they feared an HIV diagnosis would make them unable to fulfill their role of provider

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First author, year published	Country (location details)	Year of data collection	Study design/data collection method(s)	Male study population and sample size	Study objective	Key findings on notions of masculinity as barriers and/or facilitators to HIV testing
Parrott, 2011	Malawi (rural, Karonga District, northernregion)	2008–2009	Qualitative/individual interviews	28 men (HIV status not reported)	To explore the reasons men seek or delay treatment, and the role of gender in shaping these experiences	Barriers to HIV testing *Marriage and children.* Belief that an HIV positive result would compromise one's ability to find a wife and reproduce
Rakgoasi, 2013	Botswana (Gaborone and Francistown [urban] and Gantsi [rural])	2008	Qualitative/focus groups	~120–200 20 FGDs 6–10 each (HIV status not reported)	To explore men's perceptions of themselves within the context of HIV, and how these perceptions contribute to men's behavior and the epidemic	Barriers to HIV testing *Sexual prowess.* Men assumed they were already positive due to risk behavior *Strength and self-reliance.* Caring too much about one's health was viewed as a sign of weakness. Fear HIV positive diagnosis would result in a loss of strength and independence
Simpson, 2010	Zambia	1983–1984, 2002	Qualitative/individual interviews, observation	42 male students and former students, plus male house-hold members (total not reported) (HIV status not reported)	To describe the religious ideas of a cohort of former students of a Catholic mission boarding school, and outline their understanding of masculinity and responses to HIV testing and treatment	Barriers to HIV testing *Sexual prowess.* Men assumed they were already positive due to risk behavior *Gendered communication.* Men's position of power in the household means they cannot be influenced by others to test. Men also feared an HIV positive result would change martial power dynamics in women's favor *HIV stigma.* Belief that men were more likely to be blamed for HIV based on risk behavior
Siu, 2013	Uganda (rural gold mining villages, eastern region)	2009–2010	Qualitative/individual interviews, observation	26 men 17 living with HIV (9 on ART, 8 dropped out/ never initiated) 9 unknown HIV status (6 suspected HIV, 3 with other health concerns)	To examine men's construction of masculinity and its influence on treatment seeking for HIV	Barriers to HIV testing *Sexual prowess.* Men feared a positive result would reveal their infidelity, and feared being blamed for HIV based on men's risk behavior *Gendered communication.* Belief that HIV testing would give women authority to question men's behavior *HIV stigma.* Belief an HIV positive diagnosis would

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First author, year published	Country (location details)	Year of data collection	Study design/data collection method(s)	Male study population and sample size	Study objective	Key findings on notions of masculinity as barriers and/or facilitators to HIV testing
						result in a loss of dignity and respect *Strength and self-reliance.* Men viewed delaying testing/ treatment despite symptoms as a sign of physical and emotional strength
Siu, 2014	Uganda (rural gold mining villages, eastern region)	2009–2010	Qualitative/individual interviews, observation	26 men 17 living with HIV (9 on ART, 8 dropped out/ never initiated) 9 unknown HIV status (6 suspected HIV, 3 with other health concerns)	To examine how factors interact with themes of masculinity and either discourage or encourage men's HIV test-seeking behavior	Barriers to HIV testing *Marriage and sexual prowess.* Fear couples testing will expose extramarital afairs and threaten marriage; Not wanting to change sexual behavior because of status or lose sexual opportunities with women *Gendered communication.* HIV testing gives women the opportunity to challenge men and authority to question their behavior *HIV stigma.* Belief that public monitoring of who tests leads to HIV stigma, based on people's assumptions of risk behavior and HIV status of men *Strength and self-reliance.* Men do not seek testing despite symptoms because of desire to be self-reliant, and view not seeking testing despite symptoms as a sign of strength Facilitators to HIV testing *Gendered communication.* Men have frank discussions about their sexual risk and encourage each other to test *Role as provider.* Motivated to test by desire to fulfill role as provider, and to participate in male roles as worker and male social groups

First author, year published	Country (location details)	Year of data collection	Study design/data collection method(s)	Male study population and sample size	Study objective	Key findings on notions of masculinity as barriers and/or facilitators to HIV testing
Skovdal, 2011a	Zimbabwe (Manicaland Province, eastern region)	Not reported	Qualitative/individual /group interviews, focus groups	21 men living with HIV on ART	To examine how local constructions of masculinity impact on men's use of HIV services	Barriers to HIV testing *Marriage and sexual prowess.* Belief that an HIV positive result would compromise one's ability to find a wife, and threaten marriage by revealing their infidelity
Skovdal, 2011b	Zimbabwe (Manicaland Province, eastern region)	Not reported	Qualitative/individual /group interviews, focus groups	21 men living with HIV on ART	To explore how male denial of HIV/AIDS impacts on their female partners' ability to access and adhere to ART	Barriers to HIV testing *Marriage.* Fear status will threaten stability of marriage or potential for marriage *HIV stigma.* Men reported that testing positive would represent them as promiscuous and irresponsible, damaging their reputation as a man
Stern, 2014	South Africa (Grahamstown, Cofee Bay village, Cape Town, Pietermaritzburg, Nelspriot, and Johannesburg)	2010–2011	Qualitative/individual interviews, focus groups	60 men (HIV status not reported) 50 interviews 10 in focus groups	To access social constructions of masculinity, how these influence men's sexual and reproductive health practices and care-seeking, and implications for promoting HIV risk reduction among men	Barriers to HIV testing *Strength and self-reliance.* Reluctance to seek help from others *Clinics are perceived as spaces for women.* Men felt unwelcome in clinics; belief that clinics are a woman's domain Facilitators to HIV testing *Respectability.* Gaining respect from the community for being responsible
Van Heerden, 2015	South Africa (Vulindlela sub-district of the UMgungundlovu district, KwaZulu-Natal)	2011–2012	Qualitative/focus groups	10 men offered home-based HIV counseling and testing (HBHCT) but declined, as well as other men not involved in the original program	To obtain a deeper under- standing from both men and women regarding the reasons why men test less frequently than women through HBHCT	Barriers to HIV testing *Marriage and sexual prowess.* Fear positive test result will reveal men's infidelity and threaten their marriage *HIV stigma.* Internalized stigma, feelings of shame and loss of dignity if positive, and fear of anticipated stigma
Wyrod, 2011	Uganda (Bwaise [slum community] in Kampala, urban)	2004, 2009	Qualitative/individual interviews, observation	9 male union members living with HIV	To make clear why we need to attend to the intersection of masculinity and	Barriers to HIV testing *Marriage/relationships.* Men feared an HIV

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First author, year published	Country (location details)	Year of data collection	Study design/data collection method(s)	Male study population and sample size	Study objective	Key findings on notions of masculinity as barriers and/or facilitators to HIV testing
					AIDS stigma and to provide a more intimate description of how men in this context experience AIDS stigma	positive status would result in losing partners *HIV stigma.* Men reported the fear of being discriminated against by an employer if test result was positive, threating role of provider *Strength/self-reliance.* Men did not want to ask for help from others, and feared a positive result would result in a loss of independence *Clinics are perceived as spaces for women.* Avoidance of testing and health facilities because they are viewed as a place for women *Role as provider.* Fear that HIV would compromise men's ability to work and provide for their family
Zissette, 2015	South Africa (Umzinto, KwaZulu-Natal, peri-urban)	NR for interviews, observation July 2014	Qualitative/individual interviews, observation	21 men living with HIV	To provide new insight on which components of masculinity interplay with healthcare access in South Africa	Barriers to HIV testing *Marriage and children.* Testing positive or being seen at the clinic and assumed positive can hurt a man's chances to find a wife and have children *Clinics are perceived as spaces for women.* Men preferred traditional healers; clinics ask too many questions of men *Role of provider.* Men delayed testing and treatment as long as they are able to carry out provider role and other roles as man

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