



## “It will not be easy to accept”: Parents conflicting attitudes towards pre-exposure prophylaxis for HIV prevention amongst adolescent girls and young women

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### ARTICLE INFO

#### Keywords:

PrEP  
Parental attitudes  
Sexuality stigma  
AGYW  
Zimbabwe

### ABSTRACT

**Background:** Pre-exposure prophylaxis, or PrEP, is a pill that has been hailed as a ‘game changer’ for HIV prevention, based on the belief it provides adolescent girls and young women (AGYW) with a level of user-control. However, engagement with PrEP is often dependent on societal factors, such as social attitudes towards gender, sexuality, and PrEP. As parents’ communication on sexual and reproductive health issues with AGYW are central to HIV prevention, it is critical to explore how parents talk and think about PrEP.

**Objective:** To examine parental attitudes towards PrEP for HIV prevention amongst adolescent girls and young women in eastern Zimbabwe.

**Method:** A qualitative interview study with 14 parents from two districts in Manicaland, eastern Zimbabwe. Interviews were transcribed, translated, and subjected to thematic network analysis. The concept of ‘attitudes’ steered the analytical work.

**Results:** Parents’ attitudes towards PrEP are conflictual, multi-layered, and contingent on the context in which they reflect and talk about PrEP. While parents aspired to be supportive of innovative HIV prevention methods and wanted to see girl-children protected from HIV, they struggled to reconcile this positive and accepting attitude towards PrEP with traditional ‘good girl’ notions, which stigmatize pre-marital sex. Although a few parents articulated an acceptance of PrEP use amongst their daughters, for many this was simply not possible. Many parents thus co-produce public gender orders that prevent adolescent girls and young women from engaging with PrEP.

**Conclusions:** While parents’ conflicting attitudes towards PrEP may provide spaces and opportunities for change, harmful gender norms and negative attitudes towards PrEP must be addressed at a community and cultural level. Only then can parents and their children have productive conversations about sexual health.

### 1. Introduction

“Some of the challenges that we face as young people looking to avoid HIV is that I may be willing to use PrEP but my parents may discourage me or refuse for me to use it. There are not a lot of parents

who will agree for their children to use PrEP, they don’t even want to hear about it.” Alice, an adolescent girl, eastern Zimbabwe.

Alice alludes to the role of parents as potential gatekeepers to pre-exposure prophylaxis (PrEP). She is just one of a number of adolescent girls and young women (AGYW), age 15–24, participating in our

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<https://doi.org/10.1016/j.sapharm.2022.10.008>

Received 23 May 2022; Received in revised form 20 October 2022; Accepted 20 October 2022

Available online 25 October 2022

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intervention study,<sup>1</sup> who expressed difficulties engaging with PrEP because of parent attitudes.

This is problematic for three main reasons. One, AGYW constitute a particularly vulnerable ‘at-risk’ group when it comes to acquiring HIV. Recent estimates suggest that six out of seven new infections amongst 15–19 year-olds in sub-Saharan Africa (SSA) are among girls.<sup>2</sup>

Two, PrEP is a highly efficacious HIV prevention method, which offers AGYW the opportunity to protect themselves from HIV without having to negotiate safe sex practices at the time of sex. However, what the quote from Alice suggests is that while PrEP may not need to be negotiated at the time of sex, as is the case with condoms, PrEP use is a social practice that still needs to be negotiated in a broader socio-cultural context,<sup>3,4</sup> including amongst parents.

Three, research indicates that parents’ communication about sexual and reproductive health plays a pivotal and protective role in safe sex behaviour amongst adolescents, and girls particularly.<sup>5</sup> Rogers<sup>6</sup> notes that the extent, content, and quality of this communication are directly linked to adolescents’ sexual intentions and safe sex practices. Understanding how parents think and talk about PrEP can offer important clues to the content and quality of parent communication about PrEP and provide insight to some of the broader symbolic meanings and community norms that prevent AGYW, like Alice, from engaging with PrEP.

PrEP forms part of a growing toolbox of biomedical HIV prevention technologies. It is an antiretroviral medication that is primarily taken in the form of a daily pill to prevent HIV acquisition. Evidence suggests that under controlled conditions, oral PrEP can dramatically reduce HIV infections.<sup>7,8</sup> However, studies in Africa, such as the VOICE and FEM-PrEP trials, have found limited effect of PrEP amongst African women,<sup>9,10</sup> attributing this to significant social and cultural barriers to PrEP uptake and adherence in women.<sup>11</sup> Drug levels of medication in PrEP (plasma tenofovir), for instance, was less likely to be detected in young VOICE participants, suggesting that the young and unmarried participants may have had little social and family support, leading to lower adherence and lack of efficacy.<sup>12</sup>

Qualitative studies have set out to investigate the uneven effects of PrEP, exploring the hurdles AGYW in SSA face in their engagement with PrEP. They identify several issues, including the association between PrEP – as an antiretroviral drug – and HIV. HIV-related stigma, manifested in fear of negative reactions and lack of support from the people around them, as well as their own skepticism towards the use of HIV drugs for prevention, have been observed to contribute to low uptake of PrEP.<sup>11,13</sup> Also PrEP- and sexuality-related stigmas, including fears of being labeled as promiscuous or as someone engaging in risky sexual behavior by intimate partners have been noted in a number of sub-Saharan African countries,<sup>14,15</sup> including in Zimbabwe.<sup>16,17,18</sup> In Zimbabwe, we have found the combination of HIV, PrEP and sexuality-related stigmas to result in worries amongst AGYW that privacy and confidentiality cannot be maintained in health clinics and by local healthcare providers, and this presents a major barrier to young women’s uptake of PrEP.<sup>18</sup> Fear of intimate partner violence<sup>19</sup> and women’s subordinate position in heterosexual relationships have also been identified as factors prohibiting AGYW from engaging with PrEP.<sup>20</sup>

What parents think also matters to young people. In our own studies with AGYW, girls often spoke about how their parents would disapprove of PrEP because it is linked to being sexually active.<sup>18,20,21</sup> Research with adolescent men who have sex with men in global North contexts also reveal perceptions of parental disapproval of PrEP, precisely because it signals sexuality,<sup>22</sup> or may “out” their sexuality to parents.<sup>23</sup> Such studies indicate that adolescents perceive parents to contribute to gender and sexuality specific barriers to PrEP.

These emerging challenges – related to PrEP – resonate with a long history of research into parental skepticism towards sexual and reproductive health (SRH) interventions for AGYW. Studies from different parts of SSA describe how some parents challenge access to contraception and family planning services, either by stigmatizing girls who make

use of SRH services,<sup>24</sup> or by providing misinformation about condoms.<sup>25</sup>

What and how parents talk about PrEP is thus likely to matter a great deal. Yet, little has been done to involve parents in research to bring forward their perspectives on the intersections between PrEP and AGYW sexuality. Against this background, and in our interest to understand their roles in co-producing or challenging the harmful gender norms and stigmatizing attitudes that prevent AGYW from engaging with PrEP, we set out to explore parents’ attitudes toward PrEP.

### 1.1. Conceptual framework: Parent attitudes

Attitudes are individual or social expressions towards an object, such as PrEP, a system of norms, such as cultural and gendered norms, or a behavior, such as AGYW sexuality and PrEP use. Social psychologist, Gordon Allport<sup>26</sup> defines an attitude as a “mental and neural state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual’s response to unrelated objects and situations with which it is related” (p. 810). This definition heightens our attention to the situated ‘doings’, ‘sayings’ and ‘relatings’ that give rise to particular attitudes, and how these attitudes might dynamically change depending on the environment and interactions. The definition also suggests that attitudes are closely related to individual or collective responses and behaviours, such as how parents may talk about sex and HIV prevention methods – like PrEP – with their girl-child.

Whilst we do not examine *how* parent attitudes towards HIV prevention and youth sexuality shape AGYW’s engagement with PrEP, the definition does suggest, in line with research findings from the field of sexual and reproductive health,<sup>5,6</sup> that parent attitudes may play a vital role in shaping their communication about sexual and reproductive health and AGYW’s safe sex practices. Inspired by Kahle’s<sup>27</sup> important work on attitude change, our motivation to examine parent attitudes lies in the possibility that we may learn something about opportunities for change, and that understanding negative parent attitudes towards AGYW PrEP use is a prerequisite for any efforts looking to modify attitudes and facilitate more PrEP-enabling social environments.

## 2. Methods

This paper draws on qualitative data from a larger intervention study that sought to understand and improve uptake of HIV prevention methods, including PrEP, among young people in Manicaland, Zimbabwe.<sup>1</sup>

### 2.1. Study location and participants

The study was implemented by the Manicaland Centre for Public Health Research. The centre is a collaborative research hub based in the Manicaland province of east Zimbabwe. It runs a general population cohort survey, contributing both to HIV surveillance and public health interventions.<sup>28</sup> Manicaland is characterized by poverty and high HIV prevalence rates. However, the average HIV prevalence of Manicaland has decreased from over 25% at the end of the 1990s to 11% in 2015–2016.<sup>28</sup> Our population survey also notes significant gender differences in HIV incidence, reaching nearly 1% for females and 0.5% for males, often explained by age-disparate sexual relationships, and limited condom use.<sup>29</sup> As a consequence, the HIV prevalence among AGYW is 5.4% in Manicaland near double that of young men, with a prevalence of 2.9%.<sup>30</sup>

Zimbabwe initiated a phased national roll-out of PrEP after adopting the World Health Organisation global guidance on oral PrEP in December 2016. Whilst PrEP was available to certain population groups as early as 2009, this was only through PrEP demonstration projects. As PrEP had not formally reached health facilities in our study sites at the time of our intervention study, we collaborated with the Ministry of Health and Child Care to make PrEP available. At the time of interview (mid-2019), PrEP was available through local health facilities to all

AGYW in our study sites. Health workers can at their discretion provide PrEP to any AGYW at risk of acquiring HIV. Today PrEP is available from most health facilities offering antiretroviral therapy for treatment and from selected pharmacies.

Data for this qualitative sub-study was generated as part of a situational analysis of two communities in preparation for the larger intervention study.<sup>1</sup> The communities, which we call Saksom and Watku, were randomly selected due to their rural/urban locations. Saksom is a high-density urban suburb, while Watku is a rural village. In this article we report on the 14 in-depth interviews that were conducted with eight parents from Saksom and six parents from Watku. Eight of the participants were women, and all were local Shona-speakers. All had completed primary education, and half also had secondary education. They had between 2 and 7 children, most of whom were now in the 15 to 24-year age-range.

## 2.2. Data collection and analysis

Interviews were conducted between March and July 2019 by experienced qualitative researchers. In a week-long workshop, they were inducted to the study and fine-tuned the topic-guides to reflect local realities and language. The topic guides were semi-structured and covered parent experiences of being a parent to a young person in the community, parent-youth relations concerning sex-talk, and parent perceptions of young people's HIV risk awareness and their use of HIV preventive methods, including PrEP. The interviews were conducted in Shona and took an average of 53 minutes. All interviews were conducted in the homes of the participants. While this created a safe space for the participants, the interviews are characterized by several interruptions (visitors coming by, phone calls).

With participants' permission, all interviews were digitally recorded, transcribed and translated into English. MS and ONKS carefully read through the transcripts, and discussed themes grounded in the data. ONKS preceded by importing the transcripts into NVivo 12 for coding and thematic network analysis.<sup>31</sup> The coding process generated 12 basic themes covering parent perspectives on AGYW sexuality and HIV prevention. The basic themes were clustered into four organizing themes. As we cannot report on all themes in this paper, we focus on the organising theme: "parents conflicting attitudes towards AGYW's engagement with PrEP". From a theoretical saturation perspective,<sup>32</sup> this theme contained sufficient data to answer our research question and to illustrate different components of our conceptual framework. In the results section we present and further analyse the three basic themes that make up the organising theme.

## 3. Results

As some of the parents had not heard of PrEP, the interviewer informed the parents about how PrEP works as a preventive method. Following the explanation, they were asked indirectly about their attitudes to PrEP as an HIV prevention method and their attitudes to a possible scenario, where their daughters engaged with PrEP.

We find – from a Goffman perspective – that the norms and morals the parents express during the interview are following an "interaction order".<sup>33</sup> We found parents to move through different attitudinal positions during the interviews, depending on the questions asked. When PrEP was introduced to the parents in the interviews, many of the parents struggled to reconcile their cultural identity as a morally "correct" parent (who discourages premarital sex) with positive attitudes towards PrEP. Whilst more than half of the parents express a positive attitude towards PrEP as an HIV preventive method, minutes later, when PrEP was linked to their daughters' sexuality, many proceeded to express a dislike and disapproval of the idea of their own daughters engaging with PrEP.

### 3.1. Negative attitudes towards PrEP if related to their own children

Throughout the material parental attitudes towards PrEP reflected the stigma surrounding premarital sex among AGYW in these areas. AGYW's premarital sexual experiences appear to symbolize a change in identity, from a "pure" ("virgin") to a "polluted" (non- "virgin") one. Many parents thus reflect on pre-marital sexuality stigma when positioning their attitude towards PrEP. In the following example, John's attitude towards his daughter's PrEP engagement reveals the power of social representations of premarital sex in shaping his disapproval.

*Would you encourage your daughter to access PrEP? Aaaaah no, no. Why not? That I do not want to listen to that unless she wants to die, she can go ahead and do that. What are your reasons? It's like you will end up seeing condoms thrown all over the house and it is not culturally acceptable. John, Saksom*

What stands out in this father's statement is his reaction to the researcher's question about encouraging his daughter's PrEP engagement. John associates his daughter's PrEP engagement with a death sentence, which may reflect how sexual debut before marriage, for him, is catastrophic. Furthermore, John applies "culture" to position himself. Interestingly, "culture" is made "law of nature". Thus, John's accounting for his attitudinal position signals that it cannot be challenged, and in the process stigmatizes AGYW's PrEP engagement. Another father from Watku, Patrick, stereotypes AGYW who engage with PrEP, as "promiscuous" and labels PrEP as "bad", when asked what he thinks about PrEP as an HIV prevention method.

*Haaa, I think it's a bad method of HIV prevention because if a person knows that he/she is using it, they may become promiscuous (...). Patrick, Watku*

Gladys, a mother, when explaining why she would not encourage her daughter to engage with PrEP shared a similar sentiment.

*Haa, it's the same as PrEP being encouraged to be taken by people who are prostitutes (laughs) than for a virgin girl to take PrEP mmmm it's possible but aaaaah it doesn't really sit well with me (...). Gladys, Saksom*

Gladys associates PrEP engagement with prostitution, which demonstrates how PrEP, from her perception, is laughably inappropriate for "virgin girls" (i.e., unmarried AGYW). When asked how she would react if her daughter disclosed PrEP use, another mother shares a similar sentiment of disbelief of premarital sex yet opens a window of PrEP acceptance if her daughter is indeed sexually active.

*I don't think I would react because if she knows very well how she is supposed to behave like a girl and after I reared her properly, she will understand the importance of safeguarding her virginity. But if she lost it and realizes that she is now sexually active then it is okay for her to prevent herself from getting infected with HIV. Chipu, Watku*

The statements from these parents underline how conversations on PrEP actualize cultural norms around premarital sex and shape attitudes and perceptions of AGYW's use of it.

### 3.2. Somewhat positive attitudes towards PrEP, even if related to their own children

Nonetheless, a few parents did express an overall positive attitude towards PrEP use, also if related to their own children. One mother, Grace, for instance, after lengthy accounts disapproving condom usage and premarital sex, expressed a different perspective shortly after when invited to consider PrEP:

*Okay how would you react if your daughter told you she is on PrEP? I will be happy because she is conscientized, because she knows that she is sexually active and is preventing herself from getting infected with*

HIV. Yes, it might be painful at first if she is at a tender age and now using PrEP but in another angle, I will praise the Lord because she has thought of protecting herself from HIV. Grace, Watku

Grace is a part of the group of parents who are overall positive about PrEP and AGYW's engagement with PrEP. Yet, her account is still illustrative of an internal conflict. She expresses how "painful" it would be if her daughter's PrEP engagement was disclosed to her "at a tender age". Nevertheless, it seems that for Grace the ends (her daughter preventing an HIV infection while having premarital sex) justify the means (PrEP). Grace was subsequently asked if she would encourage her daughter to engage with PrEP. Here her attitude shifts further towards support of PrEP, recognizing that premarital sex is matter of life:

Yes, I would. When she has completed her school or maybe like now when she has completed university and she is looking for employment, it will be obvious that if she has a boyfriend, it will be a big lie that she will get married as a virgin. I will tell my daughter you should use these PrEP pills until you reach a stage where you find your soulmate who will become your husband, but in the meantime, you should protect yourself from HIV. I will tell her the truth. Grace, Watku

Grace eventually admits that it is highly unlikely that her daughter will remain a "virgin" until marriage. Although she earlier expressed how she would disapprove of her daughter's condom usage and premarital sexual activity, she now feels safe enough to express a different and more encouraging attitude towards her daughter's engagement with PrEP. A mother from Saksom demonstrates similar ambivalence:

You accept it but as a parent, you would not want your child to start having sex before marriage ... so it is difficult ... but at the same time she is trying to protect herself. Rosemary, Saksom

Rosemary recognizes that PrEP can prevent HIV, but also sees it as a symbol of her daughter's sexuality, which for unmarried AGYW conflicts with cultural norms. PrEP thus seems to be in competition with premarital sexuality stigma, which the parents (especially the women) may have been subjected to and therefore (seemingly) fear their daughters will experience. The movements we observed in the interviews amongst some parents, from out rightly rejecting premarital sex to accepting that it happens, and that PrEP is a viable prevention method, illustrates how difficult it is for the parents to openly (in an interview situation) talk about their daughter's sexuality.

### 3.3. Situations where PrEP use is more acceptable

Relatedly, several parents had an ambivalent attitude towards AGYW's PrEP use, revealing how certain factors can make it more appropriate for AGYW to be sexually active and engage with PrEP. Interestingly, a theme across the parent interviews was that an indeterminate "appropriate age" to be sexually active existed. However, one father gave an example of what age would be appropriate for his daughter to engage with PrEP:

*How would you react if your daughter told you she is on PrEP?* In my own view I consider it either good or bad. If she is over 18 years, it is good but if she is below 18 years, haaaaaa, I see it as bad. *Why are you saying it is bad?* Before reaching 18 years [pause] a child should do sex after reaching 18 years. If she is still young, it is not good. If she is 18 years, she knows what she is doing. Lovemore, Saksom

For Lovemore, a condition for PrEP to be appropriate, or "good", is if his daughter is above 18 years old. PrEP is "bad" if the daughter is below 18 years old. Although this father previously spoke about PrEP as "bad", he here presents a more nuanced view, alluding to the fact that he considers 18-year-old AGYW to be aware of their actions and with adequate levels of agency in sexual decision-making. It is worth noting that the legal age of consent to sexual intercourse in Zimbabwe has

recently been under review, and has increased from 16 to 18.

Another deciding factor shaping acceptance of PrEP is marriage, linked both to the notion that unmarried AGYW should not be sexually active, and to the presumed infidelity of their husbands. One mother, Esther, who emphasizes that PrEP engagement is acceptable after marriage, captures this:

*How would you react to your daughter taking PrEP?* It will not be easy to accept. *Why is that?* It differs with age ... for example the one I said was once married, I would be ok with it but not the one who has never been married. *Would you encourage your daughter to use PrEP?* Before marriage, no I do not encourage that. *The one who was once married ... what would make you encourage her to use PrEP?* I would encourage her because this is someone who has been introduced to sex, including unprotected sex, so it is nearly impossible to make her have that kind (abstaining from sex) of life. *What about the 19-year-old one, would you discourage her from using PrEP?* Well, if she is already having sex before marriage, including unprotected, it will be impossible for me to expect her to stop at this point. Esther, Saksom.

Esther is a part of a group of parents who overall has an ambivalent attitude towards PrEP as an HIV prevention method, conflicted by strong social representations of premarital sex as "immoral".

## 4. Discussion

Given the absence of research with parents about PrEP for AGYW in sub-Saharan Africa, and emerging findings of how AGYW often perceive parents as disapproving of PrEP, we set out to explore parent attitudes towards PrEP, the roots of these attitudes, as well as opportunities for attitudinal change. Broadly, we find that parent attitudes towards PrEP are highly conflictual, embedded in social gender norms, and contingent on the context in which they reflect and talk about PrEP.

Specifically, we find a mix of positive, negative, and ambivalent attitudes towards PrEP, with conflicting attitudes both across and within parent groups. Parents were in principle supportive of PrEP and its HIV prevention potential, something also observed amongst parents in the US.<sup>34</sup> However, in the context of PrEP use amongst AGYW, and hypothetically their own daughters, many parents, and fathers in particular, expressed negative attitudes towards PrEP. These negative attitudes were rooted in social experiences and norms about premarital sex, and beliefs that PrEP may encourage pre-marital sex. These accounts of negative attitudes often drew on gendered stereotypes, or 'good girl' notions to label and stigmatize unmarried AGYW who are sexually active, attitudes AGYW are acutely aware of.<sup>20</sup> That said, there were some parents, particularly amongst mothers, who expressed they would support their daughters hypothetical use of PrEP, driven by a desire to protect them from HIV and recognition that it is unlikely their daughters will remain virgins until marriage. In a study by Rousseau et al.,<sup>35</sup> mothers' support of PrEP use was of particular significance to AGYW, who appreciated it when parents encouraged them to take control of their sexual health.

Of note, the analysis demonstrated how the interactionist interview context both amplified certain attitudes and encouraged some parents to move through different attitudinal positions, with certain questions and conversational contexts sparking responses. For instance, a few parents shifted their attitudes towards PrEP when the conversation turned to their own children, or subsequently nuanced the negative attitudes. This suggests that the parents may themselves struggle to navigate social norms on premarital sex and may have used the interview context – at least initially – to present themselves and their cultural identity as morally "correct" parents, upholding the public gender orders that obstruct AGYW's engagement with PrEP.

This suggests to us that parents have both accepting and moralizing attitudes towards PrEP. These conflicting attitudes resonate with a study by Chiweshe and Chiweshe,<sup>36</sup> who in Zimbabwe found parents to be in denial about their adolescent children's sexuality. They found that

parents believed that “children” should not be engaged in sex, yet they recognized – and found problematic – that other people’s children were sexually active. They also noted that the parents, most of whom were Christians, believed that premarital sex was an immoral act and that talking about sex with their children would increase the likelihood of them becoming sexually active. However, when Chiweshe and Chiweshe<sup>36</sup> invited a community figure (a school headmaster) to contextualize the views of parents participating in their study, they learned that the parents’ denial was likely a sort of public denial, which often did not correspond with what they knew about their children’s sexual activity. The community figure also argued that parents most likely know about their children’s sexual activities, but fear of stigma, being labeled as a bad parent, and judgment from the outside community made them deny their children’s sexual activity in public, an ambivalence that may partly explain the negative attitudes emerging from our study, as well as some of the attitudinal shifts we observed.

There are several implications of our findings. First, even if parents in theory may have positive attitudes towards PrEP as an HIV prevention method, AGYW will be acutely aware of the underlying moralizing positions that many parents in our study exhibited, challenging their engagement with PrEP. Second, parents’ conflictual and ambivalent attitudes suggest an opening for change. There is a need to tap into parent’s ambivalent attitudes and make them PrEP-user allies in an otherwise obstructive cultural context, for instance by integrating them more actively into the PrEP care continuum. Third, and relatedly, there is a need for efforts to challenge the gender norms that make it difficult for parents to unilaterally exhibit positive attitudes towards PrEP. There is also a need to improve parent-child communication about sexuality and new biomedical HIV prevention methods.

In sub-Saharan Africa, there is a long history of challenges to parent-child communication about sexuality and HIV. This is discussed in a seminal literature review by Bastien and colleagues<sup>37</sup> who highlight that both parents and young people report barriers to open dialogue, often explained by the fact that sex continues to be a cultural and religious taboo topic. They also find that parent-child sex-talk tend to be authoritarian, unidirectional, and infused with vague warnings deterring children from having pre-marital sex, echoing our findings. Laura Chubb,<sup>38</sup> based on participatory research in Kenya, argues that to break down community-level barriers to young people’s sexual health, ‘talk’ about young people’s sexuality and engagement with HIV prevention methods, must be introduced in, and supported by, traditional conversational spaces, such as *Mabaraza* (a Kiswahili word for a group gathering space for dialogue traditionally used in East Africa).

In Zimbabwe, the *Dare* system (an indigenous community-based court system ensuring social order and harmony<sup>39</sup>) has traditionally provided a framework for gender and sexuality talk. The system includes family “courts” (*dare repamusha*), and here aunts and grandmothers would bring girls to kitchens and tell them about their roles and responsibilities as ‘good girls’ and wives, whilst uncles and grandfathers would bring boys to courtyards to talk about manhood. Whilst these customs are no longer practiced, the *Dare* system still features in the cultural memory of Shona people. The family “courts” could be modernized, not to enforce particular public gender orders, but to challenge them, and to facilitate constructive sexual health dialogues between parents and children.

There are constraints to the interpretation of our findings. First, our study was cross-sectional and only provides a brief snapshot of perspectives at a particular moment in time. Our data were produced in the early days of PrEP roll-out, which may affect the transferability of our findings to settings where PrEP roll-out is more mature. Furthermore, the sheer dynamism of PrEP delivery and socio-cultural norms call for more longitudinal research. Such research could adopt a more ethnographic approach, addressing a second constraint, namely that our study relied on self-reported accounts. Relatedly, our study also only focuses on the perspectives of parents and does not include the voices of AGYW themselves. Whilst we report on their perspectives in relation to other

topics elsewhere,<sup>18,20</sup> future research on parental attitudes could consider triangulating the perspectives of different local stakeholders, including the perspectives of AGYW themselves. Third, whilst our rural and urban findings were broadly similar, the generalisability of our findings is limited and may not apply to other country settings, as the socio-cultural and gender norms characteristic of our setting may vary from others. Given our sample size, we have only been able to allude to possible attitudinal differences between mothers and fathers, including the influence of the age of their daughters. Future research can explore these issues and the prevalence of attitudes further.

## 5. Conclusion

This is one of the first studies – as far as we are aware – to explore parents’ attitudes towards AGYW PrEP-use in sub-Saharan Africa. We demonstrate that many parents articulate conflictual attitudes towards PrEP, exhibiting both an acceptance of PrEP as a viable HIV prevention method and a moralizing of AGYW sexuality. Parents must navigate pervasive gender norms and experiences, which shape their attitudes, yet contrast their desire to protect girl-children from acquiring HIV. Our findings follow a long history of research documenting HIV prevention as a social phenomenon. Whilst PrEP is a major biomedical breakthrough, social and relational dynamics remain critical to its success.<sup>3,40,4</sup> Efforts to make PrEP available to AGYW must thus i) consider parents conflicting attitudes towards PrEP and the opportunities for change this offer; ii) facilitate opportunities for sexual health dialogue between parents and their children; and iii) address harmful gender norms and negative attitudes towards PrEP at a community and cultural level.

## Author statement

**Morten Skovdal:** Conceptualization, Methodology, Supervision, Data curation, Writing - original draft, Writing - review & editing, Funding acquisition. **Olivia Nanny Khayinza Sørensen:** Formal analysis, Writing - original draft. **Douglas Muchemwa:** Investigation, Writing - review & editing. **Rangarirayi Primrose Nyamwanza:** Investigation, Writing - review & editing. **Rufurwokuda Maswera:** Investigation, Data curation, Writing - review & editing, Project administration. **Mette Nordahl Svendsen:** Supervision, Writing - review & editing. **Constance Nyamukapa:** Conceptualization, Methodology, Investigation, Supervision, Writing - review & editing, Project administration, Funding acquisition. **Ranjeeta Thomas:** Conceptualization, Methodology, Writing - review & editing, Funding acquisition. **Simon Gregson:** Conceptualization, Methodology, Project administration, Supervision, Writing - review & editing, Funding acquisition

## Declaration of competing interest

SG declares shareholdings in pharmaceutical companies [GSK and Astra Zeneca]; all other authors have no conflicts of interest to declare.

## Acknowledgements

We would like to thank all the participants for their valuable time and input. The study was supported by the National Institute of Mental Health (NIMH) (Grant R01MH114562–01) and the Bill and Melinda Gates Foundation (BMGF) under grant ID: INV-009999 (formerly OPP1161471). The content is solely the responsibility of the authors and does not necessarily represent the official views of the NIMH or the BMGF. CN and SG acknowledge funding from the MRC Centre for Global Infectious Disease Analysis (reference MR/R015600/1), jointly funded by the UK Medical Research Council (MRC) and the UK Foreign, Commonwealth & Development Office (FCDO), under the MRC/FCDO Concordat agreement and is also part of the EDCTP2 programme supported by the European Union.

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