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Structural determinants of adolescent girls' vulnerability to HIV: Views from community members in Botswana, Malawi, and Mozambique

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ABSTRACT

In sub-Saharan Africa, adolescent girls are three to four times more likely than adolescent boys to be living with HIV/AIDS. A literature review revealed only four studies that had examined HIV vulnerability from the perspective of community members. None of the studies focused specifically on adolescent girls. To fill this gap, in 2008 12 focus group discussions were held in selected peri-urban and rural sites in Botswana, 12 in Malawi, and 11 in Mozambique to identify factors that render girls vulnerable to HIV infection from the community members' perspective. The preponderance of comments identified structural factors – insufficient economic, educational, socio-cultural, and legal support for adolescent girls – as the root causes of girls' vulnerability to HIV through exposure to unprotected sexual relationships, primarily relationships that are transactional and age-disparate. Community members explicitly called for policies and interventions to strengthen cultural, economic, educational, and legal structures to protect girls, recognized community members' responsibility to take action, and requested programs to enhance adult–child communication, thus revealing an understanding that girls' vulnerability is multi-level and multi-faceted, so must be addressed through a comprehensive approach to HIV prevention.

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Introduction

Prevention of HIV/AIDS among young women remains a significant public health priority globally. Research shows that in the nine countries in southern Africa most affected by the disease, prevalence among young women aged 15–24 years was on average about threefold greater than among men in the same-age cohort (Gouws, Stanecki, Lyerla, & Ghys, 2008). In light of the worldwide economic downturn and the concomitant uncertainty of donor commitments to funding for HIV/AIDS treatment (Médecins Sans Frontières, 2010), the prevention of HIV infection has become ever more urgent. Yet, preventing new cases of HIV infection continues to vex the international community of HIV/AIDS scholars, health practitioners, and activists alike despite some heartening evidence of reductions in HIV incidence in 33 countries by more than 25% between 2001 and 2009, including among young people and several specific risk groups (Hallett et al., 2010; UNAIDS, 2010).

In response to limited successes in HIV prevention over the past 25 years, scholars have recently advocated combination prevention that comprises not only biomedical and behavioral interventions, which are necessarily, in the first instance, and typically, in the second instance, implemented at the individual level, but also includes structural interventions (Coates, Richter, & Caceres, 2008; Gupta, Parkhurst, Ogden, Aggleton, & Mahal, 2008). Understood in the context of HIV/AIDS, structural interventions include social, cultural, economic, legal, organizational, or policy responses to mitigate HIV infection (Sumartojo, 2000). Examples of structural interventions include the elimination of primary and secondary-school fees to keep girls in school, economic opportunities to reduce minors' involvement in transactional sex, the provision of recreational facilities or opportunities, and enforcement of laws that regulate the sale of and access to alcohol.

Over the past decade, the central role that structures play in creating vulnerability to, and constraining individual agency that could prevent, HIV transmission has received increasing scholarly attention (Auerbach, 2009; Blankenship, Bray, & Merson, 2000; Blankenship, Friedman, Dworkin, & Mantell, 2006; Hankins & de Zaldoondo, 2010; Tomlinson, Rohleder, Swartz, Drimie, & Kagee,

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2010). To date, however, prevention has focused primarily on individual-level interventions – whether biomedical or behavioral – while structural approaches to HIV prevention remain largely untapped (Gupta et al., 2008). In recent years, the field of HIV prevention appears to be moving towards an understanding that HIV-related vulnerability evolves in complex socio-economic contexts so must be met with nuanced, multi-level responses suited to the multi-faceted complexities of any given setting (Merson et al., 2008; Merson et al., 2008; Piot, Bartos, Larson, Zewdie, & Mane, 2008).

Research has identified a range of family-, social- and structural-level factors – factors over which adolescent girls have no control – that are statistically associated with HIV infection. These include orphanhood and household composition (Birdthistle et al., 2008; Eaton, Flisher, & Aaro, 2003), migration (Mabala, 2006; Rassjo, Mirembe, & Darj, 2006), school attendance (Gavin et al., 2006; Obasi et al., 2001), cultural norms (Bates et al., 2004), gender inequality (Bates et al., 2004; Mabala, 2006; Machel, 2001; Poulin, 2007), and socio-economic status (Eaton et al., 2003; Hallman, 2005; Machel, 2001). To the extent these factors are mutable, interventions at the social and structural levels will require not only a commitment by international HIV/AIDS bodies, but also the involvement of communities across southern Africa. Yet the voices of community members regarding the determinants of HIV vulnerability are largely missing in this discussion. Little research has been conducted to explore how communities themselves define and understand vulnerability to HIV.

Orphanhood and living arrangements are primary factors community members identified as contributing to children's vulnerability, particularly female- or child-headed households or where someone is chronically ill (Schenk et al., 2008). However, these are just part of the broader contextual fabric that make up children's vulnerability to HIV, including material, emotional, and social problems such as disability, poverty, care giving, violence, and physical living conditions – the combination and interrelation of which make up degrees of vulnerability, rather than an absolute state of vulnerability (Schenk et al., 2008; Skinner et al., 2006).

Community perceptions of adolescent vulnerability identify behavioral variables related to sex as primary determinants of HIV risk, including early sexual debut, multiple partners, and low condom use (Kaponda et al., 2007; McCreary et al., 2008). However, communities have also identified the contributing factors leading to these behaviors, including the desire for a modern lifestyle, which is seen to fuel HIV risk by encouraging transactional sexual relationships, particularly for young women. In addition, adult-child relationships, including parents' inability or unwillingness to provide material resources, supervision, emotional support, and clear communication about sexual and reproductive health, are also a key factor in adolescents' risky sexual behaviors (Remes et al., 2010). Community perceptions about the specific factors that influence adolescent girls' vulnerability, however, are not well understood despite the disproportionate burden of HIV infections borne by this group. Yet, without community involvement HIV prevention will falter, if not fail. As Merson et al. (2008) note: "public health is littered with interventions that have failed precisely because they neglected to build community ownership" (p.1805).

Given the limited information on community views concerning adolescent girls' vulnerability to HIV and in anticipation of launching the Gender Initiative on Girls' Vulnerability to HIV (the Initiative),¹ the study elaborated herein was conducted. The

Initiative sought to reach vulnerable adolescent girls ages 10–17 in selected communities in Botswana, Malawi, and Mozambique to mitigate their exposure to HIV transmission. In order to meet the Initiative goal, a clear understanding of how communities characterize and identify vulnerable girls was required to refine the proposed activities before setting the Initiative in motion to ensure consonance between the intervention and community needs, as recommended by Delor and Hubert (2000).

A social ecological perspective guided both the Initiative and the research reported herein; it explicitly shifts the focus from the individual-as-risk-taker, which places the onus on the individual, to the systemic and foundational contextual factors that render girls vulnerable. The social ecological perspective views individuals as nested within a system of socio-cultural relationships – families, social networks, communities, nations – that potentially influence, directly or indirectly, individuals' ability or propensity to act. This approach draws attention to the role of extra-individual factors in health outcomes (Rose, 1985), and yet does not ignore the individual, whose sexual encounters constitute the proximal determinants of HIV risk. Rather, individuals' choices, decisions, and behaviors are theorized to depend not only on their own characteristics, but also on group- or community-level attributes and understandings, which together constitute the intermediate determinants of HIV risk. These factors in turn implicate the distal determinants of HIV risk, or the larger structural and environmental contexts within which they live. In sum, social ecology is a systems approach that examines the "degree of fit between people's biological, behavioral, and socio-cultural needs and the environmental resources available to them" (Stokols, 1996, p. 288). As such, it is consonant with the combination approach recently adopted by the community of HIV/AIDS scholars.

Methods

This qualitative research study was conducted in November and December 2008. Communities were selected based on a set of pre-determined criteria, including 5–20% HIV prevalence, population, geographic accessibility, and availability of relevant non-governmental organizations. In each country, two communities – one peri-urban and one rural – were purposively selected.

Focus group discussions (FGD) were held in rural Bobonong District and a peri-urban section of Francistown, Botswana; a peri-urban area of Mangochi District and a rural community in Thyolo District, Malawi; and peri-urban Chuabo Dembe and rural Licuari, both in Zambezia Province, Mozambique. In each site, one FGD was held with adolescent girls (two cohorts – ages 10–14 and 15–19), adolescent boys (ages 15–19), adult women (ages 20–49), adult men (ages 20–49), and community opinion leaders, including local officials, headmen, religious figures, teachers, etc. In sum, 12 FGDs were held in Botswana, 12 in Malawi, and 11 in Mozambique (in the rural site opinion leaders were combined with the adult groups) for a total of 143 female adolescent, 43 male adolescent, 150 female adult, and 90 male adult participants. Each FGD lasted approximately 2 h and was facilitated by same-age, same-sex peers, except for the youngest group who had same-sex, older teens.

Prior to the FGDs, participants were purposively recruited through the traditional leadership and local community organizations using age and sex as the main recruitment criteria. No names or personal identifiers beyond age, sex, and occupation of participants were recorded.

Discussion guides for youth and adults were developed to provide structure to the FGDs. The guides included questions to explore the issue of girls' vulnerability in depth by asking which adolescent girls are most vulnerable to HIV and why, and which girls are not vulnerable. The guides used prompts to explore multi-

¹ To reduce adolescent girls' vulnerability to HIV in Botswana, Malawi, and Mozambique, the United States Agency for International Development awarded the President's Emergency Plan for AIDS Relief Gender Initiative on Girls' Vulnerability to HIV to the Johns Hopkins Bloomberg School of Public Health Center for Communication Programs (CCP) from September 2007 to June 2011.

level factors related to girls' vulnerability, but these prompts were rarely needed as the discussants spontaneously identified factors across the socio-ecological spectrum. Participants were also asked to draw a map of their community and identify safe and unsafe spaces for adolescent girls.

Ethical approval to conduct the study was obtained from the Institutional Review Board at the Johns Hopkins Bloomberg School of Public Health, the Health Research Unit in the Ministry of Health in Botswana, the National Health Science Research Committee in Malawi, and the National Bioethics Committee, Ministry of Health in Mozambique. The support of community leaders was also obtained at the local level. Oral informed consent was obtained from adults before they took part in the FGDs. Minors took part in an FGD only after the oral consent of a parent or guardian and their own oral assent were given.

Data analysis

All FGDs, with the consent of the participants, were audiotaped and the recordings were transcribed verbatim in the local languages (Botswana: Setswana; Malawi: Chichewa, and Mozambique: Portuguese and Chuabo). The transcribed texts were then translated into English. Data sorting and analysis were carried out using ATLAS.ti software.

The data analysis was guided by the thematic content analysis approach (Green & Thorogood, 2004). The codes used in the analysis were both pre-determined, from the conceptual framework, and based upon the participants' own words, through careful reading of all the transcripts and field notes. A structured coding scheme was discussed and developed by the research team, which included staff in all three countries (where translations and back-translations were carried out), a US-based researcher, and the principal investigator. Ten overarching themes were identified, examples of which include sexual behavior, alcohol, violence, community spaces, and relationships/social networks. Under each theme, sub-codes were established. All transcripts were then re-read by two researchers, final codes were agreed upon, and one researcher coded the content. The four authors of this article conducted the data analysis; team members in the three countries reviewed the manuscript. Disagreements about interpretations were resolved through discussions; only conclusions that garnered consensus are included herein.

Results

Proximal determinants of girls' vulnerability to HIV

The key emergent themes that arose from the data analysis about the proximal determinants of girls' vulnerability to HIV coalesced around the apparent commonness of multiple partners, transactional, and cross-generational sex.

From the youngest to the oldest groups and among rural as well as peri-urban groups, references were made to concurrent sexual partners, transactional sex with older sexual partners, and unprotected sex as the immediate determinants of HIV transmission even in response to the general, introductory questions about the meaning and expression of vulnerability. When speaking of adolescent girls, study interlocutors almost always linked transactional sex with cross-generational sex. While transactional sex does not in itself place an individual at risk of contracting HIV, the propensity of girls involved in such transactions to have unprotected, concurrent partnerships with older, sexually experienced men heightens the danger. In the participants' narratives, the prototypical sexual relationship associated with adolescent girls and risk of HIV transmission was transactional, intergenerational,

unprotected, and concurrent, thus the transactional-intergenerational-concurrency nexus. Indeed, the transactional-intergenerational-concurrency sex nexus was the single most important reason that girls were said to be at risk of HIV infection.

If you are in love with a student like yourself, it's only pencils and pens you expect from him, unlike older men who work – they give you money...cell phones and other things. (Botswana, rural, adolescent girl 15–19 years)

Also during the New Year festival, us girls go to the main road and stop any car for a lift and they take us for fun. We buy things like rice and drinks for fun. After all this you have sex with the one who has supported you for fun without any protection. (Malawi, peri-urban, adolescent girl 15–19 years)

Distal determinants of girls' vulnerability to HIV

The conversations quickly turned from descriptions of sexual relationship characteristics that place girls at risk of HIV infection to the multi-faceted and often intertwined distal determinants of vulnerability. In the respondents' discourse, structural factors included unsafe communities; poverty and consumerism; and the association between alcohol disinhibition and casual, unprotected sex as well as with rape.

Safe and unsafe spaces in the community

Focus group discussants explored where adolescents are safe and where they are not safe in the community by drawing a map, marking relevant spaces, and discussing the reasons specific places were designated safe or unsafe. Overall, participants identified a wide range of spaces that were unsafe for girls and only a few that were considered safe. In general, the study groups chose places with structure and regulations as safe places. These included the church, hospital, police station and, sometimes, the school and home.

In contrast, they identified unregulated locations, such as the market and the streets as unsafe spaces. Most of all, participants identified those places where alcohol is sold, and should be age-regulated, such as discos, bars, and video-houses, as hotspots of girls' vulnerability in their communities.

Even though under 18-year-old people are not allowed in discos, we sometimes find a man with a 15-year-old kid there. (Mozambique, peri-urban, adolescent girl 15–19)

There was disagreement on the safety of schools: while some participants classified the schools as safe, giving the reason that it provided a structured environment, others regarded schools as unsafe because it is often a meeting point for boys and girls to arrange sexual rendezvous. Still others viewed schools as unsafe due to the exploitation of students by some of their teachers (noted particularly by secondary-school students).

There is no safety for girls at the school because they can be forced to have sex with their teachers, who will pass them if they sleep with him. (Malawi, peri-urban, adolescent boy 15–19 years)

Poverty and transactional sex

The two major, organizing narratives about transactional-intergenerational sex among adolescent girls highlighted either poverty or consumerism – though there was some admixture of the two – as the driving force behind such behaviors. In all three countries, poverty or the lack of even minimal funds to meet basic survival needs, including money to purchase food and pay school fees, was considered a root cause of girls' vulnerability to HIV. In this context, dire economic conditions were mentioned much more frequently in Malawi and Mozambique, both lower-income

countries, than in middle-income Botswana, where poverty was discussed more in rural than in urban areas.

Some of the comments alluded to the economic conditions that clearly were not of the girls' making as the driving force behind unprotected, transactional sex. The tension between blaming the girls and blaming the circumstances seemed ever-present in the conversations, though on balance, participants seemed to find fault in the circumstances.

By getting a boyfriend, she will have something to eat with her family. (Mozambique, peri-urban, adolescent girl 10–14 years)

According to our interlocutors, impoverished girls in their communities exchange sex for small items, such as soap, salt, and bread. In Mozambique, many respondents described specific monetary amounts exchanged, beginning as low as five meticaís (20 cents US).

I think she'll go out with every man to get money to buy something. She'll only ask five meticaís because she's a child to buy biscuits, etc. Hunger will never finish, because her parents have not enough resources. She'll need money to get something. This is all about hunger and disgrace. (Mozambique, peri-urban, woman 20–49 years)

This need for money in tandem with the reportedly broad acceptance of exchanging sex to meet basic needs means that girls have limited choice over their sex partners and may overlook age differences and even HIV status.

She has no food to eat. As a result, she will accept. She doesn't know if such man is HIV positive or negative. She just accepts without thinking of the consequences. (Mozambique, peri-urban, opinion leader)

Poverty and economic exploitation

Although some girls initiate transactional sex, the majority of respondents in Malawi noted that girls entered into transactional sex because of force or coercion. Adolescents and adults alike, most predominantly in Malawi, though also in Mozambique and, to a lesser extent, in Botswana talked about parents who explicitly exploit their children for economic gain.

[Parents] tell her to go and do prostitution since there is nothing at home. Therefore she is forced to do sex or else she is chased out. The money raised is used to support the family. (Malawi, rural, pre-adolescent girl 10–14 years)

Even more frequently, participants spoke of parents who implicitly exploit their children for economic gain. These discussions revealed that girls might enter transactional-intergenerational sexual relationships to support or help their families – pointing to parental complicity.

The parents enjoy the material benefits brought by the children...Parents in Bluetown village like classy stuff, they too are after money and they do not criticize their children but rather encourage them. (Botswana, peri-urban, adolescent boy 15–19 years)

Consumerism

While one organizing narrative frames transactional sex as a response to, or forced upon girls because of, the dire need to secure basic necessities of everyday life, the other major narrative portrayed the triumph of consumerism over traditional values and the lure of material goods as the driving force behind transactional sex. In these instances, girls were often depicted as purposefully engaging in transactional sex to satisfy their desire for goods that

could be conspicuously consumed – goods that would help girls achieve a modern social identity.

Girls can't stand being outdone. When one has a phone, the other will become resentful and will readily accept the advances of a taxi driver so she too can get money for a phone, but of course the taxi driver wants sex in return. This man could well have the virus and infect her. Girls prefer older men like taxi drivers because we, their age mates, have no money. (Botswana, peri-urban, adolescent boy 15–19 years)

According to several interlocutors, consumerism is driven in large part by the media; youth are captivated by modernity, the allure of which is irresistible for some. Modernity, they contended, has also brought more economic inequality and, consequently, the felt need among those in straitened economic circumstances to possess the goods and trinkets ostentatiously displayed by others.

In the olden days it did not matter whether one was poor or rich, but today we want high status, these are things we learn from television and emulate. The life we live changes by the day, and as it changes so do we. (Botswana, peri-urban, woman 20–49 years)

Overall, the primary driver of transactional sex according to the Botswana interlocutors, young and old, was the desire for material goods; dire economic needs were secondary in this discourse.

In Mozambique, the portrait of a typical girl emerged who has brushed aside the passive role traditionally expected of girls and embraced a new, modern social identity that includes an assertive stance towards men. Modern girls were said to actively seek out, or make themselves easily and strategically available, to men who could buy the goods or status symbols associated with a modern social identity. In the discussions, *tchuna baby* trousers that sport a low-cut waist came to symbolize the desired, often-defiant social identity. This new assertiveness was associated with unsafe sex in the focus group discussions.

The girls of today, everything is fashion, tchuna baby, now that is what makes girls of 12 years old start having sex... (Mozambique, rural, adolescent boy 15–19 years)

Statements by the participants suggest that a constellation of intertwined motivations and influences constitute this social identity. Although it is the individual who embraces and is “consumed” by the consumerist culture, it is a normative change driven by peer as well as social influences, as alluded to in the quotes.

In contrast to Botswana and Mozambique, only a few respondents in Malawi – and then only in the peri-urban site – thought that girls were driven by desires for consumer goods, such as clothes that would contribute to their social identity, and going out for fun.

Alcohol

Alcohol-related disinhibition is a theme that appeared as a factor of vulnerability at all levels: individual, peer, and community. Most groups discussed the negative effects of alcohol – girls grow careless, men become aggressive, and those under the influence rarely use condoms. Several groups pointed out that the confluence of alcohol, transactional sex, and sexual concurrency compound the associated risks.

Those who abuse alcohol...feel on top of the world and lose control. So when a man offers you 500 pula [about \$75] you wouldn't hesitate and you will sleep with him so that you can buy a pair of shoes, new pants, and other things. (Botswana, peri-urban, adolescent girl 15–19 years)

But the causal relationship was not necessarily unidirectional; in some cases, it was asserted, those who “like sex” frequent bars, insinuating that girls consume alcohol in anticipation of having sex. Yet, even when a girl purposively sets out to exchange sex for several drinks, she may still be perceived as a victim who is “used” by a man.

I think the girls who like sex are those who drink alcohol. When she is at the bar, [a man] buys her lots of alcohol...In the morning she finds that the man has used her and there is nothing she can do; and she doesn't even know whether he used a condom. (Botswana, rural, adolescent boy 15–19 years)

Most groups referred quite casually to adolescents who frequent bars, discos, and other venues where alcohol is served; only a few implied that this reflected a failure to abide by, or of systems to enforce, laws intended to regulate alcohol consumption.

Violence

Alcohol consumption and simply frequenting bars were also linked to sexual coercion and rape in the participants' narratives. Respondents pointed to sexual violence as a risk factor for HIV transmission, with reference made to being beaten as a precursor to sexual violence. The fear of rape in the wake of alcohol consumption and the causal link between inebriated men and rape were commented upon frequently in Botswana and Malawi.

Those who live for pleasure [are vulnerable]; they get raped when they come from bars or nightclubs. (Botswana, peri-urban, adolescent boy 15–19 years)

Respondents in Malawi discussed both physical and sexual violence as risk factors for HIV transmission. The men never referred to violence, and opinion leaders mentioned it only in the peri-urban site. However, boys, girls, and women spoke quite frequently of violence, particularly sexual violence.

Other times you meet a man he rapes you after you have refused his advances. In so doing he can infect you with the virus if he has it. (Malawi, rural adolescent girl 10–14 years)

Rape was discussed by more groups and with greater detail in Malawi than in Botswana and more frequently in Botswana than in Mozambique. The threat of rape seemed particularly ubiquitous in the minds of adolescent girls in Malawi, who described their fears and concerns poignantly. But rape was very much a part of the narrative of girls' vulnerability across the countries – particularly among girls themselves but also among women and adolescent boys. This is not to generalize to the country settings – which would be inappropriate given the qualitative nature of this study – but to highlight differences that arose from the group discussions.

Intermediate determinants of HIV vulnerability

In addition to the distal determinants of HIV vulnerability discussed above, study participants noted that transactional-intergenerational sex stemmed from a range of intermediate factors, including changing relations between adolescents and adults, including but not limited to their parents, and orphanhood.

The attitude of adolescents towards their parents and other adults came up repeatedly and respondents lamented how much this had changed from the past. Discussions revealed that some adults are trying to provide guidance to children but that adolescents are “stubborn,” “arrogant,” and ignore advice from elders.

Our parents do advise us about the situation of HIV/AIDS but many girls do not give an ear to what their parents say. (Malawi, peri-urban, adolescent girl 15–19 years)

But not all participants blamed children or their modern rights for poor parent–child relationships. There was also the sense that some parents had abrogated their responsibilities, leaving their children alone without adult supervision.

Parents do not have any time for their children; they leave the homes at six o'clock in the morning and only come back at night. Meanwhile the children go around as they please. (Botswana, rural, adolescent boy 15–19 years)

In summary, the respondents, for the most part, were pessimistic about adults' influence on the reduction of girls' vulnerability to HIV. It appears adults in the three countries are aware of the positive role adults can potentially play in girls' lives – although many feel the barriers to achieving this are insurmountable, such as: girls' attitudes toward elders, negative role models in the community, poverty, lack of parental supervision of children, and discomfort with, as well as traditional norms against, discussing matters of sexuality with youth.

The issue of orphans' vulnerability to HIV was discussed by approximately half of the focus groups. The main reason orphans were seen as vulnerable was because they had no one to fulfill their basic needs and they have no economic opportunities – other than through transactional sex with older men.

Some girls who are orphans do not have anyone to help them so sex can be a way of supporting themselves; these girls are at risk. (Malawi, rural, woman 20–49 years)

The discourse about orphans and vulnerability pointed out that orphans usually have few, if any, choices, implying that there is little, if any, individual-level choice involved.

Taken as a whole, participants focused more on the distal factors that contribute to girls' vulnerability, including poverty, consumerism, the ubiquity of alcohol consumption and access, violence, weak law enforcement, and cultural norms, than they gave to intermediate factors.

Community suggestions for vulnerability reduction

Near the end of the group discussions, facilitators asked participants what could be done to help reduce sexual health risks among adolescent girls. Six types of activities were mentioned consistently across the six sites and three countries: (1) economic opportunities for vulnerable girls and, if to a lesser extent, their families; (2) making it possible for girls to stay in school; (3) law enforcement, particularly around access to alcohol and restrictions on the sale of alcohol, but also to protect girls from sexual violence and exploitation; (4) positive leisure activities for girls, such as recreational centers, girls-only clubs, and vocational training courses; (5) community mobilization; and (6) programs to enhance adult–child communication. Less frequently mentioned was access to voluntary counseling and testing as a means to prevent HIV.

Given the widespread understanding among respondents that poverty drives many risky behaviors, especially transactional sex, they were quick to identify the need to strengthen girls' economic opportunities, such as through loans, small businesses, and employment. Some proposed a range of job types, including petty trade, sewing, and agricultural work, but others argued that adults should provide for girls' needs.

In Malawi, many groups noted that encouraging or supporting girls to attend school could be a strategy to decrease their vulnerability. In Malawi and Mozambique, the older cohort of girls called for more schools to be built so that girls could secure a better future as well as learn about HIV/AIDS.

Participants in each country also referred to the need for greater regulation and law enforcement, in particular the need to enforce

laws that regulate access to alcohol outlets and alcohol consumption. Not only did they argue that minors should not be allowed to frequent bars, but at least one group in Botswana advocated for the need to reduce adult men's access to alcohol since, when drunk, they become dangerous to girls.

In Botswana, participants strongly supported greater enforcement of laws governing sex with minors and sexual violence. They proposed a range of punishments for men, including teachers, who violate these laws, from physical punishment to job loss.

Several respondents, especially in rural communities, lamented the absence of recreational facilities, which they thought could reduce young people's vulnerability by keeping them engaged in positive activities. The rural men's group in Botswana suggested that it is the government's responsibility to provide such venues where youth could enjoy "alcohol-free entertainment", exercise, take part in drama clubs, community clubs, or choirs; then "when they come out, they are tired and head straight to bed."

Respondents also called for community mobilization to mitigate girls' vulnerability to HIV and suggested a number of actions that the community could take on its own, such as holding community meetings and establishing community groups or "girls' protection committees". They noted the need for everyone – including men – in the community to work together on reducing vulnerability to HIV.

As a village head, I am sure that this is not a one-man show. We need to join hands in guiding our youths properly. The church, the schools, the clergy, and the community should indeed join hands to fight against HIV/AIDS. United we stand, divided we fall. (Malawi, rural, opinion leader)

Even as participants noted the breakdown in adult–child relationships as a barrier to reducing girls' vulnerability, they called for efforts to address this barrier. While some were concerned with improving the general tenor of adult–child communication, others contended that adults too often lack the necessary skills to talk with their children about sensitive sexual matters.

There should be a strong mission for implementing a program for empowering parents because they are unable to talk to their children... If this initiative of implementing a program for parents was possible whereby parents and children would discuss issues freely and openly there would be some progress and some improvements. (Botswana, peri-urban, opinion leader)

The adolescents also expressed a desire to communicate more openly and frequently with their parents, and indicated that adult–child relationships could be improved through enhanced discipline and monitoring.

Discussion

As one of the few studies available that explores community members' perceptions of vulnerability to HIV, specifically amongst girls, this research offers insights into developing an HIV response that is grounded in the views and ideas of communities most affected by HIV/AIDS rather than a response that is imposed from the outside. The use of a socio-ecological framework to guide the exploration of the multi-faceted factors that render girls vulnerable facilitated wide-ranging discussions about the topic. These discussions referenced the major areas of vulnerability found in the literature – orphanhood, school attendance, and socio-economic status. These conversations also brought to light a broader range of structural factors – such as economic exigencies and lax enforcement of laws and regulations – that put girls at risk than was reported in the few published articles to date that explore community views on this topic.

Furthermore, unlike other studies that found study participants typically proposed individual-focused solutions, such as awareness creation, even after identifying the social determinants of HIV transmission, such as poverty and social norms (Campbell, Foulis, Maimane, & Sibiya, 2005), this study found that participants proposed efforts that were aligned with the problems identified. The findings suggest that adolescents and adults in communities disproportionately affected by HIV/AIDS highlight structural interventions, behavioral interventions, and testing – in that order – for prevention.

The study also elucidates the commonalities across countries, yet points to the fact that adolescent girls are not homogenous, but rather face diverse challenges, opportunities, and risk factors – such as the use of active "agency" by some girls to obtain material goods through sex compared to the coercion encountered by other girls. These results underscore the need for programs that are sensitive and responsive to these variations.

The coordinates of girls' vulnerability to HIV in the three countries are complex and interlocked with the coordinates of the political economies, socio-cultural systems, and social identity formation in the respective countries. Across the three countries, adolescent and adult, male and female respondents singled out the transactional-intergenerational sex nexus as the primary driver of concurrent and unprotected sex among girls. Thus, the proximate determinants of girls' vulnerability to HIV transmission – exposure to unsafe sex with multiple partners – were broadly discussed. Yet, the study participants' narratives about what placed adolescent girls in situations that involved unprotected and, often, concurrent, sexual relationships told a complicated – and, at times, conflicting – story, and highlighted the primary role of structural factors as the root causes of girls' vulnerability to HIV.

The findings point unequivocally to the central role of economic inequality in rendering girls vulnerable to HIV. In middle-income Botswana, study participants pointed to the search for a modern adolescent social identity and, secondarily, poverty as the drivers of girls' involvement in unprotected sex. In Malawi, where economic resources are scarce, the study interlocutors identified poverty primarily, and the desire for material goods secondarily, as reasons why girls are at risk of contracting HIV. And in Mozambique, participants associated HIV risk with both poverty and adolescent identity formation. While other research has found that community members identify a causal relationship between sexual risk taking and economically driven needs – whether to meet physical or psycho-social needs (Campbell et al., 2005; McCreary et al., 2008; Remes et al., 2010; Schenk et al., 2008), this study is the first to compare community perceptions across three countries; as such, it contributes additional layers of information needed to address girls' vulnerability.

Unregulated access to alcohol, which is readily available to underage girls across the three countries, was identified as a key factor in girls' vulnerability. Although participants were acutely aware of the disinhibiting effect of alcohol, they showed little self- or collective-efficacy to act on the critical situation brought about by lax enforcement of alcohol-related regulations. They evinced little confidence in local authorities to take meaningful actions in this arena. Yet, male and female adolescents as well as adults across the three countries called for enforcement of laws and regulations that prohibit adolescents' access to alcohol and alcohol outlets, and in some instances also recommended restricted hours of sale.

Research has shown that experience of violence among women is associated with HIV, even after controlling for associated risky behaviors (Dunkle et al., 2004). In line with these research findings, participants in this study called for additional security in the community to protect girls against sexual violence and the threat of physical violence as coercion to engage in sex – even as they noted

that these risks went largely unmitigated by either social condemnation or law enforcement. They called on their own communities to participate in the creation of a safer environment to reduce girls' vulnerability to HIV infection.

Indeed, the majority of community-identified solutions to reduce girls' vulnerability to HIV focused on the structural determinants of vulnerability, in marked contrast to the plethora of individual-level HIV prevention programs for both adolescents and adults that focus on knowledge, attitudes, and risk perception. Interestingly, they gave biomedical interventions – specifically, voluntary counseling and testing – only minimal attention.

There is growing, albeit still limited, evidence to support structural-level approaches to HIV prevention. The World Bank evaluation of conditional cash transfers in Malawi found that schooling cash transfers were associated with a 38 percent reduction in the onset of sexual activity (Baird, Chirwa, McIntosh, & Ozler, 2010). Evidence from a cluster-randomized trial found that economic inputs coupled with gender and HIV training resulted in reduced intimate partner violence and heightened women's empowerment, but did not find a reduction in HIV incidence (Pronyk et al., 2006). The difficulty of implementing and evaluating structural interventions may help explain why the evidence base on structural-level HIV prevention efforts remains rather sparse (Kurth et al., 2010).

Both adolescents and adults also recognized the important role of adult–child relationships in girls' vulnerability to HIV, confirming the findings by Remes et al. (2010), not only in terms of increasing communication between girls and adults, but also in improving the quality and effectiveness of communication, and creating strong adult role models for girls. Adult participants in the study recognized both their responsibility to provide a safe environment for girls and to mitigate the conditions that render girls vulnerable.

Confirming the findings from previous research (McCreary et al., 2008; Remes et al., 2010), the participants' narratives brought to the fore the dearth of programs for adults to enhance their communication skills and enable them to discuss sexual matters with children in their lives. The discussions gave the clear impression that, both collectively and individually, many adults feel helpless in the face of strong, modern currents that have seemingly swept away their ability to support and protect the girls in their midst. This was attributed to poverty, adolescents' captivation by modern sensibilities that make them resistant to adult supervision, and the breakdown of the family due in part to HIV/AIDS-related deaths. In some cases, however, it seemed that there were adults who had simply abrogated their responsibilities as they adopted a lifestyle that kept them away from home and their children for long hours. Yet a closer look at these cases indicated that it is due primarily to factors they find difficult to influence or affect. Likewise, while some of the narratives reflect an implicit tendency to blame girls themselves for their vulnerability, most of the quotes reflect a broad-based resignation to the circumstances in which they live and over which they sense that girls have little, or no, control.

Findings from this study were instrumental in the development of the Initiative. Specifically, a community mobilization component was designed to work with communities to identify, plan for, and take actions to mitigate girls' vulnerability; an economic strengthening component was developed with the aim of reducing girls' dependence upon transactional sex; a school personnel training component was included to address the fact that teachers and schools at times contribute to girls' vulnerability to HIV; and an adult–child communication component was created to teach parents, caregivers, and other concerned adults how to better communicate with the young people in their lives. Given the

widespread reports that governments and communities fail to enforce laws and regulations to protect girls from sexual abuse and their access to alcohol, legal literacy was incorporated into all components of the Initiative.

A limitation of this study is that the qualitative findings reported herein are not generalizable; therefore, the use of these findings in a broader context should proceed with caution. Moreover, the findings reflect the respondents' opinions, which may contradict or inadequately reflect the facts. For example, there was no mention of marriage as a risk factor even though it has been identified as such (Boileau et al., 2009). Nor was there any equivocation about poverty and HIV risk, despite research showing that HIV rates are higher among wealthier quintiles in some settings (Mishra et al., 2007). Furthermore, the respondents were talking “about girls in their communities” so it is not known if they had personal experience with vulnerability or were reporting hearsay. It is possible that the respondents' reports reflect “pluralistic ignorance,” or instances when most members of a group or community privately reject a norm, but incorrectly assume others support – and practice – it (Katz & Allport, 1931; Prentice & Miller, 1993). These findings suggest the need for complementary quantitative research to provide data about the distribution of risk factors among girls in the intervention communities.

In sum, community members in the three Initiative countries foreground the centrality of structural factors in adolescent girls' vulnerability to HIV – an understanding that the international HIV/AIDS community recognizes in theory, but has largely overlooked in practice given that structural interventions are relatively few compared with biomedical and individual-level interventions. This understanding is of key importance given that communities must be involved in identifying causes and solutions as they will be integral to plotting and supporting an effective way forward. Any such plans of action must be context specific; despite many overlapping and confirmatory findings from the three countries, clear differences existed as discussed. At the same time, new initiatives must address the interlocking roles of economic exigencies, poor alcohol regulation, and inadequate safeguards against violence in rendering adolescent girls vulnerable to the proximate determinants of HIV.

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