

# SCIENTIFIC ARTICLES

## SEXUAL BEHAVIOUR AND PRACTICES AMONG ADOLESCENT BLOOD DONORS IN ZIMBABWE

## COMPORTEMENT SEXUEL ET PRATIQUES ENTRE LES DONNEURS DE SANG ADOLESCENTS AU ZIMBABWE

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Adolescent blood donor, sexual behaviour, HIV, Zimbabwe.

### MOTS CLÉS

donneur de sang adolescent, comportement sexuel, VIH, Zimbabwe

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### ABSTRACT

#### BACKGROUND

The incidence of HIV is increasing among Zimbabwean adolescent blood donors, a group that contributes around 70% of total blood collections. This increase may pose public health challenges such as lack of adequate and safe blood. Previous research observed positive associations between history of sexually transmitted infections and HIV infection. However, the designs were mainly retrospective and cross sectional. This made it almost impossible to explore the complexity of sexual behaviour since data on sexual behaviour are not stored in the database for blood donors.

#### AIMS AND OBJECTIVES

We sought to explore sexual behaviour and practices among adolescent blood donors as well as the contextual factors shaping such behaviour.

### RESUME

#### CONTEXTE

L'incidence du VIH augmente parmi les donneurs de sang adolescents zimbabwéens, un groupe qui contribue pour environ 70% des collectes totales de sang. Cette augmentation peut poser des problèmes de santé publique tels que le manque de sang adéquat et sûr. Des recherches antérieures ont observé des associations positives entre les antécédents d'infections sexuellement transmissibles et l'infection par le VIH. Cependant, les méthodes d'études étaient principalement rétrospectives et transversales. Cela a rendu presque impossible l'exploration de la complexité du comportement sexuel puisque les données sur le comportement sexuel ne sont pas stockées dans la base de données pour les donneurs de sang.

#### BUTS ET OBJECTIFS

Nous avons cherché à explorer le comportement et les pratiques sexuels chez les donneurs de sang adolescents ainsi que les facteurs contextuels qui façonnent un tel comportement.

## STUDY DESIGN

We carried out a qualitative study on 10 adolescent blood donors aged between 18 and 20 years, inclusive, and four (4) key informants, purposely selected from the professional fields comprising community nurses, high school teachers and HIV counsellors. Interviews were audio-taped and lasted 30 – 40 minutes.

## RESULTS

Most adolescent blood donors reported they practise sexual abstinence. Nevertheless, they also reported on the acceptability of unprotected sex with sexual partners perceived to be HIV negative. Social status ascribed to blood donors, and mandatory HIV screening of donated blood, were protective against risky sexual behaviour. However, socio-economic and cultural factors may override this.

## CONCLUSION

Behavioural change models such as the Abstinence, Be faithful and consistent Condom use (ABC model) may not reverse the observed upward trend in HIV among this group. Addressing contextual factors may ensure a safe and consistent pool of adolescent blood donors in Zimbabwe.

## MÉTHODE

Nous avons réalisé une étude qualitative sur 10 donneurs de sang adolescents âgés de 18 à 20 ans, inclusivement, et quatre (4) informateurs clés, choisis délibérément dans les domaines professionnels comprenant les infirmières communautaires, les enseignants du secondaire et les conseillers VIH. Les entrevues ont été enregistrées sur bande audio et ont duré 30 à 40 minutes.

## RÉSULTATS

La plupart des donneurs de sang adolescents ont déclaré pratiquer l'abstinence sexuelle. Néanmoins, ils ont également signalé la pratique de rapports sexuels non protégés avec des partenaires sexuels perçus comme étant séronégatifs. Le statut social attribué aux donneurs de sang et le dépistage obligatoire du VIH protégeaient contre les comportements sexuels à risque. Cependant, des facteurs socio-économiques et culturels peuvent l'emporter.

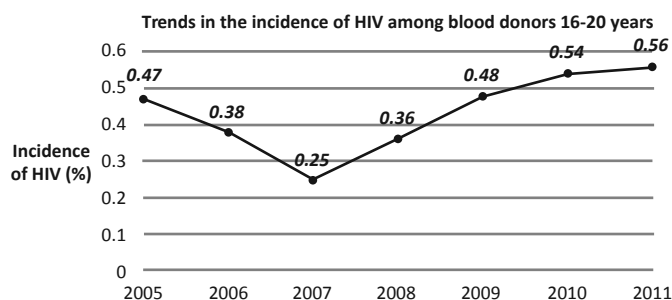
## CONCLUSION

Les modèles de changement comportemental tels que l'abstinence, la fidélité et l'utilisation cohérente du préservatif (modèle ABC) peuvent ne pas inverser la tendance observée à la hausse du VIH parmi ce groupe. La prise en compte des facteurs contextuels peut garantir un pool sûr et cohérent de donneurs de sang adolescents au Zimbabwe.

## INTRODUCTION

Availability of adequate and safe blood is a public health interest. Patients do not want to contract blood-borne infections from the very units of blood meant to save their lives. However, blood safety remains a critical challenge in sub-Saharan African countries like Zimbabwe owing to human immunodeficiency virus (HIV) and other transfusion transmissible infections (TTI's)<sup>1,2</sup>. For this reason, blood and blood products are infused into recipients as a last resort. However many Zimbabweans are likely to get a blood transfusion at some time in their lives owing to risk factors such as road traffic accidents, pregnancy complications and anaemia<sup>1</sup>. Given that the national prevalence of HIV infection is around 15.2%<sup>2</sup> ensuring blood safety is vital in order to avert either new HIV infections or re-infections, for those already infected. Zimbabwean blood safety initiatives have a twin focus: use of contemporary testing technology and stringent donor selection criteria. The latter serves to exclude potentially HIV positive blood donors since pathogens may escape even sophisticated laboratory detection systems to infect patients' downstream<sup>3</sup>. Blood donors are selected meticulously from low risk populations of voluntary non-remunerated blood donors such as adolescent blood donors who contribute at least 70% of total blood collections<sup>4</sup>. Most are in high school, making it easy to recruit them during school terms. Tellingly, blood stocks dwindle during school holidays. To mitigate this situation, blood donor recruitment drives are held outside schools. Here, adolescents converge at blood centres in numbers, and give blood. Music, refreshments, promotional wear are provided. Adolescent donors have long been considered to have a low risk of HIV infection<sup>5</sup>. However, annual reports from the National Blood Service Zimbabwe (NBSZ) show that the incidence of HIV among this blood donor category increased from 0.25% to 0.56%<sup>4,6,7</sup>.

**Figure 1: Incidence of HIV among adolescent blood donors**



Most retrospective surveys have explored risk factors for HIV infection among blood donors in general. Factors identified as being positively associated with incident HIV infections include living in high density suburbs; female gender; being a new blood donor and history of sexually transmitted infections (STIs). Herpes simplex virus type-2 (HSV-2), an STI which is not routinely tested in donated blood, has been used to estimate risky sexual behaviour among blood donors<sup>1,4</sup>. A high prevalence [7.4% (22/299)] of HSV-2 was observed, implying possible non-disclosure of risky sexual behaviour by potential blood donors during pre-donation screening interviews. The interviews are aimed at assessing blood donors' health as well as the likelihood of risk factors for TTIs. Non-disclosure of risk factors for TTIs may be high during blood donor recruitment drives since deferrals from giving blood are noticeable, and may give the impression that one is HIV positive. Moreover, it may be due to fear of being stopped from donating blood. This poses health risks to transfusion recipients. From 2000, studies narrowed their focus on adolescent blood donors. However, as with previous studies the participants were not accorded the opportunity for their voices to emerge. In addition, the context in which participants live was not studied. For example, the economic environment is still characterized by poverty and unemployment figures in excess of 74%<sup>8,9</sup>. African culture prescribes different sexual norms for boys and girls. While young men are expected to exercise dominance within the sexual arena, girls are socialised to be naive<sup>10</sup>.

These factors are catalysts for risky sexual behaviour especially among economically disadvantaged adolescents. It is difficult to ignore the possible association between incident HIV and risky sexual behaviour among adolescent blood donors. This is plausible since unprotected heterosexual intercourse accounts for 85 - 90% of HIV infection in Zimbabwe<sup>11</sup>. The decline in the national HIV prevalence is attributed to changes in sexual behaviour especially among young people<sup>2, 12</sup>. Retrospective studies have not explored the links among sexual behaviour, contextual factors and incident HIV among blood donors. They were limited by a dearth of data on say, condom use and sexual debut within the blood donor database. As a corollary, previous research was as good as the data that were available. Here, we argue that lack of data was not a sufficient impediment. Previous studies could have circumvented this through the use of alternative research designs. We chose a qualitative methodology which made it feasible to identify sexual behaviour and contextual factors that shape and propagate it. We address the following objectives:

- To describe sexual behaviour and practices among adolescent blood donors in Zimbabwe.
- To identify the contextual factors that shape such behaviour and practices.
- To provide a basis for focusing future quantitative research on this topic.

**MATERIALS AND METHODS**

**Data**

We conducted fourteen semi-structured interviews with four key informants and 10 adolescents who had recently donated blood. Each interview was audio-taped, and lasted around 35 minutes.

**Sampling**

Adolescent blood donors aged 18 – 20 years who donated blood at either Masvingo or Harare branches during the study period were eligible to participate in this study. Masvingo and Harare provinces have a high prevalence of STIs<sup>12</sup>. Key informants from three categories of professionals: NBSZ HIV counseling partners; community nurses and secondary school teachers were eligible for this study provided they had been practicing in the study areas for at least two years. We adjudged that such people had enough working experience and level of interaction with adolescents to give detailed responses. They also served to validate the responses from adolescent participants.

**Data analysis**

Initially we translated Shona transcripts to English. We then generated the codes. Here we first identified the codes at the descriptive level. Later, we upgraded them to semantic codes, which are beyond what the participants said<sup>13, 14</sup> as shown in the table below.

**Table 1: Coding extract**

<p><b>Collins*:</b> What makes her yield to the young man’s request?</p> <p><b>Robert**:</b> A girl? Initially she might object to sex but the way she’ll be caressed....[laughs], she’ll get weak and leave everything to the young man. She ends up having sex... but I can put some limits. When the caressing gets ‘hot’, then I ‘apply the brakes’. I ‘apply the brakes’ otherwise I get infected.</p>	<p><b>Female adolescent</b></p> <ul style="list-style-type: none"> <li>• <i>Lacks control over sex.</i></li> <li>• <i>Lacks assertive skills</i></li> <li>• <i>Unplanned sex</i></li> </ul> <p><b>Male adolescent</b></p> <ul style="list-style-type: none"> <li>• <i>Fear of HIV (abstinence)</i></li> <li>• <i>Controls sexual desire</i></li> <li>• <i>Controls the sexual relationship</i></li> <li>• <i>Caressing-tool for getting sex</i></li> </ul>
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\* Counselors fblood donors who test positive for TTIs  
 \*\*-pseudo-name given by the participant

We actively identified and grouped related codes into broader themes. We ‘housed’ those coding extracts that did not belong to any group in a miscellaneous folder. Moreover, we used our judgement to select themes on the basis of their potential to answer the research questions<sup>15</sup>. The outcome was 10 potential themes. We later on collapsed related themes into one common theme by assessing the internal and external heterogeneities<sup>16</sup>. We named the themes on the basis of the aspects of the data they captured.

**RESULTS**

The participants highlighted the socio-economic and structural factors that shape sexual behavior among adolescent donors. The common themes were: lack of proper housing; pornography, partying, socio-economic and cultural challenges. We start by giving a participant-provided context in which adolescent donors live and grow.

**Poor housing**

The key informants identified poor housing as a determinant of early sex among adolescents. This was reported to be rampant in high density suburbs where accommodation is poor.  
 ...a curtain is used to partition the room...there is no privacy... *Edie*<sup>2</sup>. For those, adolescents in tertiary institutions, most have not enough halls of residence. They stay in nearby communities where they may be exposed to community vices.  
 ...they may be renting in areas where promiscuity is rife... *Sr. Ranga*<sup>1</sup>.

**Pornography**

The participants reported that pornographic material is sold on the streets by informal traders. In addition, the key informants highlighted that technological advancement has enhanced access to pornographic material by the adolescents.  
 ...a lot of young people own smart-phones...it is easy for them to access pornographic material. They may want to experiment whatever they’d have watched... *Peter*.

**Partying**

Adolescent participants reported on the nocturnal parties that are held in cities and tertiary institutions. However, the key informants were not aware of such parties. In tertiary institutions, parties are held religiously. Adolescent blood donors who attend such parties get carried away.  
 ... joy and entertainment will be too much for us. You cannot think about an infection when you are at a party, you know... *Doreen*. The narratives from adolescent participants imply that nocturnal parties usher them into a realm where they are finally ‘set free’ from the rules operating in this world. This confers them with freedom which was encapsulated as follows:

...The environment there is different from this outer environment: nobody restraints you on whatever you will be doing ‘coz everybody has the intention to enjoy themselves... *Kudzai*. Freedom is reflected in the dressing, nature of relationships and deportment during parties. As a result, some were reported to dress scantily and indulge in casual sex during parties.  
 ...the way they will be dressed and dancing is very seductive... *Robert*.  
 ...relationships are automatic....people would have met at the party... *Bradley*.

During parties adolescents may cease to be rational since they indulge in casual sex even with strangers whose HIV status they do not know.

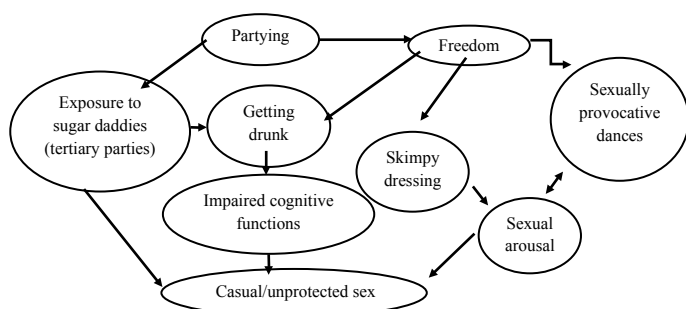
...They'd have met at the SIMMAD [party]; the sexual encounter may be limited to that time... *Kudzai*.

Reasons given by adolescents for casual sex were two-fold. While some attributed casual sex to impaired cognitive functions, others attributed it to a strong sexual desire.

...they'll be drunk and wasted you see... *Bradley*.

...when dancing with the girls, some get to the extremes. In the process they stimulate [their] hormones... *Kudzai*.

**Figure 2: Thematic map for partying Socio-economic and cultural factors (conceptualises what unfolds at nocturnal parties)**



Life in tertiary institutions was reported to be harsh. The absence of tertiary student grants along with lack of enough halls of residence for students have a negative bearing on female students, especially those from poor socio-economic backgrounds. They may be forced into age-disparate sexual relationships in order to eke out a living on campus. Both groups of participants highlighted that age; gender imbalances; economic status and cultural norms on sexual behavior may conspire to skew power towards the older sexual partner. This impacts negatively on both abstinence and bargaining power for safer sex.

...she is immature; the sugar daddy is old and experienced. The sugar daddy caresses her so strongly that she cannot ask about condom use... *Bradley*.

Condom negotiation is a challenge in that the young woman is impoverished; she is poor and the person who is coming to have sex with her has got the money... *Peter*.

Although young women get into these age-disparate (help me and I help you) relationships to survive life on campus, they reserve young men for marriage. This creates sexual networks.

... If she loves you, she leaves you to 'dig' into her even without using a condom. Her motive is to fall pregnant so that she can elope to you...so, if the young man doesn't take it upon himself to use... [Laughs]... *Robert*.

### Structural barriers that shape sexual behaviour

There was a convergence of responses to show that adolescents were aware of the availability of condoms in convenient places such as clinics, shops and supermarkets.

...in my community there are clinics. You just get in, and grab a pack; you don't speak with anyone, and you leave... *Robert*.

However, responses from both groups of participants showed that reproductive health services were youth unfriendly in supermarkets since condoms are stocked around tills, making it difficult for them to access. Their responses imply the desire by adolescents to keep their sex lives secret.

...you look at people's faces and say to yourself, 'these people certainly know that I am going to have sex with a man today [laughs]... *Michella*.

...they don't want to be seen. The moment they are seen, they start to think about how people will view them in the community... *Sr Ranga*.

Secrecy of sex is reinforced by cultural norms bordering sexual behaviour. Culturally, sex is for married people. This, according to key informants, acts as a structural barrier inhibiting condom uptake by adolescents in supermarkets.

...parents are reluctant to accept that young people have sexual needs...young people may be nervous to let the till operator know that they want to buy a condom...they might be asked what they want to use it for at their age... *Peter*.

In health institutions, adolescent participants reported a high condom uptake – something they attributed to both privacy and youth friendliness of these places.

...but in clinics and hospitals you can pretend to be going for a consultation visit, and when you get into the room...you can ask for the condoms... *Kudzai*.

Contextual factors do not impose a particular sexual behaviour upon someone. Proponents of the Proximal Determinant Model<sup>17</sup> contend that behaviour is controlled at an individual level. To explore this, we focused our gaze on individual sexual behaviour.

### Individual sexual behaviour

The majority (7/10) of adolescent participants reported practising sexual abstinence. Reasons given for abstinence ranged from religious piety and fear of contracting HIV to fear of being deferred from giving blood.

...by avoiding sex so that I don't contract HIV. It is dreadful to be told that my blood is no longer safe... *Jayden*.

...the moment I give blood, they [NBSZ staff] will realise I have contracted AIDS [HIV]...all donations are tested for HIV... *Robert*.

Those who were not practising abstinence considered themselves to be mature. However, some of them conceded they indulge in unprotected sex whenever the risk of HIV was perceived to be low. Examples are sexual relationships between two regular blood donors, or where the blood donor and a non-blood donor partner both tested negative for HIV antibodies at a voluntary counselling and testing centre (VCT). Under such situations condoms were only mentioned to prevent pregnancy.

...It's obvious that blood donors are alright, so there is no need for the VCT... *Kudzai*.

There is no need [for condom use] 'coz I know that my boyfriend is alright and he knows that I am alright. Problems occur if I fall pregnant... *Jayden*.

However, very few adolescent participants considered unprotected sex with a blood donor to be risky.

...I can have sex before a donation and contract HIV. You're not always safe... *Bradley*.

Unprotected sex was also related to the nature and duration of sexual relationships. While male adolescent blood donors argued that short-term relationships have high chances of unprotected sex owing to the circumstances in which sex may be predicated, the responses from their female counterparts imply condom use may be actually higher in short-term relationships.

...condoms may not be available. It's rare for a young man to run to the condoms, to purchase condoms leaving the girlfriend behind... *Bradley*.

...at first you'd use a condom. Then after a while, when you're used to each other, he'd then say, 'Let's get rid of condoms'. 'Coz you're caught in the moment, it'd happen... *Doreen*.

## DISCUSSION

This paper sought to explore sexual behaviour and practices among adolescent blood donors, and the contextual factors shaping such behaviour. Zimbabwe HIV prevention efforts are hinged on a behaviour change model – the Abstain, Be faithful and Consistent and correct use of condoms (ABC) model<sup>18</sup>. In light of this, we considered two behavioural models: the Theory of Reasoned Action (TRA) and the Health Belief Model (HBM)<sup>19</sup> to act as our social lenses in explaining sexual behaviour among adolescent blood donors.

Accessibility of condoms is a key determinant for use. This study has shown that condoms, though readily available, are inaccessible by adolescent blood donors in supermarkets owing to structural barriers such as stocking condoms by the till. The HBM model predicts that adolescents may not use condoms if such barriers exist. The findings mirror what happens in the general population where only around 33% of male adolescents use condoms in Zimbabwe<sup>2</sup>. A low risk perception of HIV infection by adolescent blood donors may increase chances of contracting HIV. Adolescent blood donors tend to ‘trust’ each other. Drawing from the HBM, they may not take preventive action against HIV if they consider themselves less susceptible to the infection. These results confirm findings in the general population in which adolescents reverted back to risky sexual behaviour following the decline in the Zimbabwean national HIV prevalence<sup>20</sup>. Around 25% of Zimbabwean adolescents debuted sex before their 15th birthday, whilst 13% had age-disparate sexual relations<sup>21</sup>. This study has also shown that “trust” may be extended to sexual encounters between blood donors and non-blood donor sexual partners after both partners test negative for HIV at VCTs. The extent to which VCT promote unprotected sex when both sexual partners test negative for HIV antibodies is unknown.

The majority of adolescent blood donors reported abstinence from sex. This is due to fear of HIV and fear of being deferred from giving blood. The HBM predicts that the fear arises from either perceived susceptibility to HIV or to fear of HIV as a serious disease. Since all the adolescent participants reported no risk perception of HIV, it follows they may be afraid of HIV as a serious disease with co-morbidities and mortalities. By contrast, the TRA predicts that adolescent blood donors may be afraid of the short-term consequences of a particular sexual behaviour such as unplanned pregnancies and STIs.

Short-term consequences of sexual behaviour are further exposed when screening of blood is factored in. The NBSZ screens all donations for HIV. Given that their technology detects HIV after only 17 days of infection (Abbott Diagnostics, Wiesbaden, Germany), recently infected blood donors can be ‘detected’, and are later on deferred or ‘filtered out’ permanently from the elite of life savers. This encapsulates two reasons given for abstinence. Whereas the NBSZ views mandatory testing of all donations as a way of guaranteeing the safety of blood supplies, adolescent donors view it as a subtle tool to “monitor” their sexual behaviour. Thus adolescent donors may be different from their peers in the general population for the sole reason they know their HIV status on a regular basis. They have incentives to maintain their HIV negative status unlike those in the general population.

Contextual factors may constrain efforts by adolescent blood donors to remain HIV negative. Economic deprivation, cultural norms, gender imbalances, partying and/or a combinations of these limit safer sexual behaviour choices among this group. Difficult living circumstances force female adolescents into transactional sex with older men in order to survive on campus.

Thus the sexual arena is not level, instead it is a contested arena in which gender, economic status, culture and age differences all conspire to further skew power towards the older sexual partner. In addition, masculinity comes to the fore as men seek to exercise dominance over the sexual arena. In some cases adolescents indulge in unprotected sex since condoms are often blamed for ‘stealing pleasure’<sup>22</sup>. In the general population studies have observed high rates of pregnancies and STIs among economically disadvantaged female adolescents<sup>23, 24</sup>. Apart from relationships with older men, female adolescents tend to reserve young men for marriage<sup>25</sup>. This is age-mixing, and explains why the infection moves from older to younger generations<sup>12</sup>. Blood safety can improve if adolescent blood donors shun age-disparate relationships and they use condoms correctly and consistently.

## CONCLUSIONS AND RECOMMENDATIONS

Adolescent blood donors are affected by contextual factors just like adolescents in the general population. Retaining adolescent blood donors is the bedrock for ensuring adequate and safe blood in Zimbabwe. Social status ascribed to blood donors, and mandatory HIV screening of donated blood, are protective against risky sexual behaviour. Behavioural models may not predict sexual behaviour when contextual factors are taken into account. The ABC model, may not reverse the observed incidence of HIV infection in Zimbabwe. Instead, models that take account of the role of contextual factors – the social determinants of health are likely to ensure a safe and consistent pool of adolescent blood donors. This study recommends the following:

- Re-introduction of study loans and/or cadetship programmes to tertiary students.
- Setting up Private-Public-Partnerships between the Government and real estate organisations to build halls of residence in tertiary institutions. This ensures students are housed in collegial environments where their activities can be regulated.
- Imposing deterrent fines on retailers who sell alcohol to minors during parties.
- The development of Information, Education and Communication material which package syphilis and Hepatitis viruses in HIV health promotion messaging. Public awareness to syphilis and hepatitis is vital since they have a higher incidence than HIV among blood donors. Yet these infections are not screened for at VCTs. They have been overshadowed by HIV, hence the need to educate adolescents about consistent use of condoms.

### Study limitations and strengths

Our sample size was small. This limits generalisability of study findings to the population of adolescent blood donors. Time constrained us from including potentially information-rich cases like adolescents who were previously deferred from giving blood after testing HIV positive. Moreover, for ethical reasons, we did not recruit adolescents under 18 years. Most donors enter the blood donor pool around 16 years. This sub-group, likely to have the highest incidence of HIV infection was omitted. We however, adjudged that our sample of adolescent participants was knowledgeable enough to give us information even for those under 18 years.

Recall and social desirability bias cannot be ruled out from this study. The former relates to adolescent participants forgetting about their previous risky sexual practices. Although this form of bias may be minimal, it is not zero. All but one adolescent participants were regular blood donors who give blood almost every four months. We reckoned that it was easy for them to recall risky behaviour done within such short donation intervals.

Social desirability bias refers to the proclivity of study participants to give responses that are in sync with socio-cultural norms instead of their actual behaviour<sup>26</sup>. It may stem from two sources: the social construction of adolescent blood donors as 'angels' with no risk of HIV, and the fact that all the adolescent blood donors reported they were Christians. Christian adolescents are socialised to abstain from premarital sex in line with Christian tenets. As a corollary, most adolescent participants may have considered themselves to have no risk of HIV infection.

We minimised social desirability bias by using presupposition and validation questions during the interviews. Moreover, we invited the perspective of key informants to validate the findings. To our understanding, this qualitative study has explored sexual behaviour in depth. The design gave the participants a platform for their voices to emerge so they could give nuanced descriptions of sexual behaviour – something that is almost impossible with quantitative approaches which tend to limit participants to premeditated responses in survey questions.

### Scope for further study

We believe this study will focus quantitative research exploring the predictive effect of variables like condom use, casual sex, multiple and age disparate relationships on incident HIV. To reduce social desirability bias, such studies may use either the informal confidential voting interview technique whereby participants answer questions on sexual behaviour using the secret ballot<sup>27</sup> or audio computer assisted interview techniques that guarantee the anonymity of participants<sup>28</sup>. Research that target recently deferred HIV positive blood donors may pin-point the factors that led to sero-conversion. Since HIV screening is protective against risky sexual behavior, studies that explore motivational factors for retaining adolescent blood donors are vital.

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