ORIGINAL RESEARCH ARTICLE

High school teenage girls' perceptions of human immunodeficiency virus and acquired immune deficiency syndrome in Gauteng Province, South Africa: Age-mixing sexual partnerships

DOI: 10.29063/ajrh2022/v26i2.8

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Abstract

Age-disparity relationships between High School teenage girls and adults' male partners above 21 years were transactional in nature and believed to be spreading human immunodeficiency virus (HIV). Teenage girls lacked the capacity to negotiate condom use due to lack of autonomy, coupled with sexual violence. This resulted in HIV transmission and an increase in teenage pregnancies. The study explored and described the risky behaviours of High School teenage girls with regard to HIV and acquired immune deficiency syndrome (AIDS) transmission in Gauteng Province, South Africa. A non-experimental descriptive design was used in this study. The 109 respondents between 15 and 19-years were studied using modified, self-administered, structured questionnaire. Data analysis was done using Statistical Package for Social Sciences version 23. The 90% of the 19-year-old respondents had multiple concurrent sexual relationships and condom use was low. High School teenage girls had a low perception of HIV risk because they were involved in concurrent multiple sexual relationships with low condom use. *(Afr J Reprod Health 2022; 26[2]: 80-87).*

Keywords: Acquired immune deficiency syndrome; high school; human immunodeficiency virus; perceptions; risky behaviours and teenage girls

Résumé

Les relations de disparité d'âge entre les adolescentes du secondaire et les partenaires masculins des adultes de plus de 21 ans étaient de nature transactionnelle et on pense qu'elles propagent le virus de l'immunodéficience humaine (VIH). Les adolescentes n'avaient pas la capacité de négocier l'utilisation du préservatif en raison du manque d'autonomie, associé à la violence sexuelle. Cela a entraîné la transmission du VIH et une augmentation des grossesses chez les adolescentes. L'étude a exploré et décrit les comportements à risque des adolescentes du secondaire en ce qui concerne la transmission du VIH et du syndrome d'immunodéficience acquise (SIDA) dans la province de Gauteng, en Afrique du Sud. Un devis descriptif non expérimental a été utilisé dans cette étude. Les 109 répondants âgés de 15 à 19 ans ont été étudiés à l'aide d'un questionnaire modifié, auto-administré et structuré. L'analyse des données a été effectuée à l'aide de la version 23 du package statistique pour les sciences sociales. 90 % des répondants âgés de 19 ans avaient de multiples relations sexuelles simultanées et l'utilisation du préservatif était faible. Les adolescentes du secondaire avaient une faible perception du risque de VIH parce qu'elles étaient impliquées dans des relations sexuelles multiples simultanées avec une faible utilisation du préservatif. *(Afr J Reprod Health 2022; 26[2]: 80-87).*

Mots-clés: Syndrome d'immunodéficience acquise; Lycée; virus de l'immunodéficience humaine; perceptions; les comportements à risque et les adolescentes

Introduction

Acquired immune deficiency syndrome (AIDS) is a major disease in Africa that is affecting everybody including teenagers[1]. The global prevalence of human immunodeficiency virus (HIV) and AIDS among women aged 15 to 24 was (15%), of which (80%) is found in sub-Saharan Africa (SSA) [1]. Although 2% of the global population stayed in Sub-Saharan Africa, it had the highest prevalence of the global HIV epidemic infections. The region bore almost (70%) of the global infection rate[2]. Data from UNAIDS[1] indicates that adolescent women aged 15 to 24 are more vulnerable to HIV infection as compared to males in the same age group (24% versus 9%) respectively. In SSA, three in every four HIV infections are from girls 15 to 19-years old[1]. The age-group 15-24-years account for

19% of new HIV infections in SSA. About half of the teenagers that were infected with HIV lived in six countries, namely, Nigeria, Kenya, India, Mozambique, Tanzania, and South Africa. In 2019 every week, 5 500 young women between 15 and 24-years were infected with HIV in South Africa[1]. Sex between teenage girls and older men above the age of 21 years caused the spread of HIV in SSA. This explained why there was a higher HIV incidence rate in teenage girls as compared to boys in South Africa. Early sexual debut is synonymous with teenage girls' acquisition of HIV at around five to seven years earlier than boys[3].

In 2019, there were 130 000 new infections, globally, among adolescent girls (10 to 19-years) [1]. In Eastern and Southern Africa, there were 97 000 new infections[1]. Each week, in South Africa, there were 1500 new infections in women aged between 15 and 24-years as compared to 640 infections in men of the same age[1]. Furthermore, findings from studies in South Africa had reported a high incidence of HIV in pregnant women[4].

Although South Africa made significant strides in the fight against HIV and AIDS, teenage girls remained at higher risk of new infections. Teenage girls acquired HIV mainly through heterosexual intercourse. High-risk behaviours, which contributed to the high prevalence of HIV among teenage girls, included early sexual debut, multiple sexual partnerships, limited condom use, intimate partner violence, intergenerational and transactional sex[3]. Additionally, socio-demographic factors such as age, marital status, level of education, employment, and place of residence, had been associated with a high risk of HIV among teenage girls[3].

Despite the effort made by the education sector to curtail the spread of HIV among learners, teenage girls were still more vulnerable to HIV infection than boys. Since 2007, the Department of Education in Gauteng Province introduced Life Orientation as a learning area and the HIV and AIDS Directorate introduced Care and Support for teaching and learning in Youth Affairs programmes. Nevertheless, teenage girls continued to fall pregnant despite all these interventions. This was worrisome because pregnancy is an indication that protection methods used were ineffective. Study conducted by[5] on adolescents' perceptions and influences on sexual development and behaviour in Uganda, emphasized that early sexual initiation, often forced or coerced by older boys or men contribute to high risks of pregnancy, HIV and sexually transmitted infections (STIs). Further, there are limited age-appropriate reproductive health services for adolescents in Uganda.

Pregnancy was a result of unprotected sex so the high rate of pregnancies among teenagers in South Africa alerted people to the risky behaviours prevalent among many teenage girls. Getting pregnant meant that automatically, one was engaging in unprotected sex and there was a risk of infection with STIs including HIV[6]. Many teenage girls and young women were sick, and were dying from AIDS-related complications during pregnancy and in the post-partum period[6].

Violence against women increased the rate of HIV infection among teenage girls. They were often abused physically and sexually[6]. Research conducted by[7] in countries of sub- Saharan Africa recorded sexually abuse cases of between (7%) and (34%) among girls. In Southern Africa, there was sexual violence resulting in lack of condom use among women of reproductive age group[7]. Teenage girls were coerced into sexual activities without using proper contraceptives. Males who provide any kind of financial support felt that they were justified to engage in coerced sexual activity. Because there was no sexual negotiation, teenagers did not use condoms during sex and were infected with the HIV through coerced sexual acts[8]. Those women who were abused might have been involved in risk-taking behaviours that increased HIV infection[9].

Social pressure influenced sexual activity. It included the exchange for sex with luxury items, which were highly priced commodities. It could also take the form of peer pressure[8]. Craving for material goods influenced sexual decision-making such that older men could easily manipulate teenage girls especially when they showered them with gifts[8]. Furthermore, teenage girls indulged in unprotected sex to please their boyfriends and maintain their relationships. These relationships were coerced because girls were forced to have sex against their will. Peer pressure meant that teenage girls desired to be accepted by their peers and wanted to fit in the larger group by conforming to a perceived behavioural standard. In this way, "the others are doing it" became a powerful argument for having sex[8]. Economic and social indicators representing literacy, income and education each pointed to girls' unequal status in these areas. Over (50%) of girls who got married before the age of

18-years had no more than three years of schooling. Because of these social and economic positions, girls often had difficulty in controlling when, where and how sex takes place[9]. Women is sub-Saharan Africa, did not have the authority and capacity to negotiate for safe sex, including condom use because they had less control over decision-making and financial resources[9].

Finally, teenage girls viewed using condoms as being unacceptable because this was an acknowledgement of sexual activity before marriage. The use of condoms was regarded as "bad manners" among teenage girls because this suggested suspicion of HIV infection or multiple sexual partnerships[10]. Inaccurate understanding of condoms' effectiveness also discouraged people from using condoms[10].

Methods

These are techniques that are used to structure a study and to collect and analyse data in an orderly way[11.] Quantitative non-experimental descriptive study was conducted.

Study setting

A study was conducted at one of the High Schools in Tshwane, a District of Gauteng Province of South Africa.

Sampling procedure

Systematic sampling was used in the study. The method selects and includes every nth item in a list[11.] Sample frame was the class lists of grades 10, 11 and 12 High school teenage girls. Systematic sample comprised of 109 High School teenage girls aged 15 to 19 years.

Data collection instrument

Data were collected at a selected High School for three hours after school, in one day. High School teenage girls who were 15 to 19-years and whose parents and guardians had provided written assent and consent, were included in the study. The data were collected using modified, self-administered, structured and pre-tested questionnaires. The questionnaires were divided into two parts. Part-1: Social demographic information and part-2: High School teenage girls' risky behaviour with regard to HIV transmission.

Questions were structured with 3 to 5 options. Respondents were to provide only one option unless specified. The questionnaires were in English. The study was conducted after obtaining a clearance and approval certificate from University of South Africa (Unisa) and written permission from Gauteng Province Department of Education. Permission was also obtained from the principal of the selected High school.

Data management and analysis

Completed questionnaires were compiled and data were entered into Microsoft excel and analysed using Statistical Package of Social Sciences (SPSS) version 23 program, multivariate analysis and data were presented in bar graphs, pie-charts and tables.

Results

Demographic characteristics of respondents

The demographic information included the respondents' age, educational level, religion, and home background in terms of guardianship. Information is presented in Table 1 below.

Risky sexual behaviour

The researchers divided responses according to various questions into risky or protective factors and associated behavioural or circumstantial outcomes. The risk or protective factors were age of respondents, number of partners and overall HIV knowledge of respondents. The associated behavioural and circumstantial outcomes were ever sexually engaged and general condom use.

Age

The researchers chose age as a risk factor associated with the beginning of sexual activity and multiple sexual partners. Relative risk and odds ratios were used to explore the outcomes associated with the risk of being 18-years and above and below 18-years.

Age category – ever had sex cross tabulation

Results showed that the odds of not ever having sex is 7.2 times greater for <18-years or equal to/ greater or equal to 18-year-olds. Odds ratio =7,233

Table 1: Demographic characteristics

Demographic characteristics		Number of respondents
1.Age	15	9(8%)
	16	26(24%)
	17	26(24%)
	18	19(17%)
	19	29(27%)
2. Religion	Christianity	87
	African traditional religion	21
	Muslim	1
3. Educational level	Grade 10	36
	Grade 11	41
	Grade 12	32
4. Home background	Both parents	41
	Father only	3
	Guardian	17
	Mother only	48

(CI=2,683:19,502). This association was statistically significant since the confidence interval did not include one (1).

Overall HIV knowledge of respondents

The researcher categorised knowledge on HIV into two categories, good (>=9) and not good (<=9) as a risk factor associated with assessing ones' risk status. Furthermore, (78%) of those with good knowledge think that they are not at risk of HIV transmission while (96%) of those without good knowledge think they are not at risk of HIV transmission. Those with good knowledge of HIV are 5.5 times more likely to think they are at risk of HIV than those who do not have good knowledge. This may imply that if you have knowledge, you are able to discern to the kind of danger that you may be exposed. The relationship between the two groups is statistically not significant (1.305; 23.255).

Number of partners

The researcher categorised the number of sexual partners as a risk factor associated with condom use. It was a general expectation that the more a person had more than one sexual partner, the more they would use condoms, as they would be more at risk. Ninety (90%) of those with > 1 partner used condoms mainly for prevention of HIV transmission whilst (74%) of those with one partner used condoms for prevention of HIV. Results also showed that girls with more than one partner were 3.14 times less likely to be using condoms only for prevention of pregnancy or because the partner insisted on using condoms.

Discussion

Respondents' demographic data

Variables such as age, level of education, religion, and guardianship affected a person's perception of the risk of HIV infection. The respondents were aged 15 to 19-years, the age at which most girls began dating and having sex. The puberty stage influenced their understanding of HIV and AIDS; therefore, the respondents were at risk of HIV. At this stage of adolescence, girls experiment with sex and condom use was low with the belief that nothing would happen to them. Because they were ill-informed about HIV transmission, they succumbed to pressure from their peers.

All respondents stayed with adults who had an influence on their growth and development. Adults needed to be educated so that they could be able to discuss openly with the girls on HIV and AIDS matters[11]. All the High School teenage girls were attending school and in grades 10 to 12. There were 87 Christians, 21 from African traditional religion and one Muslim. Religion affects one's perception of HIV risk and condom use.

Age of teenage girls and male sexual partners as risk factors

The researcher chose age as a risk factor associated with the beginning of sexual activity and multiple sexual partnerships. Relative risk and odds ratios were used to explore the outcomes associated with the risk of being below 18-years and above. Results showed that the odds of not ever having sex were 7.2 times greater for <18-years with odds ratio =7.233 (CI=2.683:19.502). This association was statistically significant since the confidence interval did not include one (1). These results revealed that respondents, who were 18-years old and above, had lower perceptions of HIV risk because (90%) of the 19-year olds had had sex, which was a risk. Heterosexual intercourse was the major mode of HIV transmission worldwide[12]. The moment one engaged in unprotected sexual encounter with a person having HIV meant that one could contract the HI virus. Although there were (33.3%) of the respondents among 15-year-olds who had ever had

Table 2: Age category – ever had sex

Count		Ever had sex		Total
		No	Yes	
Age category	<18-years	31	30	61
	15-years	6	3	9
	16-years	13	13	26
	17-years	12	14	26
	>=18-years	6	42	48
	18-years	3	16	19
	19-years	3	26	29
Total		**37 No**	**72 Yes**	109

Table 3: Risk estimate

	Value	95% Confidence interval	
		Lower	Upper
Odds ratio for age category (<18-years / >=18-years)	7,233	2,683	19,502
For cohort ever had sex = No	4,066	1,849	8,941
For cohort ever had sex = Yes	,562	,426	,741
N of valid cases	109		

Table 4: Risk estimate

	Value	95% Confidence interval	
		Lower	Upper
Odds ratio for overall knowledge category (good knowledge/Not good knowledge)	.147	.032	.690
For cohort at risk of HIV transmission = No	.812	.701	.941
For cohort at risk HIV transmission = Yes	5.508	1.305	23.255
Number of valid cases	**109**		

sex, their age of sexual debut was very low. Because of immaturity and lower educational level, they lacked decision-making, assertiveness and condom negotiating skills[13]. They had limited knowledge[14] to prevent HIV and AIDS transmission as indicated in the results of the study. Biologically, the lining of the vagina was still immature such that it could tear easily during coercive sex, therefore, risking contracting HIV[13].

Number of partners

The number of sexual partners was a risk factor associated with condom use. Ninety percent of those with >one partner used condoms mainly for prevention of HIV transmission whilst (74%) of those with one partner used condoms for prevention of HIV. Results showed that the odds of using condoms to prevent HIV was 3.1 times for those with more than one partner (>one partner) as compared to those with one partner. The odds ratio was 3.140. The relationship between the two groups was statistically significant since the confidence interval did not include one (Cl=0.057; 2.611).

The results also indicated that respondents had multiple sexual partners, which further increased their risk of HIV transmission. These results also revealed that condom use was limited although respondents were having multiple relationships which was an HIV risk.

Most respondents who had multiple partners were aware of their risk behaviours. As a result, they were using condoms as protection against HIV transmission. Those respondents who had one partner had a lower perception of HIV and AIDS risks. As a result, most of them did not use condoms to prevent HIV transmission. This was because they had regular, trusted partners. Therefore, they could not negotiate condom use or they were forced to have sex without using condoms[14].

Overall HIV knowledge

The researcher categorised knowledge on HIV transmission into two categories, good (>=9) and not good (<=9) as a risk factor associated with assessing ones' risk status. Furthermore, (78%) of those with good knowledge thought that they were not at risk of HIV transmission while (96%) of those without good knowledge thought that they were not at risk of HIV transmission. Those with good knowledge of HIV were 5.5 times more likely to think that they were at risk of HIV transmission than those who did not have good knowledge. This might imply that if one had knowledge, one would be able to discern the kind of danger that one might be exposed. The relationship between the two groups was statistically not significant (1.305; 23.255). HIV knowledge influenced the degree of a person's HIV risk perception[14]. Having knowledge

Table 5: More than one partner? /Reason for not using a condom cross tabulation

			Reason for using a condom		
			Not risky--to prevent HIV transmission	**Risky--prevent pregnancy and partner insists**	**Total**
More than 1 partner?	> 1 Partner (18-19 years)	Count	9	1	10
		% within More than 1 partner?	90.0%	10.0%	100.0%
	1 Partner (15-17 years)	Count	43	15	58
		% within More than 1 partner?	74.1%	25.9%	100.0%
Total		**Count**	**52**	**16**	**68**
		% within More than 1 partner?	**76.5%**	**23.5%**	**100.0%**

on HIV and AIDS transmission helped one to understand HIV risk and therefore, adopt healthy behaviour to prevent contracting the disease. Most respondents had good knowledge of HIV and AIDS transmission, but they thought that they were not at risk of HIV infection because they were already experimenting with sex, according to the results of the study. Increased knowledge about HIV and AIDS transmission cannot be used to estimate change of behaviour[14]. Knowledge about the disease was necessary to effect behaviour change[14].

Interpretation of results

Age as a risk factor, was associated with the beginning of sexual activity. The probability of having sex for respondents who were below 18-years was 7.5 times lower as compared to those above 18-years. In this study, sex was a risk factor in HIV transmission when the respondents' age was more than 18-years. Older girls are more at risk of HIV infection as compared to younger girls[15].

Knowledge of HIV transmission was categorised as a risk associated with assessing one's risk status. Those with good knowledge had a high HIV risk perception as compared to respondents without good knowledge. Therefore, knowledge helped in discerning the kind of danger that one might be exposed. Educated individuals have the power to change their sexual behaviour and choose safe sexual practices[15]. Respondents' knowledge on HIV transmission increased with an increase in age and grade[13]. High School teenage girls who were in grade 12 were the most knowledgeable as compared to those in grade 11 and 10 respectively. Finally, the number of partners one had was also categorised as a risk factor. Multiple sexual partnering among girls and women resulted as a risky factor in HIV transmission. This was also one of the findings of the study. The results showed that most of those with more than one partner used condoms to protect themselves from HIV transmission as compared to those with only one partner. Condom use that was reported in this study was not high enough. Inconsistent use of condoms led to inconsistent reduction in HIV infection[16]. Furthermore, in their study on the experiences of people living with HIV/AIDS in Gaborone[17], they attest that most women who were probably in unequal sexual relationships because of financial reasons may have been exposed to an increased risk of acquiring HIV-infection.

Ethical considerations

Ethical approval and clearance were sought from Unisa and permission to do the research were sought from the Gauteng Province Department of Education. The consent and assent forms of parents or guardians for the respondents who were below 18-years and the consent for respondents who were 18 and 19-years were sought and obtained before selecting them to participate. Participation was voluntary. The High school teenage girls whose parents or guardians did not consent did not take part in the study. Respondents were neither forced nor deceived to take part in the study. No false promises were made in order to attract respondents to agree to partake in the study. Respondents' anonymity and confidentiality were assured to protect their identities. No names were recorded on questionnaires and all the records were marked with generated questionnaire identification numbers. The researcher made sure that respondents' private space was not invaded. The study also ensured that no physical and social harm could affect respondents. The respondents completed the self-administered questionnaire in English at the same time after school. Field workers, who had previous experience and knowledge in research, were

available to help when need arose. After the respondents had completed the questionnaires, they were kept for safekeeping and all the data were downloaded into computers for storage to avoid loss and public display of confidential information.

Recommendations for practice, further research and policy development

- Free condoms should be distributed in schools and public places and demonstrations on condom use to be done by NGOs and the Department of Health.
- Adopt policies on youth-friendly service provision to reduce stigma and discrimination.
- Increase school attendance for girls to reduce HIV prevalence through higher education attainment and access HIV prevention information through school-based campaigns or comprehensive sexuality education.
- Investing in girls' primary and secondary education to promote economic opportunities for girls and also understand their rights to comprehensive youth-friendly sexual and reproductive health information and services.
- Enforce gender-based violence regulations.
- Enforce policies to enhance dual protection, integrating family planning services into family planning.
- Cash transfers and micro-finance initiatives to be implemented to address poverty of adolescent girls and their families.

Limitations

The study was conducted in only one High School consequently; the results could not be generalized to other High schools in the province. The researchers did not manage to identify the age group of men having sex with the 15-year-olds girls owing to the nature of the sensitivity of the study title.

Conclusion

The study revealed that age was a risk factor in HIV transmission. Older respondents were at higher risk of having sex and being infected with HIV. Knowledge of HIV transmission as a risk factor was associated with assessing one's risk status. Higher education attainment was associated with higher HIV risk perception. Therefore, knowledge helped in discerning the kind of danger to which one might be exposed. Finally, multiple sexual collaborating among girls was a risky factor because the more the number of partners one had the more one had to use condoms for protection. Low condom use was reported in the study.

Acknowledgements

The authors wish to thank the University of South Africa (Unisa) for encouraging students to publish articles out of their research results. Finally, we thank the Gauteng Department of Education in South Africa and the school that allowed learners to take part in the study, not forgetting the school principal and parents/guardians. Most felt gratitude goes to the learners who responded to the study questionnaires.

Contribution of authors

Chadyiwanembwa N conceived and designed the study, collected, analysed data and prepared the manuscript. Habedi DSK supervised the project conception and design, co-analysed the study data. Co-prepared the manuscript. All authors read and approved the final manuscript.

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