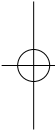
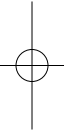
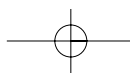


NIRP Research for Policy Series 21

Sexual attitude and behaviour among adolescents in Zambia



Vered Slonim-Nevo and Lawrence Mukuka



Colophon**NIRP Research for Policy Series****Part 21: Sexual attitude and behaviour among adolescents in Zambia**

The Netherlands-Israel Development Research Programme (NIRP) was established jointly by the governments of the Netherlands and Israel and coordinated through DGIS (Ministry of Foreign Affairs, The Hague) and MASHAV (the Centre for International Cooperation, Ministry of Foreign Affairs, Jerusalem). The Netherlands Government, through Nuffic (the Netherlands Organisation for International Cooperation in Higher Education) is the principal sponsor of the Programme. The organisation and administration of NIRP are the responsibilities of Nuffic (The Hague) and Haigud (the Society for Transfer of Technology, Jerusalem).

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Published by:
Royal Tropical Institute
KIT Publishers
P.O. Box 95001
1090 HA Amsterdam
The Netherlands
Telephone: 31 - (0)20 5688272
Fax: 31 - (0)20 5688286
E-mail: publishers@kit.nl
Website: www.kit.nl

Text: Vered Slonim-Nevo and Lawrence Mukuka (edited by Mirjam A.F. Ros-Tonen)
Editor-in-Chief: Dr. Mirjam A.F. Ros-Tonen
Graphic design: Wil Agaatsz BNO, Meppel, the Netherlands
Printing: Veenstra, Groningen, the Netherlands

ISSN 1568-279X
ISBN 90 6832 6864
NUR 130/600/741

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Preface

This study encompasses the results of a comprehensive survey among different groups of Zambian adolescents concerning sexual behaviour and attitudes which affect the risk of HIV infection and AIDS. It deals with the factors that influence the youngsters' knowledge about AIDS, their perceptions with regard to prevention and their engagement in risky sexual activities. The study was carried out by a team of Israeli and Zambian researchers between 1997 and 2002.

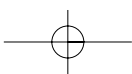
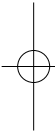
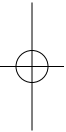
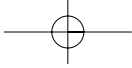
NIRP aims to encourage development-related research focused on socio-economic and cultural change. Being policy-oriented in nature, NIRP aims to make the research results accessible to anyone interested in solving the problems investigated. The target groups for such knowledge include policy makers, representatives of non-governmental and donor organisations and the scientific community. With this aim in mind, the Publication Board has launched the NIRP Research for Policy Series as a channel for the publication of "user-friendly" summaries of more than 30 scientific reports.

The Publication Board wishes to thank Dr. Mirjam A.F. Ros-Tonen for editing the summary on which this monograph is based. Thanks are also due to Howard Turner for revising the English.

Last but not least, the Publication Board wishes to thank the research team for the successful completion of this study.

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I. General information

I.1 Framework of the study

The AIDS epidemic in Zambia has reached major proportions relative to other nations. As of the end of the year 2000, 70% (25.3 million) of the world cumulative HIV-infected people live in sub-Saharan Africa, where Zambia is geographically located. During 2000, approximately 80% (2.4 million) of the death fatalities due to HIV/AIDS were in sub-Saharan Africa (World Health Organisation, 2000). Information for 1993/94 shows that adolescents aged 15-19 years comprised the majority of new HIV infections (Fylkesnes, 1995).

Zambia's population is young: 48% is below the age of 15 and the majority is below the age of 21 (Zambia Central Statistical Office, 2002). Therefore, the involvement of adolescents in unprotected sexual behaviour, as well as in other high risk activities, is likely to contribute to the country's high number of HIV/AIDS incidences. In fact, data shows that adolescents aged 15-19 years comprised the majority of new HIV infections (Fylkesnes, 1995). Therefore, it is important to know what Zambian adolescents know, think and do regarding the prevention of HIV infection.

Large-scale surveys have been carried out in Zambia among the entire population (Agha, 1998; Banda *et al.*, 1999; Zambia Central Statistical Office, 2002) but, to the best of our knowledge, no large and representative studies have focused specifically on adolescents in Zambia. Moreover, the existing studies only included adolescents over the age of 15. It is important, however, to find out what younger adolescents know and do in relation to AIDS prevention because 48% of the population in Zambia is below the age of 15 (Zambia Central Statistical Office, 2002). Therefore, a team of social scientists carried out a research project to study the level of AIDS-related knowledge, attitudes and behaviour of female and male adolescents aged 10-19 in urban and rural Zambia. The sample was also divided into in-school and out-of-school adolescents, the latter including those who spend most of their lives in the street. An understanding of the latter group's AIDS-related practices and attitudes is necessary for the development of a preventive programme specific for this vulnerable adolescent group.

1.2 Objectives and research questions

The study had several objectives. The first was to investigate different groups of in-school and out-of-school adolescents in rural and urban Zambia regarding their knowledge about AIDS, their perceptions about prevention and their engagement in risky sexual activities. The second objective was to investigate the impact of economic conditions, environmental settings, familial and peer attitudes regarding sexuality and AIDS, child physical and sexual abuse and psychological characteristics on adolescent AIDS-related knowledge, attitudes and sexual behaviour. Thirdly, we wanted to examine the role that the church plays in the prevention and control of HIV/AIDS in Zambia. The last objective was to provide local and national authorities in Zambia with recommendations, based on the study's results, regarding the development of preventive programmes.

The specific questions addressed in this study were the following:

1. What do adolescents in Zambia, differentiated by gender, environmental settings and socio-economic status, know about AIDS and ways to prevent it?
2. What are the AIDS-related attitudes and behaviours of the adolescents? Is there a significant relationship between knowledge and attitudes and their actual sexual behaviour?
3. Do socio-demographic factors affect the adolescents' AIDS-related knowledge, attitudes and behaviours? Do cultural attitudes and sexual practices of family and peers affect the target population?
4. What do adolescents think about their self-efficacy in preventing AIDS?
5. Is child and adolescent sexual and physical abuse significantly related to the participants' knowledge of AIDS, perception of prevention and sexual behaviour?
6. What is the role of the church in educating adolescents about HIV and AIDS prevention?

1.3 Theoretical orientation

Below we present the main findings of an extensive literature review carried out by Slonim-Nevo and Makaka (2002) on the occurrence of HIV/AIDS in sub-Saharan Africa and adolescents' knowledge and behaviour.¹ In addition, we focus on the dual role of the church and the impact of child abuse on the sexual behaviour of adolescents.

¹ More detailed data on the frequency of HIV/AIDS in sub-Saharan Africa in general, and in Zambia in particular, as well as on adolescents' sexual knowledge and behaviour and the situation of street adolescents from different economic and familial backgrounds can be found in the original research report on which this booklet is based (Slonim-Nevo and Makaka, 2002).

I.3.1 Background to HIV/AIDS infection among adolescents in sub-Saharan Africa

Existing literature reveals that there is ample reason to investigate the problem of AIDS and adolescents in Zambia:

1. 20-30% of the 17.7 million HIV-infected persons in sub-Saharan Africa are between 14 and 30 years of age. Because many years may elapse between infection and the manifestation of symptoms, many of the young adults who are HIV-positive were actually infected during their adolescent years.
2. The main mode of transmission for adults living with HIV/AIDS in sub-Saharan Africa is heterosexual relationships (World Health Organisation, 2000). In fact, 93% of all infections in this region are due to this pattern of sexual activity (Mann *et al.*, 1992). The few studies on this topic have shown that the majority of the adolescents are sexually active and tend to become sexually active at a young age. Moreover, sexually active youths tend to engage in risky sexual behaviour such as trading sex for food, shelter, money and gifts, having sex with multiple partners, practising unprotected sex and adhering to cultural practices related to sexual activity (Helitzer-Allen and Makhambera, 1993; Hira *et al.*, 1990; Konings *et al.*, 1994; McGrath *et al.*, 1993; Ndeki *et al.*, 1994).
3. Adolescents in most of this region have no easy access to condoms and, even when condoms are available, they prefer not to use them (Abdool Karim *et al.*, 1992; Ajayi *et al.*, 1991; Helitzer-Allen and Makhamber, 1993).
4. A study of knowledge, attitudes and sexual practices related to AIDS among street adolescents in Lusaka shows that most adolescents aged between 15-18 years practise unsafe sex. Although they are aware of free condom distribution in their areas, many admitted that they do not use them, claiming they interfere with sexual pleasure (Chela, 1992).
5. Men in sub-Saharan Africa choose adolescents for wives and sexual partners in the belief that their young age will protect them from HIV infection. This places these females at risk of contracting sexually transmitted diseases and AIDS (Ulin, 1992).
6. There is lack of knowledge about the disease that justifies the provision of programmes and policies needed to prevent AIDS among young people in sub-Saharan Africa. The few studies that address this population do not provide in-depth analysis of knowledge about AIDS, attitudes towards prevention and engagement in high-risk sexual activities. Nor do they provide qualitative or quantitative data that

associates the adolescents' lifestyles, including sexual and physical abuse, with their AIDS-related practices (Moses *et al.*, 1994).

1.3.2 *The role of the church*

The world has come to realise that HIV/AIDS is not only a medical problem, but also a social and economic one and therefore many sectors of society, particularly the church, have begun to play an active role to find solutions. The church in Zambia has significant influence on the populace and therefore could be highly influential in the campaign against HIV/AIDS. One aim of this study is to investigate the involvement of the church in dealing with HIV/AIDS.

The church's attitudes towards HIV/AIDS determine its policies, practices and patterns of communication in dealing with this problem. This, in turn, has affected the response of the congregation towards the HIV/AIDS epidemic. The majority of religious people in Zambia are Christians, who tend to turn to the church for guidance on issues ranging from day-to-day practical problems to serious social and political decisions.

Several studies on the attitudes of the church towards HIV/AIDS have been performed in Zambia, but they have been far from exhaustive. According to Feldman (1995), 91% of the adolescents regard religion as playing a vital role in their lives. The Evangelical churches extol fidelity in marriage and condemn premarital sex. However, their proscription of condom use has unfortunately perpetuated the widespread view in Zambia that condoms are ineffective in HIV prevention. In their analysis of the sexually transmitted disease/HIV programme, Plourde *et al.* (1994) tried to determine the attitudes towards condom use of the programme's coordinators in mission hospitals. This research found that missionary institutions also censure the use of condoms.

Moreover, studies show that the church tends to stigmatise people afflicted with HIV/AIDS. Tembo (1997), in his doctoral proposal, cites a study carried out in 1992 by the School of Social Work in Zimbabwe which identifies "...the church's negative judgmental attitude towards the issue of AIDS as a critical problem faced by infected persons." Nevertheless, despite this negative attitude, because strict confidentiality is assured, infected persons do approach the church for guidance. In Tembo's study, respondents expressed their unwillingness to confide even in family members if they were infected because of shame and fears of rejection. In this sense, the church can be extremely beneficial.

Orubuloye *et al.* (1993) studied the effect of religious leaders on the behaviour of their followers and the pattern of life they choose. They found

that the church has influenced a decline in polygamy in Southern Africa and an increase in sexual restraint. Nonetheless, religious leaders seem to believe that the main hope of arresting a major AIDS epidemic lays not in the impact of their own influence, but in government propaganda condemning unprotected sex with multiple sexual partners and commercial sexual activities. An important finding to consider seriously is that in Orubuloye's study religious leaders were found to overwhelmingly judge the AIDS epidemic as divine punishment – "God's disapproval for sexual relations outside marriage."

In short, the church has a significant influence on the lives of its congregation. Its main doctrine preaches against premarital and extra-marital sexual relationships, discourages the use of condoms as a preventive method, stigmatises those who are infected with HIV/AIDS and views the epidemic as punitive. On the other hand, it wants to help and is a place of refuge. The church provides shelter and care for both the victims and the orphaned population that has evolved as a result of the AIDS epidemic and it offers confidentiality.

It is important to make an in-depth study of the influence the church has on the adolescents in Zambia and how the attitude of the church can be changed and used to implement more effective policies. In this study, we examine the patterns of communication, attitudes and practices of the church and how the church relates to government and non-governmental organisations in dealing with the problem of HIV/AIDS in Zambia.

1.3.3 Child abuse and HIV/AIDS prevention

According to Finkelhor and Browne (1985), sexual abuse of youths can have four main psychosocial effects: it may condition the child's sexual responsiveness, shatter confidence in the protective capacities of adults, damage self-esteem and generate a sense of powerlessness, thus undermining the ability to escape from risky situations. As a result, these victims often exhibit impulsive, aggressive and submissive behaviour later on in their lives. Adolescents who are victims of child abuse tend to get involved in risky sexual behaviour. Indeed, many studies have found a relationship between youths who were abused, neglected or living in shelters and homes and vulnerability to HIV infection or HIV-risk behaviour (D'Angelo *et al.*, 1994; Bartholow *et al.*, 1994; Klein and Chao, 1995; Polusny and Follette, 1995; Rotheram-Borus *et al.*, 1996; Thompson *et al.*, 1997; Zierler *et al.*, 1991).

Furthermore, there is evidence that various mental health and behavioural problems linked with sexual abuse increase the adolescents'

participation in HIV-risk behaviour (Stiffman *et al.*, 1992; Briere and Elliot, 1994). A study of adolescent girls shows that child abuse is associated with early initiation of sexual intercourse, a greater number of sexual partners, a reduced likelihood of engaging in protective sex (especially when it comes to insisting that the male partner use a condom) and teenage pregnancy (Lodico and DiClemente, 1994; Nagy *et al.*, 1994). Hernandez *et al.* (1993) reported that sexually-abused boys are more likely to engage in risk-taking behaviour, such as alcohol and drug use, that may be associated with sexual high-risk behaviour. Another study of the impact of sexual abuse on HIV-risk behaviour conducted in the USA on adolescents in foster homes shows that sexually abused youths are involved in a greater number of risky behaviour than the non-abused peers. This behaviour included having sex while using alcohol or drugs, oral sex, trading sex for food, drugs, money or a place to stay and not using condoms (Elze *et al.*, 2001).

In this study we focus on the relationship between sexual and physical abuse of the participants and their AIDS-related attitudes and behaviour.

1.4 Hypotheses and methodology

Based on the existing literature, we hypothesise the following:

1. A substantial proportion of the participants will demonstrate a lack of knowledge about AIDS and its prevention, will have negative attitudes about the use of condoms and will engage in risky sexual practices.
2. The more risk factors the adolescent is exposed to, the greater the likelihood that (s)he will be involved in high-risk sexual behaviour.
3. Female adolescents will report difficulties negotiating safe sex with their partners.
4. Female adolescents with a low socio-economic status will be more inclined to trade sex for food, shelter, money and gifts and to engage in other risky sexual activities.
5. The cultural norms and beliefs with regard to sexuality and AIDS prevention of the adolescents and their family and peers will be closely related to the participants' sexual practices.
6. Adolescents in urban settings will be more likely than those in rural settings to engage in high-risk sexual practices.
7. Adolescents who dropped out of school in both rural and urban areas will be more likely to engage in risky sexual activities than adolescents still in school.
8. The physical and sexual abuse of children will be closely related to the adolescents' level of engagement in high risk AIDS-related behaviour.

Methodologically, this study consists of three parts. The first is a quantitative survey among a representative sample of 3,360 adolescents aged between 10 and 19. To supplement the quantitative data of the survey, we conducted two in-depth small-scale qualitative investigations – one that consisted of focus group discussions with in-school participants and adolescents who are engaged in the sex industry and another that consisted of in-depth interviews with leaders and members of various church organisations.

The survey sample includes eight groups: urban females in and out-of-school, rural females in and out-of-school, urban males in and out-of-school and rural males in and out-of-school. Their respective numbers and socio-economic characteristics are presented in Table 1 (Section II.1)

The sub-sample of in-school adolescents consists of 2,160 participants: 1,080 students in grades 8, 10 and 12 from three major urban centres in the country of Lusaka (Lusaka province), Kitwe (Copperbelt province) and Livingstone (Southern province) and 1,080 students in grades 8, 10, and 12 from three major rural areas Solwezi (Northwestern province), Chipata (Eastern province) and Kasama (Northern Province).

The out-of-school adolescents ($n = 1,200$) were selected from cities (600) and rural provinces (600). They were divided into the following seven categories: female sex workers, female homeless adolescents, male homeless adolescents, males employed in small businesses, females employed in small businesses, males in organised training and females in organised training. There were also four categories of out-of-school youths in rural areas: married female adolescents, married male adolescents, unmarried female adolescents and unmarried male adolescents.

The youths in the focus group discussions came from the two urban provinces in the country: Lusaka and Copperbelt. These two provinces comprise three-quarters of the urban population of the country. The discussions took place in Lusaka (the capital city of Zambia) and Kitwe (the copper mining centre of the country). The groups were divided according to gender (separate groups were created for males and females), age (separate groups were created for primary and secondary school adolescents) and according to specific pre-identified categories for out-of-school participants (female sex workers, youths working in small businesses and youths undergoing professional training).

A total of 81 group discussions were conducted. The groups were divided according to the following five categories:

1. In-school boys and girls aged 15 to 18 years (secondary school).
2. In-school boys and girls aged 12 to 14 years (primary school).

3. Out-of-school female sex workers aged 16 to 27 years.
4. Out-of-school youths in small businesses aged 13 to 14 years.
5. Out-of-school youths in professional training aged 16 to 21 years.

Not all the data collected is presented in this booklet. Only the most relevant information is presented. Other data will be presented in professional publications.

Information about the role of the church was collected from the following key religious organisations: the Anglican Church, the Catholic Church, the Salvation Army, the Seventh Day Adventists, the Church of Good, the United Church of Zambia and the Christian Unity Ministry. We collected data through key informant personal interviews with church representatives, archive review and focus group discussions and semi-structured interviews with church members.

1.5 Elaboration of the research

The survey

Knowledge about AIDS was measured through a modified version of the AIDS Information Survey developed by DiClemente *et al.* (1988). The 23-item scale assesses the degree to which the adolescent knows basic facts about the disease and how to prevent infection. The respondent has to answer “true” or “false” to each statement and the number of correct answers is then summed up. The scale ranges from 0-23, with higher scores indicating greater knowledge about AIDS.

The “Attitudes for AIDS Prevention” scale was designed to assess adolescents’ attitudes towards condom use, drug use, multiple sexual partners, self-efficacy and personal susceptibility. The scale consists of 23 items to which the adolescents respond using a 4-point scale ranging from “strongly agree” to “strongly disagree.” The scale is scored by summing up the adolescents’ responses across the 23 items and then divided by 23. The scale ranges from 1 to 4, with higher scores reflecting positive attitudes towards AIDS prevention (Slonim-Nevo *et al.*, 1995; 1996).

The “Self-Efficacy About Preventing AIDS” is a scale designed to assess the respondent’s perception about his or her ability to perform HIV-preventive behaviour. The scale, developed by Koopman *et al.* (1990), consists of 20 items with a 4-point response choice ranging from “strongly agree” to “strongly disagree.” The scale is scored by summing up the responses and dividing by 20. The scale ranges from 1 to 4, with higher scores indicating higher self-efficacy concerning AIDS-prevention behaviour.

“Engagement in AIDS-Related Unsafe Behaviours” was assessed using questions that examine whether or not the respondent has ever engaged in a specific behaviour. The scale consists of 22 common questions aimed at males and females, regarding anal sex, sex with alcohol, sex with drugs, and trading sex for food, drugs, money or a place to stay. In addition, four questions are specific to males (for example: “Have you ever had sex with a prostitute”) and five questions are specific to females (such as: “Have you ever worked as a prostitute?”).

Respondents were asked to report how many times in the previous two months they had engaged in various risky activities on an 11-point scale ranging from 1 (0 times) to 11 (more than 10 times). Because the distribution of the variables related to recent activities tended to be dichotomous, responses were re-coded into a 2-point scale in which 0 indicated that the current behaviour had not occurred at all during the last two months and 1 indicated that the current behaviour occurred at least once during the last two months.

The sexual and physical abuse scale consists of nine items. Six items related to sexual abuse by a family member (for example: “A family member has touched your breasts or genitals”) and three items related to physical abuse (for example: “A family member has physically injured you”).

Several socio-demographic variables were collected in order to be able to describe the population. The data contains variables such as age, gender, residential area, parents’ education, family status, sleeping arrangement, religion, polygamy, number of siblings, participants’ nutrition, socio-economic status and the tendency to use modern medicine.

Female and male senior undergraduate university students were employed as data collectors. These students were trained to collect data on the sensitive topic of human sexuality in both rural and urban areas of the country. The data collectors were also trained to conduct semi-structured interviews such as personal interviews, key informant interviews, group meetings and focus group discussions.

Survey data was collected between 1997 and 1998. Obviously, the out-of-school adolescents were more difficult to approach than the in-school adolescents and were sought in the following places:

- Female sex workers were mostly found in bars.
- Female and male homeless teenagers were mostly found around town centres and shelters in towns.
- Female and male adolescents working in small businesses were mostly found in market places and around town centres.

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- Female and male adolescents who were undergoing professional training were mostly found in training institutions.
- Married female and male adolescents were mostly found in targeted places like the church, health centres, school and community meetings.

Focus group discussions

Trained students from the University of Zambia conducted focus group discussions. Various problems were encountered in the data collection process:

1. Some respondents segmented themselves into peer groups (*i.e.* those who play together, those who come from the same neighbourhood, etc.) and members of each segment rarely contradicted one another in order to prevent friction in the peer group.
2. Some respondents were shy about discussing sexuality. This phenomenon was most noticeable among the female participants.
3. Some respondents bragged or and exaggerated in order to make themselves appear more knowledgeable on the subject than their friends.
4. Some respondents were embarrassed. This phenomenon was most noticeable among the sex workers.
5. In some groups there was a tendency to sidetrack and talk about subjects not relevant to the issue.

According to the method in Ben-David and Lavee (1994), the research team read the typed discussion of each focus group and searched for common themes and patterns of behaviour (Bogdan and Bilken, 1982; Moon *et al.*, 1990). In the second stage, the data was compared. Differences and similarities between the kinds of groups were described and elucidated, until the differences and similarities could be organised into categories (Glasser and Strauss, 1967).

Qualitative research on the role of the church

According to the method in Ben-David and Lavee (1994), the research team read the typed information obtained from the interviews with church representatives, the focus groups with church members and the archive data, and searched for common themes and categories (Bogdan and Bilken, 1982; Moon *et al.*, 1990). In the second stage, the data was re-examined in order to analyse in more detail whether or not the data fits the categories created previously (Glasser and Strauss, 1967).

II. Results

In this part of this booklet we first present the results of the quantitative survey (Sections II.1-II.6), the focus group discussions (Section II.7) and the qualitative research into the role of the church (Section II.8), to synthesise the findings and present our conclusions in Section II.9.

II.1 Socio-demographic characteristics of the surveyed population

This section describes some socio-demographic characteristics of the populations, distinguishing between in-school vs. out-of-school participants, male vs. female participants, urban vs. rural participants and married vs. unmarried participants. The results discussed in this section are summarised in Table 1.

II.1.1 *In-school versus out-of-school participants*

2,174 (64%) of the adolescents surveyed are in-school participants and 1,235 (36%) are out-of-school participants. There is no significant gender difference between the in-school and the out-of-school groups. In-school adolescents tend to reside in urban areas (90%), while more out-of-school participants reside in rural areas (32%). Almost all the in-school and out-of-school participants in the survey sleep at home, but the results presented in Table 1 show that out-of-school adolescents have other sleeping arrangements as well, such as at friends' homes or the street. Almost all of the in-school participants are unmarried. Marriage among the out-of-school youths is more frequent (27%) and the mean age of marriage is lower (16.6 vs. 18.6). The parents of the in-school participants are more educated than the out-of-school adolescents' parents. Most of them had been to college and are married. As regards religion beliefs, results show that more than half of the out-of-school group is Protestant, but among the in-school group there is almost an equal division between Catholics and Protestants. The in-school participants have access to better nutrition – they eat more than two meals per day and consume more protein and fruits. Their families are more financially supportive, although more out-of-school participants

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Table 1 Selected socio-economic characteristics of the survey sample

	In school n = 2,174	Out-of-school n = 1,235	Male n = 1,646	Female n = 1,762	Urban n = 2,750	Rural n = 594	Married n = 358	Un-married n = 3,027	Total n = 3,408
- Age									
Mean	14.2	16.7	15.3	14.9	14.9	16.5	17.9	14.8	15.1
Standard deviation	(2.1)	(2.4)	(2.5)	(2.5)	(2.4)	(2.3)	(1.5)	(2.4)	(2.5)
- In/out-of-school									
In school			64%	64%	90%	90%	6%	70%	64%
Out-of-school			36%	36%	10%	10%	94%	30%	36%
- Sex									
Male	48%	49%			49%	48%	10%	90%	48%
Female	52%	51%			51%	52%	11%	89%	52%
- Residential area									
Urban	90%	68%	83%	82%			38%	88%	82%
Rural	10%	32%	17%	18%			62%	12%	18%
- Sleeping arrangement									
Home	97.1%	78.3%	90%	90%	90%	93%	95%	90%	90%
Friends	2.4%	8.7%	4%	5%	5%	5%	3%	5%	5%
Street	0.2%	6.9%	3%	3%	3%	1%	1%	3%	3%
Other	0.2%	6.1%	3%	2%	2%	1%	1%	2%	2%
- Family status									
Married	1%	27%	10%	11%	5%	39%			11%
Unmarried	99%	73%	90%	89%	95%	61%			89%
- Age at marriage									
Mean	18.6	16.6	16.9	16.4	17.0	16.5			16.7
Standard deviation	(2.0)	(1.5)	(1.5)	(1.6)	(1.6)	(1.5)			(1.5)
- Father's education									
Primary or less	9.3%	29.3%	18%	15%	13%	31%	32%	23%	16%
Junior secondary	4.4%	17.7%	10%	9%	8%	17%	8%	17%	9%
Senior	14.6%	23.5%	19%	17%	18%	19%	17%	26%	18%
College or university	71.7%	29.4%	53%	59%	61%	14%	43%	34%	57%
- Mother's education									
Primary or less	14.5%	49.4%	29%	25%	21%	55%	61%	23%	27%
Junior secondary	12.2%	20.7%	15%	16%	15%	18%	17%	15%	15%
Senior	20.5%	15.5%	19%	19%	20%	14%	10%	19%	19%
College or university	52.7%	14.4%	37%	40%	44%	14%	12%	43%	39%
- Religion									
Catholic	40%	38%	39%	40%	40%	39%	44%	40%	40%
Protestant	45%	56%	50%	48%	49%	53%	52%	48%	49%
Other	15%	6%	11%	12%	11%	8%	4%	12%	1%
- Parents marital status									
Married	65%	48%	61%	57%	60%	52%	48%	60%	59%
Divorced	15%	19%	16%	16%	16%	20%	19%	17%	16%
One or both deceased	18%	30%	21%	24%	21%	27%	31%	21%	22%
Other	2%	3%	2%	3%	2%	1%	2%	2%	3%
- Polygamy (parents)	13%	17%	15%	15%	14%	18%			15%

RESULTS

Table 1 (continued)

- No. of siblings									
Mean	5.3	5.5	5.5	5.2	5.3	5.6	5.7	5.3	3.4
Standard deviation	(2.6)	(2.6)	(2.7)	(2.6)	(2.6)	(2.7)	(2.7)	(2.6)	(2.6)
- No. of meals per day									
Two or less	19%	35%	29%	21%	21%	42%	34%	24%	24%
More than two	81%	65%	71%	79%	79%	58%	66%	76%	76%
- Food items eaten per day									
Eggs	2.9 (2.2)	2.7 (2.0)	2.6 (2.1)	3.0 (2.2)	2.9 (2.2)	2.4 (1.8)	2.6 (2.0)	2.9 (2.1)	2.8 (2.1)
Milk	5.0 (2.5)	4.0 (2.9)	4.4 (2.7)	4.9 (2.6)	4.9 (2.6)	3.5 (2.9)	4.0 (2.9)	4.7 (2.7)	4.7 (2.7)
Sugar	6.4 (1.9)	5.8 (2.1)	6.1 (2.1)	6.3 (1.9)	6.4 (1.9)	5.4 (2.4)	5.5 (2.3)	6.3 (1.9)	6.2 (2.0)
Kapenta	1.8 (4.3)	2.3 (2.9)	3.0 (2.1)	2.9 (2.0)	2.8 (2.0)	3.5(2.3)	3.7 (2.3)	2.8 (2.0)	2.9 (2.1)
Fruits	4.3 (2.4)	2.6 (2.7)	3.2 (2.4)	4.0 (2.5)	4.0 (2.5)	2.9 (2.6)	2.8 (2.6)	4.0 (2.5)	3.8 (2.5)
Rice	3.7 (2.3)	2.7 (2.4)	3.2 (2.4)	3.5 (2.3)	3.5 (2.3)	2.7 (2.3)	2.8 (2.4)	3.4 (2.3)	3.3 (2.3)
- Family housing									
Owns	61%	71%	65%	65%	62%	82%	82%	63%	65%
Rents	34%	23%	30%	30%	33%	14%	15%	32%	30%
No housing	4%	5%	4%	4%	4%	3%	1%	4%	4%
Other	1%	1%	1%	1%	1%	1%	2%	1%	1%
- Family financial support for school needs									
School uniform	95%	80%	90%	90%	91%	80%	78%	91%	90%
Books	95%	82%	91%	91%	92%	85%	81%	92%	88%
School fee	95%	77%	88%	89%	90%	78%	72%	90%	86%
Transportation	59%	44%	50%	50%	56%	46%	41%	55%	53%
Pocket money	66%	51%	57%	64%	63%	48%	49%	62%	59%
- Use of clinic/hospital services when family member is sick									
Rarely	22%	28%	24%	24%	23%	33%	34%	23%	24%
Sometimes	33%	30%	31%	32%	32%	32%	30%	32%	32%
Often	45%	42%	45%	44%	45%	35%	36%	45%	44%
- Use of traditional healer services when family member is sick									
Rarely	78%	85%	79%	81%	81%	77%	83%	80%	80%
Sometimes	12%	9%	12%	10%	11%	12%	8%	11%	11%
Often	0%	6%	9%	9%	8%	11%	9%	9%	9%

report that their families own their homes. When needed, both in-school and out-of-school participants prefer using clinical and hospital services rather than traditional healers.

II.1.2 Male versus female participants

1,646 (48%) of the participants are males and 1,762 (52%) are females. Although male participants are a bit older than female participants

(15.3 vs.14.9 years) and, as expected, their age of marriage is higher (16.9 vs. 16.4 years), no significant differences were found for other demographic variables such as attending school, residential area, sleeping arrangement and family status. These findings indicate that the sample characteristics are generally not biased by gender.

Surprisingly, however, more female participants eat more than two meals per day than males (79% vs. 71%). Furthermore, their families eat more proteins, sugar, fruits and rice per week. Female participants receive more money than males to pay for school expenditures. We have no explanation for these unexpected findings.

II.1.3 Urban versus rural participants

2,750 (82%) of the participants reside in urban areas and 594 (18%) reside in rural areas. Participants residing in urban areas are younger compared to those residing in rural areas (14.9 vs. 16.5 years). In contrast to the rural participants, of which only a third attend school and 39% are married, almost all the urban participants visit school regularly and only 5% are married. Moreover, the rural participants' age of marriage is lower (16.5 vs. 17.0 years). The results of an examination of the participants' parents show that the urban parents are better educated than the parents of the rural participants and a higher percentage of them are married. Polygamy is more frequent in rural areas. The differences regarding religion are of minor significance, yet the findings show that there are more Protestants among the rural participants.

The urban participants' families are more financially supportive and the participants have better nutrition compared to rural participants. However, 82% of the rural participants own a house and only 14% rent while only 62% of the urban participants own a house and 33% rent. This finding is probably a result of housing being less expensive in rural areas. Both urban and rural participants prefer clinical and hospital services over traditional healers, but urban participants tend to use clinical and hospital services more than rural participants.

II.1.4 Married versus unmarried participants

358 (11%) of the participants are married and 3,027 (89%) are unmarried. The average age of married participants is higher (17.9 vs. 14.8 years) and most of them live in rural areas while almost 90% of the unmarried participants reside in urban areas. Most of the unmarried participants (70%) attend school, whereas almost all (94%) the married participants do

not. More married participants have either fathers who graduated from college or university, or fathers who merely finished primary school. However, more unmarried participants have mothers who graduated college or university.

The married participants tend more to be observant Christians (52% vs. 48% of the unmarried participants). More married participants live at home, probably because the majority own a house or at least their families do. More unmarried participants reported their parents are still married. However, married participants have more siblings. Unmarried participants get more financial support from their families. They also reported a higher number of meals per day and that their families eat more proteins, sugar and rice per week, than married participants. Both married and unmarried participants use traditional healer services only rarely, but unmarried participants show a greater tendency to use clinical or hospital services when needed.

II.2 Lifetime sexual experience

Table 2 presents the lifetime sexual experiences of the participants. The results suggest, as we expected, that adolescents in Zambia are exposed to a considerable risk of HIV infection: almost half of the adolescents (46%) in the study had experienced sexual intercourse at least once in the past. Their mean age when they first had intercourse was 13.5 years and the adolescents had approximately four sexual partners during their lifetime. Only 29% used contraceptives during their first sexual experience. Over the years, however, there has been an increase in the use of contraceptives and 41% of the adolescents reported they used a contraceptive the last time they had intercourse.

Though condoms were the most frequently used contraceptive when the participants last had intercourse, 63% reported that they only rarely use one. Five to ten percent reported that they engage in high-risk sexual behaviour, such as anal sex, sex while drinking alcohol or using drugs and trading sex for food, money, drugs or a place to stay.

II.2.1 *In-school versus out-of-school participants*

The results indicate that the out-of-school participants are at a greater risk of HIV infection than their in-school counterparts: 77% have had sexual intercourse at least once, as compared to only 29% of the in-school participants. The out-of-school participants also reported having had more sexual partners (4.8 vs. 3.1) and more sexual intercourse experiences (66% vs. 15% more than once). Furthermore, more in-school participants (34%)

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Table 2 Lifetime sexual experience

	In school n = 2,174	Out-of-school n = 1,235	Male n = 1,646	Female n = 1,762	Urban n = 2,750	Rural n = 594	Married n = 358	Un-married n = 3,027	Total
- Had sexual intercourse at least once	29%**	77%**	57%**	36%**	42%**	58%**	97%**	40%**	46%
- Age at first intercourse experience	12.9** (3.0)	13.9** (2.7)	13.0** (2.9)	14.2** (2.5)	13.49 (3.0)	13.56 (2.4)	13.68** (2.5)	13.40** (2.9)	13.51 (2.8)
- No. of sexual partners	3.12** (2.6)	4.84** (3.7)	4.37* (3.6)	3.91* (3.3)	3.86** (3.1)	5.07** (4.1)	4.99** (3.4)	3.95** (3.4)	4.18 (3.5)
- No. of sexual intercourse experiences									
None	77%**	24%**	47%**	66%**	62%**	31%**	4%**	64%**	57%
Once	8%**	10%**	11%**	7%**	9%**	9%**	9%**	9%**	9%
2-9 times	12%**	27%**	25%**	11%**	12%**	26%**	29%**	16%**	18%
More than 10	3%**	39%**	17%**	16%**	13%**	34%**	58%**	11%**	16%
- Type of contraceptive used at first intercourse									
None	59%**	70%**	67%	65%	67%**	63%**	68%	66%	66%
Birth control pills	13%**	7%**	9%	10%	10%**	9%**	10%	9%	9%
"Safe days"	6%**	3%**	4%	4%	5%**	1%**	3%	5%	4%
Condoms	18%**	18%**	18%	18%	16%**	22%**	16%	18%	18%
Other	4%**	2%**	2%	3%	2%**	5%**	3%	2%	3%
- Type of contraceptive used at last intercourse									
None	53%**	57%**	58%**	52%**	55%**	58%**	59%**	54%**	56%
Birth control pills	9%**	13%**	9%**	18%**	13%**	12%**	16%**	12%**	13%
"Safe days"	8%**	3%**	4%**	2%**	4%**	1%**	1%**	3%**	3%
Condoms	24%**	25%**	24%**	25%**	25%**	24%**	18%**	27%**	25%
Other	6%**	2%**	5%**	3%**	3%**	5%**	6%**	4%**	3%
- Use a condom while having intercourse									
Rarely	65%**	62%**	66%**	58%**	63%**	64%**	63%**	63%**	63%
Sometimes	13%**	20%**	15%**	21%**	16%**	22%**	25%**	15%**	18%
Often	22%**	18%**	19%**	20%**	21%**	14%**	12%**	22%**	11%
- Anal intercourse	10%**	17%**	7%	7%	6%**	15%**	22%**	6%**	8%
- Sex while drinking alcohol	10%**	26%**	10%	9%	8%**	16%**	28%**	7%**	10%
- Sex while using drugs	7%**	11%**	6%**	4%**	4%**	9%**	13%**	4%**	5%
- Have been raped	8%	7%	4%	4%	4%	4%	7%**	4%**	4%
- Traded sex for food, money, drugs or place to stay	8%**	22%**	6%**	11%**	8%**	13%**	15%**	8%**	8%

* p<0.05, ** p<0.01

than out-of-school participants (26%) used contraceptives the first time they had sexual intercourse. Regarding the last time they had sexual intercourse, there was an increase in the tendency to use contraceptives among both groups (about 40%), but answers to the question about condom use while having sexual intercourse revealed that condoms were more likely to be used by the in-school participants. In addition, a great percentage of out-of-school participants reported engaging in anal intercourse and having sex while drinking alcohol or using drugs. In addition, this group has a greater tendency to trade sex for food, money, drugs or a place to stay as compared to the in-school participants. Finally, about 7-8% of the participants in both groups had been raped.

II.2.2 Gender differences

With respect to the differences between male and female participants, the results show that the male participants were more sexually experienced than their female counterparts. A higher number of males (57%) than females (36%) had had sexual intercourse and males began having sexual intercourse at a younger age (13.0 years) than females (14.2 years). The number of times males had sexual intercourse was higher 42% vs. 27% more than once) and so was the number of sexual partners (4.4 vs. 3.9).

The data regarding contraceptive use is more complicated. When they first had intercourse, over 70% of both male and female participants did not use any contraceptive and, if used, the most common form of contraception was condoms. The percentage of those who used condoms during their last sexual experience was higher for both males (38%) and females (45%). However, more females used contraceptives at their last sexual intercourse, including condoms. In general, the tendency to use condoms was higher among the female participants who asked their partners to use them. No significant gender differences were found regarding anal intercourse, having sex while drinking alcohol and rape cases. However, more males had sex while using drugs and more females traded sex for food, money, drugs or a place to stay.

II.2.3 Rural versus urban participants

The results show that the rural participants were more sexually experienced than their urban counterparts: a higher number of rural participants had sexual intercourse at least once (58% vs. 42% of the urban participants). Rural participants also had a higher number of sexual partners (5.1 vs. 3.9). More than a third of the rural participants had more than ten sexual intercourse experiences, as compared to only 13% of the

urban participants. Moreover, more rural participants had experienced anal intercourse, had had sex while drinking alcohol and using drugs and had traded sex for food or money when compared to urban participants.

When reporting on their first intercourse experience, approximately 30% of the urban and rural participants stated they had used contraceptives. In comparison, their reports on their last sexual involvement revealed an increase of 10% in contraceptive use for both urban and rural participants. Among those who used contraceptives, condoms were the most frequently used contraceptive device. However, more than 60% of both urban and rural participants only rarely used condoms.

II.2.4 Married versus unmarried participants

The results indicate that, although married participants were slightly older at the time they first had intercourse than the unmarried participants (13.7 vs. 13.4 years), they were more at risk of HIV infection since a greater percentage had sexual intercourse at least once (97% vs. 40%), and the number of times they had sexual intercourse was higher (87% vs. 27% more than once). More importantly, the married participants had had more (5.0) sexual partners than the unmarried participants (4.0). The last time they had intercourse, more unmarried participants reported using contraceptives than married ones, including condoms. Moreover, more unmarried participants reported that they often use condoms (22% vs. 12%). Higher percentages of married participants reported having anal sex, sex while drinking alcohol or using drugs, having been raped and being willing to trade sex for food or money.

II.3 Sexual abuse by a family member

Table 3 presents the frequency of sexual and physical abuse by a family member. Physical abuse was more common than sexual abuse: less than 10% of the adolescents reported that they had been sexually abused, but 23% reported that a family member had physically abused them. Twenty-five percent reported alcohol abuse in their family during the last month.

In-school versus out-of-school participants

Out-of-school participants were at a higher risk of sexual and physical child abuse: more out-of-school participants than in-school ones reported that a family member had touched their breasts or genitals (12% vs. 6%) or had had intercourse with them (5% and 2% respectively). A higher percentage of out-of-school participants reported they were beaten and physically

Table 3 Sexual and physical abuse by a family member

	In school n = 2,174	Out-of-school n = 1,235	Male n = 1,646	Female n = 1,762	Urban n = 2,750	Rural n = 594	Married n = 358	Un-married n = 3,027	Total
Family member exposed his/her genitals	7%	6%	7%	6%	7%	8%	8%	7%	7%
Family member masturbated in front of you	3%	3%	3%	3%	3%	4%	4%	3%	3%
Family member touched your breasts or genitals	6%**	12%**	7%**	10%**	8%*	11%*	15%**	8%**	9%
Family member had intercourse with you	2%*	5%**	4%*	3%*	3%	3%	4%**	3%**	3%
Family member had oral sex with you	2%*	1%*	2%**	1%**	2%	1%	1%*	1%*	2%
Family member had anal sex with you	2%	1%	2%	1%	1%	2%	1%	1%	1%
Family member beat you and left physical marks	19%**	32%**	23%	24%	22%**	31%**	31%**	22%**	23%
Family member physically punished you	6%**	8%**	7%	8%	7%	7%	8%	6%	7%
Family member physically injured you	6%	6%	6%	6%	6%	6%	4%	6%	6%
Alcohol abuse in family during last month	20%**	35%**	27%	24%	24%*	28%*	38%**	24%**	25%

* p<0.05, ** p<0.01

punished by a family member (32% vs. 19%) and a higher percentage (35% vs. 20%) reported alcohol abuse in their family during the last month – behaviour that is related to sexual and physical child abuse.

Male versus female participants

The results show that generally there are no significant gender differences regarding sexual and physical abuse. However, significantly more females complained of being fondled sexually (10% vs. 7%).

Urban versus rural participants

The results indicate that participants from rural areas have been sexually and physically abused more than the urban participants, including being sexually fondled by a family member (11% vs. 8%) and being physically beaten (31% vs. 22%). Furthermore, a higher percentage of the rural participants reported alcohol abuse in their family during the last month (28% vs. 24%).

Married versus unmarried participants

Results indicate that more married participants have experienced sexual abuse by a family member than their unmarried counterparts. Fifteen percent of the married participants *vs.* 8% of the unmarried ones were sexually touched by a family member. Also, more married participants reported that during the last month a family member had beaten them and that there was alcohol abuse in the family.

II.4 AIDS-related knowledge, attitudes and behaviour

The Tables 4 and 5 present the findings on AIDS-related knowledge, attitudes, self-efficacy and behaviour among the participants, according to the different groups examined and the sexual experience of the participants (sexually experienced *vs.* non-sexually experienced).

Knowledge

The mean score of knowledge about AIDS is 18.3, with a standard deviation of 3.3 on a scale ranging from 0 to 23, which indicates a moderate level of knowledge about AIDS among the participants. Individuals with sexual experience have more knowledge about AIDS than participants without (means 18.6 and 18.1 respectively).

Attitudes

The mean score of the scale about attitudes towards AIDS prevention is 3.32 with a standard deviation of 0.6 on a 4-point scale, indicating a highly positive attitude towards prevention. No significant difference was found between participants with or without sexual experience.

Self-efficacy

Self-efficacy about AIDS prevention was found to be moderate to low, with a mean score of 2.6 and a standard deviation of 0.4 on a 4-point scale. No significant difference was found between participants with and without sexual experience.

Behaviour

High-risk behaviour was found to be low, with a mean score of 2.29 and a standard deviation of 3.2 on a 22-point scale. However, the total mean score was low due to the large number of participants who were not engaged in sexual relationships and because the scale includes 22 high-risk activities. Thus, even a low number on this scale indicates a high-risk potential for HIV infection. When separating the sexually experienced participants from

Table 4 AIDS-related knowledge, attitude, self-efficacy and behaviour according to sexual experience

	Sexually experienced	Not sexually experienced	Total
- Knowledge about AIDS ^a			
Mean	18.64	18.06	18.3
Standard deviation	(2.9)**	(0.1)**	(3.3)
- Attitudes towards AIDS prevention ^b			
Mean	3.32	3.33	3.32
Standard deviation	(0.6)	(0.6)	(0.6)
- Self efficacy about AIDS prevention ^c			
Mean	2.57	2.56	2.56
Standard deviation	(0.4)	(0.1)	(0.4)
- AIDS-related risky behaviour ^d			
Mean	3.69	1.9	2.29
Standard deviation	(0.1)**	(0.1)**	(3.2)

a AIDS knowledge: 0-23 with higher value indicating more knowledge about AIDS.

b Attitudes: 1-4 with higher value indicating more positive attitudes concerning AIDS prevention.

c Self-efficacy: 1-4 with higher value indicating higher self-efficacy concerning AIDS-preventive behaviour.

d Engagement in high-risk behaviour: 0-22 with higher value indicating higher level of engagement.

the inexperienced ones, the mean scores are 3.7 and 1.9 respectively, indicating a greater risk of infection among the sexually active participants.

Family history of AIDS and HIV

One-fifth (20%) of the participants had relatives who had died from AIDS, 18% had relatives who has been diagnosed as HIV-positive, while 3% of the participants had been diagnosed as having HIV (Table 5).

In-school versus out-of-school participants

The results indicate that out-of-school participants have more knowledge about AIDS and more positive attitudes towards AIDS prevention. However, they are more likely to engage in AIDS-related risky behaviour. No significant difference was found for self-efficacy. Furthermore, more out-of-school participants had a venereal disease (12% vs. 3%) and had relatives who were diagnosed as HIV positive (25% vs. 13%) or had died from AIDS (22% vs.18%).

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Table 5 AIDS-related knowledge, attitudes, self-efficacy and behaviour according to the study groups

	In School n = 2,174	Out-of-school n = 1,235	Male n = 1,646	Female n = 1,762	Urban n = 2,750	Rural n = 594	Married n = 358	Un-married n = 3,027	Total
- Knowledge about AIDS ^a	18.09** (3.5)	18.73* (2.8)	18.18* (3.3)	18.45* (3.3)	18.45** (3.3)	18.87** (3.3)	18.58 (2.8)	18.31 (2.3)	18.3 (3.3)
- Attitudes towards AIDS prevention ^b	3.31** (0.6)	3.36** (0.5)	3.31 (0.6)	3.34 (0.5)	3.34** (0.6)	3.25** (0.6)	3.34 (0.5)	3.33 (0.6)	3.3 (0.6)
- Self-efficacy about AIDS prevention ^c	2.56 (0.5)	2.58 (0.4)	2.59* (0.4)	2.54* (0.4)	2.57 (0.5)	2.53 (0.4)	2.54 (0.4)	2.57 (0.5)	2.6 (0.4)
- Engagement in high-risk behaviour ^d	1.60** (3.0)	3.49** (3.3)	2.44** (3.3)	2.15** (3.1)	2.02** (3.1)	3.74** (3.5)	4.89** (3.4)	1.98** (3.1)	2.3 (3.2)
- Knowledge about anti-AIDS programmes	13%	13%	14%*	12%*	12%**	17%**	16%	12%	13%
- Had venereal disease	3%**	12%**	7%	6%	5%**	11%**	17%**	5%**	6%
- Diagnosed as HIV positive	3%	2%	3%	2%	3%	3%	3%	3%	3%
- Relative diagnosed as HIV positive	13%**	25%**	14%**	21%**	17%**	23%**	33%**	16%**	18%
- Relative died from AIDS	18%**	22%**	16%**	23%**	19%**	25%**	30%**	19%**	20%

a AIDS knowledge: 0-23 with higher value indicating more knowledge about AIDS.

b Attitudes: 1-4 with higher value indicating more positive attitudes concerning AIDS prevention.

c Self-efficacy: 1-4 with higher value indicating higher self-efficacy concerning AIDS-preventive behaviour.

d Engagement in high-risk behaviour: 0-22 with higher value indicating higher level of engagement.

Male versus female participants

The results show that female participants have more knowledge about AIDS than males (18.45 vs. 18.18 on a 23-point scale). In contrast, males reported a higher level of self-efficacy regarding AIDS prevention than females (2.59 vs. 2.54 on a 4-point scale) and more males reported knowing about anti-AIDS programmes (15% vs. 12%). Males were more likely to be engaged in high-risk behaviour than females (2.44 vs. 2.15 on a scale from 0-22), and no significant difference was found in attitudes towards AIDS prevention. More female participants reported they have relatives who were diagnosed as HIV positive (21% vs. 14%) or died from AIDS (23% vs. 16%).

Urban versus rural participants

The results indicate that participants from rural areas have more knowledge about AIDS compared to urban adolescents (18.87 vs. 18.45). However, they have less positive attitudes towards AIDS prevention (3.25 vs. 3.34) and are more likely to engage in high-risk behaviour (3.74 vs. 2.02), though more rural participants are aware of anti-AIDS programmes (17% vs. 12%). In addition, more rural than urban participants had a venereal disease (11% vs. 5%), have relatives who have been diagnosed as HIV positive (23% vs. 17%) or who have died from AIDS (25% vs. 19%).

Married versus unmarried participants

The results show that married and unmarried participants do not differ in their level of knowledge about AIDS, attitudes towards AIDS prevention or their self-efficacy about AIDS prevention. Nevertheless, more married participants reported that they had engaged in high-risk behaviour (4.89 vs. 1.98), had had a venereal disease (17% vs. 5%) and that more of their relatives had been diagnosed as HIV positive (33% vs. 16%) or had died from AIDS (30% vs. 19%). Surprisingly, married participants have more knowledge concerning anti-AIDS programmes (though the result is not significant).

Further statistical analyses² were conducted to estimate the effect of socio-demographic variables (*i.e.* in/out of school, age, gender, place of residence, marital status, socio-economic status and family abuse) on knowledge about AIDS, attitudes towards prevention and self-efficacy towards AIDS prevention. The latter refers to the belief that one can actually prevent being infected with HIV. The results show that out-of-school adolescents had more positive attitudes towards AIDS prevention than in-school adolescents, but this effect was not found as regards AIDS-related knowledge and self-efficacy. Older children had more knowledge about AIDS, more positive attitudes towards AIDS prevention and showed more self-efficacy than younger children. Compared to males, females had more knowledge but showed less self-efficacy. No significant gender effect was found on attitudes towards AIDS prevention. Adolescents who reside in rural areas have less knowledge about AIDS compared to adolescents from urban areas. A similar pattern was seen with respect to attitudes and self-efficacy, but here the effect of residential area was weaker. Unmarried participants expressed more AIDS-related knowledge and exhibited more

¹ Hierarchical linear analyses; see Slomim-Nevo and Mukuka (2002) for further details.

self-efficacy compared to married participants, but no effect was found on attitudes. A high socio-economic status appeared to have a positive effect on all AIDS-related variables. Family abuse had a negative effect, which means that higher levels of family abuse lead to less AIDS-related knowledge, poorer attitudes and a lower level of self-efficacy.

The AIDS-related variables (knowledge, attitude and self-efficacy) were found to have a positive effect that went beyond the effect of socio-demographic variables: they appeared to explain 8.8-17.4% of the variance after controlling for socio-demographic variables. This means that higher knowledge about AIDS positively affects attitudes and self-efficacy, better attitudes towards prevention positively affect knowledge and self-efficacy and a higher level of self-efficacy positively affects knowledge about AIDS and attitudes towards prevention. These results suggest that these three factors – knowledge, attitudes and self-efficacy – are inter-related and simultaneously affect each other.

II.5 Engagement in AIDS-related risky behaviour

Table 6 presents the level of engagement in AIDS-related risky behaviour during the last two months. In general, about 10% of the participants answered “yes” for every high-risk behaviour in the questionnaire referring to injecting or piercing ears with clean or unclean needles, having sex with someone they did not know well, trading sex with or without using condoms and having anal sex with or without condoms. Furthermore, 24% of the participants had had vaginal sex without condoms, 17.5% of the female participants were pregnant – as a consequence of which 75.5% of the pregnant women gave birth and 9% had had an abortion. Five percent of the participants had been informed that they had a venereal or sexually transmitted disease, 4% that they had tuberculosis, 7% that they had pneumonia and 45% that they had malaria.

In-school versus out-of-school participants

Results indicate that adolescents who do not attend school were more likely to engage in various risky behaviour than their in-school counterparts. The out-of-school group was significantly more likely to experience sex with both known and unknown persons, to trade sex for money or food with or without a condom, to have sex while drinking alcohol and to experience vaginal, anal and oral sex with or without a condom. Furthermore, more out-of-school participants were diagnosed as having a venereal or sexually transmitted disease, tuberculosis, pneumonia and malaria.

Table 6 Engagement in high-risk behaviour during the last two months (%)

	In school n = 2,174	Out-of-school n = 1,235	Male n = 1,646	Female n = 1,762	Urban n = 2,750	Rural n = 594	Married n = 358	Unmarried n = 3,027	Total
Injection with clean needles	9%	9%	10%	9%	8%**	14%**	11%	9%	9.2%
Injection with unclean needles	5%**	3%**	4%	4%	4%	6%	4%	4%	4.4%
Pierced ears with clean needles	12%**	17%**	7%**	20%**	13%**	18%**	24%**	13%**	13.9%
Pierced ears with unclean needles	4%**	2%**	4%	3%	3%	5%	3%	4%	3.6%
Sex with unknown person	6%**	20%**	13%**	10%**	9%**	22%**	30%**	9%**	11.1%
Sex with known person	13%**	52%**	31%**	23%**	22%**	52%**	75%**	22%**	27.2%
Traded sex for food or money without a condom	5%**	15%**	8%	9%	8%**	14%**	15%**	8%**	8.6%
Traded sex for food or money with a condom	5%**	14%**	8%	9%	8%**	11%**	11%**	8%**	8.6%
Sex while drunk without a condom	4%**	11%**	8%**	5%**	6%**	9%	11%**	6%**	6.8%
Sex while drunk with a condom	3%**	8%**	6%	4%	5%	4%	8%	5%	5.0%
Sex while on drugs without a condom	4%	5%	6%**	3%**	4%	6%	6%	4%	4.5%
Sex while on drugs with a condom	4%	5%	5%	4%	4%	5%	7%	4%	4.5%
Vaginal sex with a condom	8%**	34%**	18%	17%	14%**	33%**	48%**	14%**	17.5%
Vaginal sex without a condom	9%**	49%**	26%**	22%**	19%**	46%**	74%**	18%**	23.8%
Anal sex with a condom	4%**	10%**	8%**	5%**	5%**	14%**	19%**	5%**	6.4%
Anal sex without a condom	5%**	10%**	8%**	6%**	5%**	14%**	20%**	5%**	6.8%
Oral sex with a condom	5%**	7%**	7%**	4%**	5%**	9%**	12%**	5%**	5.6%
Oral sex without a condom	4%**	6%**	6%**	4%**	5%**	8%**	11%**	4%**	5.2%
Informed by nurse/doctor of having VD/STD	3%	8%	6%	4%	4%**	11%**	16%**	3%**	4.8%
Informed by nurse/doctor of having tuberculosis	3%**	4%**	4%	3%	3%	6%**	8%**	3%**	3.7%
Informed by nurse/doctor of having pneumonia	5%**	9%**	7%	6%	6%**	13%**	16%**	6%**	6.9%
Informed by nurse/doctor of having malaria	41%**	52%**	48%**	43%**	43%**	58%**	65%**	43%**	45.1%
The following were addressed only to males									
Sex with prostitute with a condom	4%**	8%**	11%	5%**	5%**	10%**	13%**	5%**	5.6%
Sex with prostitute without a condom	2%**	7%**	8%	3%**	3%**	7%**	10%**	3%**	3.9%
Anal sex with a man with a condom	2%**	1%**	4%	1%	1%	2%	2%	1%	1.8%
Anal sex with a man without a condom	2%	1%	4%	2%	2%	2%	2%	2%	1.9%
The following were addressed only to females									
Have you ever been pregnant?	2%**	43%**		18%	13%**	39%**	83%**	9%**	17.5%
Did you give birth?	52%**	77%**		13%	73%	79%	82%**	68%**	75.5%
Have you ever had abortions?	2%**	34%**		9%	7%**	20%**	30%**	6%**	9.3%
Have you ever worked as a prostitute and used a condom with a male client?	1%**	16%**		6%	7%	5%	8%	6%	6.4%
Have you ever worked as a prostitute and not used a condom with a male client?	1%**	13%**		5%	6%	5%	9%**	5%**	5.3%

* p<0.05, ** p<0.01

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More out-of-school male participants reported they had had sex with a prostitute with or without a condom than the in-school male participants. More out-of-school female participants reported that they were pregnant, had given birth or had had an abortion. Also, more out-of-school females reported that they worked as prostitutes with or without condoms.

Male versus female participants

Results indicate that female participants tend to pierce their ears with clean needles more than males. Male participants have a greater tendency to have sex with both known and unknown persons, to have sex without a condom while drunk or on drugs, to have vaginal sex without a condom and to have anal and oral sex with or without a condom. However, more female than male participants tend to trade sex for money, food or shelter, with or without a condom. Furthermore, more male than female participants were diagnosed as having a venereal or sexually transmitted disease and malaria.

Eleven percent of the male participants reported they had sex with a prostitute while using a condom and 8% had sex with a prostitute without a condom. Furthermore, 4% of the males had anal sex with another man with or without a condom. Eighteen percent of the female participants had been pregnant at least once in their lives and of this group 13% had given birth and 9% had had an abortion. Of all women 5-6% worked as a prostitute using or without using a condom.

Urban versus rural participants

The results show that participants from rural areas tend to engage in all kinds of risky behaviour more than participants from urban areas. Specifically, the rural participants are more likely to have sex with known or unknown person, trade sex for food or money with or without condom, have vaginal, oral or anal sex with or without condom and to have sex with a prostitute with or without condom.

Married versus unmarried participants

The results show that the married participants reported engaging in high-risk behaviour more than the unmarried participants. For example, they reported having sex with known or unknown persons, trading sex for food, money or shelter with or without a condom, having sex while drunk with or without a condom, having vaginal, oral or anal sex with or without a condom, and having sex with a prostitute. As we will see below, this difference between married and unmarried participants has probably been

influenced by other variables, since further statistical analyses reveals that unmarried participants indeed engage more in risky behaviour than the married ones.²

The effect of socio-economic and familial variables

Advanced statistical analyses³ were conducted with a view to estimating the effect of various socio-demographic and familial variables (*i.e.* age, gender, residence, marital status and socio-economic status) on the participants' engagement in high-risk behaviour. The same was done to estimate the effect of sexual abuse in the family, knowledge, attitude and self-efficacy regarding AIDS prevention.

The results of this analysis indicate that adolescents who are not attending school, who are older, who reside in rural areas, who are married and who were abused by a family member tend to engage in more high-risk behaviour:

- Older adolescents tend to engage in more risky behaviour than younger adolescents, especially with regard to sexual intercourse (vaginal, oral and anal), combining sex with alcohol or drugs, trading sex for food or money and having sexual relations with known or unknown persons.
- Rural adolescents tend to inject drugs, have sex with strangers, trade sex for food, money and shelter, and have vaginal or anal sex both with and without using a condom. More rural adolescents than urban ones reported on having been diagnosed with pneumonia and malaria.
- More unmarried than married participants reported that they inject drugs and trade sex for food and money – both with and without condoms. More married participants tend to pierce their ears with clean needles, have sex with people they know and strangers, have vaginal and anal sex and be diagnosed as having a venereal or sexually transmitted disease, tuberculosis, pneumonia or malaria.
- Sexual abuse by family members is a major predictor of engagement in high-risk behaviour for the high-risk activities examined. This finding

² It should be noted that according to the results of regression analysis, unmarried participants tend to trade sex with or without condoms more than their married counterparts. These results are contrary to findings shown in Table 6, which indicate that a higher percentage of married participants tend to trade sex for food or money. When analysing frequencies of a variable, it is difficult to estimate its unique contribution, as it includes influences of other variables, such as gender and economic status. Contrastingly, logistic regression analysis enables one to evaluate the unique influence of each independent variable on the dependent variable. This influence is free from the effects of other interfering variables.

³ More details can be found in Slonim-Nevo and Mukuka (2002).

indicates that the higher level of sexual abuse in the family is, the higher the probability of engagement in any kind of high-risk behaviour.

We also found that females, more than males, tend to engage in piercing ears and trading sex for food, money or shelter. Males, more than females, are likely to have sex with girls they know, to combine sex with alcohol or drugs and to engage in anal and oral sex.

Participants with a lower socio-economic status, compared to participants of a higher status, tend to have sex with known and unknown persons, trade sex for food and money (with and without using a condom), have sex while drinking, have vaginal sex with condoms, and had been diagnosed as having a venereal or sexually transmitted disease or malaria. More participants having a higher socio-economic status reported on being diagnosed as having pneumonia.

Finally, all three AIDS-related variables – knowledge, attitude and self-efficacy – had a significant effect on engagement in high-risk behaviour. Specifically, less knowledge about AIDS, negative attitudes towards AIDS prevention and lower self-efficacy regarding AIDS prevention predict a high level of engagement in high-risk behaviour. However, the results also indicate that the AIDS-related variables add only 2.2 percent of explained variance beyond the socio-demographic variables, which account for 20.6 percent of the variance.

II.6 High-risk behaviour and activities conducted with or by peers

Table 7 presents the participants' high-risk behaviour conducted together with and by their peers. In general, 19% of the adolescents reported that they drink alcohol and 9% reported using *dagga* or drugs. Three percent used drugs and shared needles to inject them. The percentages increase when reporting on friends: 25% reported their friends use drugs and 39% reported their friends drink alcohol more than once a week. Also, 66% said their friends had sexual intercourse and 57% added that their friends use condoms. Apparently, adolescents feel less inhibited to report on their peers' behaviour than on their own. Yet, usually there is a strong correlation between the adolescent's behaviour and that of his/her peers. Therefore, these results may indicate that the level of substance use and abuse among the participants is higher than what they report.

In-school vs. out-of-school participants

34 The results indicate that out-of-school participants are more likely than their in-school counterparts to drink alcohol, use drugs and share needles.

Table 7 High-risk behaviour and activities conducted with or by peers

	In School n = 2,174	Out-of-school n = 1,235	Male n = 1,646	Female n = 1,762	Urban n = 2,750	Rural n = 594	Married n = 358	Un-married n = 3,027	Total
Generally drink alcohol	14%	27%	23%**	16%**	18%**	26%**	33%**	17%**	19%
Use dagga or drugs	5%**	16%**	12%**	6%**	9%	11%	14%**	8%**	9%
Use needles to inject drugs	2%**	5%**	3%	3%	3%**	6%**	8%**	3%**	3%
Share used needles, syringes, cookers or cotton	3%	4%	3%	3%	3%*	6%*	8%**	3%**	3%
Friends use drugs	18%**	36%**	31%**	20%**	23%**	36%**	37%**	24%**	25%
Friends have sexual intercourse	67%**	81%**	72%**	61%**	63%**	78%**	89%**	64%**	66%
Friends drink alcohol more than once a week	29%**	55%**	43%**	35%**	36%**	49%**	63%**	36%**	39%
Friends have failing grades at school	77%**	88%**	72%	72%	70%**	72%**	82%**	70%**	71%
Friends use condoms	50%**	68%**	59%*	55%*	53%**	67%**	77%**	54%**	57%

* p<0.05, ** p<0.01

Higher percentages of out-of-school participants also reported that their friends use drugs, have sexual intercourse, drink alcohol and have failing grades. Unexpectedly, the friends of those who do not attend school have a greater tendency to use condoms than the in-school participants' friends.

Male vs. female participants

Results show that more male than female participants tend to use alcohol and drugs, though the usage of needles is low and the same in both groups. More males than females reported that their friends use drugs, have sexual intercourse and drink alcohol. However, more males reported that their friends use condoms. Both male and female participants have a lot of friends with failing grades.

Urban vs. rural participants

The results indicate that more rural participants are likely to engage in high-risk behaviour than urban ones. There was a slight and insignificant difference with regard to using *dagga* or drugs. Also, more rural than urban participants reported that their friends engage in high-risk behaviour and have failing grades at school. On the other hand, more of the rural participants' friends use condoms.

Married vs. unmarried participants

The results show that compared to unmarried participants more married participants engage in high-risk behaviour, such as using drugs and sharing needles. Furthermore, the friends of married participants tend to engage in high-risk behaviour more than the friends of the unmarried ones. The married participants' friends also have lower school grades. They do, however, tend to use condoms more frequently.

II.7 Results from focus group discussions

Focus groups discussions were held with female sex workers in Garden-Lusaka and three groups of in-school youths from Kitwe (a group of males in grade 8, a group of females in grade 7 and a group of males in grade 7). The results of each focus group discussion are presented below followed by the conclusions.

II.7.1 Female sex workers in Garden-Lusaka

These adolescents started to have sexual intercourse between the ages of 15 to 19, the majority (75%) starting at the age of 15. The main reason for becoming sex workers was economic, especially when they stopped receiving financial support from their parents.

The contraceptives used, according to the participants, are condoms and traditional medicine devices (such as tying an object around the waist). Because these girls have little knowledge about contraceptives and AIDS conception, they also use painkillers such as Cafenol and Panadol which are easily accessible. The participants stated that very few clients agree to use condoms, claiming that condoms cause cancer, are not "nice", break during intercourse, lead to infertility and reduce sexual satisfaction. Those clients who agree to use a condom do so because they believe that condoms protect against venereal and sexually transmitted diseases and HIV/AIDS.

Although these adolescent sex workers were knowledgeable about the advantages of condoms, economic pressure usually prevails over health considerations. For example, they said that they were willing to have sex without a condom, as long as the client paid above the usual rate. Another problem is that although condoms are available in their neighbourhoods, they cannot afford to buy them. Only a few participants refuse to have sex without a condom. They also ignore the expiry date of a condom, basically because of low literacy levels. The participants said that they are able to know if a condom had expired if it feels soft or torn when water is inside it.

More than 75% of the participants do not approve of having sex with relatives. However, several of the participants said they have sex with their cousins.

All the participants indicated that they go to the hospital when they feel sick. However, they mentioned that if they had a sexually transmitted disease, they would prefer to go to traditional healers who do not demand the presence of the sexual partner. The health providers at the hospital insist that the partners be treated as well – a condition that deters the adolescent sex workers from treatment.

The discussions show that approximately 50% of the participants use traditional leaves and stones to tighten their vaginas in order to attract men. Some claimed they pulled the labia of the vagina just before labour, so that vaginal muscles could expand and relax for easy child delivery, while others did not recognise this practice. The respondents believe they can treat sexually transmitted diseases by traditional medicines and resort to these practices because they are available and cheap.

The participants often become pregnant, but have abortions. Only one respondent had a child. Only in the event of complications did the girls seek help from a hospital. Otherwise traditional healers carried out abortions as the cost was much lower.

Disparities were found regarding knowledge about HIV/AIDS. For example, while some stated they use condoms to avoid AIDS, others merely tie a “soft plastic” object around the penis. Some participants were taught to stay with one partner, while others avoided sexual relationships until marriage. All the participants stressed that their churches do not teach them about the use of condoms. This finding also came out from the study on the role of the church in the fight against HIV/AIDS in the country (Section II.8).

II.7.2 In-school youths in Kitwe: male grade 8 participants

The ages of the participants ranged from 13 to 16 years. Most of them disapprove of sexual intercourse because they think they are not mature enough. This group of boys is familiar with roots (traditional medicine), contraceptives pills and condoms. They support the use of condoms for the prevention of HIV/AIDS, although they think that condoms do not fit, interfere with sexual satisfaction and lead to a waste of sperm. They know how to use condoms and how to tell whether a condom had expired or not by checking the expiry date or checking for powder or fluid in the condom. They know how much condoms cost and where to get them for free. Most of

the adolescent males had no objection to using condoms. However, others felt it shows a lack of trust.

The participants were aware of the prostitutes who operated in their neighbourhood. Boys who had undergone the initiation ceremony (circumcision) were usually sexually active because they believe that circumcision prevents infection from sexually transmitted diseases. Most of the participants confessed that if they were accused of impregnating a girl they would deny it for fear of expulsion from school, but believed they would take responsibility if they were older.

These adolescents felt that having sex with a distant cousin is permissible in some local traditions and they had in fact heard of such cases before, but had not heard of cases of brother and sister having sexual intercourse.

This group believes that girls can abort by drinking eight tablets of Panadol or any other medicine. When they are infected with a sexually transmitted disease, they turn to help from traditional healers or medical care providers.

The participants indicated that it is difficult for them to discuss sexual matters with their parents, who consider them too young. However, some participants expressed an interest in learning about sex from their parents. These participants have received no sexual education, though they were taught about AIDS. They learned from the church that they should abstain from sex until marriage and not use condoms, which encourage sex.

II.7.3 In-school youths in Kitwe: female grade 7 participants

The age of these participants ranged from 12 to 14 years old. More than 50% feel that sex at their age is not proper because of pregnancy or AIDS infection. However, a few of the participants feel they are mature enough to have sex and see it as a way to support themselves. The girls said that prostitution is very common in their area due to high poverty rates. Pregnancy is suspected when a girl starts to hide and act embarrassed or ashamed. Pregnancy is rarely welcome since it means dropping out of school.

The participants feel that condoms are not 100% safe. They know where to buy them, but do not know how to use them. They think they can be disposed of by burning or flushing them down the toilet. The participants have a great fear of sexually transmitted diseases and pregnancy and therefore have no reservation about asking their partners to use condoms. They presume there are women who do not request a condom, because they are afraid of rejection.

Although they have heard of such cases before, the participants feel that incest is deviant behaviour.

The participants believe that tea and soda can be used as contraceptives. The only real contraceptives they are familiar with are condoms and birth control pills. They think that in order to have an abortion, a girl should take pills or use traditional medicine. According to the participants, sexually transmitted diseases like syphilis, AIDS and gonorrhoea can be treated by traditional healers, relatives or at health centres.

With regard to AIDS-related knowledge, some parents told their daughters about AIDS while others did not because they felt they were too young. The participants complained of the lack of sexual education.

II.7.4 In-school youths in Kitwe: male grade 7 participants

The participants' ages range between 11 to 15 years old. More than 50% of the participants fear HIV/AIDS and said they feel they are too young to have sex. However, they stressed that using condoms reduces sexual pleasure and compared it to having sex with a dead body or eating a sweet with its wrapper on. These statements suggest that the boys are sexually active. Although they know where to get condoms, they have little understanding of other sexual issues. For example, they relate the concept of "incest" strictly to a sexual relationship between mother and son. They consider incest abnormal and animalistic. The participants heard about girls who use leaves for abortions but do not understand the exact procedure. Generally, the boys believe that their parents are too embarrassed to discuss sexual matters with them.

II.7.5 Conclusions from the focus group discussions

The focus group discussions with in-school and out-of-school youths aged between 11 and 19 yielded important findings which future HIV/AIDS intervention programmes should address. One such finding was that youths became sexually active much earlier than expected and earlier than their parents had. For example, grade 7 boys aged between 12 and 14 were aware of the difference between having sex with and without a condom. Most of the participants feel they are too young to have sex and, surprisingly, interpret it as child abuse. However, they are willing to talk about sexual matters. Some of the older girls (ages 15-16) said that having sex is fun and is a way to make money, while others saw it as a way to please their boyfriends or to give love. Parents, schools and the church teach the youths that sex is not healthy at their age and furthermore that it is a sin to have sex before marriage. The church preaches that the use of condoms is

wrong and contraceptives should be used only in marriage. Because of the lack of sex education and parental counselling, peers are the main source of sexual information. As a result, their knowledge about contraceptives, circumcision and sexually transmitted diseases is limited and erroneous.

All the youth groups know how much condoms cost, how to dispose of them and where to get them, but only a few know how to use them properly. The following are some of the responses when they were asked if they think there is a difference between using and not using a condom: using one is like “having sex with a plastic doll”, “eating a sweet with the wrapper on” or “having sex with a dead body”. Not many of the youths use condoms. Moreover, when they are infected with a sexually transmitted disease or become pregnant, most of them go to traditional healers for abortions or treatment, being too embarrassed to go to a hospital, too poor to pay for treatment, or because they want to hide their condition from their parents. In spite of the availability of contraceptives such as pills, condoms and intrauterine device, the participants reported a high incidence of sexually transmitted diseases, AIDS, syphilis and gonorrhoea, for which they seek treatment from clinics, hospitals, their elders and traditional healers.

Most of the participants believe that incest is deviant behaviour. They also believe incest violates religion tenets. Some participants believe that incest is permissible with distant cousins. In fact, this is generally the case in Zambia and traditional African society.

Although some participants went to traditional healers for treatment, most of them do not support traditional healers because of the spirits involved in the healing. The participants also believe that traditional healers are unhygienic. When asked about traditional methods of sexual behaviour, only the older girls were aware of the practice of placing stones in the vagina to enhance pleasure. They mentioned that some girls use Panadol to retain the size of the vagina and they believe pulling the labia eases childbirth as well as increases pleasure during intercourse. Young girls reported that their friends had experienced pain when they gave birth, felt isolated and ashamed. The older girls had heard of abortions by drinking a solution made with ashes, taking tablets such as Panadol and Lavatone, or inserting a hanging wire through the vagina and pulling out the embryo. However, they were aware that these methods were extremely dangerous.

The focus group discussions revealed that adolescents' concept of sexuality is accompanied by ignorance, poverty, misinformation, secrecy, inexperience, myths, traditions, peer pressure, adventurousness and

experimentation. Effective HIV/AIDS intervention strategies would, therefore, need to start with these obstacles and address them.

II.8 The role of the church

The church in Zambia became involved in the fight against HIV/AIDS in the early 1980s when people became aware of its severity. There were two aspects to the church's involvement: the first aspect was counselling services for individuals diagnosed with HIV/AIDS and the second was the establishment of special homes for the orphaned victims of the disease.

The main decisions that the Church made were to guide church members to be more responsive to the problem of HIV/AIDS and to establishing homes for the orphans of AIDS victims. The church's attitude is that people infected with HIV/AIDS should not be ostracised from society. Instead, they should be encouraged to participate in church activities. With regard to marriage, the church encourages couples to take HIV tests, which are treated in strict confidence. The church preaches that AIDS can be prevented if people live by the word of God and exercise sexual abstinence until they are married.

The church cooperates with governmental and non-governmental (NGOs) organisations in the fight against HIV/AIDS. It has joint projects and works cooperatively with health care institutions, government clinics, the World Health Organisation and NGOs in the provision of protein supplements for the infected population.

The church and its partners run projects for street adolescents and orphans whose parents have died of AIDS. Apart from capital expenditure, all financial obligations for counselling and projects for orphans and street adolescents are financed through church contributions from its members. The church teaches teenagers not to indulge in premarital sex, particularly because of the risk of getting infected. Teenagers who get pregnant are counselled. The church prohibits extra-marital relationships, and members who are found to be involved in such relationships are counselled.

While the church has no official policy on HIV/AIDS, services which promote HIV/AIDS prevention activities are available. The church alone funded most church HIV/AIDS prevention programmes, though the church also maintains joint ventures with other organisations in the fight against HIV/AIDS.

The church claims that HIV/AIDS is a moral issue that has to be addressed as such. It teaches that the best way to prevent HIV/AIDS is through fidelity in marriage. The infected should be given emotional and spiritual support. Teenagers who get pregnant outside marriage receive

counselling. The church encourages parents to talk to their children directly about HIV/AIDS. Frequently, church members who find it difficult to talk about sex with their children ask the church to do so on their behalf. The church also talks to parents on behalf of their children, often trying to bring the children and parents together for mutual discussions.

To sum up, the church plays an important role and supplements the efforts of the government in the fight against HIV/AIDS in Zambia. Through its intensive efforts the church has had a significant impact in preventing the spread of HIV/AIDS in Zambia.

II.9 Conclusions

The AIDS epidemic in Zambia is accelerating at an alarmingly rapid rate and, as our results show, the adolescents in this country form a high-risk group. Our survey is the largest and most comprehensive of its type conducted in Zambia.

The results of the survey suggest that adolescents in Zambia are at a great risk of HIV infection due to their sexual activities: almost half of the adolescents (46%) in the study had experienced sexual intercourse at least once, the mean age when they first had intercourse was 13.5 years. The adolescents had approximately four sexual partners during their lifetime and only 29% used a contraceptive during their first sexual experience. Moreover, 63% reported that they only rarely use condoms. Ten percent of the participants reported sexual abuse by a family member and about 25% reported physical abuse.

Contrary to our earlier hypothesis, the adolescents reported a moderate to high level of knowledge about AIDS and positive attitudes towards its prevention. On the other hand, in agreement with our hypothesis, self-efficacy about AIDS prevention was low to moderate, indicating that the youths perceive themselves with a low to moderate ability to prevent infection. Although the level of knowledge regarding HIV/AIDS and sexuality among adolescents in Zambia is high, it unfortunately does not positively influence their involvement in high-risk sexual behaviour. Therefore, we believe that any change in adolescent sexual behaviour and change in lifestyle will not occur through a modification of attitudes, but rather through identifying the high-risk groups and directly addressing their behaviour. For example, it is essential to make condoms more readily available and to convince the adolescents of the need to use them.

The results of the analyses indicate that adolescents who are not attending school, are older, reside in rural areas, are married, and have

Moreover, although less knowledge about AIDS, negative attitudes towards AIDS prevention and lower self-efficacy predict a high level of engagement in high-risk behaviour, our results indicate that these AIDS-related variables add only 2.2% of the explained variance beyond the socio-demographic variables, which represent 20.6% of the variance. Thus, AIDS prevention among adolescents in Zambia should focus on specific programmes for identified groups at risk (out-of-school adolescents, married adolescents, and adolescents residing in rural areas) rather than merely distributing information about AIDS to the general population.

Compared to the in-school participants, out-of-school participants were observed to be at a greater risk of HIV infection than their in-school counterparts, even though they are more knowledgeable about AIDS and hold more positive attitudes towards prevention than their in-school counterparts. Seventy-seven percent are sexually active, tend to have more sexual partners and more sexual intercourse, are more likely to engage in anal intercourse, have sex while drinking alcohol or using drugs and have a greater tendency to trade sex for food, money, drugs or a place to stay. These results agree with the study's initial hypothesis.

As opposed to our earlier hypothesis, the results show that the participants from rural areas were more at risk of HIV infection than their urban counterparts. They are more likely to be sexually experienced, have a higher number of sexual partners and engage in sexual intercourse at a greater frequency, are more likely to experience anal intercourse, engage in sex while drinking alcohol and using drugs and trade sex for food or money. These results may be attributed to minimal accessibility of condoms, less exposure to AIDS prevention programmes and a low level of cultural awareness.

Another finding that was also contrary to our earlier hypothesis was that married adolescents face a greater risk of HIV infection than their unmarried counterparts. This unexpected finding may be attributable to their belief that marriage serves as a safeguard. Unfortunately, promiscuity among married couples is rampant and this increases the chances of AIDS infection. This finding is important because many of the existing programmes, particularly those funded by religious organisations, focus on marriage as a method for AIDS prevention. Married participants were also found to have a greater number of sexual partners than unmarried ones and reported less frequent use of condoms. A higher percentage of married participants reported that they engage in anal sex, have sex while drinking alcohol or using drugs, have been raped and are willing to trade sex for food or money. The study also indicated that more married participants

were sexually abused by a family member than their unmarried counterparts.

Finally, special attention should be given to male adolescents who do not attend school and who reside in rural areas, as they tend to engage in more high-risk sexual behaviour than other adolescents, thus placing themselves at greater risk of HIV infection. This group also reported a greater number of incidents of sexual and physical abuse.

The high incidence of physical and sexual abuse of children in Zambia demands critical attention. Twenty-three percent of the participants reported experiences of physical abuse. It is well documented that child abuse contributes to people engaging in high-risk AIDS-related behaviour. This result is in accordance with findings in western countries. The results of the multivariate logistic regression indicate that child abuse by a family member is a major predictor of engagement in high-risk behaviour for almost all the studied high-risk activities. This means that the higher the level of child abuse in the family, the higher the probability of engagement in any kind of high-risk behaviour, controlling other socio-demographic factors. Future studies must relate to this phenomenon and the issue of child abuse and its relation to HIV infection.

The survey's results were supplemented by qualitative data from focus group discussions with adolescent sex workers and female and male school adolescents. These discussions yielded important findings that future HIV/AIDS intervention programs must address. For example, it emerged that youths become sexually active much earlier than their parents or society had thought. Therefore, AIDS prevention programmes should be initiated even before puberty. The discussions also pointed out that adolescents lack proper sex education and therefore turn to their peers for this information. As a result, their knowledge about contraceptives, circumcision and STD is limited and often full of misconceptions.

While the youths were aware of condoms as being a means of preventing AIDS transmission, not many knew how to use them properly and, worse still, most preferred not to use them. When asked whether they felt there is a difference between using and not using a condom during intercourse, typical responses were: "using condom is like having sex with a plastic doll", "like eating a sweet with a wrapper on" or "like having sex with a dead body". These findings further support our earlier suggestion that AIDS prevention programmes for adolescents in Zambia should focus on condom accessibility and necessity and techniques of condom use.

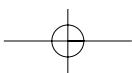
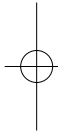
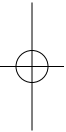
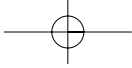
Another alarming finding related to sexually transmitted disease infection and adolescent pregnancy is that adolescents tend to turn to

traditional healers to get an abortion for economic reasons or because they are embarrassed to seek professional help. Safe abortion and clinics to treat sexually transmitted diseases should be made available for Zambian youths in both urban and rural settings.

The results of the focus group discussions suggest that cultural norms and traditions have an impact on adolescent sexual practices. When asked about traditional methods of sexual behaviour, the older female participants mentioned practices such as placing stones in the vagina to enhance pleasure, using Panadol to retain the size of the vagina, and pulling the labia to ease childbirth and also to increase sexual pleasure.

To sum up, the focus group discussions revealed that adolescent sexuality is accompanied by ignorance, poverty, misinformation, secrecy, inexperience, myths, traditions, peer pressure, adventurousness and experimentation. Any effective HIV/AIDS intervention strategies would, therefore, need to start with these obstacles and address them.

Finally, according to the qualitative data obtained from interviews with key church leaders in Zambia, the church plays both a negative and a positive role in the fight against HIV infection and the treatment of those who suffer from AIDS. On the positive side, the church takes care of the AIDS victims and the orphaned population that has steadily grown since the AIDS epidemic began to flourish. The church also offers many preventive programmes for adolescents and their parents and promises secrecy to those seeking emotional support. Unfortunately, the church's main doctrine with regard to AIDS is to prohibit the use of condoms and to condemn premarital sexual relations. Ironically, as discussed earlier with regard to the latter, the married adolescents and not the unmarried ones are those who are more at risk of HIV infection due to their higher tendency to engage in high-risk behaviour. Many adolescents marry an infected partner and many engage in extra-marital sexual relations. These findings should be brought to the attention of key religious leaders in Zambia to convince them to support and encourage other types of preventive programmes for adolescents at risk, such as encouraging marriage to only HIV-negative partners.



III. Discussion

III.1 Scientific relevance

To the best of our knowledge, this is the first representative large-scale survey of urban and rural adolescents in Zambia that include both in-school and out-of-school participants. Thus, the findings of this study are relevant to the entire population of adolescents in Zambia. Moreover, it is the first time that standardised measures related to AIDS (knowledge, attitude, self-efficacy and behaviour), commonly used in western countries, have been utilised in a large-scale study in Zambia. Thus, we have up-to-date data that could be used as comparative norms in future studies.

The data is extensive and diversified. It covers rates of engagement in various sexual behaviour, substance use and abuse, peer behaviour, contraceptive use, knowledge about AIDS, attitudes towards AIDS prevention, self-efficacy about prevention, the incidence of sexually transmitted diseases and living conditions among the different groups of Zambian adolescents. It also includes up-to-date data on sexual and physical abuse among adolescents in Zambia – a topic that has not been studied in-depth so far. This rich and large data set could be used in future secondary data analysis studies.

Because standardised scales were utilised, the data could be compared to other studies conducted in western countries. Moreover, because all scales were pre-tested for their relevance to the Zambian population, future studies will be able to take advantage of these scales as well.

Initially the question may arise about what new issues could be found on the subject of the risk of HIV infection among adolescents in Zambia. After all, we know that sexual behaviour puts them at risk of infection. We can now say that this study brings about many new issues, including the impact of child abuse on AIDS-related behaviour, the vulnerability of married adolescents in terms of HIV infection, and the relative low impact of AIDS-related knowledge and attitude on the adolescents' level of engagement in high-risk behaviour.

III.2 Recommendations for further research

The present project provides specific new research and project opportunities for the near future:

- Prevention programmes for adolescents at risk in Zambia, which are based on the current study's results, should be developed and tested for their level of effectiveness. Specifically, AIDS prevention programmes that focus on behavioural change rather than on knowledge about AIDS and attitudinal changes should be developed and tested for their level of effectiveness.
- The issues of child sexual and physical abuse should be developed and studied in more detail. For example, we need to know what factors lead to this phenomenon. How do various groups among the Zambian population perceive it? And, most importantly, how can it be prevented and treated?
- The role of the church and how to cooperate with key religious leaders to promote appropriate AIDS prevention programmes should be subjected to a wider study. The results of this study are preliminary and need to be developed in more detail.
- Further studies should address the issue of unwanted pregnancies, abortion, the use of unsafe medicine and the fear of hospitals. This is a crucial topic for future studies because the results suggest that adolescents in Zambia who get pregnant put themselves at great risk by undergoing dangerous self-made abortions.
- Finally, the results of this study should be presented to health authorities, NGOs, church leaders and government officials in order to encourage them to cooperate on the development of AIDS prevention programmes for adolescents in rural and urban Zambia.

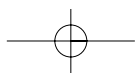
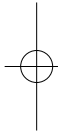
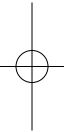
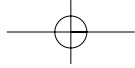
III.3 Practical applicability

The results of this study could be helpful in various practical ways. Firstly, they could be used in the establishment of programmes that focus on high-risk Zambian adolescents – those who are out-of-school, married adolescents and adolescents who live in rural areas – as well as in special preventive programmes that address combinations of these factors.

Programmes are needed, for example, for male adolescents who are both out-of-school and live in rural areas, for married female adolescents living in rural areas, and for out-of-school sex workers in urban settings.

Secondly, this study could be helpful in providing programmes to handle the issue of child sexual abuse and physical abuse in Zambia – a topic that has been neglected thus far. Moreover, the results may help to include this

topic in current and future AIDS preventive programmes, because it is clear that the incidence of child abuse is closely related to engagement in high-risk behaviour. Thirdly, the results provide an opportunity to develop AIDS preventive programmes that not only focus on providing knowledge and changing attitudes, but also emphasise behavioural change, the accessibility of condoms and on improving the participants' level of self-efficacy regarding AIDS prevention. The results of this study could be used to understand cultural norms and practices that put adolescents in Zambia at risk of HIV infection and which should be part of future preventive programmes. Fourthly, by bringing to light the dangers that Zambian women who seek abortions confront, this study makes clear that special attention should be given to pregnant women who wish to have an abortion. Finally, this study makes it clear that church leaders should be made aware of the study's results. In particular, they should understand that marriage at an early age is not a solution for the AIDS and HIV epidemic. On the contrary, it seems to exacerbate the problem. It is hoped that these findings will encourage church leaders to provide adolescents with programmes that focus on the use of condoms among married and unmarried adolescents.



IV. Recommendations

Based on the current study we can make several recommendations:

1. A change in adolescent sexual behaviour and change in lifestyle will not occur through a modification of attitudes, but rather through identifying the high-risk groups and directly addressing their behaviour. Prevention programmes should focus directly on behavioural changes and on raising the level of self-efficacy. Future studies should then evaluate these programmes for their effectiveness.
2. Rather than merely distributing information about AIDS to the general population, AIDS prevention programmes should be specifically targeted towards groups at higher risk of HIV infection. These groups are out-of-school adolescents, adolescents who live in rural areas and married adolescents. These groups engage more in high-risk sexual behaviour and also reported a greater number of incidents of sexual and physical abuse.
3. AIDS prevention programmes for adolescents in Zambia should make condoms more readily available and convince adolescents of the need to use them. Moreover, the techniques of condom use need attention in AIDS prevention programmes.
4. The high incidence of physical and sexual abuse of children in Zambia demands critical attention. Child abuse and its consequences for HIV infection and AIDS need to be studied in-depth. This topic should also be included in future AIDS prevention for adolescents and their parents and in service delivery programmes.
5. Safe abortion and clinics to treat sexually transmitted diseases should be made available for Zambian youths in both urban and rural settings.

6. As concluded in Part II, adolescent sexuality is accompanied by ignorance, poverty, misinformation, secrecy, inexperience, myths, traditions, peer pressure, adventurousness and experimentation. Any effective HIV/AIDS intervention strategies would therefore need to start with these obstacles and address them.
7. The findings from the current study should be reported to the Zambian Health Authority, the education system, the non-governmental organisations (NGOs) and the church, in order for them to begin tackling the AIDS epidemic immediately. In particular the key religious leaders in Zambia should be approached, in order to convince them to support and encourage other types of preventive programmes for adolescents at risk, such as encouraging marriage to only HIV-negative partners.

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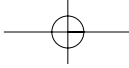
Appendix 1

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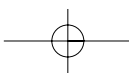
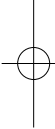
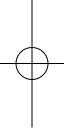


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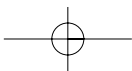
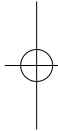
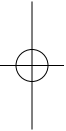
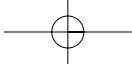
Appendix 2

Follow-up of the project: project-related publications

Slonim-Nevo, V. and Mukaka, L. (2002). 'Cultural, economic, environmental and personal factors affecting adolescent sexual attitudes and behaviour in Zambia'. Final Scientific Report submitted to Nuffic.

Slonim-Nevo, V., Mukuka, L. and Tembo R. (2001). 'AIDS-related knowledge, attitudes and behavior among urban youths in Zambia – results from a pilot study', *International Social Work* 44(4): 487-503.

Slonim-Nevo, V. (1999). *Knowledge, attitude, and behavior related to AIDS among youths in Zambia. Israeli social studies in Africa*. The Truman Research Institute, The Hebrew University of Jerusalem.



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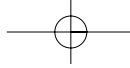
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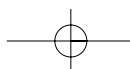
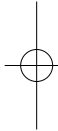
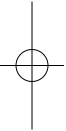


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