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Reproductive health needs of young persons in markets and motor parks in south west Nigeria

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Summary

The aim of the study was to assess the reproductive health needs of out-of-school males and females aged 12-26 years working in markets and motor parks in Ibadan using Focus Group Discussions (FGD) and a survey questionnaire. Result revealed that sexual experience was higher among males (80%) compared to females (66%). Multiple concurrent sexual partnerships were found to be common among unmarried young men (71%) than women (51%) but means to prevent pregnancy or sexually transmitted disease (STD) were rarely employed. The knowledge of HIV was high (70%) though very few (12%) were aware that an infected individual would remain asymptomatic. Moreover, 36.5% thought that condoms make sex less enjoyable. Between 6 and 9% used a method for disease prevention within marriage or regular partnerships compared to 16% in casual contacts. Despite high exposure to risk, the prevalence of STDs was low as only 4% of the sexually experienced males and 9% of females were infected with *Candida Albicans*, *Chlamydia trachomatis* and *Trichomonas vaginitis* or *Neisseria gonorrhoea*. The ready availability of antibiotics may account for this apparent discrepancy. These findings suggest that out of school adolescents working in motor parks needs sexuality education and counseling backed up with clinical services.

Keywords: *Reproductive-health-needs, out-of-school, markets, motor parks, southwest, Nigeria*

Résumé

Let but de cette étude est d'asseoir les besoins en santé de reproduction des enfants âgés de 12-26 ans n'allant par à l'école et travaillant dans les marchés et les stationnement d'Ibadan par l'utilisation du groupe focal de discussion (GFD) et les questionnaires. Le résultat a montré que l'expérience sexuelle était élevée chez les garçons (80%) en comparaison aux filles (66%). Les partenaires sexuels concurrents et multiples étaient communs chez les hommes célibataires (71%) contrairement aux femmes (51%) mais, les moyens de prévention des grossesses et des maladies sexuellement transmissibles (MST) étaient rarement utilisés. La connaissance du SIDA était élevée (70%) bien que très peu (12%) était au courant du fait qu'un individu infecté pourrait rester sans symptômes. En plus, 34.5% pensait que les condoms réduisent l'appétit sexuel. Environ 6-9% utilisait une méthode de prévention des maladies chez les couples mariés en partenaires réguliers comparé à 16% en contacts frivoles. Bien qu'étant très exposés aux risques, la prévalence des MST était basse, 4% des hommes sexuellement expérimentés et 9% des femmes étaient infectés par *Candida*

Albicans chlamydia trachomatis et les *Trichomonas* vaginaux ou *Neisseria gonorrhoea*. La présence des antibiotiques dans les pharmacies doit être la raison apparente de cette différence. Ces résultats suggèrent que les enfants n'allant par à l'école et travaillant dans les gares routières ont besoin d'une éducation sexuelle et des conseils soutenus par des services cliniques.

Introduction

The advent of the AIDS pandemic has brought into focus the different social context which condition the spread of HIV and the role of Sexually Transmitted Diseases (STDs), particularly genital ulcerative diseases, in facilitation of the transmission of the virus [1]. By common consent, one high priority group comprises of sexually active teenagers and young people and there is a rapidly growing literature on this segment of the population in Nigeria. [2] However, the majority of these studies have focussed on young people who are in school [3], in formal employment or in formal vocational training. [4]. Teenagers and young adults who are outside the formal schooling system and labour market are probably at greater risk. The prevalence of alcohol consumption abuse is thought to be high among this group and they are highly mobile. These risk factors are known to promote unsafe sex for a variety of reasons [5,6].

In Nigeria, studies and programs have reported prevalence level of unprotected sexual activity varying from 72.7% among Out-of-School Adolescents and Young Adults' (OSAYA) [7]. In a survey of more than 5500 youth aged 12-24 yrs., 41% (44% of females and 37% of males), had experienced sexual intercourse. Of these, 82% of females and 72% of males had had intercourse by age 19. About 60% of youth surveyed did not know pregnancy was possible at first intercourse. [8]

Owing to the poor social and economic circumstances of this segment of the population and the absence of educational or health services targeted at them, quack healers of many varieties are typically favoured. [5,6]. Results of a study of HIV seroprevalence in STD clinic patients showed a range of infection from zero percent in Edo and Osun to 12.7% in Kano and 22.4% in Jigawa. Infection in commercial sex workers ranged from 0.9% in Delta to 34.6% in Benue. [9]. With the harsh economic climate and attendant social tension, unplanned and unwanted pregnancies are on the increase even among married adults within stable unions [10]. The aim of the study was to assess the reproductive health needs of out-of-school males and females aged 12-26 years working in markets and motor parks in the city of Ibadan prior to the design of appropriate interventions. The specific objectives were: to assess the nature and extent of sexual networking, study the knowledge and use of preventive practices, determine the baseline prevalence of key STDs.

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Materials and methods

Exploratory focus group discussions were held. A cross sectional interview survey was then fielded followed by clinical examination and laboratory testing of the biological specimens. This paper focuses on the results obtained from the interview survey and Focus Group Discussions.

The study was conducted early in 1994 in 10 randomly selected markets and motor parks in Ibadan, the capital city of Oyo State in the South West health zone of Nigeria. Selection was from a specially compiled list of 83 markets and motor parks in Ibadan that met the following criteria: an estimated population of more than 300 adolescents and young adults (i.e., persons aged 10-26 years); presence of a market or motor park management committee and the presence of a government primary health care facility or a private clinic where genital examination and biological sampling could be conducted. Selection of individuals was by systematic random sampling from the ad-hoc sampling frame with probability proportional to the estimated size of the teenage/young adult population in each selected markets. Overall, 1,488 respondents out of the 3,000 selected were successfully interviewed.

The first phase of data collection involved focus group discussions with members of market motor park management committees. Information collected included attitudes towards contraception and fertility, the social context of sexual negotiation and initiation, health seeking behaviour for the management of sexually transmitted infections as well as the perception of reproductive health needs in market/motor parks.

The behavioural survey was administered by staff with experience in similar surveys, who received two weeks training. Clinical examination involved the recording of weight, height, blood pressure, the presence of circumcision, urethral or vaginal discharge, genital ulcers/sores and vaginal lymphadenopathy. Urethral swabs from males and high vaginal/ endocervical swabs were collected from females in addition to urine samples and venous blood. Female virgins identified during clinical examination were excluded from biological sampling.

Infection by the specified STDs was identified from the biological samples using the laboratory methods outlined in Table 1. Swabs for gonococcal culture were plated in the field and transported in modified carbon dioxide incubators. Chlamydia specimens and sera for VDRL tests for syphilis were stored at -70°C and analysis was batched. Batch testing was done within 10 days of collection.

Table 1: Laboratory Methods

Organism	Method of Isolation
<i>Neisseria gonorrhoea</i>	Field Based Microscopy Culture in Thayer Martins Medium Incubation in modified humidified Carbon dioxide incubator
<i>Chlamydia trachomatis</i>	SYVA Microtrack antigen ELISA
<i>Trichomonas vaginalis</i>	Microscopy of Wet Preparation Transportation in Stuart's Medium Culture
<i>Treponema Pallidum</i>	Venereal Disease Research laboratory (VDRL) Test
<i>Candida albicans</i>	Microscopy of Wet Preparation Staining

All participants were given haematinics (multivitamins, folic acid and fersolate) as incentives because blood was extracted from them. All infected individuals were also treated by the study team using line antibiotics recommended by the National AIDS and STD Control Program in Nigeria. A total of 1,306 (97%) of respondents returned to collect their study results. Following data editing and cleaning, a total of 1,209 complete records (males 892, females 317) were available for analysis. The findings from these are presented below.

Results

Demographic characteristics

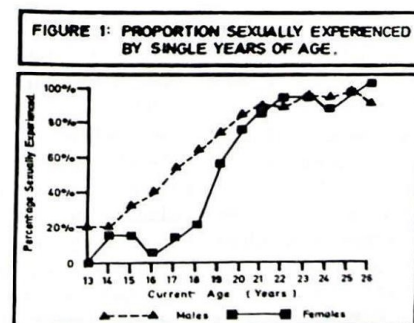
The mean age of the respondents was 21 years and nearly half were young adults aged 22 to 26 years. Two-thirds had attended secondary school or a higher tier of schooling. Nearly half (44%) of the sample described themselves as students or apprentices; 25% and 30% were in full and part-time employment respectively. (Table 2)

Table 2: Percentage of sexually experienced males who reported casual sex in the past six months by background characteristics

Males	Percentage	N
<i>Age</i>		
12-14	0.0	6
15-17	8.1	37
18-19	7.1	70
20-21	15.5	168
22-26	15.9	378
<i>Education</i>		
None/Primary	8.8	181
Secondary +	16.3	467
<i>Occupation</i>		
Full time job	20.7	139
Student/Apprentice	11.4	219
Unemployed	12.0	179
<i>Marital status</i>		
Married only	8.0	87
Regular partner only	16.9	314
Both	21.2	104
Single	7.8	154
All	14.3	659

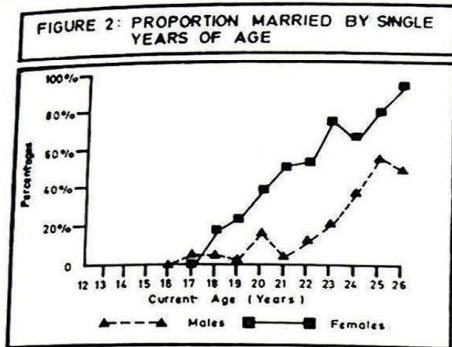
Sexual debut

Of the total sample, 20% of males reported themselves to be virgins compared to 34% of females. Figure 1 shows the



percentage of those who are sexually active by current age in single years. The number of respondents aged less than 15

years is very small and thus the study cannot provide reliable indications of behaviour below this age. But it is nevertheless clear that, for males, sexual debut occurs relatively early in the teenage years. Among 15 year olds, over 30% claimed to have experienced intercourse and the proportion rises steadily to over 80% among 20 year olds.



For females, the percentage reporting experiencing of intercourse remains low - less than 20% among those aged 18 years or less. Thereafter, there is a very steep rise. Nearly 60% of 19 year olds report sexual experience and the figure rise further to nearly 80% among those currently aged 20 years. At this stage, the large gap between the two sexes has disappeared.

For males, the proportion of those who reported sexual initiation before the age of 15 years ranges from 13% to 20% for the different cohorts. (Table 3) For females, the

Table 3: Age at first intercourse by current age (%)

Current age	Age (yrs) at first intercourse by current age						Not yet	Total	N
	<12	12-14	15-17	18-19	20-21	22-26			
Males									
12-14	-	12.5	-	-	-	-	87.5	100	24
15-17	8.9	11.1	24.4	-	-	-	55.6	100	90
18-19	4.5	8.0	42.0	13.4	-	-	32.1	100	112
20-21	6.1	12.1	32.8	29.3	4.0	-	15.7	100	198
22-26	6.0	10.7	27.0	24.6	15.8	7.6	8.4	100	419
Total									843
Females									
<12	-	-	-	-	-	-	-	-	-
12-14	-	4.8	-	-	-	-	95.2	100	21
15-17	-	5.5	7.3	-	-	-	87.3	100	55
18-19	2.4	-	23.8	9.5	-	-	64.3	100	42
20-21	1.5	2.9	25.0	33.8	13.3	-	23.5	100	68
22-26	0.6	0.6	12.9	29.4	32.5	16.6	7.4	100	163
Total									349

corresponding range is 1% to 6%. Thus, it appears that a very early onset of sexual activity is rare among females, or at least not admitted. However, first intercourse is reported rather commonly by females at ages 15, 16 and 17 years; over 20% of females aged 18 years or more at the time of the survey claim to have started sexual life during the teenage years.

The overwhelming majority said that the first partner was someone they were "in love with" or "not in love with but knew very well". Of all sexually experienced subjects, only 40 individuals reported the first partner to be someone that they had just met or a stranger, and, in only seven cases, was money exchanged. There is little evidence of sexual initiation by family members or relatives; only six respondents reported such an occurrence. Homosexual first encounters were also rare, reported by only 24 respondents.

The degree of consent was measured by asking whether the first intercourse was "something you wanted to happen at that time, "something you were forced to do against your will". For both males and females, a large majority of sexual debuts was entirely consensual. However, females are slightly more likely than males to report some reluctance (16% versus 13%) and to report coercion (6.5% versus 3.4%) (Table 4). There were no striking differences in response according to reported age at first intercourse, though, for both sexes, there is an indication that delayed debut is more likely to be consensual than early debut. Respondents who mentioned coercion were asked further question about the nature of the coercion. For females, threats or use of physical force were mentioned by 11 of the 15 cases, whereas, for males, the

Table 4: Circumstance of first sexual experience by age at first sexual experience (%)

Age at 1st experience	Consent	Went along with	Forced	N	Consent	Went along with	Forced	N
<12	75.0	22.7	2.3	100	-	-	-	3
12-14	77.8	17.3	4.9	85.5	14.3	14.3	-	7
15-17	87.6	8.3	4.1	63.8	25.5	25.5	10.6	47
18-19	79.6	17.1	3.3	84.6	13.8	13.8	1.5	65
20-21	89.6	9.0	1.5	76.9	13.5	13.5	9.6	52
22-26	91.7	8.3	-	80.0	12.0	12.0	8.0	25
All ages	83.6	13.0	3.4	77.4	16.1	16.1	6.5	199

corresponding figure was 5 out of 19 cases.

Partnership and Other Sexual Contacts

Over half (52%) of all males in the study said that they had one or more regular partners compared to 14% of women. (Table 5). About one fifth (21%) of all men claimed three or more such partners, while only 2% of women did so (Table 5).

Table 5: Percent distribution of all respondents by number of regular partners by age

Current age	Number of regular partners				Total	N
	0	1	2	3+		
Males						
12-14	81.5	3.7	14.8	-	100	27
15-17	73.3	4.4	11.1	11.1	100	90
18-19	58.4	13.3	9.7	18.6	100	113
20-21	41.5	14.5	17.5	25.0	100	200
22-26	40.8	19.8	15.5	23.6	100	419
All ages	48.1	15.5	14.5	21.2	100	849
Females						
12-14	95.5	4.5	-	-	100	22
15-17	92.7	3.6	1.8	1.8	100	55
18-19	85.7	7.1	4.8	2.4	100	42
20-21	82.2	13.7	4.1	-	100	73
22-26	83.6	9.9	4.1	2.3	100	171
All ages	85.7	9.1	3.6	1.7	100	363

In respect of the incidence of non-regular, or casual, sexual contacts in the last six months, only six women in the study reported such an occurrence compared with 108 men. The analysis is therefore restricted to males. A total of 14% of all sexually experienced males reported a casual partner: 3.6% one partner, 4.2% two partners and 6.4% three or more partners. (Table 6). The reported occurrence of casual sex rises with age and education and is more common among those with a full time job than among students/apprentices or the unemployed.

Table 6: Percent distribution by number of reported casual partners in last 6 months (sexually experienced only)

Males	Number of casual partners				Total	N
	0	1	2	3+		
Age						
12-14	100	-	-	-	100	6
15-17	91.9	2.7	-	5.4	100	37
18-19	92.9	1.4	2.9	2.9	100	70
20-21	84.5	3.0	4.2	8.3	100	168
22-26	84.1	4.5	5.0	6.3	100	378
Education						
Non/pry	91.2	1.7	3.3	3.9	100	181
Secondary+	83.7	4.5	4.5	7.3	100	467
Occupation						
Full time job	79.3	4.4	7.4	8.9	100	135
Student/ apprentice	88.6	3.7	2.3	5.5	100	219
Unemployed	88.0	3.4	2.8	7.8	100	179
Marital Status						
Married only	92.0	3.4	2.3	2.3	100	87
Regular partner only	83.1	3.8	4.5	8.6	100	314
Both	78.8	2.9	7.7	10.6	100	104
Single	92.2	3.9	2.6	1.3	100	154
All	85.7	3.6	4.2	6.4	100	659

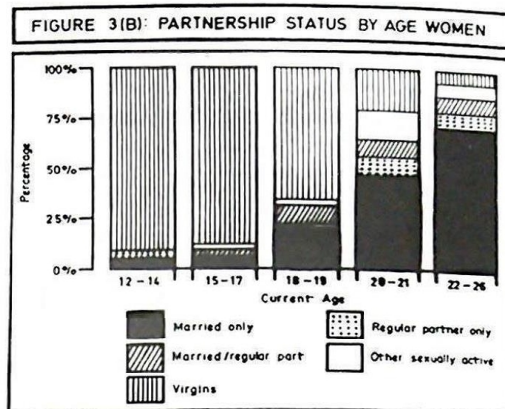
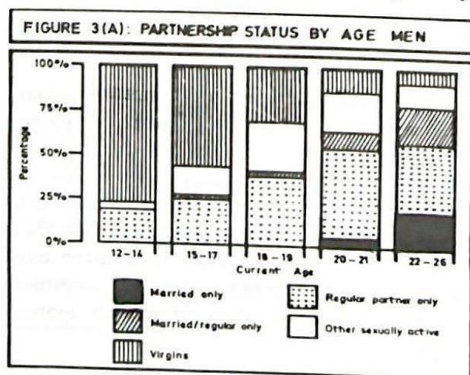
The 108 men who reported casual sex in the last six months were asked about the characteristics of the most recent contact. Sixteen percent of these encounters involved exchange of money and 12% were with a stranger (Table 7). Thus, it appears that anonymous commercial sex plays a relatively minor role in sexual networking. Only 3% of encounters involved a family member but 36% of respondents thought that their casual partners had sex with other partners.

Table 7: Characteristics of most recent casual partner, among respondents reporting casual sex in last 6 months (%)

	Males	Females	Both
Money exchanged?	16.2 (105)	0.0 (6)	15.3 (111)
Stranger?	12.4 (108)	0.0 (6)	11.7 (111)
Family member?	2.9 (104)	0.0 (6)	2.7 (110)
Work in same park/market	10.8 (103)	0.0 (6)	10.2 (108)
Has sex with others	35.6 (104)	66.7 (6)	37.3 (110)

Note: Denominators in parentheses

Figure 3 summarizes the pattern of sexual relationships at different ages for men and women separately. All



respondents have been classified into five main groups; married; in a regular partnership; both married and in another regular partnership; sexually active but with no spouse or regular partner; and virgins. These figures serve to emphasize the huge gulf between males and females in reported sexual behaviour. The majority of females classify themselves as married or virgins. Regular partnership and sexual activity without attachment are confined to relatively small minorities. Among men, on the other hand, both regular partnerships and a sexually active life without any semi-permanent partner are much more common.

Focus group discussions revealed the complexity of enforcing watertight categories. There was much confusion in sexual terminology. Many times during the discussions the study definition of partnership was at odds with the definition of such partnerships expressed by members of the discussion groups, any female who has had a child for a man ceases to be a casual or regular partner and is referred to as his wife. A male leader however remarked that according to a popular Yoruba adage "She who has a child for you is no longer your mistress". Females are thus encouraged to have children by their regular partner in the belief that this confers on them the status of wife. Contrary to the reports that such female becomes a wife, she does not have the same status as a wife for whom all traditional and customary rites of marriage have been performed. Many times, a man will take someone whom he considers to be a "proper wife", marginalizing the woman who has just had a child by him without the required customary, traditional or legal rites. The discussions on this theme generated much debate and highlighted the diversity of current interpretations given to traditional customs.

Knowledge, risk perception and protective behaviour

Nearly three-quarters (70%) of the respondents had heard about HIV/AIDS. Very few (12%), however, were aware that an infected individual could remain asymptomatic. The proportion of respondents who had seen or knew anyone with the infection or the diseases was very low (2%). There was little difference between males and females in the possession of this knowledge.

Correct knowledge of the transmission routes for HIV was low. Respondents were asked whether they agreed or disagreed with specified statements concerning ways by which people can protect themselves. More persons agreed that the infection could be prevented by avoiding public toilets (64%) than by using condoms (61%). Perceived personal vulnerability to the disease was very uncommon because few

respondents had known someone with AIDS. About 95% of those aware of HIV/AIDS thought that they were "not at all likely" to be infected.

Among respondents who had heard of condoms, attitudes towards condoms were measured reading out the statements listed in Table 8. For each statement, respondents were asked whether they agreed, disagreed or were not sure. The proportion who were not sure range from 36% to 55%, thus giving the impression that the knowledge of this device and its properties is meagre. The percentages agreeing with each statement are shown in Table 8. The one that received

Table 8: Attitude towards condoms those respondents who had heard of condoms

	% Agreeing
Make sex less enjoyable	36.5
Suitable for use of casual partner	25.5
Use is against my religion	21.8
Can climb into the womb/stomack of women	16.5
Offensive to spouse or regular partner	23.3
Price too high for regular use	9.0
Can prevent venereal disease	48.0
Suitable for use with spouse or regular partner	30.3
Easy to use	23.0

greatest positive endorsement concerns STD prevention, which is encouraging. However, the statement that attracts the second highest positive rating has less fortunate implications. Over one-third (36.5%) thought that the condom made sex less enjoyable. Despite its association with STD prevention, there is no prevailing attitude that the condom use should be restricted to casual or commercial sex. Indeed, slightly more respondents thought that it was suitable for use within marriage or a regular partnership than thought that it was appropriate for fleeting sexual contacts. It was also of interest to note that very few regarded price as a deterrent to regular use, though 49% were not sure.

One fifth (21%) of all sexually experienced respondents reported ever-use of condoms, while 10.5% claimed to have used a condom in the last six months. Males were slightly more likely than females to report ever or recent use.

For each of the main types of sexual partner (i.e. spouse, regular partner, casual partner), respondents were first asked about the recency of the last sexual intercourse. The use of methods or means for pregnancy or disease prevention within different forms of partnership during the last act of sexual intercourse is shown in Table 9. Contraceptive use for pregnancy prevention was higher within casual partnerships (20%) than with spouses or regular partners (13%).

In all forms of relationships, the condom was the favoured form of protection for pregnancy prevention. Next to the condom, the pill was the favoured method for pregnancy prevention by females, particularly within marriage. The prevalence of other forms of contraception was low except for the intrauterine device.

The technique of logistic regression was applied to identify the characteristics of men who had had casual sex in the last six months without using a condom. This variable was selected because it implies high potential risk to STD/HIV infection. The odds of having unprotected intercourse during

Table 9: Percentage who used any method for pregnancy protection or disease prevention during the last act of intercourse.

	Male	Females	Both
<i>With marriage partner</i>			
Pregnancy prevention	13.4 (201)	12.4 (185)	13.0 (386)
Disease prevention	8.6 (198)	8.6 (186)	8.6 (384)
<i>With regular partner</i>			
Pregnancy prevention	11.7 (428)	20.8 (48)	12.6 (476)
Disease prevention	7.5 (427)	6.4 (47)	7.4 (4740)
<i>With casual partner</i>			
Pregnancy prevention	18.3 (109)	42.9 (7)	19.8 (116)
Disease prevention	16.7 (108)	14.3 (7)	16.5 (115)

the last casual contact was higher among married respondents than the unmarried (OR=3.5, P = 0.01). Other risk factors include full time occupation relative to students or apprentices (OR=2.85, P = 0.01). Unemployment was not a risk factor of significance (OR=1.35, P = 0.39). Education did not emerge as an influence on risk behaviour, nor did age.

Sexually Transmitted Infections

All sexually experienced respondents were asked whether they had experience of any STD symptoms in the last six months. Specifically, they were asked whether they had noticed (a) any discharge from the penis or vagina; and (b) any sores on or near the genital \ vaginal or anal area. Only 47 individuals (34 males and 13 females) reported such a symptom.

While these self-reports are likely to be underestimated, the group discussions showed that the stigma associated with being unmarried and pregnant was higher than that associated with infection by sexually transmitted diseases. A male market leader opined that an STD is traditionally an attribute of the socialite ("arun gbajumo") and you have not "arrived" if you are male and have not had at least one episode of an infection. It was also believed that, while you could hide a genital infection, you could not hide a pregnancy for long "Isu Olorun ni, ko se bo" meaning 'It (pregnancy) is God's yam, it cannot be hidden". This statement implies that pregnancy must be prevented or terminated at all costs if one is not ready for it. Consequently, the practice is to resort to illegal abortion in private clinics. Abortion could also be obtained in government hospitals if one had personal contact with the attendant doctor. Pregnancy is not often confirmed by laboratory or any other test before the abortion procedure is performed. A report of delayed menses, sometimes only of two or three days, is often considered sufficient to justify an abortion procedure.

Those who reported symptoms of infection were then asked series of questions to establish whether they had told their spouse or regular partner (if any), whether they had taken any action to reduce transmission and, if so what action. About one-third had informed their partners and 59% claimed that they had attempted to reduce the chances of passing on the infection, typically by refraining from intercourse or by condom use.

Treatment had been sought by 59% of those with symptoms from a diversity of sources, including hospitals,

health centres, pharmacies, private doctors and traditional doctors. Group discussion confirmed that antibiotics were regularly used when symptoms of STDs were present.

The mean cost of treatment (based on average cost reportedly incurred by respondents in various service delivery establishment) was most expensive in the clinic (US\$9.6) followed closely by the traditional doctor (US\$8.0), the pharmacy (US\$6.6), and the private doctor (US\$5.5). Treatment was inexpensive at the government health centres and hospitals. The level of infection is surprisingly low as Only 4.4% of males and 9.3% of females were found to be infected with any one of the four organisms shown in Table 6. Chlamydia emerged as the most common infection particularly among males, followed by *Trichomonas vaginalis*, among females.

Risk factors for any infection (excluding *Candida albicans*) were assessed by logistic regression. Only one factor was found to be strongly related to infection; individuals with one or more regular partners were much more likely to be infected with a sexually transmitted disease than those without a partner (OR = 5.66, $P = 0.02$). This result is consistent with the behavioral data that showed concurrent multiple partnerships to be common.

Discussion

Despite the relative high educational background of respondents, knowledge about key aspects of reproductive health was low. Nearly one-third of the sample had never heard of HIV/AIDS and among those who were aware of this disease, correct knowledge of ways of preventing infection was poor. For instance, 64% agreed that avoiding public toilets was a good prevention strategy and nearly half endorsed the views that a good diet, regular washing and avoiding mosquito bites were effective ways of preventing infection. These misperceptions are consistent with the finding that 90% of those aware of AIDS considered themselves to be at no risk to infection. The sense of invulnerability was equally pronounced among those with many sexual partners as those who were virgins.

These indicators of knowledge show clearly that these young people are extremely ill equipped to safeguard their own reproductive health. The formal educational system is not imparting effective knowledge of HIV/AIDS or ways to prevent unwanted pregnancies or STDs. The findings of this study provide a strong justification for improved education on these matters, both within the school system and outside it.

Young men reported an earlier sexual debut and were much more likely to claim multiple concurrent partnerships than young women. Similarly, the latter were more likely than men to describe themselves as virgins or as married. Such discrepancies have been found in most surveys on sexual behaviour. [4]. In this instance, the results may reflect to some extent the extreme complexity of sexual partnerships. There are many forms of "marriage", implying different degrees of commitment and stability. It is thus likely that a female will describe a sexual relationship as marriage, more so if it is relatively durable while a male might prefer not to label it as a marriage. Nevertheless, this factor alone cannot explain the radically different profiles of sexual behaviour among men and women that emerge from the study. There might have been over reporting by males, and underreporting by females, or a combination of both forms of bias. The balance of evidence from numerous enquiries suggests that underreporting by young women may be the main reason for the discrepancies in reported behaviour.

Sex in exchange for money appears to be uncommon as do fleeting ephemeral contacts. Only 14% of all sexually experienced men reported activity of this type in the last six months and, among women, the figure is much lower. What appears to be much more common is the formation of more long lasting sexual partnerships within which protective behaviour is unlikely to be adopted. Among all males (including virgins), about half reported that they had one or more such regular partners. When virgins are excluded, this figure rises to two-thirds among men, but remains much lower, at 26% for women.

Twenty-one percent of all males, including virgins, reported that they had three or more on-going regular partnerships and this figure rises to 28%, when the sexually inexperienced are excluded from the denominator. Unfortunately, no attempt in the study was made to measure the duration of partnerships, though such regular partnerships were defined in terms of a minimum duration of six months. It seems reasonable to deduce that, while a minority of these partnerships evolve into marriage, the majority dissolve after one year or so. This pattern of sexual mixing implies a considerable vulnerability of STDs, including HIV.

The implications of this pattern of sexual mixing is aggravated by a low level of protective behaviour. Only small minorities reported the use of a method to prevent pregnancy or disease transmission during the most recent intercourse.

In view of the findings of this study regarding risk behaviour, the low prevalence of STDs comes as a surprise. Only 4% of the sexually experienced males and 9% of females were infected with *Candida albicans*, *Chlamydia trachomatis*, *Trichomonas vaginalis* or *Neisseria gonorrhoea*. Similarly, low levels of infection were recorded in a study of students in secondary schools or colleges in Southern Nigeria [9]. However, in Northern Nigeria, the same study found much higher levels of infection with gonorrhoea (13%) and chlamydia (12%). A relatively high burden of STDs was also reported in a study of rural females aged 12 to 19 years in Rivers State in the Southeast Nigeria [11]. Nearly one-fifth (19%) of sexually abused girls were infected with an STD. The results of these studies suggest that the prevalence of STDs in young people may vary between the major regions of Nigeria and that there may be marked local variations. It remains unclear however, whether these difference reflect variations in sexual behaviour or differential use of antibiotics. The results of this study suggest that the latter factor may be of considerable importance.

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