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Contraception and Sexually Transmitted Infections at Dakar University: Knowledge, Attitudes and Practices

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Abstract

Objectives: To describe the sexual behaviours of students and determine their level of knowledge of unwanted pregnancies and sexually transmitted infections.

Materials and Methods: This was a prospective study conducted from January 1 to May 31, 2015 targeting students from the city of Dakar. The questionnaire fell socio demographic and occupational characteristics, sexual behaviour of students, their knowledge family planning means and protection against sexually transmitted infections. Multivariate analysis was used to determine the interaction between variables.

Results: The participation rate was 92.3% (2769/3000). The average age of students was 22.6 years. Males accounted for 52%. Students consisted mainly of single ((2724/3000), 90.8%) and more than half were still living with their parents ((1496/2724), 54.9%). A proportion of 86.9% (2607/3000) of students used to discuss about sexuality while 43.5% (1305/3000) considered the question with little interest or taboo. The average age at first intercourse was 17 years for males and 18.5 years for women ($p<0.05$). The average number of sexual partners was 1.91. Multiple sex partners setting was found in 19.6% of women and 38.9% of men ($p<0.05$). Only 51% (1530/3000) of students reported using a condom during casual sex. Nearly half of students have never practiced HIV test ((1440/3000), 48%). Condoms and pills were the most known methods of contraception.

Conclusion: Students feel a lack of knowledge about sexuality. To improve this situation, it is urgent to organize for students information campaigns on STI/HIV/AIDS and the consequences of unwanted pregnancies, and to introduce basic concepts of these infections and pregnancy at risk in the school curriculum.

Keywords: Students, Sexuality, Contraception, Sexual Transmitted Disease

Introduction

Student life is a period of change both in terms of risky behaviours and positive practices with respect to health. Long-time considered scandalous and sinful, the sexual practices of young people out of wedlock are now subject to change. Students are mostly teenagers (late teens) and young people. One out four people in the world - over one billion people-is between the ages of 10 and 24 [1] and four out of five adolescents and young people live in developing countries [2]. In these countries, the prevalence of Sexually Transmitted Infections and Human Immunodeficiency Virus (STI/HIV/AIDS) infection and the rate of new infections with these diseases are very high [3]. These problems have a major impact on adolescents and young people in developing countries in the medical, psychological, social and economic spheres.

The correct knowledge of the concepts associated with human reproduction is considered among the positive and crucial elements for sex education and the socialization of young people.

However, between the search for a better being and the pleasure of doing like the others, they are exposed to great risks including sexually transmitted diseases and many other damages. Several studies are devoted to sexuality in schools but the literature is poor on this subject with regard to the student environment. This observation led us to take an interest in it. Our work was based on conducting a survey of a sample of students from various fields. The objective was to describe their sexual behaviour and determine their level of knowledge of unwanted pregnancies and sexually transmitted infections.

Age (years)			Sex			
	Female		Male		Unknown	
	n	%	n	%	n	%
12	5	0,5	59	4,1	3	1,1
13	2	0,2	32	2,2	4	1,4
14	3	0,3	45	3,1	4	1,4
15	5	0,5	88	6,1	4	1,4
16	8	0,8	113	7,9	11	4,0
17	25	2,5	83	5,8	14	5,0
18	18	1,8	116	8,1	19	6,8
19	18	1,8	62	4,3	5	1,8
20	27	2,7	72	5,0	12	4,3
21	11	1,1	26	1,8	2	0,7
22	9	0,9	25	1,7	4	1,4
23	4	0,4	11	0,8	5	1,8
24	-	-	5	0,3	-	-
25	2	0,2	6	0,4	3	1,1
26			1	0,1	-	-
27	1	0,1	1	0,4	1	0,4
28	-	-	2	0,7	2	0,7
30	-	-	1	0,4	1	0,4

Table 2: Distribution of Students according to number of Sexual Partners

Materials and Methods

This is a prospective study carried out over a four-month period from 1 January to 31 April 2015 targeting students in the city of Dakar regardless of the field of study and in private or public University. The sampling method chosen was non-probabilistic. The data were collected through a fact sheet. This included socio demographic and occupational characteristics, sexual behaviour of students and their knowledge of family planning and protection against sexually transmitted infections.

Data were analysed using SPSS (Statistical Package for Social Science), version 21.0. A multivariate analysis was used to determine the interaction between variables. A difference was significant for $p < 0.05$.

Results

Main Features

The acceptance rate was of the survey 92.3% (3000/3250). The mean age was 22.6 years with extremes of 16 and 50 years. More than half of the students (62.9%) were between 20 and 24 years of age. Of the 3,000 students, men accounted for 52%. The sample consisted mostly of singles ((2724/3000), 90.8%). Married students accounted for 4.1% (123/3000). Undergraduate and graduate students accounted for 60.3% (1809/3000) and 29.7% (1809/3000), respectively.

Student Attitudes and Behaviours in Sexuality

Discussion on sexuality

A proportion of 86.9% (2607/3000) of students discussed about sexuality. This sharing was done with friends or fellows ((2464/2607), 94.5%) and sometimes parents ((412/2607), 15.8%). Those who did not discuss sexuality considered the question of little interest ((171//393) 43.5%) or taboo ((104/393), 26.6%).

Sexual activity

This section concerned only singles (n = 2724). A proportion of 45.3% was sexually active (n = 1234/2724). This consisted of 62% of males and 16.3% of females ($p < 0.005$). The mean age at first intercourse was 17.3 years with extremes of 12 and 27 years for women and 12 and 30 years for men while the mean age was 17 years for males and 18.5 years for females ($p<0.05$). Table I shows the distribution of students by age at first intercourse and sex. The average number of sexual partners was 1.91 with extremes of 1 and 18 (5 for female students and 18 for students) as explained in Table II. This average was 1.36 for female students and 2.04 for male students but this difference was not significant ($p = 0.21$). Multiple partnerships were found in 19.6% of women and 38.9% of men ($p<0.05$) as shown in table 2.

Knowledge of Sexually Transmitted Infections (Stis)

HIV, syphilis and gonorrhea were the most frequently reported STIs, respectively 88.2% (2646/3000); 35.9% (1077/3000) and 32.4% (972/3000). Almost half of the students were able to name at least 2 STIs; 6.7% (201/3000) knew four. The number of known STIs was not correlated with age, gender and level of study. On the other hand, undergraduate students better knew syphilis and gonorrhoea. The two main means of protection against STIs cited by students were condoms ((1572/3000), 52.4%) and abstinence ((870/3000), 29%). When asked to put these prevention tools into

practice, only half of the students ((1530/3000), 51%) said to use a condom during their occasional sexual intercourse. Men more commonly used this method of protection than women to protect themselves from STIs.

HIV Testing

The number of students who tested HIV was 1383 (46.1%). Screening was not correlated with gender but with the level of study. The high the level of students was the less they performed HIV test: (806/1383) 58.3% in the first cycle, (427/1383) 30.9% in the second cycle and (126/1383) 9.1% in the third cycle ($p<0.05$).

Family Planning for Students

Knowledge and use of contraceptive methods

Condom and pills were the most popular methods of family planning for students, 60% (1800/3000) for condoms and 52.5% (1575/1383) for pills. The level of knowledge of contraception was significantly influenced by gender (Table III) and by the level of study for birth control implants and intermittent coitus. Information sources for contraceptive methods were varied but dominated by media ((2010/3000), 67%) and friends ((1281/3000), 42.7%). Other sources were health facilities ((903/3000), 30.1%). Out of 257 sexually active students, 166 responded to the question of how to avoid getting pregnant. The most commonly used method was the condom (70.5%) followed by pills (45.6%).

Sources of Supply

Pharmacy and hospital were the main sources of contraceptive supplies in respectively 41.1% (1233/3000) and 11.3% (339/3000) of cases.

Discussion

Rate of participation

The participation rate is high compared to that observed in other African countries. This is the case in Massmoudi's study where the non-response rate was 56%, reflecting the reluctance of taboos that still affect the themes of sexuality [4]. In a survey of medical students in Tunisia, Ben Hmida found a much higher non-response rate (85%) [5].

Behaviour and Attitudes About Sexuality

Age at First Sexual Intercourse

The average age at first intercourse was 17 years for men and 18.5 years for women with extremes of 12 and 27 years for women and 12 and 30 years for men. Rwenge highlighted diversities between countries and compiled data from the National Demographic and Health Surveys [6]. In this study, in Mali and Burkina Faso, 30-40% of young unmarried women reported being sexually active. On the other hand, only 4% of unmarried young Senegalese women reported having sexual relations, which is one of the lowest levels in sub-Saharan Africa [7-9].

In this survey, the median age of first sexual intercourse was lowest among women in Mali (15.9 years) followed by Burkina Faso (17.5 years). In Senegal, the median age of first sexual intercourse was among the highest in Sub-Saharan Africa, 19.6 years. As might be expected, the sexual experience increases with age.

The average age of students in our sample at the first sexual intercourse (17.3 years) is earlier than that in this study (19.6 years) and the percentage of sexually active singles (45.3%) is 10 times higher. In France, the age of first sexual intercourse is 17.8 years for women and 17.5 years for men [10].

Multiple Sex Partners Setting

The average number of partners per person in our study was 1.91. This rate is certainly low compared to other studies where it may be as high as ten [11], but shows the importance and necessity for these students to have a good knowledge of STI prevention and use of contraception. In Mabiala's study in the Congo, multiple sex partners was a frequent phenomenon: 81.3% in boys and 51.1% in girls [12]. According to Abdul Karim et al. in Nigeria, multiple sex partners accounted for 69.2% and 32.7%, respectively, of boys and girls; the average number of sexual partners was about two to three [13]. The precariousness of socio-economic conditions partly justified these practices according to Mabiala and Luke [12, 14].

Use of Condoms During Sexual Intercourse

Only 51% of students reported using means of protection (condoms) against STIs during sexual intercourse. In a Manzini and Ntsiki's study in South Africa [16], the rate was only 15% at 15 years, 26% at 16 years, 36% at 17 years, 42% at 18 years and 47% to 19-24 years. These rates are low, compared to those in developed countries, where condom use during casual sex involves about 85-92% of adolescents and youth.

Data on Francophone countries in sub-Saharan Africa (from their Demographic and Health Surveys) also reflect the low level of condom use among adolescents and young people. But here, it is encouraging to report that, in most countries, the younger ones are more protected with condoms than the older ones [6]. Guiella and Madise observed in Burkina Faso that, even when adolescents and young people have sex with casual partners, they do not take sufficient precaution: the frequency of condom use was only 21.2 % [17].

Among the boys, Burkina Faso had the highest use of condoms (94.7%) followed by Ivory Coast at 15-19 years and Senegal at 20-24 years (57%) [6]. Known for its festive and unlimited character, the student world unfortunately presents risks of contamination: the consumption of alcohol or drugs during student

festive events promotes a decrease of vigilance, especially for the condom. Student associations must educate young people about STIs and make them question their own behaviour and sexuality. The objective is not to take an accusatory discourse towards those who sometimes adopt a risky behaviour but to encourage in the use of the condom and to inform the reflexes to have in case of sexual intercourse. In order to succeed in this preventive operation, it is therefore necessary sometimes to call on professionals and to be able to redirect students in search of specific answers.

Sexual risk behaviours, insufficient information about sexuality and poor utilization of reproductive health services increase the vulnerability of adolescents and young people, exposing them to the consequences of an increasingly precocious and poor sexuality (including STIs, HIV/AIDS, early pregnancy, clandestine abortions, school drop-outs...). Knowledge of transmission routes and means of prevention does not always translate into behaviour. Thus, despite efforts to raise awareness, the risk of infection with the AIDS virus has not led to the adoption of healthy sexual behaviour.

Knowledge of STIs

Knowledge of STIs by students is one of the objectives of prevention: it is indeed necessary to be sensitized to infections to avoid risky behaviours. The main STIs cited by students were HIV (88.2%), syphilis (35.9%) and gonorrhea (32.4%). This could be explained by the media coverage of the HIV pandemic during multiple awareness campaigns. However, knowledge of STIs and their number of known STIs was not correlated with age, gender or level of study. Chlamydia and HPV infections were much less known. They are known to be asymptomatic diseases, but can cause infertility and cancer of the cervix in women.

About HIV Voluntary Testing

Knowledge of HIV status is a fundamental step in the fight against HIV/AIDS. Indeed, early detection makes it possible to better manage people living with HIV and to adopt a responsible attitude towards HIV/AIDS. Today, this approach is strongly encouraged in HIV/AIDS initiatives. At the present stage, screening is strongly encouraged but remains voluntary.

STI information centres within universities integrating screening practice could improve the practice of voluntary testing. The percentage of 51% of students who did the screening test is encouraging compared to the general population. According to the Senegalese National Health Survey, a tiny minority of women aged 15-49 (3%) reported having been tested for HIV at some point [18].

Number of SP	Sex							
	Female		Male		Unknown		Total	
	n	%	n	%	n	%	n	%
1	74	19,4%	276	72,3%	32	8,4%	382	100%
2	9	11,0%	65	79,3%	8	9,8%	82	100%
3	5	9,1%	48	87,3%	2	3,6%	55	100%
4	2	7,4%	21	77,8%	4	14,8%	27	100%
5	2	8,0%	21	84,0%	2	8,0%	25	100%
6	-	-	5	100,0%	-	-	5	100%
7	-	-	4	100,0%	-	-	4	100%
8	-	-	1	100,0%	-	-	1	100%
9	-	-	1	100,0%	-	-	1	100%
10	-	-	8	100,0%	-	-	8	100%
12	-	-	1	100,0%	-	-	1	100%
18	-	-	1	100,0%	-	-	1	100%
Total	92	15,5%	452	76,4%	48	8,1%	592	100%

Table 2: Distribution of Students according to number of Sexual Partners

Students' Contraception

Contraceptive means

Pills and male condom were by far the most cited contraceptives. Pills were used by 47.7% of students at the time of our survey and the condom in 70.5%. According to a survey carried out by the French National Institute of Prevention and Health Education in 2007, pills and condom were known by 97% of the French peoples, IUD by 93% of them, female condom and diaphragm by 75% of them, the other means by about one French out of two [11].

Thus, we observe a lot of difference with our study for condoms, pills and birth control implants. We would be tempted to say that this lack of information may be linked to our culture which carries an important imprint of Islam making taboo everything that is sex and prevention of pregnancy outside marriage; but here we are dealing with students who are supposed to have a certain level of general culture.

Education provides new knowledge, which most often refers to so-called modern cultural models. Contraceptive practice is thus part of this current of modernity. It should therefore be expected that those who are educated or have a certain level of education (secondary or higher, for example) have a propensity for knowledge but also a higher level of contraceptive use.

Many sexually active students did not use any means of contraception during their casual sex. However, the consequences (pregnancy) are most often detrimental only to women. An unplanned pregnancy can have serious consequences for a female adolescent: her partner may abandon her, the can sully "the honor of her family", becoming ill or even losing her life. This risk of pejorative complications of such a pregnancy is more frequent in Islamic or heavily Islamized countries [4].

	Male (%)	Female (%)	P value
Pills	44,8	45,7	0,000
Condoms	50,8	39,3	0,01
Birth control shots	24,7	66,9	0,000
IUD	37	56,2	0,000
Birth control Implants	32,1	61,6	0,000
Coitus interruptus	46,1	38,2	0,03

Table 3: Distribution of students according to knowledge of contraception

Sources of Information on Family Planning (FP)

The main source of information was the media (67%), followed by friends (42.7%), and health structures (30.1%). Parents and school were rarely a source of information. This could be explained by the lack of communication between students and their parents as well as the barriers preventing them from attending health services (shame, apprehension of the reaction of healthcare providers). Other authors have reported the same results. Thus, Lys et al. [19] found in their study that the main source of information on FP was the media (81%), and that the family was not the place where respondents received FP lessons corroborating lack of communication within households. In a review of the literature, more than 80% of adolescents and young people reported that they found many subjects related to sex, substance abuse, and violence in television programs, cinemas and other media [20]. Thirteen per cent acknowledge that they have learned more about AIDS through these media sources than by their parents and school staff.

It must be recognized that the media today occupy an important place in the dissemination of information, whether good or bad. All programs to combat STIs and unwanted pregnancies must take this into account.

Limitations and Bias of the Study

The reliability of a non-probability sampling cannot be measured; the only way to measure the quality of the resulting data is to compare some of the survey results with the available information about the population. But here, we had not found any study carried out within the university dealing with the same subject. We can also question the reliability of the answers. In spite of the attention we paid to students seeing that we do not observe the answers, they may have been afraid of our judgment. Moreover, it is an inquiry that is in part of a feeling, and often related to taboo subjects in our society. Contraceptive questions were asked of both boys and girls, which can sometimes limit the veracity of the responses according to the type of contraceptive methods (e.g., boys' response to the pill).

Conclusion

Students experience a lack of knowledge about sexuality. To improve this situation, there is an urgent need to organize information campaigns on STI/HIV/AIDS and the consequences of unwanted pregnancies for students, and to introduce basic notions of these infections and pregnancies at risk in school curricula.

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