

Assessment of Knowledge, Attitudes and Practices Related to Contraceptive Use among Teenagers in High Schools and Colleges in Dakar, Senegal

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Abstract

Introduction: In Senegal, adolescents aged 10 to 19 years represent 22.9% of the total population. The unmet need for contraception in this part of the population remains high despite the health interventions implemented to promote their sexual health. The aim of this study is to analyze the practice of modern contraception in schools in Dakar high schools in Senegal during the year 2018. **Methods:** A cross-sectional study was conducted in high schools and colleges in Dakar from March 1 to April 30, 2018. This study involved 452 students. This was a self-administration of the questionnaires. After univariate and bivariate analyses, a multivariate logistic analysis identified the factors associated with students' use of modern contraception. **Results:** The prevalence of modern contraceptive use among students is 8.84%. Factors associated with the use of modern contraceptive methods among students were age over 18 years (AR: 4.7, 95% CI [1.02 - 22.5]), male sex (AR: 27.8, 95% CI [6.8 - 100.0]), secondary school level (AR: 10.6, 95% CI [2.1 - 53.0]), access to a youth socio-educational home (AR: 3.9, 95% CI [1.1 - 14.9]) and having a child (AR: 25.6, 95% CI [2.2 - 100.0]). **Conclusion:** Our results concluded that modern contraceptive needs were better met among older male students, those who had an unfortunate experience of unwanted pregnancy and those attending school's youth socio-educational homes. This suggests shortcomings in the promotion of sexual health among younger students, particularly those in the secondary grades.

Keywords

Schooling, Modern Contraception, Senegal

1. Introduction

In Senegal, adolescents aged 10 to 19 years represent 22.9% of the country's total population. Of these, more than half (54.5%) are teenage girls [1]. The rate of unmet need for modern contraception remains high among Senegalese women (47.3%). It is 16.7% among teenage girls aged 15 - 19 [2]. In general, adolescent girls around the world, especially those in developing countries, are exposed to reproductive health problems and their consequences. Studies in sub-Saharan Africa had shown that girls' enrolment in school was positively associated with contraceptive use among girls at all levels of schooling [3]. The net secondary school enrolment rate increases over the years in Senegal (13.6% to 32.5%). However, barriers to adolescents' access to family planning services remain high [4] [5] [6]. In Senegal, few studies have been conducted on the use of modern contraception in schools. The aim of this assessment was to study modern contraceptive practice in schools in Dakar, Senegal, during the year 2018.

2. Material and Methods

The study took place in 2 public schools in the city of Dakar in 2018. It was a middle and high school. The Middle School of Grand Yoff was located in the suburban area of Dakar and the high school (Lycée Mixte Maurice Delafosse) was located in the central area of Dakar.

2.1. Type and Period of Study

This was a cross-sectional study with an analytical focus. It took place from March 1st to April 30th, 2018.

2.2. Study Population

The study population consisted of students from Maurice Delafosse High School and Grand Yoff Middle School.

Inclusion criteria

Included in the study were students aged 13 to 18 years.

Criteria for non-inclusion

Adolescents who did not wish to participate in the study.

2.3. Sampling

The sample size was calculated on the basis of the proportion of adolescents aged 15 and 18 using contraception, which is 24.7% according to the 2017 DHS [2] using the simple random sampling method. Two schools (a high school and a middle school) were randomly selected using the ALEA function of Microsoft

Excel 2018 software. This draw was made on the basis of the list of schools provided by the Dakar Academy Inspectorate. In each school, a captive audience approach was used in the classrooms to identify students who volunteered to participate in the study [7]. Only those who had verbally expressed their consent had received the questionnaire.

Four hundred and fifty-two (452) students participated in the survey. Participants, from the first to the last year of high school, were qualified to participate in the study.

2.4. Data Collection Procedure Tool

The questionnaire had been developed by the co-authors. It had been tested in a randomly selected high school. The pre-test involved 40 students. A workshop to correct and validate the questionnaire had been organized by the co-authors. The questionnaire was divided into 3 parts. The first part concerned the description of the respondent and his or her social environment. The second part concerned the sexual behavior of students. The last part concerned knowledge and practices in the field of modern contraception.

These were self-administered questionnaires administered by students. The questionnaire was given to the students by the interviewers. After giving the students filling instructions, they gave them 45 minutes to complete the questionnaires. After the time allowed, the questionnaires were retrieved by the interviewers.

2.5. Data Analysis

The data entry was done with the Epi-info version 7 software. The analysis was done with SPSS version 21 software.

The description of the student population was based on their socio-demographic characteristics, their living environment and their access to family planning services.

The analysis had identified factors associated with current use of modern contraceptive methods among students. This use is defined as the use of contraceptive methods in sexual relations between the student and his or her partner (either directly if the student is a girl or indirectly by the partner if the student is a boy).

Dependent variable

In this study, we considered the use of modern contraceptive methods as a dependent variable, which is dichotomous: use (yes = 1) and non-use (No = 0). By modern contraceptive method, we considered the following methods: condom, pill, injectables (depo-provera), implant, intrauterine device (IUD), emergency contraception.

Independent variables

The explanatory variables were socio-demographic characteristics, their living environment and access to family planning services including information services. Chi² and Fisher exact to the 5% risk threshold had been used for the com-

parison of proportions. The difference was considered significant when $p < 0.05$.

The multivariate analysis examined factors associated with contraceptive use among students. To consider confounding and interaction factors, all variables with p-values less than 0.25 were included in the logistic regression model.

3. Results

3.1. Descriptive Part

Four hundred and fifty-two (452) students were surveyed.

The average age was 16.3 years with a standard deviation of 1.5 and extremes of 13 to 19 years.

Girls were in the majority (62%) (see **Table 1**). The sex ratio was 0.61.

Distribution of students by sexual activity

Seventy-three percent (72.72%) of students who had sex had done so at an age below 16 years with a minimum age of 7 years (see **Table 2**).

Distribution of students according to contraceptive use

The question about the use of modern contraception was answered by 294 students. Current contraceptive use was reported in 26 students (8.84%). The method used was reported in 22 cases. Among the latter 20 students (90.9%) used condoms and 2 (9.1%) used the pill (see **Table 3**).

Table 1. Individual socio-demographic characteristics of students.

	Frequency (n)	Percentage (%)
Gender		
Female	278	62.05
Male	170	37.95
Level of study		
1st Cycle	308	68.90
2nd Cycle	139	31.10
Child's source of income		
Parents	329	72.8
Friends	21	4.6
Scholarship	7	1.5
Business	7	1.5
Other	10	2.1

Table 2. Distribution of students according to sexual activity.

Existence of sexual intercourse N = 452	Frequency (n)	Percentage (%)
No	397	87.83
Yes	55	12.17
Age of first sexual intercourse N = 55		
Under 16 years of age	40	72.72
Over 16 years of age	15	27.28

Thirty-five percent of the students did not answer the question.

Reasons for not using contraceptive methods

One hundred and seventy-four (174) students responded regarding the question, why you do not use a contraceptive method.

52.3% say they do not have sex, 38.5% prefer to keep their virginity until the age of marriage and 26.4% of students associated sex with matrimony (see **Table 4**).

Use of modern contraceptive methods according to family and social environment

Seven percent (7%) of the students undergoing family control used modern contraceptive methods (see **Table 5**).

Twelve percent (11.9%) of students who belonged to social groups used modern contraceptive methods (see **Table 5**).

Use of modern contraceptive methods based on knowledge of modern contraceptive methods

Twenty-nine percent (29%) of students who knew that youth hostels were a means of accessing contraceptives used contraceptive methods (see **Table 6**).

3.2. Multivariate Analysis

Age, gender, education level, access to a youth socio-educational home and having a child were the factors associated with the use of modern contraceptive methods among students (see **Table 7**).

Table 3. Distribution of students by modern contraceptive use (n = 452).

Student contraceptive use	Frequency (n)	Percentage %
No	268	59.29
Yes	26	5.75
Did not respond	158	34.96

Table 4. Distribution of students by reasons for rejecting modern contraceptive use n = 174.

Reasons for not using contraceptive methods	Frequency (n)	Percentage %
Has never had sex	91	52.3
Prefer to keep virginity	67	38.5
Not yet married	46	26.4
Is ignorant of methods	12	6.9
Believes that methods are harmful to health	10	5.7
Believes that the use of methods is too early for their age	20	11.5

Table 5. Distribution of the use of modern contraceptive methods according to the social and environmental environment.

Use of modern contraceptive methods among young people	Frequency n	Percentage %
Family life with their parents (small family)	23	8.6%
Family life in an extended family	18	12%
Existence of family control of outings	19	7%
Parental education	21	8.8%
Discussion of taboo topics with parents	14	10%
Belonging to social groups	23	11.9%

Table 6. Distribution of contraceptive use according to knowledge of modern contraception and its access routes.

Use of modern contraceptive methods among young people	Frequency n	Percentage %
Knowledge of the existence of modern contraceptive methods	26	12.6
Knowledge of access routes to contraceptive methods: Health Center	12	15.6
Knowledge of access routes to contraceptive methods: Private clinic	4	11.1
Knowledge of access routes to contraceptive methods: Pharmacy	20	16.7
Knowledge of contraceptive methods: Youth shelter	9	29
Knowledge of methods that protect against HIV	18	17
Knowledge of emergency contraception	9	24.3

Table 7. Factors associated with the use of modern contraception in schools in Dakar.

	p-value	AR [95% CI]
Gender	0.000	
Male		27.8 [6.8 - 100.0]
Female		1
Age group	0.049	
Under 18 years of age		1
Over 18 years of age		4.7 [1.02 - 22.5]
Level of study	0.004	
1 st cycle		1
2 nd cycle		10.6 [2.1 - 53.0]
Knowledge of contraceptive methods access routes: Youth shelter	0.041	
Yes		3.9 [1.1 - 14.9]
No		1
Student with children	0.009	
Yes		25.6 [2.2 - 100.0]
No		1

4. Discussion

4.1. Socio-Demographic Characteristics

In our study, the average age was 16.3 years with a standard deviation of 1.5 and extremes of 13 to 19 years. In Africa, studies had shown similar results with average ages of modern contraceptive use among young people aged 17 on average [8]. In 2002, the World Health Organization (WHO) studied the sexual trends of 15-year-old students in 35 countries. The study indicated that the average age of first sexual intercourse in most countries was 16 - 19 years for girls and 17 - 19 years for boys [9]. This may explain the onset of the need for contraception at these ages.

In our study, the students were mainly under 18 years of age (71.7%). The majority of adolescents (98%) were not on contraception; only 2% used a contraceptive method. Age was statistically significant for the use of modern contraceptive methods. Adolescents over 18 years of age were 4.7 times more likely to use a contraceptive method than others (AR = 4.7, 95% CI [1.02 - 22.5]).

4.2. Gender Influence on the Use of Contraceptive Methods

In our study, girls accounted for 62.1% of the sample. The majority of girls (98.4%) were not on contraception, only 22.1% of boys used a modern contraceptive method. In 2002, the World Health Organization (WHO) studied the sexual trends of 15-year-old students in 35 countries. The study showed that the percentage of boys having sex was often higher than that of girls [9].

In Senegal, another study had shown, as ours did, that men were more involved in modern contraceptive practice than women [10]. Indeed, more of them used the male condom but also emergency contraception for their sexual partner. In this study, boys were 28 times more likely to use a contraceptive method than girls (AR = 27.8; 95% CI: 6.8 - 100). These results are similar to those found in Ethiopia, where boys were more likely to have sex (65%) than girls [8].

Elsewhere, in other contexts in Europe, it has been noted that young women are more likely to use modern contraceptive methods than those in less developed countries such as those in sub-Saharan Africa [11].

However, in other countries such as Thailand, a study has highlighted the emergence of a new form of sexuality for young girls in schools who tend to take responsibility for their sexual activity by deciding for themselves [12]. The gender difference in contraceptive use and sexual involvement is explained in some studies by socio-cultural and religious considerations [13]. Senegal is still a country subject to strong religious and traditional influences. Thus, Senegalese social norms lead Senegalese women to be reluctant to declare that they are concerned about sexuality and aspects related to contraception or sexual protection [14].

4.3. Influence of Education Level on Contraceptive Use

The students were between 13 and 18 years old (average 16.3 years). 68.9% of the

students were in the first cycle and 31.1% in the second cycle. Twenty-three (20.7%) of the respondents had heard of at least one contraceptive method. There was a statistically significant relationship between education level and use of modern contraceptive methods ($p < 0.05$). The male condom was the method most known by the students. Few students (14.9%) were familiar with modern methods. Contraceptive use was more frequent among second cycle students (20.7%) than among first cycle students (1.7%).

A study in Niger showed that contraceptive use was more frequent among first-cycle students (64.5%) than among second-cycle students (35.5%) ($p < 0.05$) [15]. Unlike in Tunisia, women's educational level was significantly associated with contraceptive use. This finding could be explained by the fact that educated women were better informed about different contraceptive methods [16].

According to the Demographic and Continuous Health Survey in 2014, modern or traditional contraceptive prevalence increases sharply with education level. For modern methods, prevalence increases from 14% among women with no education to 29% among those with primary education and 33% among women with medium/secondary education or higher [17].

4.4. Influence of Knowledge on the Use of Contraceptive Methods

The impact of knowledge acquisition on the use of contraceptive methods has been proven by numerous studies [18]. In middle and high schools in Dakar, few students have any knowledge of contraceptive methods (12.6%). There is also a lack of knowledge among students of how to access modern contraceptive methods.

However, students who know that youth hostels in schools are a place where contraceptive methods can be obtained are 3.9 times more likely to use contraceptive methods $AR = 3.9$, 95% CI [1.1 - 14.9]. Youth hostels are socio-educational hostels in middle and high schools in Senegal with, among other roles, a role of peer education and the provision of contraceptive methods.

This result reflects the importance of introducing sexual health interventions for students in schools. Studies had shown similar results and highlighted the importance of sexual health interventions in schools [19]. In a study conducted in 25 African countries, it was pointed out that facilitating access to contraceptive methods in schools has an impact on reducing unwanted pregnancies [20]. Studies have shown that young people's sexuality is better addressed by health policies when sex outside marriage is recognized, accepted and regulated rather than prohibited in all contexts outside marriage [21].

Youth hostels in schools with their permissive character contribute to the democratization of young people's sexual choices.

4.5. Influence of Student Parity on the Use of Modern Contraceptive Methods

It is widely accepted that modern contraception has reduced teenage pregnan-

cies [22]. However, the question addressed by this study is whether the occurrence of pregnancy in a teenager may lead him or her to use contraceptive methods for future sexual intercourse. In schools in Dakar, the study showed a statistically significant link between having a child and the use of modern contraceptive methods (AR = 25.6, 95% CI [2.2 - 100.0]). Students who had a child were 25.6% more likely to use a contraceptive method. This attitude could be explained by the implementation of strategies to avoid further unwanted pregnancies by adolescents. Indeed, unwanted pregnancies can have disastrous consequences for teenage girls and their families [23]. Contraceptive use is part of strategies to avoid pregnancy [24].

5. Conclusion

In Senegal, the issue of addressing the sexual health needs of adolescents remains a concern. This study highlighted the importance of age in the use of contraception. This age here was over 18 years despite the existence of sexual intercourse from the age of 7. This study showed that boys were more likely to use contraceptive methods. The added value of this study lies in the fact that it showed the importance of socio-educational homes in schools. Students attending these homes were 3.9 times more likely to use a contraceptive method. Thus, this study suggests a need for better targeting in behavior change communication for better responsibility in the management of their sexual health. This targeting will involve better recruitment of girls, young people under 18 years of age. This study suggests that socio-educational homes in schools and peer education, especially for young female mothers, could be the gateway to communication strategies. Indeed, these young girls had shown that they had developed protection strategies through better use of modern contraceptive methods in their sub-populations.

Limitations

The limitations of this study are related to the use of self-administration of questions. This method was responsible for a low response rate for some questions (e.g. contraceptive use response rate 65.04% out of a total of 452 students). However, this strategy had resulted in greater respect for the privacy and confidentiality rights of adolescents.

Ethics

This study had received the approval of the Ethics Committee of the Cheikh Anta Diop University of Dakar No. 033s/201s/CER/UCAD.

It has also been approved by the Ministry of Education (No. 1621/MEN/SG/DCMS/aad) and has been monitored in its implementation through the School Medical Control Division of the Ministry of Education.

The authorization of the heads of the institutions was obtained before the start of the study.

Free and informed consent was obtained from students. In addition, they were free not to participate in the study.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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