

Contraception: School Knowledge and Practical Attitudes in the Urban Commune of Segou, Mali

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Abstract

The aim was to describe aspects of students' knowledge of sexuality and contraception and their sexual behaviour in schools in Ségou, Mali. **Materials and Methods:** This was a one-pass cross-sectional survey with reasoned choice at the first level and random choice at the second level over a 3-month period from January 2013 to March 2013. **Results:** The majority of the students involved in our study reside in the commune of Ségou, 90.4%. The average age of our students was 18. The female sex was the most represented in our study with 59.7%. The majority of students had casual sex at 60.3% and 70.9% irregularly. The change of sexual partner affected 47.9% of schoolchildren. Of our sexually active students, 72.6% had sexual partners and 37.4% had more than 2 partners. The main sources of information are respectively the media with 72.1% followed by teachers with 12.9% and friends with 09.7%. Among the most well-known contraceptive methods, condoms rank first with 72.6%, followed by injectable with 72.0%. 70.6% of the population had not yet used a contraceptive method at first sexual intercourse and in 72.9% of cases was condoms. The most cited source of contraceptive supply is pharmacy with 49.5% followed by family planning centres and maternity wards at 16.2% and shops at 16.2%. **Conclusion:** The referral of young people to approved health facilities for contraception could prevent them from risky sexual behaviours.

Keywords

Teenagers, Youth, School Environment, Contraception, Sexuality

1. Introduction

The concept of reproductive health as defined by the International Conference on Population and Development in 1994 was adopted by Mali. This concept is defined as reproductive health or reproductive health, we mean the general well-being, both physical, mental and social of the human person for everything related to the genital tract, its functions and functioning and not just the absence of disease or infirmity [1]. According to the United Nations Population Fund (UNFPA), reproductive health means that people are able to have a satisfying and unsafe sex life and that they have both the means to procreate and the freedom to decide whether, when and how often they do so [2]. According to the WHO, adolescence and youth range from 10 to 24 years of age [3]. During this phase of life, many changes occur in adolescents who are transitioning to adulthood. In 1994, at the International Conference on Population and Development, it was reported that 1.3 billion women worldwide and of childbearing age had more than 1.2 billion pregnancies which in more than 25% of cases were unwanted. These unwanted pregnancies resulted in the deaths of nearly 700,000 women, the majority of whom were complicated by complications of unsafe abortions [4].

Mali, for its part, has doubled its population by less than 40 years, from 4,100,000 in 1960 to 9,800,000 in 1998 [5]. Women are characterized by very high fertility at a young age (188 to 15 - 19 years) and which increases rapidly to reach its maximum at 25 - 29 years (292 euros), before declining steadily with age. The total fertility rate thus amounts to 6.6 children per woman [6]. However, Mali is one of the countries with one of the lowest contraceptive prevalence, despite efforts in reproductive health. The purpose of this work is to assess students' knowledge, attitudes and practices about contraception; and, above all, to identify barriers to the use of contraception in schools in Ségou.

Objectives

To describe aspects of students, knowledge of sexuality and contraception and their sexual behaviour in schools in Ségou, Mali.

2. Materials and Methods

This was a one-pass cross-sectional survey with reasoned choice at the first level and random choice at the second level over a 3-month period from January 2013 to March 2013. The study population was students from high schools and vocational schools in the city of Ségou. The sample size was calculated using the following formula: $N = \frac{4 \cdot P \cdot Q}{I^2 \cdot P}$ —represents the prevalence of use of contraceptive methods by students in previous studies (5%). $Q = 1 - P = 0.95$ —the desired accuracy at 2% No. 4 $(0.05 \times 0.95) / 475 (0.02)^2$. This minimum size is 475 students and for greater representation we have retained 1000 students. Inclusion criteria: Girls and boys aged 13 to 26 who attended high schools and vocational schools in the city of Ségou and agreed to participate in the study. Non-inclusion crite-

ria: Girls and boys from high schools and vocational schools who did not agree to participate in the study. Data collection: Data support was a questionnaire administered to the student at the time of the survey. The questionnaire consisted of three parts: Student Identification; knowledge of family planning, identification of risky behaviours. The data collection technique was a direct interview between the student and the investigator. The data were collected from an individual questionnaire developed for this purpose. Data processing and analysis: Data entry and analysis were done on Microsoft Word and on co info (version 2000).

3. Results

3.1. Socio-Demographic Characteristics

The majority of the students involved in our study reside in the commune of Ségou, 90.4%. The average age of our students was 18. The female sex was the most represented in our study with 59.7%. High school students were represented by 75.9% of the population surveyed compared to 24.1% students from vocational schools. In our study, among 10.9% of the married 57.8% were female. **Table 1** and **Table 2** show us the epidemiological characteristics of schoolchildren.

Table 1. Epidemiological characteristics of schoolchildren in the urban commune of Ségou in Mali in 2013.

Age in Year	Staff	Frequency (%)
13 - 15 years	75	7.5
16 - 20 years	795	79.5
21 - 26 years old	130	13.0
Sex		
Female	597	59.7
Male	403	40.3
Marital status		
Single	891	89.1
Bride	109	10.9
Residence		
City of Ségou	904	90.4
Out of the city of Ségou	96	9.6

3.2. Sexual Behaviour

The majority of girls had their first period at an age between 13 - 15 years of age or 68.3%. 60.3% of students had had casual sex and in 70.9% had an irregular sexual relationship. In our study, 47.9% of schoolchildren had changed sexual partners. In our series, the time between menarche and first sexual intercourse was on average 3 - 4 years for 33.9% of girls. It was less than 1 year for 6.9% of girls. Of the 69.2% of schoolchildren who were aware of the fertility period only 10.8% knew the possibility of pregnancy from the first sexual encounter. **Table 3** and **Table 4** show the sexual behaviour of schoolchildren.

Table 2. Epidemiological characteristics of schoolchildren in the urban commune of Ségou in Mali in 2013.

	Busy class	Staff	Frequency (%)
High school	10th	230	23.0
	11th	284	28.4
	12th	245	24.5
Professional school	1st year	77	7.7
	2nd year	60	6.0
	3rd year	73	7.3
	4th year	31	3.1

Table 3. Sexual behaviour of schoolchildren in the urban municipality of Ségou, Mali in 2013.

First sexual intercourse	Staff	Frequency (%)
Yes	952	95.2
Not	48	4.8
Age first sexual intercourse		
10 - 13 years	24	2.5
14 - 17 years	362	38.0
18 - 21 years	309	32.5
22 - 26 years	09	0.9
Unknown	248	26.1
Programmed character		
Not Programmed	574	60.3
Programmed	378	39.7

Table 4. The sexual behaviour of students (continued) by schoolchildren in the urban commune of Ségou in Mali in 2013.

Regularity of reports	Staff	Frequency (%)
Irregular	675	70.9
Regular	277	29.1
Changing sexual partners		
No change	614	61.4
Once	185	18.5
Twice	83	8.3
Three Times and More	118	11.8

3.3. Risky Sexual Behaviour

More than half of our sexually active students, 72.6%, had a sexual partner and 37.4% had more than 2 sexual partners. **Table 5** represents data on school-risk sexual behaviour.

3.4. Sources of Information

The main sources of information are the media (72.1%) respectively followed by teachers (12.9%) and friends (09.7%). **Table 6** shows the source of information for schoolchildren.

3.5. Practical Knowledge and Attitudes

The majority of respondents, 93% say they have heard of family planning (PF). Among the most well-known contraceptive methods, condoms rank first with 72.6% of students, followed by injectables with 72.0% regardless of gender and age. The majority of students (70.6%) in our study had not yet used a contraceptive method at first sexual intercourse. Of those surveyed who used a contraceptive method, 72.9% had used condoms. Contraception is known in schools and practical attitudes are most often problematic in its use. **Table 7** and **Table 8** present schoolchildren's knowledge of the existence of contraceptive methods and the use of methods at first sexual intercourse.

Table 9 shows us the reasons for school use and non-use of contraceptives.

3.6. Sources of Supply

The main source of supply of contraceptive methods was the pharmacy represented by 49.5% of the workforce followed by the 16.2% FP centers, maternity wards and shops. **Table 10** shows us the source of contraceptive supplies for schoolchildren.

Table 5. At-risk sexual behaviours of schoolchildren in the urban commune of Ségou in Mali in 2013.

Knowledge of the fertility period	Staff	Frequency (%)
Not	308	30.8
Yes	692	69.2
Possibility of pregnancy from first sexual intercourse		
Not	892	89.2
Yes	108	10.8
Number of sexual partners		
1 partner	691	72.6
2 partners	160	16.8
3 partners and more	101	10.6

Table 6. A source of information for schoolchildren in the urban commune of Ségou in Mali in 2013.

Source of information	Staff	Frequency (%)
Friends	90	9.7
Media	671	72.1
Teachers	120	12.9
Parents	49	5.3

Table 7. Knowledge of the existence of school contraceptive methods in the urban commune of Ségou in Mali in 2013.

Contraceptive methods	Knowledge		Not	
	Yes	Percentage	Staff	Percentage
Periodic abstinence	665	66.5	335	33.5
Female Preservative	695	69.5	305	30.5
Male Preservative	726	72.6	274	27.4
Spermicide ovule	383	38.3	617	61.7
Vaginal diaphragm	415	41.5	585	58.5
Implant	367	36.7	633	63.3
Pill	658	65.8	342	34.2
Emergency Contraception	313	31.3	687	68.7
IUD/STERILE	318	31.8	682	68.2
Female sterilization	594	59.4	401	40.1
Male sterilization	588	58.8	492	49.2
Necklace	607	60.7	393	39.3

Table 8. Contraceptive method used at first sexual intercourse by schoolchildren in the urban commune of Ségou in Mali in 2013.

Types of contraceptive methods at first sexual intercourse	Staff	Frequency (%)
Periodic Abstinence	7	2.5
Necklace	2	0.7
Implant	7	2.5
Injection	30	10.7
Ovule Spermicide	1	0.3
Pill	24	8.6
Female Preservative	5	1.8
Male Preservative	204	72.9

Table 9. Reasons for contraceptive use and non-use by schoolchildren in the urban commune of Ségou in Mali in 2013.

Reasons for use	Staff	Frequency (%)
Imposed by partner	34	12.1
Pregnancy prevention	216	77.1
STI prevention	30	10.7
Reasons for not using		
Lack of willpower	357	53.1
Lack of information	311	46.3
Financial problems	4	0.6

Table 10. Source of school supplies for contraceptives in the urban commune of Ségou in Mali in 2013.

Place of sourcing Contraceptives	Staff	Frequency (%)
Pharmacy/Earth	14	1.5
Friends	101	10.7
Neighbourhood shop	104	11.2
PF Center	100	10.6
Maternity	151	16.2
Pharmacy	460	49.5
Time between menarche-1st sexual report		
1 year	40	6.9
1 - 2 years	134	23.1
3 - 4 years	196	33.9
Sup 5 years old	74	12.8
Unknown	135	23.3

4. Discussion

4.1. Socio-Demographic Characteristics

4.1.1. Socio-Demographic Characteristics

In the literature, the average ages found by the authors are superimposed. In Mali, in Sikasso MAIGA O. L. [7] reports an average age of 17.25 years, SANGARE A. K. [8] in Bamako also reports an average age of 17.5 years. The average age of our students was 18 in our series. The majority of the students involved in our study resided in the city of Ségou, 90.4%. The female sex was the most represented in our study with 59.7% despite the low overall enrolment rate of girls. High school students were represented with 75.9% of the population surveyed compared to 24.1% students from vocational schools. The organization of African societies with its cultures and customs makes us observe that early marriage is still relevant through our rate of married girls of 10.9%, generally hindering the academic career of its daughters.

4.1.2. Risky Sexual Behaviour

According to the literature, several authors give different ages compared to first sexual intercourse. In the UNAZIGO *et al.* [9] study 40% were sexually active. Among sexually active students in the sample (38%) had had their first sexual intercourse between the age of 14 and 17. In network 2000 [10], the authors indicate that in Chile studies have found that 1/3 of adolescents had their first sexual intercourse before the age of 15. KAMTCHOUIING *et al.* [11] found that 56% of their sample had their first sexual intercourse before the age of 15. It was between 15 and 17 years old for SIDIBE *et al.* [12]. In Zimbabwe, the age at first sexual intercourse was 9 years [13], in Burkina Faso it is around the age of 15 [14]. In Niger, it was 12 years old [14]. In Senegal, 27% of adolescents reported having had their first sexual intercourse before the age of 15 in 1992, according to a study by the United Nations Development Fund (UNFPA) [14]. In our series, he was between 14 and 17 years old. Of the sample, 95.2% of students had had their first sexual intercourse and 40.5% before 17 years.

According to the WHO, anyone who has had a single sexual partner would be considered a low risk of being infected by sexually transmitted infections and the behaviour is only at high risk if the person has had more than two sexual partners. The risk of being contaminated in schools is high by the results reported by the literature. Multiple sexual partners are vectors of HIV/AIDS transmission and a factor promoting cervical cancer (human papilloma virus). This risk of contamination by sexually transmitted infectious diseases is very high in the context of unprotected casual sex, change of sexual partner, multiple sexual partners, especially since this risk is ignored by the majority of these students. 60.3% of students in our study had had casual sex and 47.9% of schoolchildren had changed sexual partners. In addition to these risks, there is also the risk of early pregnancy, clandestine induced abortions, dropping out of school. Fortunately, 69.2% of schoolchildren in our series say they have heard about the fertil-

ity period and 10.8% of schoolchildren say they have heard about the possibility of pregnancy from the first sexual intercourse through awareness campaigns around family planning and fertility. Thus among our sexually active students 72.6% had a sexual partner considered low risk behaviour and 10.6% had more than 2 partners considered high risk behaviour. Authors like SACKO-D [15] and CISSE A [16] were found 11.45% and 9.17% of sexually active students respectively to be at low risk. Similarly, SACKO-D [15], CISSE A. [16] and SANGARE A. K. [8] found 73.12% respectively; 60% and 67% of sexually active students had high-risk behaviour. Our high risk rate of 10.6% is superimposed on that of BERTHE B. B. [17] who found 8% high-risk behaviour.

4.2. Sources of Information

The main source of information was the media, with a rate of 72.1% followed by teachers or 12.9% and friends or 09.7%. As with other studies including SIDIBE *et al.* [12], SANGARE A. K. [8], and BERTHE B. [17]), the media have been the main source of information for adolescents. SIDIBE *et al.* [12] found 96.3% for the media, 72.4% for friends and 19.6% for parents. FayE [18] had instead found the following order: the media, the school, the counselling centre for teenagers. We think like BERTHE B. [17] that contraception, which is a subject related to sexuality, is considered taboo in our society. They concluded that the family is a rare source of family planning information.

4.3. Practical Knowledge and Attitudes

The majority of respondents, 93% say they have heard of family planning (PF). This result is confirmed by other studies such as: BOMIA M. A. D. [19], conducted in the district of Bamako in school that found 93.8%. And a school-based study conducted in Bamako by CAMARA M. [20] found that 73.10% of schoolchildren had heard of PF. Among the most well-known contraceptive methods, condoms rank first with 72.6% of students, followed by injectables with 72.0% regardless of gender and age. SIDIBE *et al.* [12] found 96.9% and 91.6% for condoms and pills respectively. Other authors found comparable results, as well as SACKO-D [15]; and MAIGA-K [21] in their studies found in Mali, the same results with the most well-known methods: pills and condoms. In its study, SANGARE A. K. [8] had 31% of its respondents who claimed to have used a contraceptive method, while 42.6% of students said they had used condoms. The majority of students (70.6%) in our study had not yet used a contraceptive method at first sexual intercourse. Of those surveyed who had used a contraceptive method, 72.9% had used condoms.

Elsewhere BOMIA-M [19] found that 21% of his sample had used a condom at the first report. A study carried out in 6 schools (secondary level) in Côte d'Ivoire [22] found that condoms were the most used by adolescents with 38.06%. Regarding the reasons for the use of a contraceptive method at first sexual intercourse respectively 77.1% and 10.7% of respondents thought it was to

avoid pregnancy and STIs. Similar results are found by SANGARE A. K. [8] and BERTHE B. [17]. Lack of willpower and information are the most cited causes of non-use of contraception with 51.3%, 46.3% respectively. As evidenced by SANGARE A. K. [8], the lack of information or a lack or malfunction of youth-friendly FP services attests to the low use of contraceptive methods.

4.4. Source of Supply

Various sources of contraceptive supply have been reported. Among them the pharmacy comes first with 49.5% followed by family planning centers 16.2% and 16.2% for shops as well. BERTHE B. B. [17] found 89.6% for pharmacy and 18.8% for health centre.

5. Conclusion

The referral of young people to approved health facilities for contraception could prevent them from risky sexual behaviours.

Authors' Contributions

All the authors participated in the writing of the manuscript. They all approve the final version of the manuscript.

Conflicts of Interest

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

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