

## Knowledge, Attitudes and Practices of Adolescents in Schools on Sexual and Reproductive Health: Case of EL MOCTAR KONATE High School in BAMAKO

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### Abstract

### Original Research Article

**Introduction:** In Mali, sexuality is a subject considered taboo and parents often find it difficult to communicate with their children on this subject. The general objective of this study is: to study the knowledge, attitudes and practices of adolescents attending El Moctar high school in Banconi Farada in commune I of the district of Bamako. **Patients and Method:** This was a descriptive cross-sectional study carried out with students from El Moctar high school in Banconi Farada in commune I of the district of Bamako. It was conducted during the period from April 26 to May 25, 2021, i.e. a duration of one month. All the pupils who gave their consent answered the questions mentioned on the survey sheets. We used SPSS version 20.0 software. **Results:** The analyzes showed that boys were more likely to participate in our study with 62%. During the survey 43.2% had started sexual intercourse, only 22% of these only active students knew about condoms during their first sexual intercourse and 70.6% had never used condoms. Half of the students questioned do not know about STIs with 52%, the majority knew about HIV/AIDS, ie 91%, more than half did not know about cancer of the cervix, ie 59% of the students surveyed. Among sexually active girls at least 8.8% have a pregnancy and 85.8% of these pregnancies were unwanted. Among the students surveyed, 73% had heard of Family Planning (FP), among them only a few used FP methods and the frequently used methods are condoms, injectables and jadelle. **Conclusion:** In conclusion, this study, which took place in a private high school in commune I of the district of Bamako, gave us the opportunity to study in general the level of knowledge, attitudes and practices of adolescents in terms of sexual health and reproduction, specifically to describe their socio-demographic characteristics, determine the level of knowledge, their attitude and practice in matters of sexual and reproductive health. The majority of adolescents, about 52% do not know about STIs, 91% have heard of HIV/AIDS, 8.8% have had a pregnancy and 73% know about family planning FP. The most cited routes of HIV/AIDS transmission are the sexual route and the blood route with 69% and 24.5% experiencing cancer of the cervix.

**Keywords:** Knowledge, attitudes, practices, adolescents, health, sexuality, reproductive.

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## 1. INTRODUCTION

According to the WHO, adolescence is considered a period of human growth and development that occurs between childhood and adulthood, between the ages of 10 to 19 years. In other words, it represents a critical transition period in life and is characterized by a significant rate of growth and change, which coincides with the onset of puberty [1]. Adolescence is a period of transition, physical maturation, identity formation and the acquisition of social roles that is

associated with the emergence of an awareness of sexuality and the desire to experience it (Dehne and Riedner, 2001) [10]. Adolescents and young people are a present and future positive force in society; they face more complex dangers than previous generations and are often less well supported [11].

The needs related to the development of adolescents and young people concern the whole of society [11].

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In the context where sexually transmitted infections (STIs) are increasing among adolescents and where teenage pregnancies are still a reality, it is necessary to increase prevention among them from childhood (10 to 12 years old). [12].

To this end, a climate of openness between parents and their teenager to discuss different subjects makes it possible to establish links with him, to promote his well-being and his development [12].

The age of onset of puberty has decreased globally for both boys and girls. Today, girls enter puberty at ages 8 and 13, and have their first period a few years later. Puberty appears in boys at the age of 9 and 14 and they have their menarche between 11 and 15 years old. Once away from parents, young people gain information while developing attitudes and experiences with relationships and behavior that will influence their future well-being [13].

Many adolescents face pressures and pressures to use alcohol, narcotics and have sex at an early age, which puts them at high risk of intentional or unintentional trauma, unwanted pregnancies and death. sexually transmitted infections (STIs) and human immunodeficiency virus (HIV) [1].

## 2. METHODOLOGY

This was a descriptive cross-sectional study carried out with students from El Moctar high school in Banconi Farada in commune I of the district of Bamako.

It was conducted during the period from April 26 to May 25, 2021, i.e. a duration of one month. To collect data 400 adolescents attending El Moctar high school in Banconi Farada were interviewed All students who gave their consent answered the questions mentioned on the survey sheets. We used SPSS version 20.0 software.

## 3. RESULTS

**Table I: Distribution of Pupils According to Age Group**

Age range	Effective	Percentage%
[14 - 18[	278	69.5%
[18 - 22]	122	30.5%
<b>Total</b>	<b>400</b>	<b>100%</b>

The most represented age is [14-18] with 69.5% of cases.

**Table II: Distribution if Students by Gender**

Sex	Effective	Percentage%
Male	248	62%
Feminine	152	38%
<b>Total</b>	<b>400</b>	<b>100%</b>

The male sex is the most represented with 62% of cases.

**Table III: Distribution of Pupils According to the Class Attended**

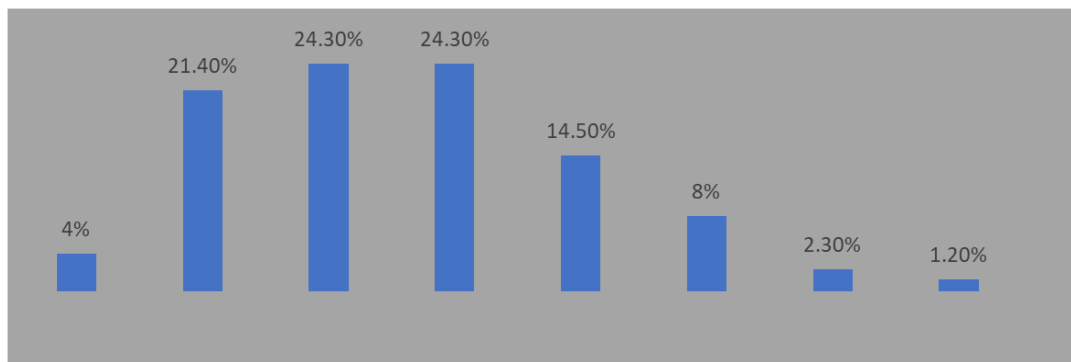
Class attended	Effective	Percentage%
10th year	76	19%
11th year	141	35.2%
12th year -	183	45.8%
<b>Total</b>	<b>400</b>	<b>100%</b>

The 12th year is the most represented with 45.8% of cases.

**Table IV: Distribution of Pupils According to Students who have had Sexual Intercourse**

Have you ever had sex?	Effective	Percentage%
Yes	173	43.2%
No	227	56.8%
<b>Total</b>	<b>400</b>	<b>100%</b>

Of the high respondents 43.2% have started sexual intercourse.



**Figure 1: Distribution of Students by Age at First Sexual Intercourse**

Among high school students who had sex, 24.3% started their first sex at ages 15 and 16, and 4% started at age 13.

**Table V: Distribution of pupils according to level of knowledge of condoms at first sexual intercourse**

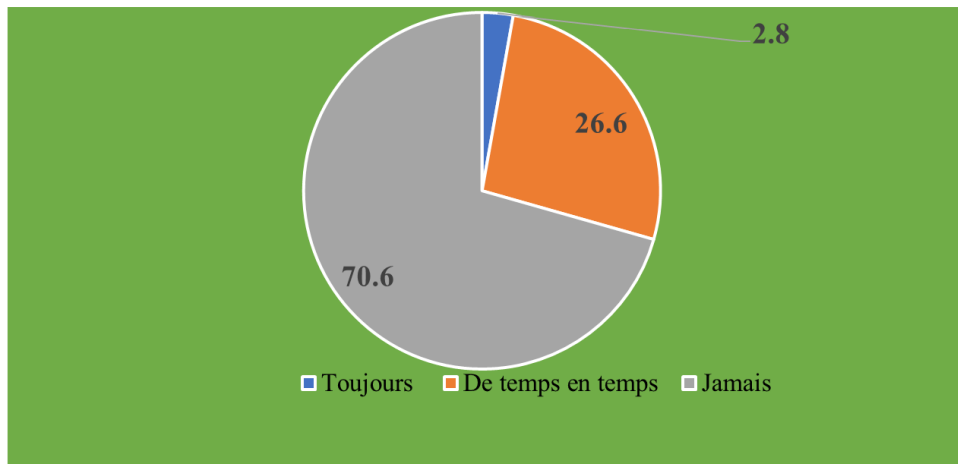
Knowledge of condoms at first sexual intercourse	Effective	Percentage%
Yes	38	22%
No	135	78%
<b>Total</b>	<b>173</b>	<b>100%</b>

Of high school students who started having sex, only 22% knew about condoms the first time they had sex.

**Table VI: Distribution of pupils according to the use of a condom during this first sexual intercourse**

Condom use during first sexual intercourse	Effective	Percentage %
Yes	9	5.2%
No	164	94.8%
<b>Total</b>	<b>173</b>	<b>100%</b>

Of the high school students who started having sex, only 5.2% used condoms the first time they had sex.



**Figure 2: Distribution of students according to condom use during sexual intercourse**

Among high school students who started sex 70.6% never used a condom.

**Table VII: Distribution of pupils according to their reasons for using and not using condoms during sexual intercourse**

Give your reasons for using and not using a condom during sexual intercourse?	Effective	Percentage%
Allergy	1	0.2%
It is forbidden by religion	1	0.2%
It's the same thing	3	0.8%
Reduces sexual pleasure	43	10.8%
Dual Protection	2	0.5%
I do not like	15	3.8%
I don't know	17	4.2%
I am married	1	0.2%
The condom renders impotent and protects	4	1%
The price	7	1.8%
No reason	1	0.2%
Protection against AIDS	4	1%
Protection against pregnancy	8	2%
Disease protection	55	13.8%
Matter of choice	2	0.5%
renders impotent	3	0.8%
No reason	233	58.2%
<b>Total</b>	<b>400</b>	<b>100%</b>

Of high school students asked about condom use and non-use during sex, 13.8% said condoms

protect them against disease and 10.8% said condoms decrease sexual pleasure.

**Table VIII: Distribution of pupils according to those who had a pregnancy**

Have you ever had a pregnancy?	Effective	Percentage%
Yes	35	8.8%
No	365	91.3%
<b>Total</b>	<b>400</b>	<b>100%</b>

Of the girls in high school who had started intercourse at least 8.8% had a pregnancy.

**Table IX: Distribution of students according to who had undergone an abortion**

Those who have had an abortion	Effective	Percentage%
Yes	18	60%
No	12	40%
<b>Total</b>	<b>30</b>	<b>100%</b>

Of the girls who had a pregnancy, 60% had had an abortion. All abortions were induced.

**Table X: Distribution of pupils according to those who have had a child**

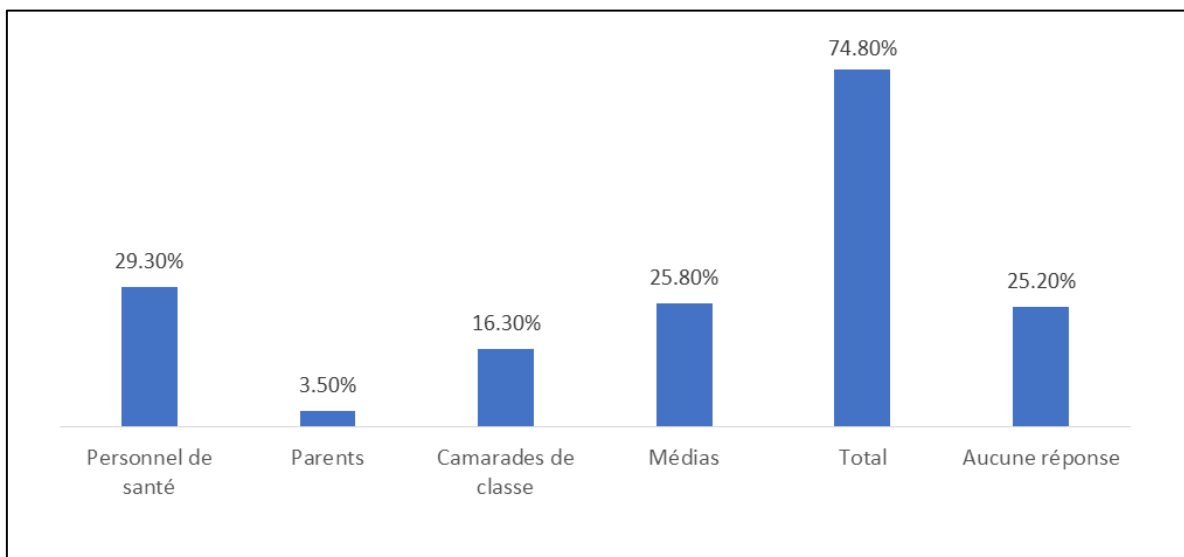
Those who had a child	Effective	Percentage%
Yes	17	48.6%
No	18	51.4%
<b>Total</b>	<b>35</b>	<b>100%</b>

During the survey 48.6% of pupils had had at least one child.

**Table XI: Distribution of pupils according to their knowledge of family planning (FP)**

Their knowledge of FP	Effective	Percentage%
Yes	292	73%
No	108	27%
<b>Total</b>	<b>400</b>	<b>100</b>

73% of students had no knowledge of FP.



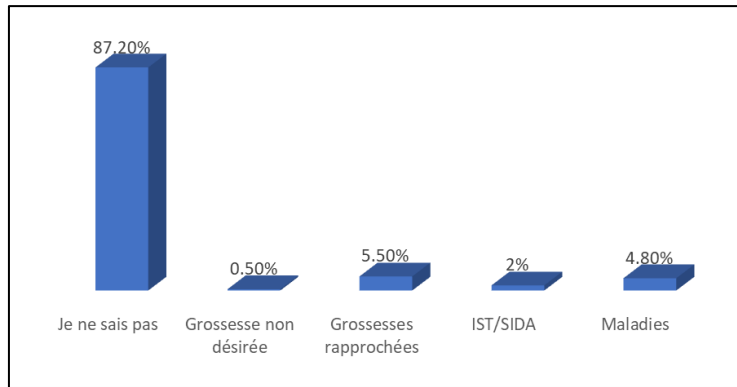
**Figure 3: Distribution of pupils according to their main sources of information on FP**

Among the main sources of FP information, health personnel were the most represented with 29.3%.

**Table XII: Distribution of pupils according to the categories of people targeted by the FP**

What categories of people are targeted by the FP?	Effective	Percentage%
No answer	326	81.5%
teenagers	1	0.3%
Women and girls	1	0.3%
Married women	47	11.8%
I don't know	10	2.5%
Couples	2	0.5%
Young people	8	0.2%
Health people	1	0.2%
Health personnel and parents	1	0.2%
educated people	2	0.5%
Adults	1	0.2%
<b>Total</b>	<b>400</b>	<b>100%</b>

Among the answers given by the pupils, married women were the most represented with 11.8%.



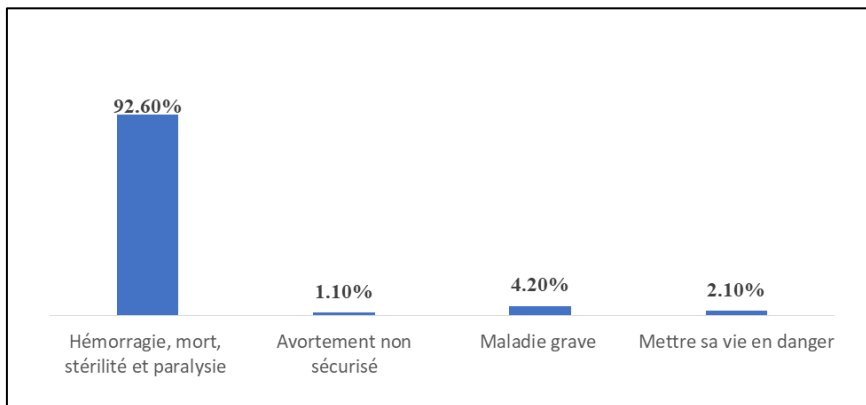
**Figure 4: Distribution of students according to their knowledge of the consequences of unprotected sexuality**

Among the answers given by the pupils the majority did not know the consequences linked to sexuality without protection with 87.2%.

**Table XIII: Distribution of pupils according to their knowledge of the risks incurred by girls who practice abortion**

Knowledge of students on the risks incurred by girls who practice abortion	Effective	Percentage%
Yes	95	23.8%
No	305	76.2%
<b>Total</b>	<b>400</b>	<b>100%</b>

Among the responses of the students, 76.2% did not know the risks incurred by girls who practice abortion.



**Figure 5: Distribution of pupils according to their opinion of the risks of abortion**

Among the opinions given on the risks of abortion by the students: haemorrhage, death, sterility and paralysis are the most represented with 92.6%.

**Table XIV: Distribution of pupils according to the need to discuss contraception**

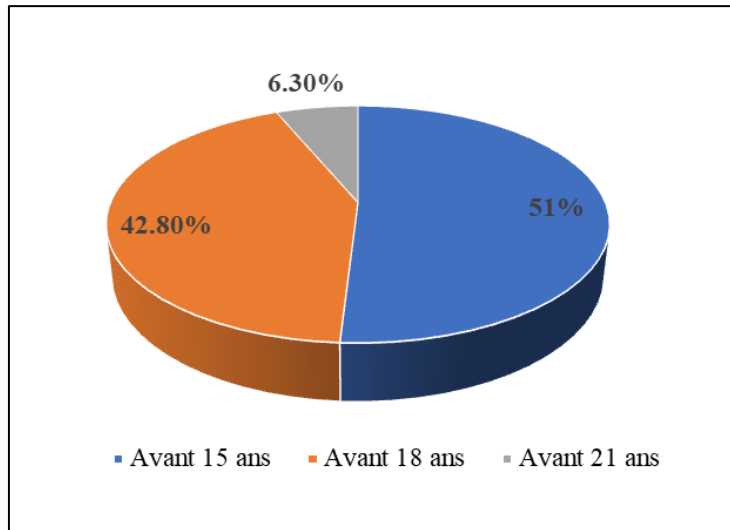
Student opinion on the need to discuss contraception	Effective	Percentage%
Yes	145	36.3%
No	255	63.7%
<b>Total</b>	<b>400</b>	<b>100%</b>

Of the students asked about the need to discuss contraception, only 36.3% said yes.

**Table XV: Distribution of pupils according to the advice received in the family on sexuality**

Advice given in the family by parents on sexuality	Effective	Percentage%
Yes	96	24%
No	304	76%
<b>Total</b>	<b>400</b>	<b>100%</b>

During the survey only 24% of the students surveyed received advice from their parent.



**Figure 6: Distribution of high by age a person should not have sex**

Among the answers given by students, the most represented is before the age of 18 with 42.8%

**Table XVI: Distribution of pupils according to the reasons given for the importance of a girl or a boy remaining a virgin until marriage**

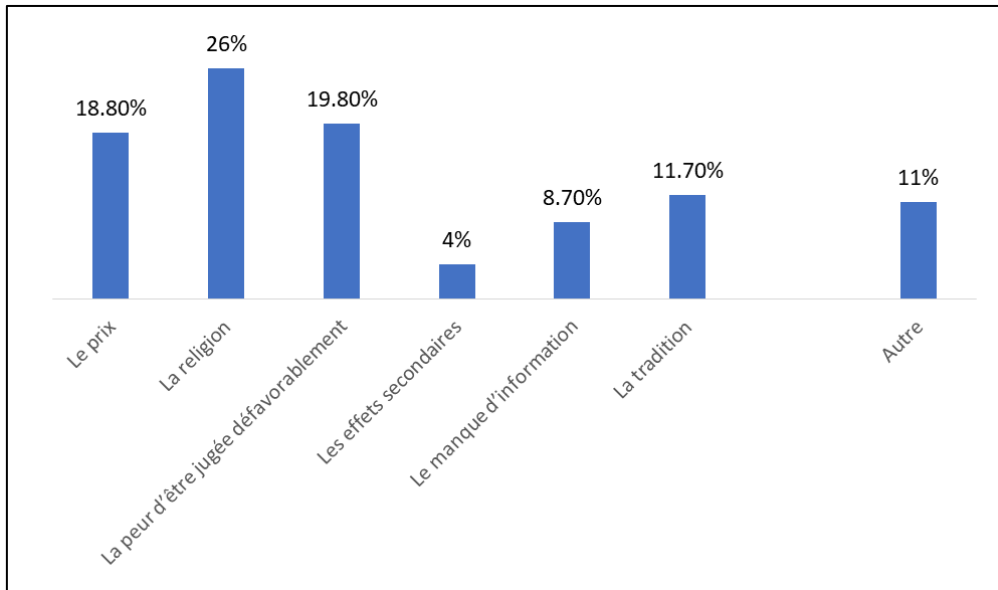
The reasons given for the importance that a girl or a boy remains a virgin until marriage	Effective	Percentage%
Yes	296	74%
No	104	26%
<b>Total</b>	<b>400</b>	<b>100%</b>

Most of the students surveyed find that virginity is important until marriage with 74%.

**Table XVII: Distribution of pupils according to their opinion on induced abortion**

Student opinion on induced abortion	Effective	Percentage %
I am for	133	33.2%
I'm against	267	66.8%
<b>Total</b>	<b>400</b>	<b>100%</b>

Among the responses given by the high 33.2% are for induced abortion.



**Figure 7: Distribution of pupils according to obstacles to the use of contraceptive methods by schoolchildren**

Among the answers given by the pupils, religion is the most represented with 26%.

**Table XVIII: Use of contraception in schools**

Are you in favor of the use of contraception in schools?	Effective	Percentage%
Yes	155	38.8%
No	245	61.2%
<b>Total</b>	<b>400</b>	<b>100%</b>

Students are not in favor of the use of contraception in 61.2% of cases.

**Table XIX: Distribution of pupils according to their level of knowledge of STIs**

Knowledge about STIs	Effective	Percentage%
Yes	192	48%
No	208	52%
<b>Total</b>	<b>400</b>	<b>100%</b>

More than half of the high school students questioned did not know about STIs with 52%.

**Table XX: Distribution of pupils according to age of use of contraception in school**

If yes, from what age?	Effective	Percentage%
1 year until death	1	0.3
5 years	1	0.3
10 years	1	0.3
14 years old	3	0.8
15 years old	21	5.2
16 years old	11	2.8
17 years	8	2
18 years old	29	7.2
19 years old	2	0.5
20 years	1	0.2
21 years old	1	0.2
No answer	321	80.2
<b>Total</b>	<b>400</b>	<b>100</b>

Among the high surveys, the most represented answer is the age of 18 with 7.2%.

**Table XXI: Distribution of pupils according to their knowledge of the symptoms of STIs**

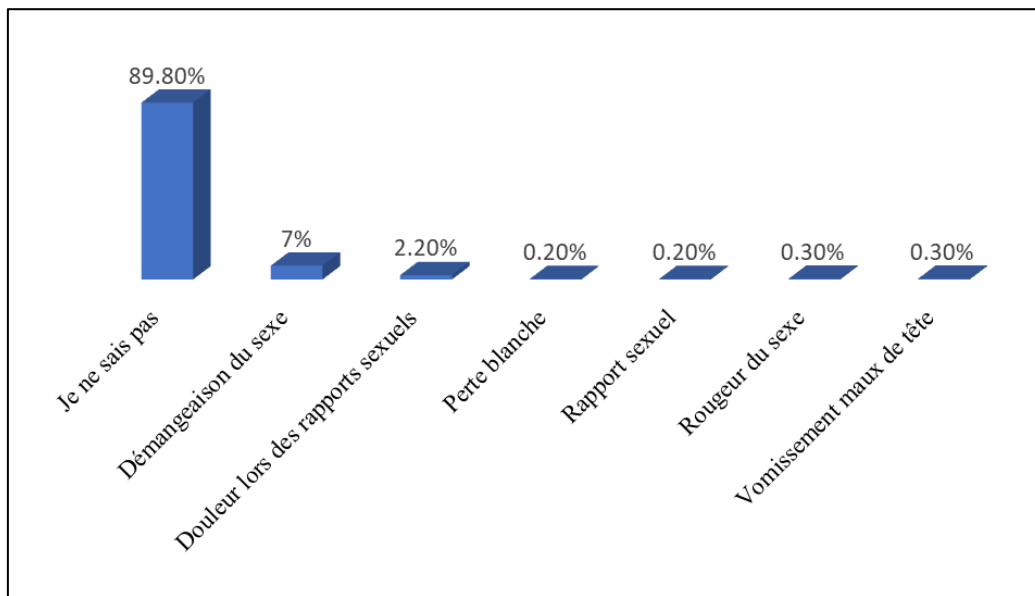
What are the main symptoms of STIs that you know?	Effective	Percentage%
I don't know	208	52%
Burning while urinating vaginal discharge	81	20.3%
Itching	1	0.3%
itch smell	16	4%
lower abdomen pain sex itch	1	0.2%
Fever	1	0.2%
Fever redness of the genitals	2	0.5%
Leucorrhoea	1	0.3%
White loss	85	21.2%
Redness of the genitals	3	0.8%
Always sick	1	0.2%
<b>Total</b>	<b>400</b>	<b>100%</b>

Among the students surveyed, only 48% knew at least one symptom of STIs.

**Table XXII: Distribution of pupils having contracted an STI**

Have you ever contracted an STI?	Effective	Percentage %
Yes	41	10.2%
No	359	89.8%

Among the students surveyed, only 10.2% contracted at least one STI.



**Figure 8: Distribution of pupils according to their knowledge of the signs of STIs**

Among the pupils surveyed only 10.2% gave a sign of STI.

**Table XXIII: Distribution of students having undergone treatment according to contracted STI**

What treatment do you have?	Effective	Percentage%
modern medicine	18	44%
Self-medication	14	34.1%
Traditional	3	7.3%
None	6	14.6%
<b>Total</b>	<b>41</b>	<b>100%</b>

Of the students who contracted an STI, only 44% received modern treatment.



**Table XXIV: Distribution of pupils on the mode of contamination of STIs**

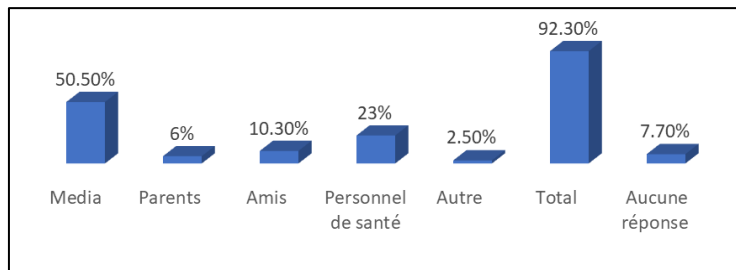
How do you get STIs?	Effective	Percentage%
I don't know	336	84%
Hospitals	1	0.3%
Through sex	31	7.7%
By the toilet	32	8%
<b>Total</b>	<b>400</b>	<b>100%</b>

Among the students surveyed, 16% knew at least one mode of contamination.

**Table XXV: Distribution of pupils according to their knowledge of AIDS**

Their knowledge about AIDS	Effective	Percentage %
Yes	364	91%
No	36	9%
<b>Total</b>	<b>400</b>	<b>100%</b>

Among the students surveyed, 91% knew about AIDS.



**Figure 9: Distribution of students according to their source of information on HIV/AIDS**

Among the pupils surveyed on the main sources of information on HIV/AIDS, the most represented is the media with 50.5%.

**Table XXVI: Distribution of pupils according to proof of the non-existence of HIV/AIDS**

Do you believe in the existence of AIDS	Effective	Percentage %
Yes	334	85.5%
No	66	16.5%
<b>Total</b>	<b>400</b>	<b>100%</b>

Among the students surveyed, 16.5% did not believe in the existence of AIDS.

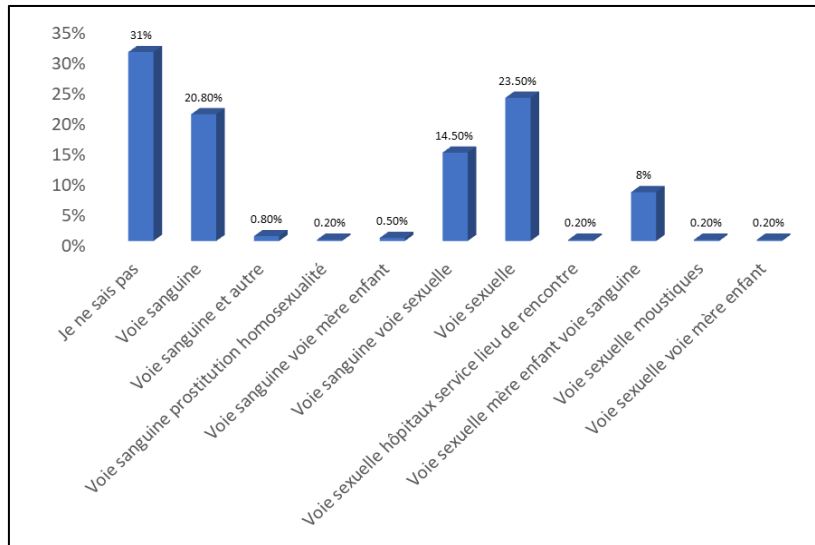


Figure 10: Distribution of pupils according to their knowledge of the transmission routes of HIV/AIDS

Among the pupils surveyed, more than half of the pupils knew at least one way of transmission of HIV/AIDS with 69%.

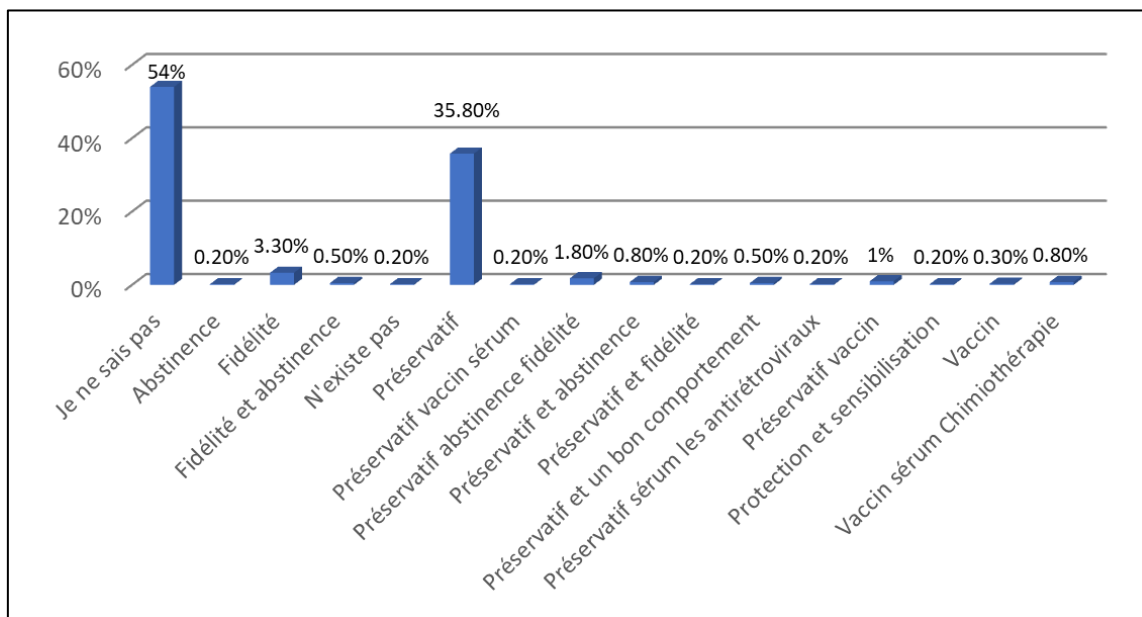


Figure 11: Distribution of pupils according to their knowledge of the means of preventing HIV/AIDS

Among the students surveyed, 46% know at least one means of preventing HIV/AIDS

Table XVII: Distribution of pupils according to their knowledge of cervical cancer

Student knowledge of cervical cancer	Effective	Percentage%
Yes	164	41%
No	236	59%
<b>Total</b>	<b>400</b>	<b>100%</b>

Among the students surveyed, 59% of the students were unaware of cervical cancer.

#### 4. DISCUSSION

This study that we conducted with high school students aimed to study the knowledge, attitudes and practices of adolescents. It concerned a sample of 400 distributed as follows:

- 76 for 10th year students,
- 141 for Year 11 students,
- 183 for Year 12 students.

In the field, the difficulties encountered were the perception of certain pupils with regard to sexuality.

### **Socio-Demographic Characteristics:**

The study focused on a sample of 400 school-going young people and adolescents of both sexes, with a male predominance. The most represented age is [14-18] with 69.5% of cases. The 12th<sup>year</sup> was the most represented with 45.8% of cases.

Singles are the most represented with 98.8% of cases and 1.2% married.

Determine the level of knowledge of adolescents in school, their attitudes and practices on family planning.

## **KNOWLEDGE OF HIV/AIDS, STIS AND SEXUALITY**

### **Knowledge about sexuality**

Of the high respondents 43.2% have started sexual intercourse. Our results are comparable to those of Mr. Arouna DEMBELE in 2013 who found in his study in Bamako (36.33%) adolescents said they had already had sex at least once [34].

Among high school students who started sex 24.3%, who started their first sex at ages 15 and 16 and 4% started at age 13.

Among high school students who started having sex, only 5.2% used condoms the first time they had sex. For example, the study conducted by KOUMA Makan in 2007 at the Mamadou SARR high school in Bamako (81.50%) had not used a condom at first sexual intercourse but (19.50%) of the students had used it and this could be explained by ignorance of the risks associated with unprotected sexual intercourse (STI-AIDS, unwanted pregnancy) [35].

Among high school students who have started sexual intercourse 70.6% have never used a condom.

Of high school students asked about condom use and non-use during sex, 13.8% said condoms protect them against disease and 10.8% said condoms reduce sexual pleasure.

Of the girls in high school who started having sex 8.8% had a pregnancy.

Of the girls who had a pregnancy 85.8% were unwanted pregnancies. Our results are comparable to those of a study by UNFPA and Unicef carried out in Togo in 2014 on girls who had an unwanted pregnancy (28%) [36].

Of the girls who had a pregnancy, 60% had an abortion. Among the abortions undergone by the raised, 66.7% were performed at the age of 2 months; these abortions were 100% induced abortions.

During our study, 5.5% of girls had at least one child.

During the survey 48.6% of pupils had at least one child.

### **Knowledge about FP:**

Of the students surveyed, 73% had heard of FP. And the main sources of information for the FP are health personnel with 29.3%. The students were not in favor of the use of contraception in the school environment, ie 61.2% of the cases. Their opinion on FP: Prevents fertilization is the most represented with 25%. During the survey, the students say that it is married women who must do FP with 11.8%.

This is also the case with Mr. Moussa KONATE in a study in Bamako at the Teaching Center [Secondary Institute of Training and Business Management (ISFG E)] and high school in 2013 which found almost all of the students surveyed (82.4%) had already heard of FP, which they equated with the spacing of children for (36.8%) of them and with protection against unwanted pregnancies for (18.4%) [31].

Among the answers given by the pupils, the majority do not know the consequences linked to sexuality without protection with 87.2%. In addition, the students did not know the risks incurred by girls who practice abortion, ie 76.2%. Among the opinions given on the risks of abortion by students haemorrhage, death sterility and paralysis is the most represented with 92.6%. Of the students asked about the need to discuss contraception, only 36.3% said yes. According to the results we found that 76% of students do not receive advice on family sexuality from their parent. Among the responses given by students, the most represented is before the age of 18 with 42.8% concerning the age of first sexual intercourse. Among the student surveys 74.2% of students said that a person should not have sex before marriage. Most of the students surveyed find that virginity is important until marriage with 74%. Among the responses given by the students, 33.2% are for induced abortion. Among the students surveyed, only 7.5% had used a method of contraception in the past. Most of the students surveyed declared that FP is forbidden by religion, i.e. 26%. The majority of students were not in favor of the use of FP in schools with 61.2%. Among the students surveyed, the most represented answer is the age of 18 with 7.2% concerning the age of use of contraception in school.

### Knowledge of STIs, HIV/AIDS, FP

Half of the students questioned do not know about STIs with 52%. It appears in the study by M. Moussa KONATE in Bamako at the Teaching Center [Secondary Institute for Training and Business Management (ISFG E)] and high school in 2013 that 53.2% knew about STIs while 96% of students surveyed knew about AIDS [31].

Of the students asked about the different types of STIs, at least 48% know of an STI.

Among the students surveyed, only 48% know at least one symptom of STIs.

Among the students surveyed, 10.2% contracted at least one STI, and only 10.2% gave a sign of STI, among the students who contracted an STI only 44% received modern treatment, and 16% knew at least one mode of STI contamination.

Among the students surveyed, 91% know about AIDS, the main sources of information on HIV/AIDS were the media with 50.5%, among the students surveyed, 16.5% do not believe in the existence of AIDS. Among the students surveyed, more than half of the students know at least one way of HIV/AIDS transmission with 69%, among the students surveyed, 46% know at least one way of preventing HIV/AIDS.

### Attitude:

To find out their attitude towards FP, schoolchildren were asked what their opinion on FP was. According to our results: 73% had heard of FP, 38.8% of students were in favor of the use of contraception in schools. They thought that this promotion should be done through different channels such as appropriate media, structured courses and skits. These different results demonstrate the real need that schoolchildren have to be informed about the different methods of modern contraception.

Still according to our study, only 24% of students receive advice on family sexuality from their parent. Our results are roughly comparable to those of Diodo DIALLO in 2019 (EL Madane DRAVE high school, of the Lycée Les Mots and the Lycée Franco-Arabe Center Mère Kadidia in Bamako) who found in his study very few adolescents/young people talked about sexuality with their parents, i.e. 8.59%. This seems to be a reality in Mali, sexuality being considered a taboo subject in our society [37].

The results of our study show us that a fairly large proportion, 16.5%, still do not believe in the existence of AIDS and their reasons given were the fact of never having seen an AIDS patient, and the non-existence evidence on the other hand. These results on

the non-existence of AIDS seem to be widely shared by Mr. Moussa KONATE in Bamako at the Teaching Center [Secondary Institute for Training and Business Management (ISFG E)] and high school in 2013 [31].

### Practice:

#### Sexual Behaviors:

To know the sexual behavior of high school students, we asked them if they were already sexually active and the moment of their first sexual intercourse.

The results of our study show that 43.2% started sexual intercourse and among high school students who started sexual intercourse 24.3% began their first sexual intercourse at the age of 15 and 16 and 4% started at the age of 13 (which is a very early age).

These results are comparable to those of Mr. Moussa KONATE's survey in Bamako at the Education Center [Secondary Institute for Training and Business Management (ISFG E)] and high school in 2013, of which 30.8% of students were sexually active [31].

Our study shows that 70.6% of the number of high school students who have started sexual relations have never used a condom during their sexual relations, this confirms when we ask schoolchildren if they have already had at least an episode of STI: 10.2% contracted at least one STI, and only 10.2% gave a sign of STI, among the students who contracted an STI only 44% received modern treatment, and 16% knew at least one mode of STI contamination gives an affirmative answer. Our results differ from those of some previous studies, Mr. Moussa KONATE in Bamako at the Teaching Center [Secondary Institute for Training and Business Management (ISFG E)] and high school in 2013.

70.1% of the number of sexually active students in this study did not use a condom during their first sexual intercourse and 15.6% of the students had already had at least one episode of STIs [31].

### Contraceptive Practice:

To determine the degree of contraceptive use by our students, we asked them if they were using a contraceptive method at the time of the survey. We were forced to note that their practice of contraception is very low, only 7.5% have used a method of contraception in the past. The reasons for the use of condoms by schoolchildren were the double protection both against STIs/AIDS and against pregnancy.

Decreased pleasure and poor quality of intercourse were the main reasons given by those who did not use condoms.

Similar findings were made by 18.50% of students who had used a contraceptive method in Mali

in 2007 by KOUMA Makan in 2007 at the Mamadou SARR high school in Bamako [35].

Among the students surveyed, 59% of the students were unaware of cervical cancer.

During our survey, more than half of the students questioned did not know about the Human Papillomavirus Virus. During our survey 24.5% of students surveyed said that cervical cancer is sexually transmitted.

## 5. CONCLUSION

Within the framework of our study, we note an average communication between parents and their teenagers on sexuality. Although limited, the data reported in our study indicate that a significant proportion of young people are potentially at risk of various unfortunate outcomes in terms of sexual and reproductive health in general: STIs, cervical cancer, HIV/AIDS and unwanted and early pregnancies among adolescents in particular.

**Conflicts of Interest:** None.

**Author Contribution:** All authors contributed to the writing of the article.

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