

ADOLESCENTS' KNOWLEDGE ABOUT CONTRACEPTIVE METHODS AND SEXUALLY TRANSMITTED INFECTIONS

CONHECIMENTOS DE ADOLESCENTES SOBRE MÉTODOS CONTRACEPTIVOS E INFECÇÕES SEXUALMENTE TRANSMISSÍVEIS

CONOCIMIENTO DE LOS ADOLESCENTES SOBRE MÉTODOS ANTICONCEPTIVOS E INFECCIONES DE TRANSMISIÓN SEXUAL

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Objectives: to identify adolescents' knowledge of safe sexual practices and to identify adolescents' information needs about sexually transmitted infections and pregnancy. **Method:** cross-sectional study conducted with 499 adolescents in public school, from February to April 2017, by using a self-applied and structured questionnaire. **Results:** the best known method was the male condom (94.4%); among male adolescents, 22.7% considered condom use unnecessary in all sexual relations ($p < 0.01$) and 24.6% stated that oral contraceptives protected against sexually transmitted infections ($p = 0.04$). **Conclusion:** the adolescents presented previous and eventually superficial conceptions regarding the prevention of STI and pregnancy. Female participants presented greater knowledge about contraceptive methods, sexually transmitted infections and safe sex practices. The identification of disabilities in the knowledge presented by the group recommends activities related to sexual education in schools.

Descriptors: Adolescent Health. Sex Education. Pregnancy in Adolescence. Sexually Transmitted Infections.

Objetivos: identificar os conhecimentos de adolescentes sobre práticas sexuais seguras e identificar as necessidades de informação dos adolescentes sobre infecções sexualmente transmissíveis e gravidez. *Método:* estudo transversal realizado com 499 adolescentes de escola pública, de fevereiro a abril de 2017, por meio de questionário autoaplicado e semiestruturado. *Resultados:* o método mais conhecido foi o preservativo masculino (94,4%); dentre os adolescentes

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do sexo masculino, 22,7% julgaram desnecessário o uso de preservativo em todas as relações sexuais ($p<0,01$) e 24,6% afirmaram que contraceptivos orais protegiam contra infecções sexualmente transmissíveis ($p=0,04$). Conclusão: os adolescentes apresentaram concepções prévias e eventualmente superficiais a respeito da prevenção de IST e da gravidez. As participantes do sexo feminino apresentaram maior conhecimento a respeito dos métodos contraceptivos, infecções sexualmente transmissíveis e práticas de sexo seguro. A identificação de deficiência no conhecimento apresentada pelo grupo investigado recomenda a realização de atividades relacionadas ao tema da educação sexual nas escolas.

Descritores: Saúde do Adolescente. Educação Sexual. Gravidez na Adolescência. Infecções Sexualmente Transmissíveis.

Objetivos: identificar los conocimientos de los adolescentes sobre las prácticas sexuales seguras e identificar las necesidades de información de los adolescentes sobre las infecciones de transmisión sexual y el embarazo. Método: estudio transversal realizado con 499 adolescentes de escuela pública, de febrero a abril de 2017, mediante un cuestionario autoadministrado y semiestructurado. Resultados: el método más conocido era el preservativo masculino (94,4%); entre los adolescentes del sexo masculino, el 22,7% consideraba innecesario el uso del preservativo en todas las relaciones sexuales ($p<0,01$) y el 24,6% afirmaba que los anticonceptivos orales protegían contra las infecciones de transmisión sexual ($p=0,04$). Conclusión: los adolescentes presentaban concepciones previas y posiblemente superficiales sobre la prevención de las ITS y el embarazo. Las participantes femeninas presentaban un mayor conocimiento sobre los métodos anticonceptivos, las infecciones de transmisión sexual y las prácticas sexuales más seguras. La identificación de discapacidades en los conocimientos presentados por el grupo recomienda actividades relacionadas con el tema de la educación sexual en las escuelas.

Descriptorios: Salud del Adolescente. Educación Sexual. Embarazo en Adolescencia. Infecciones de Transmisión Sexual.

Introduction

In recent years, due to technological development and artificial intelligence, there has been an increase in the availability of sexual content information on the Internet⁽¹⁾. Despite increased access to information, the knowledge deficit of adolescents regarding contraceptive methods, prevention of sexually transmitted infections (STI) and sexuality issues persists and represents a current and pertinent problem⁽²⁾.

Teenagers, despite their ability in technology, are vulnerable when it comes to choosing freely offered information⁽³⁾. From this deficit situation, a recurrent and controversial event in the health scenario, unsafe sex, has as its main unfolding the unwanted pregnancy and/or sexually transmitted diseases, which involve individuals, family and society, besides increasing the costs of health care in all levels of assistance⁽²⁾.

In Brazil, although a 33% decrease in the teenage pregnancy rate is observed in the period 2000 to 2016, the data from this event remain worrying. The Brazilian adolescent pregnancy rate is 58.7/1000, higher than the average rate of 48.6/1000 in the Americas⁽⁴⁾. It

is estimated that approximately two-thirds of pregnancies in adolescents under the age of 18 are unintentional⁽⁵⁾. As for the outcome, teenage pregnancy is the second leading cause of women death worldwide and it is associated with the highest risk of pre-eclampsia, preterm and low birth weight and the occurrence of abortions and stillbirths⁽⁶⁾.

When considering the damage to adolescents' health resulting from the lack of adequate and quality information, STI are, in the same way as unplanned pregnancy, a public health issue⁽²⁾. The data on the prevalence of sexually transmitted diseases among the adolescent and young population in Brazil are inaccurate. One of the most important exposure factors is unprotected or infrequent condom use, whether among stable partners or in casual relationships⁽⁷⁾.

In this context, identifying the knowledge that adolescents have about safe sex, pregnancy prevention and infection is necessary so that educational strategies, integral and with safe information, besides being based on scientific evidence, can be implemented. The Ministry of

Health recommends that sexual and reproductive health and STI prevention topics be worked in an educational way with students from the final grades of elementary school through high school⁽⁸⁾.

This study aims to identify adolescents' knowledge about safe sexual practices and to identify adolescents' information needs about STIs and pregnancy.

Method

An exploratory, cross-sectional, descriptive and quantitative study was developed at a public school in Pouso Alegre, Minas Gerais, with data collected from February to April 2017.

The scenario of the study was the Escola Estadual Monsenhor José Paulino, which has about 1,250 students and operates in the morning, afternoon and night periods. In total, 700 students enrolled from 8th grade to 3rd grade were invited to participate in the survey, of which 499 composed the study sample.

The adolescents were included in the survey by their parents' or legal guardians' signature of the Free and Informed Consent Term, by the participant's own Free and Informed Consent Term signature. The inclusion criteria were: being enrolled and attending school, from 8th grade to 3rd grade. Students under the age of 10 and over the age of 19, or those who escaped from school until the time of study, were excluded. The study was approved by an Ethics and Research Committee of the Nursing School of Ribeirão Preto, Universidade de São Paulo, Certificate of Presentation of Ethical Appreciation (CAAE) number 62175616.3.0000.5393.

An anonymous self-response questionnaire was used as a data collection tool. The model used in the questionnaire was based on the document entitled "Pesquisa de Atitudes e Práticas da População Brasileira"⁽⁹⁾. The variables evaluated, according to the self-administered questionnaire technique, were: age in the menarche, familiarity with contraceptive methods, participation in sex education workshops, discussion about sexuality with family and friends, and desire to be a mother or father in the future.

The analysis of the collected data was preceded by the elaboration of a bank, with the double typing of the questionnaires in the application Excel 2008, using a data dictionary for the codification of the variables. The data were analyzed by the *Statistical Package for the Social Sciences* (SPSS) version 17.0.

Results

In the analysis of the data, three categories have emerged that will be described below: Characterization of adolescents according to demographic variables, knowledge of adolescents about contraceptive methods, and Information on Sexually Transmitted Infections (STI) and pregnancy. These present the results regarding the characterization of adolescents according to demographic variables, adolescents' knowledge about contraceptive methods, and information about STI and pregnancy. The data are also presented in tables.

Characterization of adolescents according to demographic variables

The average age of the 499 participants was 16.3 years ($dp \pm 1.7$), ranging from 12 to 17 years. Approximately one third of the participants – 160 (32%) – were between 11 and 14 years old. Of the total of participants, 286 (57.3%) were female and 213 (42.7%) were male. Most of the female participants reported menarche ($N=284$; 99.3%). Age at the menarche ranged from 8 to 16 years, with a mean of 11.9 years ($dp \pm 1.2$) and a median of 12 years.

Adolescents' knowledge about contraceptive methods

The main contraceptive methods known to the adolescents interviewed were the male condom (94.4%), the oral hormonal contraceptive (83.1%), the female condom (76.3%) and emergency hormonal contraception (74.5%). There was a difference in the knowledge of contraceptive methods in relation to sex. Participants of

the female sex had more information on the diversity of contraceptive methods, including the female condom ($p < 0.01$), oral hormonal

contraceptive ($p < 0.01$), emergency hormonal contraceptive ($p < 0.01$), calendar ($p < 0.01$), and tubal ligation ($p < 0.01$) (Table 1).

Table 1 – Adolescents' knowledge about contraceptive methods. Pouso Alegre, Minas Gerais, Brazil - 2017

Methods	Masculine n=207 (%)	Feminine n=292 (%)	Total n=499 (%)	p-value	Odds Ratio (Minimum- Maximum)
Male condom	196 (94.6)	275 (94.2)	471 (94.4)	<0,75	1.14 (0,50 – 2.56)
Female condom	140 (67.6)	241 (82.5)	381 (76.3)	<0,01*	0.43 (0,28 – 0.66)
Oral Hormonal	154 (74.4)	261 (89.4)	415 (83.1)	<0,01*	0.33 (0,20 – 0.54)
Emergency Contraceptive Pill	139 (67.1)	233 (80.0)	372 (74.5)	<0,01*	0.50 (0.33 – 0.76)
Spermicide	28 (13.5)	39 (13.3)	67 (13.4)	<0,96	1.01 (0.60 – 1.70)
Calendar	65 (31.4)	145 (49.6)	210 (42.0)	<0,01*	0.46 (0.31 – 0.66)
Coitus interruptus	42 (20.3)	50 (17.1)	92 (18.4)	<0,37	1.22 (0.77 – 1.93)
Intrauterine Device	85 (41.1)	192 (65.7)	281 (56.3)	<0,01*	0.33 (0.23 – 0.48)
Sterilization	29 (14.0)	88 (30.1)	117 (23.4)	<0,01*	0.37 (0.23 – 0.59)
Vasectomy	80 (38.6)	131 (44.8)	211 (42.3)	<0,15	0.76 (0.53 – 1.10)

Source: Created by the authors.

* $p \leq 0.05$.

Male participants had less knowledge about STI and safer sex practices (Table 2). Regarding the belief that oral contraceptives prevent STI, it was observed that it is more recurrent in male adolescents (24.6%) than in female adolescents

(17.1%) ($p = 0.04$). Regarding condom use in all sexual relations, it was observed that the highest proportion of adolescents who considered the practice unnecessary was male (22.7%) as opposed to female (9.9%) ($p < 0.01$).

Table 2 – Adolescents' perceptions of safe sex, contraception and participation in sexuality education activities. Pouso Alegre, Minas Gerais, Brazil – 2017 (continued)

Variable	Masculine N=207 (%)	Feminine N=292 (%)	Total N=499 (%)	p-value	Odds Ratio (Minimum- Maximum)
Believes oral contraceptive prevents sexually transmitted infections				0.04*	1.58 (1.02 – 2.45)
Yes	51 (24.6)	50 (17.1)	101 (20.2)		
No	156 (75.4)	242 (82.9)	398 (79.8)		
Believes it is necessary to use a condom in every sexual intercourse				<0.01*	0.37 (0.22 – 0.62)
Yes	160 (77.3)	263 (90.1)	423 (84.8)		
No	47 (22.7)	29 (9.9)	76 (15.2)		
Dialogue on sexuality with parents/guardians				0.75	0.94 (0.65 – 1.35)
Yes	85 (41.1)	124 (42.5)	209 (41.9)		
No	122 (58.9)	168 (57.5)	290 (58.1)		
Dialogue on sexuality with friends				0.48	0.86 (0.57 – 1.30)
Yes	151 (72.9)	221 (75.7)	372 (74.5)		
No	56 (27.1)	71 (24.4)	127 (25.5)		

Table 2 – Adolescents' perceptions of safe sex, contraception and participation in sexuality education activities. Pouso Alegre, Minas Gerais, Brazil – 2017 (conclusion)

Variable	Masculine N=207 (%)	Feminine N=292 (%)	Total N=499 (%)	p-value	Odds Ratio (Minimum- Maximum)
Importance of conducting sex education activities and projects in schools				0.26	0.71 (0.39 – 1.28)
Yes	182 (88.3)	268 (91.5)	450 (90.1)		
No	24 (11.6)	24 (8.5)	48 (9.8)		
Participation in workshops on sexuality at school				0.45	0.87 (0.61 – 1.24)
Yes	92 (44.4)	151 (51.7)	243 (48.4)		
No	115 (55.5)	141 (48.3)	256 (51.6)		

Source: Created by the authors.

* p ≤ 0.05.

Information on Sexually Transmitted Infections (STIs) and pregnancy

Although the majority of the participants (90.1%) approved activities and projects about sexuality in the school environment, only 48.4% of them reported having participated in sexuality education workshops at school, and also establishing greater dialogue about sexuality with friends (74.5%) rather than with parents/guardians (41.9%). There was no difference in relation to sex as to establishing dialogue with family or friends (p >0.05).

Regarding the desire to experience motherhood/paternity at some stage of the life cycle, most adolescents (N=252; 50.5%) reported this desire, while a smaller proportion only considered the possibility (N=184; 36.9%), 8.2% (N=41) of them reported that they would never like to be parents, 0.6% (N=3) did not answer the question. The adolescent pregnancy experience was reported by 3.8% (N=19) of adolescents.

Discussion

The present case detected that adolescents present some knowledge about existing and available contraceptive methods, however, there were differences in the variety of methods reported between male adolescents and female adolescents. Barrier methods and hormonal methods were the most cited by both sexes.

Female adolescents showed some knowledge about behavioral methods, this being a differential over male adolescents.

Among adolescents, the main knowledge gap occurs for items related to hormonal contraceptive methods⁽¹⁰⁾ and the male condom⁽¹¹⁾, a result that agrees with this survey, in which the items with the highest percentage of ignorance or errors were those related to contraceptive pill use. Although the male condom is the main method known by adolescents (94.4%), its efficacy depends on the knowledge of the technique and, above all, on the user's discipline. However, circumstantially, this is not the reality of adolescent sexual behavior⁽¹²⁾.

As for knowledge about behavioral methods, it is important that adolescents have information about the effectiveness and indication, although, due to the irregular menstrual cycle, the difficulty to maintain periodic sexual abstinence and for not presenting protection against STI, these methods are not initially recommended for all adolescents^(11,13).

Besides the differences between the different contraceptive methods, another result of this investigation was the difference in the knowledge between male and female adolescents and the practice of safe sex both to prevent pregnancy and to avoid the transmission of STI. Adolescents showed more knowledge about the importance of condom use for the prevention of STI than male adolescents. The largest proportion of

adolescents who thought condom use was unnecessary in all sexual relations were male, a group that also presented the mistaken knowledge that hormonal contraceptives prevent STI.

Such a context of insufficient or inadequate knowledge is not exclusive to the research scenario of this article. For example, a study conducted in the South region of Brazil found that 37.1% of female adolescents and 30.5% of male adolescents understood that oral contraceptives could also be used as a preventive method for STI⁽¹⁴⁾.

Another study, conducted in Bokeo Province, Lao, showed that, on average, adolescents knew several traditional contraceptive methods. The best known were the male condom and the pill (60.2% and 51.5%, respectively). Approximately one-third (32.4%) of the adolescents in this survey did not know any modern contraceptives. Although more boys knew about the male condom or the pill (19.7% of boys compared to 12.2% of girls), knowledge levels did not vary significantly between the sexes⁽¹⁵⁾.

Double contraception, characterized by concomitant use of the pill and condom, although recommended against STI and pregnancy, is not sufficiently accepted among adolescents⁽¹¹⁾. A study developed in Missouri, United States, on double contraception in adolescent and adult women found that 45% of those who did not use long-term contraception methods used double contraception⁽¹⁶⁾. Regardless of the method chosen, adolescents should be advised about the importance of condom use to reduce the risk of STI acquisition, characterizing double contraception⁽¹⁷⁾. Another study shows that the male condom is the best known method against STI and pregnancy among young people, although its consistent use is not frequent, especially in occasional and unscheduled relationships⁽²⁾.

The choice of contraceptive method is influenced by several factors, including access to different methods, personal characteristics of the adolescent, his/her partner and the available technology. Knowledge about various

contraceptive methods and the desire to use them are essential to the success of contraception⁽¹¹⁾. Another note in this study highlights that 15.2% of adolescents did not wish to use the condom in every sexual relationship, however 90.1% of them showed interest in acquiring more knowledge about sexual education in schools.

It is noteworthy that adolescents have not cited long-term reversible contraceptive methods such as implants and the uterine device with hormone. This result also encourages other studies to be proposed, considering not only the knowledge of adolescents, but the expectations and possibilities of greater and easier access to contraceptive methods considered safe and appropriate for the adolescent.

This study showed that participants had gaps in knowledge about contraceptive methods and STI prevention, and that they saw participation in educational activities on the subject as fruitful. The study also identified that most adolescents established more communication with friends than with their parents. It is important to take advantage of opportunities for lectures in schools to promote knowledge and encourage the adoption of healthy sexual habits and practices that ensure minimal risks to adolescents' sexual and reproductive health⁽¹⁸⁾. Information and communication should be two allies in prevention and health promotion, avoiding the dissemination of wrong information.

Despite recognizing the importance of school in sex education, adolescents also cited the co-responsibility of parents and the relevance of family participation in the issue. It is interesting to note that, contradictorily, the role of dialogue with the family about sexuality is still difficult to establish⁽²⁾.

It is noteworthy that female adolescents established a greater dialogue about sexuality with their mothers, in relation to male adolescents, however the subject is little approached with the father figure by both female and male adolescents⁽¹⁴⁾. In the health service, the medical or nursing consultation can be configured as an opportune occasion for health promotion and health education, when the moment of

interaction between health professional and adolescent is used to clarify doubts and offer qualified information about sexuality⁽¹⁹⁾.

A reduction in orientation activities for pregnancy prevention in schools is observed⁽²⁰⁾. In this study, for example, half of the sample reported not having participated in any sex education activities in the school environment. It is clear, therefore, that strategic planning of systematic health education actions is fundamental for the promotion of adolescents' sexual and reproductive health. Sexual education workshops help not only to understand the risks of teenage pregnancy, but also the risk of contracting STI⁽²¹⁾. Thus, the school and the State should work together to contemplate sex education as a transversal theme in the school curricula⁽²⁾, as well as carry out the interlocution with parents and family members, seeking the establishment of a social support network.

The results of this study provide data that subsidize discussions in the context of adolescent health promotion, demonstrate the need for contraceptive counseling and STI prevention for adolescents, and the importance of sensitizing male participation in discussions in view of the greater knowledge deficit among adolescents of the male sex.

It is pertinent to point out that, during the course of the study, there were limitations, one of them associated with the consent of the parents/guardians for the participation of the students in the research. The Free and Informed Consent Term that were taken to the house, ended up forgotten either by not talking to the parents about the need to be signed, or by not finding the parents at home, or by having lost the term. Finally, there was some difficulty and consequent loss of students who did not return the terms and, thus, could not participate in the research. Another point was associated with the methodology having been designed and carried out in the form of the application of questionnaires, obtaining information in a direct way, which may have compromised the identification of broader issues and greater understanding of pre-established behaviors and

concepts. The influence of behavioral elements of those surveyed was also considered as a limitation, causing them not to answer truthfully the questions addressed, due to shame, shyness, lack of understanding or the stigma associated with the subject.

Conclusion

It could be concluded that the students presented previous and eventually superficial conceptions regarding the prevention of STI and teenage pregnancy. Male participants presented less knowledge about contraceptive methods offered, STI and safe sex practice.

When considering the need to improve adolescents' knowledge about sexual health, it is important to emphasize the relevance of carrying out educational activities regarding the promotion of sexual and reproductive health in the school environment. These actions should value the empowerment of adolescents of the female sex, in addition to the active participation and inclusion of adolescents of the male sex, with a view to achieving gender equity, awareness, reflection and co-responsibility of both sexes in the practice of safe and healthy sex.

The realization of isolated educational activities has little impact on the formation of concepts and attitudes of adolescents. The promotion of self-care and the practice of safe sex, reinforcing the responsibility to exercise sexuality with health, should be considered, reinforcing the practice of behaviors and attitudes for a healthy sexual life. It is considered that the approach to sex education, as it is a broad and complex topic, should be carried out continuously, in articulation with schools, families and the community, in addition to involving all the elements that make up the social support network for adolescents.

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