





PREGNANCY IN ADOLESCENCE: USE OF CONTRACEPTIVE METHODS AND THEIR DISCONTINUATIONS

GRAVIDEZ NA ADOLESCÊNCIA: USO DE MÉTODOS ANTICONCEPTIVOS E SUAS DESCONTINUIDADES
EMBARAZO EN LA ADOLESCENCIA: USO DE MÉTODOS ANTICONCEPTIVOS Y SUS DISCONTINUIDADES

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ABSTRACT

Introduction: the beginning of sexual activity during adolescence may expose this population to some risks such as the occurrence of unplanned pregnancy. Several studies show that, despite the increased use of contraceptive methods (CMs), pregnancy remains high among adolescents. **Objective:** to analyze the use of CMs by adolescents who became pregnant during this period of life. **Method:** This is a case-control study conducted with 86 pregnant adolescents (cases) and 86 young women without a history of pregnancy in adolescence (controls) in Family Health Strategy (*Estratégia Saúde da Família*) units in Cuiabá-MT, from August to November 2016. **Results:** the data revealed that the adolescents used CMs on their first sexual intercourse (67.4%), but there was a considerable decrease in use when specifically investigating their use in the month they became pregnant (37.2%). It was noted that the use of CMs is lower among the adolescents compared to the young women without a history of pregnancy in adolescence. Contraceptive discontinuations were also verified among the study participants. **Conclusion:** the findings revealed that the adolescents use fewer contraceptive methods compared to young women since the beginning of their sexual life. In addition, the use is permeated by discontinuations, highlighting the failures in the use of CMs. This fact indicates the need to increase care and contraceptive options for this population.

Keywords: Pregnancy in Adolescence; Pregnancy, Unplanned; Contraception Behavior; Contraception.

RESUMO

Introdução: o início da atividade sexual no período da adolescência pode expor essa população a alguns riscos como a ocorrência de gravidez não planejada. Estudos mostram que, apesar do aumento do uso de métodos anticoncepcionais (MAC), a gravidez continua alta entre os adolescentes. **Objetivo:** analisar o uso de MAC por adolescentes que engravidaram nesse período da vida. **Método:** trata-se de estudo do tipo caso-controle, realizado com 86 gestantes adolescentes (casos) e 86 jovens sem histórico de gravidez na adolescência (controles) em unidades de Estratégia de Saúde da Família do município de Cuiabá-MT, no período de agosto a novembro de 2016. **Resultado:** os dados revelaram que as adolescentes fizeram uso de MAC na primeira relação sexual (67,4%), porém se verificou considerável diminuição na utilização ao investigar especificadamente o uso no mês em que engravidaram (37,2%). Destacou-se que a utilização de MAC é menor entre as adolescentes comparado às jovens sem histórico de gravidez na adolescência. Verificaram-se, ainda, descontinuidades contraceptivas entre as participantes do estudo. **Conclusão:** os achados revelaram que as adolescentes utilizam menos métodos anticoncepcionais, comparado às jovens, desde o início da vida sexual. Além disso, o uso é permeado por descontinuidades, com destaque para as falhas no uso do MAC. Esse fato indica a necessidade de aumentar os cuidados e opções contraceptivas para essa população.

Palavras-chave: Gravidez na Adolescência; Gravidez não Planejada; Comportamento Contraceptivo; Anticoncepção.

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RESUMEN

Introducción: el inicio de la actividad sexual durante la adolescencia puede exponer a esta población a algunos riesgos, como el embarazo no planificado. Los estudios muestran que, a pesar del aumento en el uso de métodos anticonceptivos (MAC), el embarazo sigue siendo alto entre las adolescentes. **Objetivo:** analizar el uso de MAC en adolescentes que quedaron embarazadas durante este periodo de la vida. **Método:** estudio de caso-control, realizado con 86 adolescentes embarazadas (casos) y 86 mujeres jóvenes sin antecedentes de embarazo en la adolescencia (controles) en las unidades de Estrategia de Salud Familiar de la ciudad de Cuiabá-MT, de agosto a noviembre de 2016. **Resultado:** los datos revelaron que las adolescentes usaron MAC en la primera relación sexual (67,4%); sin embargo, al investigar específicamente el uso en el mes en que quedaron embarazadas, se constató que habían disminuido considerablemente dicho uso (37,2%). Se observó que el uso de MAC es menor entre las adolescentes en comparación con las mujeres jóvenes sin antecedentes de embarazo en la adolescencia. También se observó discontinuidad en el uso de anticonceptivos entre las participantes del estudio. **Conclusión:** los hallazgos revelaron que las adolescentes emplean menos métodos anticonceptivos en comparación con las jóvenes, desde el inicio de su vida sexual. Además, hay mucha discontinuidad en el uso de MAC, lo cual pone en evidencia sus fallas. Este hecho indica la necesidad de aumentar la atención y las opciones anticonceptivas para esta población.

Palabras clave: Embarazo en Adolescencia; Embarazo no Planeado; Conducta Anticonceptiva; Anticoncepción.

INTRODUCTION

Sexual initiation occurs very frequently during adolescence and this event can expose this population to contexts of vulnerability to sexually transmitted infections (STIs), unplanned pregnancy (UP) and abortion.¹ This indicates that this group is the target of attention in sexual health care, especially in reproductive planning issues and access to contraception.

Although the 2006 National Survey of Demography and Health (*Pesquisa Nacional de Demografia e Saúde*, PNDS) of Children and Women indicated an increase in the use of contraceptive methods (CMs) among Brazilian women in the decade under study, the use of CMs among adolescents was reduced. Data indicated that 55.7% of the sexually active adolescents aged 15-19 years old had already used some CM and 35.4% were using some kind of method.²

Multiple factors can influence adolescent contraceptive behavior, including access to methods, side effects, knowledge, social influences, beliefs, personal motivations, and relationship factors.³

Factors related to the use of CMs include contraceptive discontinuations, which can be explained by the theoretical model of Bradley, Schwandt and Khan⁴, which considers the need or not of using CMs (Figure 1).

Thus, it is important to investigate how adolescents are using the CM because, despite advances in contraceptive technologies with the expansion of contraceptive methods and regularity in the free provision of CMs in the public health services, adolescents continue getting pregnant and often do so with contraceptive use. This is an important subject, since pregnancy can make it difficult for an adolescent to reach the level of education and ensure a good insertion in the job market. Another aspect is the current context, where there are big changes in love relationships and sexual behaviors, in the means of obtaining information such as the Internet, which must be problematized and highlighted in the reproductive health policies.

Thus, given the need of using CMs, many adolescents become pregnant during this period of life, which becomes a relevant problem to be researched and can be formulated as follows: how were CMs used by adolescents who became pregnant? Thus, the hypothesis of this study was: adolescents' use of CMs was permeated by contraceptive discontinuations. Therefore, the objective of this study was to analyze the use of CMs by adolescents who became pregnant in this period of life.

METHODS

This is a case-control study, linked to the following matrix research: family context and occurrence of pregnancy in adolescence. The development took place in Family Health Strategy (*Estratégia de Saúde da Família*, ESF) units in Cuiabá-MT, from August to November 2016.

For the choices of the ESFs, the neighborhoods were divided according to the North, South, East and West regions. Subsequently, they were organized in descending order with the largest number of resident adolescents. Then, the ESFs inserted in the most populous neighborhoods were selected, following the fraction of adolescents from each region. It was decided to define the most populous neighborhoods to be studied with the intention of ensuring that the cases and controls came from the same socioeconomic situation. Thus, the ESFs neighborhoods were used as matching criteria.

To test the matching of the elected variables, the *odds ratio* (OR) test of the participants of both groups was performed, thus ensuring the homogeneity of the groups in the selected variables. Only the age variable was not used for matching the participants.

To calculate the frequency of the event, the use of contraceptive methods variable was chosen based on the result of the National Health Survey conducted in 2013 by the Brazilian Institute of Geography and Statistics (*Instituto Brasileiro de Geografia e Estatística*, IBGE) in 81,767 households of 1,600 municipalities, which indicated that in Mato Grosso 21.4% of the young women aged between 20 and 24 years old did not use any contraceptive method.⁵

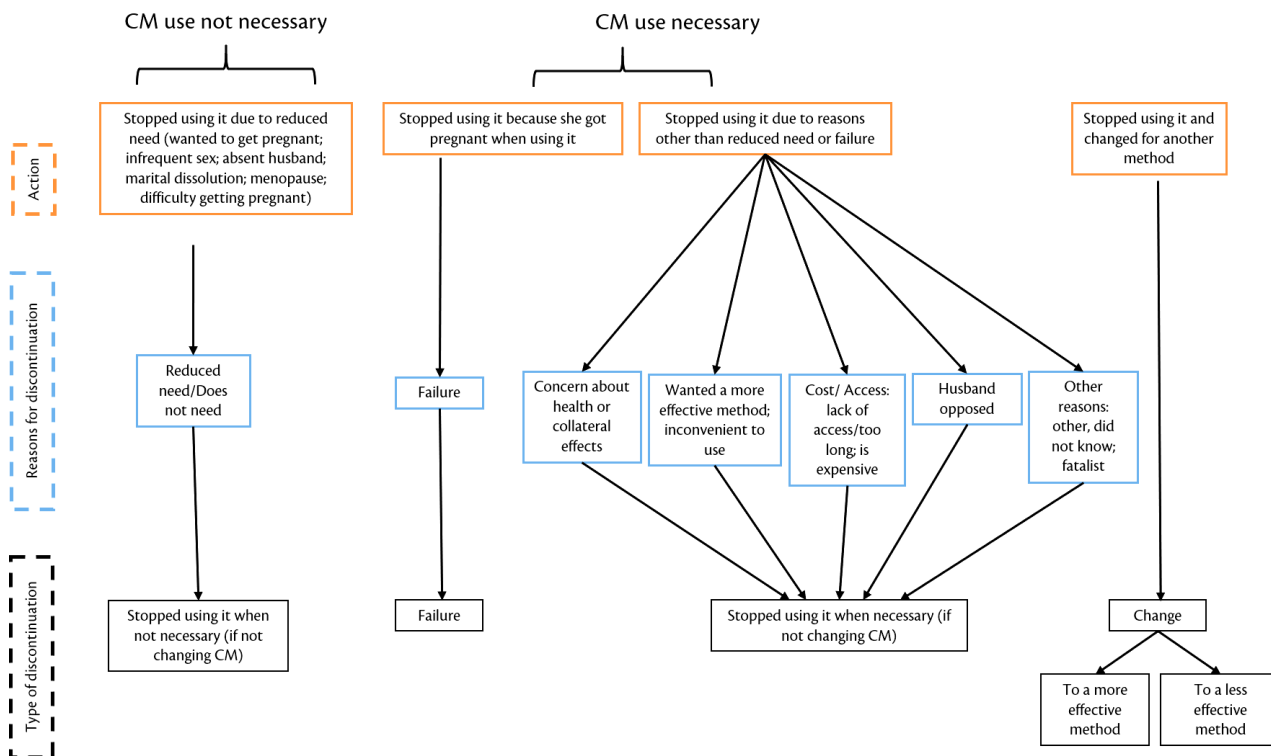


Figure 1 - Discontinuation patterns. Adapted from Bradley, Schwandt and Khan (2009).

In this research, in order to obtain the sample size, the probabilistic sampling method was used. A confidence level of 95% was considered; 80% test power; maximum error of 2%; and a case:control ratio of 1:1, with an event frequency of 21.4% between the controls and using an expression for the odds ratio. Thus, 172 participants were included, 86 being cases and 86, controls.

After determining the sample size, the selection of the research participants was made randomly, among the pregnant women registered in the SISPRENATAL of the ESF units. The case group consisted of adolescents aged from 15 to 19 years old and the control group, of young women aged 20 to 24 years old, with no previous history of teenage pregnancy. Adolescents under 18 years old unaccompanied by their guardians were excluded.

It is worth noting that the choice of the control group of young individuals between the ages of 20 and 24 is justified by the need to include women who have gone through adolescence without getting pregnant. Similarly, women older than 24 years old were not selected in order to eliminate memory bias.

Data collection was performed through individual interviews conducted by a semi-structured questionnaire validated by a group of experts in the area of the research group, referring to individual independent variables (age, skin color, marital status, religion, education, *per capita* income, employment, use of CMs, knowledge about CMs and

reproductive planning) and the *London Measure of Unplanned Pregnancy* (LMUP) instrument.

The LMUP is a pregnancy planning measurement tool built and validated in the United Kingdom, translated and validated in Brazil and applicable to any pregnancy modality, regardless of whether the outcome was birth or abortion. It consists of six items and the score is calculated by the sum of the points, ranging from zero to two (for each item, totaling a maximum of 12 points). From the obtained score, it is classified into three segments: 10 to 12 points correspond to planned pregnancy; four to nine points correspond to ambivalence about pregnancy planning; and zero to three indicate unplanned pregnancy.⁶

After data collection, no young woman gave up participating in the research, so there were no losses. Subsequently, data were entered into the electronic questionnaire built on the *Epiinfo* software, version 7. They were then stored in a database created by the software and the SPSS program, version 20, was used for data analysis. The descriptive statistical analysis was used for the numerical variables of measures of position (mean, median, mode) and of dispersion (variance, standard deviation). For the qualitative variables, the distribution of data was presented in tables considering absolute and relative frequencies.

In the inferential statistical analysis, the exposure and outcome variables were analyzed by means of a bivariate analysis to test the association between pregnancy in adolescence and

the various independent variables, using the Chi-square test, the Fisher's exact test or the likelihood ratio test. In all tests, a significance level of less than 0.05 was considered, with their odds ratios and their respective 95% confidence intervals (95% CI).

The study was approved by the Research Ethics Committee of the Júlio Muller University Hospital, under opinion No. 1,443,731, and carried out within the ethical criteria for research with human beings. All the young women who agreed to participate signed the Free and Informed Consent Form (FICF) or the Consent Form (CF) for adolescents who were not 18 years old. In this situation, the FICF was also signed by their legal guardians.

RESULTS

The data showed that the majority of the respondents used some kind of CM in their first sexual relation. However, it was noted that the adolescents used them less compared to the young women who did not become pregnant in adolescence. Approximately 30% of the adolescents in the case group did not use CMs, representing twice the frequency found among young women without a history of pregnancy in adolescence.

The use of a continuous daily method was not frequent among the adolescents, the most frequent use was of condoms and emergency contraception (EC). Among the young women, the highest frequency was also for male condoms, and secondly, continued contraceptive use prevailed.

It was verified that most of the participants used some kind of CM in their daily life; however, the adolescents made less use than the other group.

Regarding the CMs used in daily life, among the case group we identified the use of combined oral contraceptive for just over 40% and monthly injectable for just below 40%. Among the control group young women who used CMs, more than 60% used combined oral contraceptives.

The use of CMs was specifically investigated in the month of pregnancy and, as shown in Table 1, there was a greater reduction in CM use among young women. They evidenced more intentionality in getting pregnant than the adolescents.

Among the adolescents who became pregnant despite contraceptive use, oral contraceptive use prevailed, followed by the monthly injectable and, lastly, male condom. Among the young women who became pregnant, the method most used was oral contraception (Figure 2).

According to the analysis of the association between pregnancy in adolescence and the use of CMs, an association was found with the occurrence of pregnancy in adolescence and the use of CMs in the first intercourse and in daily life. It was verified that the participants who did not use CMs in their first intercourse were 1.48 times more likely to become pregnant during adolescence, compared to those who used some kind of method (95% CI = 1.20-5.15). Those who did not use CMs in their routine had 1.58 times more chances to become pregnant when compared to those who used some kind of CM (95% CI = 1.05-6.31).

Among the participants who used CMs in their daily life, the occurrence of contraceptive discontinuation was analyzed. It was verified that the interruption of CMs when their use was not necessary was proportionally lower among the adolescents (11.8%).

Most of the adolescents (88.2%) needed to use CMs, but contraceptive discontinuations occurred in a greater proportion among them, despite such a need. They claimed inconvenience in the use, concern about health or side effects, other reasons, exchange and mostly failure.

The discontinuations classified as "failure" were pregnancies that occurred during the use of some kind of CM, and are presented in Table 3. In both groups it was observed that the failures occurred in the way of using the CMs. Among the adolescents, most used them inconsistently, followed by incorrect use of the method. Most young women also used CMs inconsistently.

Table 1 - Association of CM use according to the groups (n=172), Cuiabá, MT, 2016

Sexual and reproductive characteristics	Cases		Controls		OR _b	IC 95%	p-value
	n	%	n	%			
Used CM in first intercourse							
No	28	32.6	14	16.3	2.48	1.20-5.15	0.013
Yes	58	67.4	72	83.7	1.00	–	–
Used CM							
No	18	20.9	08	9.3	2.58	1.05-6.31	0.033
Yes	68	79.1	78	90.7	1.00	–	–
Was using CM during the month she became pregnancy							
No	54	62.8	58	67.4	0.81	0.43-1.53	0.522
Yes	32	37.2	28	32.6	1.00	–	–

Notes: OR_b: Gross *Odd ratio*. CI: Confidence interval. n: Sample size. p-value: p-value of the Chi-square test. P values highlighted in bold statistically significant at the 5% level.

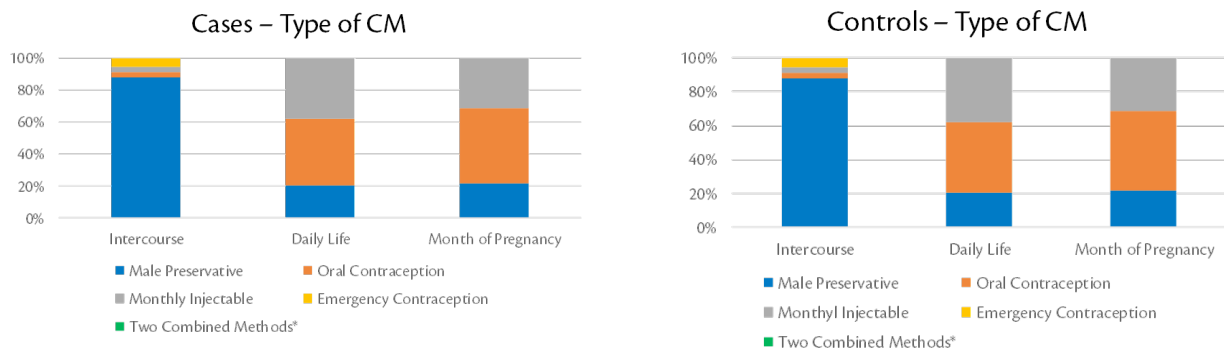


Figure 2 - Distribution of the type of CM used according to the groups (n=172), Cuiabá, MT, 2016. *male condom and oral contraceptive or EC.

Table 2 - Distribution of contraceptive discontinuations according to groups (n=146), Cuiabá, MT, 2016

Contraceptive discontinuations	Cases		Controls	
	n	%	n	%
No need to use CMs				
Abandonment	8	11.8	22	28.2
Need to use CMs				
Abandonment				
Inconvenient to use	13	19.1	14	17.9
Concern about health or collateral effects	7	10.3	8	10.3
Other reasons: other, did not know; fatalist	8	11.8	7	9.0
Failure				
Exchange	3	4.4	3	3.8
TOTAL	68	100.0	78	100.0

n: Sample size.

Table 3 - Distribution of contraceptive failures according to the groups (n=53), Cuiabá, MT, 2016

Contraceptive failures	Cases		Controls	
	n	%	n	%
Incorrect use of the CM	10	34.5	5	20.8
Inconsistent use of the CM	19	65.5	19	79.2

n: Sample size.

DISCUSSION

The data showed a difference in the contraceptive behavior in the first intercourse during adolescence between those who became pregnant in adolescence and those who went through this phase without becoming pregnant. This relation was found in a study that aimed to identify the risk factors for teenage pregnancy among students from Bogotá, Colombia, and suggested that not using contraceptives in the first intercourse is due to lack of knowledge, anchored in the poor perception of the risk of becoming pregnant.⁷

The most commonly used method in the first intercourse in both groups was the male condom, as identified in other studies.⁸ It is important to note that 5.5% of the young women in the control group used two combined methods, the male condom associated with another contraceptive. In contrast, no adolescent used two combined methods, which may indicate more concern in the control group about the risks of pregnancy during adolescence and STIs since the first sexual relation.

Although most of the adolescents use some CM in their daily life, it was possible to identify that they use them less than the young women from the comparison group. Not using CMs was associated with the occurrence of pregnancy during adolescence. These results were found in other studies, in which the adolescents who became pregnant at this stage of life also made a lesser use of CMs.^{8,9}

Regarding the methods adopted in the daily life, it was verified that the most used by both groups was the oral contraceptive in place of the condom, which had been the most present in the first intercourse. The monthly injectable contraceptive appeared in the second place; however, the adolescents used it more than the young women in the control group. It is believed that this may be related to the discretion offered by the method, without evidencing the beginning of the adolescents' sexual life, and also in view of the fact that the method does not demand the concern with daily use as the oral contraceptive requires.

It is important to highlight that more than 20% of the adolescents did not use any CM, a frequency lower than that found in other studies,^{9,10} thus showing a possible improvement in access to CMs in this research. However, there is still a significant amount of adolescents who were not protecting themselves regarding pregnancy and STIs.

The difficulty to access the CMs is still a relevant issue, although most young women have access to them in the health centers through the Unified Health System (*Sistema Único de Saúde, SUS*). They are not always available in the units,

and several methods require gynecological consultation, which can take a long time to be scheduled. From this perspective, it is suggested that the higher proportion of pregnancies among adolescents with a lower economic status may reflect the still precarious access to the health services.¹¹

The family's discovery of the use of some CM possibly interferes with the use and choice of the type of method, either for fear or shame of them discovering their sexual life, thus harming contraception, and indicates that the lack of family dialog negatively interferes with prevention.¹² Another factor that inhibits the search for a CM in a health unity is that it is a setting usually frequented by family and neighbors, which may reveal sexual initiation and their interest in contraception.¹¹

Another aspect that may be related to the non-use of CMs or their discontinuations are issues related to the context of the relationship. Faced with a temporary interruption of the relationship, adolescents often stop using oral contraceptives or, with the unpredictability of the dates, they end up not using contraceptives.^{13,14}

One of the factors identified in the study that seems to contribute to the non-use or inconsistent use of CMs may be the belief of being immune to pregnancy and the other risks surrounding unprotected sex. Many adolescents do not use CMs because they do not believe there is a risk of pregnancy.¹⁵

A study that analyzed the factors that favor or hinder access to the CMs and their use by Argentine adolescents identified motivation as a facilitator, by realizing that the use of CMs is more systematic among those for whom pregnancy is a concern, as it interferes with studies; they consider themselves unprepared; have no financial resources; or because they already have children.¹⁶

Partner opposition was identified in this study and may also be one of the obstacles for the use of CMs.¹⁶ A relationship with an abusive and controlling partner reduces the ability of young women to negotiate contraception, just as in a scenario of economic deprivation, the ability to negotiate is considerably reduced.¹¹ Thus, gender inequality seems to diminish women's autonomy, as well as their chances of preventing an unplanned pregnancy.

On the other hand, communication and negotiation between partners are key elements for enjoying a healthy sex life.¹¹ Sexual and reproductive health programs need to work on this perspective of gender and rights in order to understand the relevance of incorporating men in this dimension and promoting the users' autonomy for prevention.¹⁶

Pregnancy planning is a factor that contributes to the use of CMs, as demonstrated by the study that evaluated the effect of pregnancy intentions on the consistency of CM use among adolescents in Michigan, USA. The research found that the young women with ambivalence about pregnancy planning were more likely to not use CMs or to use them inconsistently.¹⁷

In this study, a significant non-use of CMs stood out and that the vast majority in both groups was not using them during the month in which they became pregnant. This significant attenuation in the use of CMs in subsequent sexual relations was also identified in another study.¹⁴

A research into the factors that influence contraceptive behavior in women who have had an unwanted pregnancy recognized six categories involved in this behavior, including the following: access and method factors (such as side effects, knowledge, social influence, beliefs, personal motivations, and relationship factors).³

In the same direction, the difficulties identified for the continuation of oral contraception were the side effects experienced or attributed to this method, and the need for daily ingestion.¹⁶

The high percentage of young people in this study who used CM incorrectly is highlighted. This corroborates a study that aimed to identify the knowledge of oral contraceptive users about the correct use, side effects and complications related to this use in Fortaleza – CE; an inadequate or insufficient knowledge by women was verified about the correct start of use of the pack, as well as for the use of subsequent packs. There was also a gap about the regularity of the time for taking the pills, and in how to proceed when forgetting one or more pills. Besides, correct use was associated with higher education and income.¹⁸

Although information is available, effective knowledge about the operation and use of the methods still appears to be unsatisfactory and insufficient. The adolescents' knowledge tends to be limited to male condom use and to some oral and injectable contraceptive knowledge⁸, and may still be inadequate or incomplete, which certainly reflects in how this population uses the methods.

In the same perspective, it was verified that some young women became pregnant when changing the method, which again leads to a possible deficiency in knowledge about the risks of pregnancy in this period, as well as about the care needed for the change to occur safely.

A study investigating the discontinuation of oral contraceptives and their consequences in 19 low and middle-income countries highlighted that both interruption of use and inadequate exchange of methods are a major problem and are normally overlooked in the reproductive planning services.¹⁹

The non-inclusion of young males in the research can be considered as a limitation of the study. They also experience paternity in adolescence, have their own reproductive intentions and contraceptive decisions, and influence women's intentions and decisions, as discussed in the study.

CONCLUSION

Through the findings of this study, it was possible to conclude that the use of CMs is still reduced among adolescents. In addition,

contraceptive discontinuations mark adolescence and expose them to an unplanned and often unwanted pregnancy.

Thus, it is believed that information about reproductive planning should be offered clearly and objectively, taking into account the compatibility of the indicated method with the adolescent's affective-sexual life scope and reproductive ambivalences.

Information should include the side effects, the importance of the correct and consistent use to ensure the effectiveness of the method, and the actions to address any inconsistencies that may occur. However, it is essential that the professionals seek to make sure that the adolescents understand the correct form of administration, and that they assist in choosing a method that most closely matches their needs.

Contraception should be a process closely monitored by the professionals, considering that a first approach with prescribing the method and providing information about it is not enough for the adolescents to use it correctly and consistently.

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