

## Contraceptive Choices Pre and Post Pregnancy in Adolescence



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### ABSTRACT

**Study Objective:** The main aim of this study is to evaluate the impact of adolescent pregnancy in the future contraceptive choices. A secondary aim is to verify whether these choices differ from those made after an abortion.

**Design:** Retrospective study.

**Setting:** Adolescent Unit of a tertiary care center.

**Participants:** 212 pregnant teenagers.

**Interventions:** Medical records review.

**Main Outcome Measures:** Intended pregnancy rate and contraceptive methods used before and after pregnancy. For contraceptive choices after pregnancy we considered: Group 1 - teenagers who continued their pregnancy to delivery ( $n = 106$ ) and Group 2 - the same number of adolescents who chose to terminate their pregnancy.

**Results:** The intended pregnancy rate was 14.2%. Prior to a pregnancy continued to delivery, the most widely used contraceptive method was the male condom (50.9%), followed by oral combined contraceptives (28.3%); 18.9% of adolescents were not using any contraceptive method. After pregnancy, contraceptive implant was chosen by 70.8% of subjects ( $P < .001$ ) and the oral combined contraceptives remained the second most frequent option (17.9%,  $P = .058$ ). Comparing these results with Group 2, we found that the outcome of the pregnancy was the main factor in the choices that were made. Thus, after a pregnancy continued to delivery, adolescents prefer the use of LARC [78.4% vs 40.5%, OR: 5.958 - 95% (2.914-12.181),  $P < .001$ ], especially contraceptive implants [70.8% vs 38.7%, OR: 4.371 - 95% (2.224-8.591),  $P < .001$ ], to oral combined contraceptives [17.9% vs 57.5%, OR: 0.118 - 95% CI (0.054-0.258),  $P < .001$ ].

**Conclusion:** Adolescent pregnancy and its outcome constitute a factor of change in future contraceptive choice.

**Key Words:** Contraception, Adolescence, Pregnancy

### Introduction

The decision on how, when, and which contraceptive method one should use is a complex issue for teenagers. Even though they increasingly use contraceptive methods in general and especially birth control at first intercourse, consistent use remains a challenge in this age group,<sup>1</sup> thus turning teenagers into a major risk group for unplanned pregnancy.

Most teenagers do not use the health care services available to them for contraceptive advice, friends and partners being the main sources of information.<sup>2</sup> Half of teenage pregnancies occur in the first 6 months after the onset of sexual activity<sup>3</sup> and about a fifth during the first month.<sup>1</sup>

The choice of contraceptive methods by adolescents may be influenced by a wide range of factors, among which are: prior knowledge of the method, its cost, side effect profile, efficacy, discretion, invasiveness, easy access and use and the possibility of forgetting to take it.<sup>4,5</sup>

Few studies evaluate the use of postpartum contraceptive choices in adolescence, but they are unanimous in the usefulness of long-acting reversible contraceptives (LARC) for preventing future unplanned pregnancies.<sup>6-9</sup>

The main aim of this study is to evaluate the impact of teenager's pregnancy on future contraceptive choice and a secondary aim is to evaluate whether there are differences between the choices made by adolescents who continued with their pregnancy versus those who opted for induced abortion. Based on the reality of our Adolescent unit, we hypothesized that the pregnancy determines deep changes in the contraceptive choices, making the use of LARC preferable in teenagers that continued pregnancy till delivery.

### Materials and Methods

This retrospective study included pregnant teenagers followed in the Adolescent Unit of the Maternity Dr. Alfredo da Costa, between 2007 and 2010.

In this unit is a multidisciplinary team composed of gynecologist/obstetrician doctors, nurses, social workers, psychologists, and nutritionists. The surveillance of pregnant teenagers, the monitoring of cases that chose voluntary termination of pregnancy, and the contraceptive counseling is always carried out by the same health professionals, during pregnancy or termination of pregnancy and after delivery or abortion. The different methods are presented and provided, leaving the decision to the teenager.

During the study, we analyzed the medical records of all the teenagers followed at the unit for data collection. Those who had no information on several variables: demographic

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characteristics (age, race, parity, education level, and profession), pregnancy planning and contraceptive methods used before and after pregnancy, were excluded. A final sample of 106 teenagers who decided to continue the pregnancy was obtained.

After comparing pre- and postpregnancy contraceptive choices made by adolescents who chose to carry their pregnancies until delivery (Part I), the authors compared the contraceptive methods chosen by those teenagers, Group 1, with those chosen by teenagers who opted for abortion, Group 2 (Part II).

As the number of teenagers who opt for the termination of pregnancy exceeds those who opt for continuing the pregnancy, for Group 2 we randomly selected an equal number of adolescents ( $n = 106$ ) who chose to terminate the pregnancy at the same period of time. We considered contraceptive choices after pregnancy to be those which were made after the end of breastfeeding, and we considered contraceptive choices made after the termination of pregnancy those made after the first follow-up consultation (1 month after the procedure).

Long-active reversible contraceptives are those which require less than 1 administration per month or per cycle and include the contraceptive implant, intrauterine devices and 3-month injectable progestin.

In Portugal, compulsory schooling starts at the age of 6 (1<sup>st</sup> grade) and it continues till the 12<sup>th</sup> grade, each year of age corresponding to a school year. School failure exists whenever there isn't a correct concordance between the age and the corresponding school year.

We used the Statistical Package for Social Sciences (SPSS) version 16.0 (SPSS Inc, Chicago, IL) for statistical analysis. For the comparison of paired samples we used the Wilcoxon test and for the comparison of independent samples we used the Student t-test (continuous variables) and the chi-square and Fisher exact test (categorical variables). A multivariate analysis was done to control demographic differences between 2 independent samples. For a significance level  $\alpha = 0.05$ , we considered the existence of statistical significance when  $P < .05$ .

## Results

### Part I - Contraceptive Choices Pre and Post Pregnancy Carried Until Delivery

#### Sample Description

We included 106 pregnant adolescents, aged 13 to 18 (average age:  $16 \pm 1$  y). The adolescents were mostly single (92%), nulliparous (98%), Caucasian ( $n = 70$ , 66%) and students ( $n = 65$ , 61%), [Table 1](#).

#### Pregnancy Planning

The intended pregnancy rate was 14%, with adolescents aged 15 or younger representing one third of the cases. When comparing adolescents with a intended pregnancy with those with an unintended pregnancy, there were no statistically significant differences regarding age and race. The teenagers who planned their pregnancy are more frequently married or live with a partner (53%) and had a

**Table 1**

Demographic Characteristics from Adolescents who Carried Pregnancy Until Delivery

	N (%)
Age	
≤ 15 y	31 (29.2)
> 15 y	75 (70.8)
Race	
Caucasian	70 (66)
Non-Caucasian	36 (34)
Parity	
Nulliparous	104 (98.1)
Multiparous	2 (1.9)
Marital Status	
Single	97 (91.5)
Married/living with partner	9 (8.5)
Schooling	
Grade 1-4	6 (5.7)
Grade 5-9	83 (78.3)
Grade 10-12	16 (15.1)
Higher education	1 (0.9)
School failure	84 (79.2)
Profession	
Student	65 (61.3)
Housewife	18 (17)
Unemployed	18 (17)
Non-qualified job	5 (4.7)

higher percentage of primary school – first to fourth grade (20%) – compared to those with an unintended pregnancy (3%), two thirds of whom were students - [Table 2](#).

#### Contraception Pre and Post Pregnancy Carried Until Delivery

Prior to pregnancy, the contraceptive method most commonly used by adolescents was the male condom (51%) followed by oral combined contraceptives (28%).

The use of the double method (oral combined contraceptives + male condom) was reported by 5% of the adolescents; the vaginal ring and the contraceptive implant have only 1 user. Almost 19% did not use any contraceptive method before becoming pregnant - [Table 3](#).

After pregnancy there was a change in the contraceptive method in 93.4% of cases.

The contraceptive implant then became the most chosen method for 71% of adolescents, oral combined contraceptives remained as the second most used method (18%) and the administration of medroxyprogesterone acetate was chosen in 2% of cases. We observed a more varied use of contraceptive methods, with the choice of injectable progestin, the transdermal patch and the intrauterine device

**Table 2**

Pregnancy Planning in Adolescents who Carried Pregnancy Until Delivery

	Intended Pregnancy N = 15 (14%)	Unintended Pregnancy N = 91 (86%)	P-Value
Age (y), Mean $\pm$ SD	16 $\pm$ 1.22	16 $\pm$ 1.05	.819
≤ 15 y, n (%)	5 (33)	26 (29)	.920
> 15 y, n (%)	10 (67)	65 (71)	
Caucasian race, n (%)	8 (53)	62 (68)	.377
Married/living with a partner, n (%)	8 (53)	1 (1)	<.001
Schooling ≤ 4th grade, n (%)	3 (20)	3 (3)	.036
Student, n (%)	4 (27)	61 (67)	.004

SD, Standard deviation.

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