

Full Length Research

Trajectories that lead or not to Pregnancy or Voluntary Interruption of Pregnancy in University Students in Portugal

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A self-administered questionnaire was carried out among university students in Portugal, with the aim to have better knowledge of students' (a) sexual behaviours and contraception use and identify trajectories that lead to pregnancy or voluntary interruption of pregnancy (VIP). The study provided national representative data of 3.278 university students in Portugal, between 18 and 35 years old. The sample included 70% women and 30% men. The mean age was 21 years old. The majority of students are Portuguese, single, catholic, heterosexual and have had sexual intercourse. The majority had their first sexual intercourse at the age of 16 or later, used condom as their first contraceptive method and usually used the pill and condom. Concerning unintended pregnancies and abortions, it was found that a minority of students reported having had at least one of them. Therefore, there was a minority, but worthy of concern, group of students at risk, which may suggest that protective behaviours are not consistent or they are abandoned over time. Based on this study and its results, inconsistent contraceptive use is identified. Nine trajectories were identified; seven of which leading to pregnancy or VIP. Findings from the current research have practical implications for both contraceptive education and STI prevention among college students. University students in particular face new challenges in sexual health and need more comprehensive education aimed at promoting healthy decision-making about family planning and STI prevention.

Key words: Contraception, pregnancy, voluntary interruption of pregnancy, young people.

INTRODUCTION

About 16 million girls aged 15 to 19 and some 1 million girls under 15 give birth every year most in low-and middle income countries. However, this number reflects a worldwide decrease of pregnancies in adolescence between 2011 and 2014 (UNFPA, 2014; WHO, 2014).

In Portugal, data from the INE/Pordata (2015) also reported a decrease of adolescent mothers between 15 and 19 years old from 2011 to 2014,

namely 13.3%(2011), 12.2%(2012), 10.7%(2013) and 9.3% (2014). This decrease was also reported in other age groups, particularly in the 20-24, 25-29 and 30-34 years old. Although there has been a decrease of pregnancies in adolescence, this is still considered a serious problem in terms of public health. The main problems associated, according to the report, are poverty, obstacles to human rights, sexual violence, policies regarding contraceptive methods, lack of access to education and health services related to the subject, etc (UNFPA, 2014).

In relation to voluntary interruption of pregnancy (VIP), the ONU report stated that about 3.2 million abortions are performed in unsafe conditions annually in developing

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countries, accounting for 98% of the total numbers (UNFPA, 2014; WHO, 2011).

In Portugal, from 2011 to 2014, 20480 (2011), 19156 (2012), 18281 (2013) and 16039 (2014) VIP were carried out, also showing a decreasing trend. Regarding these women's age groups, in the year 2014, the age cohort 20-24 years old reported the highest number of VIP (22.9%), followed by the 25-29 years old cohort (21.1%) and the 30-34 years old (19.6%), which overall corresponded to 63.9% of the total number of VIP cases (DGS, 2012; 2013; 2014; 2015).

Unintended pregnancies and subsequent abortions have a notable impact on society. Both are more common among young, unmarried, low income and educationally disadvantaged women (Rodríguez-Calvo et al.; 2012). Furthermore, unintended pregnancies are associated with negative prenatal parental behaviour and negative health and social outcomes for both mother and child (Pace et al., 2008).

The consistently high level of unintended pregnancies and subsequent abortions can be explained, in part, by the barriers women face when obtaining their chosen contraceptive method (Pace et al., 2008; Rodríguez-Calvo et al., 2012). These barriers, or reasons for not obtaining chosen contraception, include limited knowledge and access to the most effective methods available, especially methods that do not require daily or weekly compliance.

For these reasons, adolescents and young adults are considered relevant groups in preventive actions and practices in investigations of sexual behaviour.

Despite the existence of safe and effective contraception in Portugal, contraception non-use and inconsistent use are prevalent among women who do not want to get pregnant. In fact, over half of unintended pregnancies occur among women using their contraception method inconsistently or incorrectly (Pires et al., 2014). Portugal still has one of the highest unintended pregnancy rates among developed countries. In EU-27, Portugal occupies the eleventh position (UNFPA, 2013).

Based on this evidence, and on the authors' lack of knowledge on Portuguese studies that address understanding the different sequences of events and decisions that can lead adolescents and young adults to pregnancy or voluntary interruption of pregnancy (VIP), the aim of this study is to have better knowledge of young people's sexual behaviours and contraceptive use, and identify trajectories that lead to pregnancy or VIP, in university students in Portugal.

Method

The Health Behaviour in School-aged Children (HBSC) is a collaborative WHO study, undertaken in 44 countries with the aim to study school-aged behaviour regarding

health and risk behaviours in adolescence. Portugal is part of this group of countries since 1996 (Currie et al., 2000). This particular study - the Sexual and Reproductive Health in University Students (HBSC / SRHCS) – is an extension of the HBSC. This study had the approval of a scientific committee, the National Ethics Committee and the National Commission for Data Protection and followed strictly all the guidelines for human rights protection. The study provided national representative data of 3,278 Portuguese university students, between 18 and 35 years old. Data was collected through a self-administered questionnaire. The sample included 70% women and 30% men. The mean age was 21 years old (standard deviation 3). The majority of students are Portuguese (97.3%), single (95.5%), catholic (71.9%), and have had sexual intercourse (83.3%) and were proportionally distributed among all the educational Portuguese regions in continental Portugal. The sample unit used in this survey was the class (Table 1).

Although numerous aspects of youth sexuality and its social context were addressed in the survey, only those relating to socio-demographic characteristics and to sexual behaviour, condom and pill use, pregnancy and voluntary interruption of pregnancy were used. The main focus of the present study was: (a) identifying students' trajectories that lead to pregnancy or VIP and (b) increasing knowledge about their sexual behaviours and contraception use, and (c) Connections between these elements of study were examined descriptively in addition to evaluating their ability to prevent future pregnancy or a VIP.

Measures

For the purpose of this study, the following questions / scales were used: *Sexual behaviour* was assessed through the following behaviours - three questions about first sexual intercourse: age, use of contraceptive method (Yes/No) and which contraceptive method was used; one question about the contraceptive method usually used, another about pregnancy; and another about voluntary interruption of pregnancy (Table 2).

Data analysis

The data were analysed using the Statistical Package for Social Sciences (SPSS), version 22. Descriptive statistics including frequencies, means and standard deviations were performed to give general descriptions of the data. Sexual behaviours were compared between genders and age groups using Chi-square (χ^2) tests. Trajectories that lead to pregnancy or VIP were compared according to chosen contraceptive (condom, the pill or another method) using the frequencies. Only significant results

Table 1. Socio demographic characteristics for the total sample.

		N	%	M	SD
Gender	Male	993	30.3	-	-
	Female	2285	69.7	-	-
Age		3278		21.01	3.00
Nationality	Portuguese	3189	97.3		
	European countries	45	1.4		
	Brazilian	25	0.8		
	African countries	19	0.6		
Marital status	Single	3131	95.5	-	-
	Married	84	2.6	-	-
	Unmarried cohabitation	51	1.6	-	-
	Divorced	12	0.4	-	-
Religious affiliation	Catholic	2357	71.9	-	-
	Protestant	40	1.3	-	-
	Buddhist	7	0.2	-	-
	Orthodox	7	0.2	-	-
	None	860	26.2	-	-
	Other	7	0.2	-	-
Ever had sexual intercourse	Yes	2730	83.3		
	No	548	16.7		

were discussed.

Results

Before presenting results regarding the trajectories that lead to pregnancy or VIP, descriptive information will be provided for the key variables included in this study.

From the total sample, 2,730 young people had already begun their sexual life. Of these, 79.2% referred that they had had their first sexual intercourse at the age of 16 or later and 90.3% used contraception in their first sexual intercourse, namely the condom (95.8%).

A significant variation was found between gender in terms of the age of the first sexual intercourse ($\chi^2(3) = 60.05$; $p = .000$) and the choice and of contraceptive method usage (condom and pill) ($\chi^2(1) = 59.10$; $p = .000$; $\chi^2(1) = 10.69$; $p = .000$; $\chi^2(1) = 79.84$; $p = .000$, respectively) in the first sexual intercourse.

Results showed that, despite both the majority of men (72%) and women (82.5%) having had their first sexual intercourse at the age of 16 or later, men most often claimed to have started younger (at 11 or less, between

12 and 13, and between 14 and 15 years old). It was also observed that among the students who already had sexual intercourse, the contraceptive methods usually chosen were the contraceptive pill (70.4%) and the condom (69%). Significant variation was obtained between genders in relation to the contraceptive pill and condom ($\chi^2(1) = 63.60$; $p = 0.000$; $\chi^2(1) = 4.41$; $p = 0.036$, respectively) as women (75.2%) reported having used the contraceptive pill more often than men (60.3%), and men referred more frequent use of the condom (71.7%) than women (67.7%).

Concerning unintended pregnancies and VIP, 4.2%, reported having already had an unintended pregnancy and 3.2% VIP (Table 2).

As can be seen in Figure 1, there was a total of 6 trajectories that led to pregnancy or voluntary interruption of pregnancy and 3 trajectories that did not.

The first, second and third trajectories referred to young people who reported not having ever been pregnant, themselves or their partners (75.5%) and they constituted the majority of the sample. The first and second trajectory referred to the use of condoms and the pill as methods that prevented pregnancy and the third trajectory referred

Table 2. Differences between gender and sexual behaviour for the entire sample that mentioned already having had sexual intercourse (n= 2730).

	Male (N=880)		Female (N=1850)		Total (N=2730)		χ^2
	N	%	N	%	N	%	
Age of 1 st sexual intercourse							60.05***
11 or less	14	1.6	2	0.1	16	0.6	
12 and 13	44	5	39	2.1	83	3.0	
14 and 15	188	21.4	282	15.2	470	17.2	
16 and more	634	72	1527	82.5	2161	79.2	
Use of contraception in 1 st sexual intercourse							59.10***
No was used	141	16	124	6.7	265	9.7	
Yes was used	739	84	1726	93.3	2465	90.3	
CM used in 1 st sexual intercourse							
Condom	723	97.8	1639	95	2362	95.8	10.69***
Pill	81	11	472	27.3	553	22.4	79.84***
CM usually used by the participant or partner (% of yes)							
Pill	531	60.3	1392	75.2	1923	70.4	63.60***
Condom	631	71.7	1253	67.7	1884	69.0	4.41*
Ever had a pregnancy (% of yes by participant or partner) (N=2581)							0.004
Yes	33	4.3	76	4.2	109	4.2	
No	741	95.7	1731	95.8	2472	95.8	
Ever had a VIP (% of yes by participant or partner) (N=2553)							1.04
Yes	30	3.7	51	2.9	81	3.2	
No	783	96.3	1689	97.1	2472	96.8	

* p < .05; ** p < .01; *** p < .001. In bold – values that correspond to an adjusted residual $\geq |1.9|$.

to the use of another method. These three trajectories clearly highlighted the use of condoms (trajectory 1) to be the most commonly used method by young people (54.3%), followed by the use of the pill (17.5%) (trajectory 2) and finally the third trajectory identified the use of another not mentioned method (3.7%).

The other trajectories (4 to 9) pinpointed young people who reported having been (themselves or their partners) pregnant (N=109; 3.3%).

In trajectories 4 and 5 a group of young people that used condoms but still got pregnant (N=50; 1.5%) and became parents (N=23; 0.69%), opted for VIP (N=26; 0.78%) or didn't answer (N=1; 0.03%) was observed. Trajectories 6 and 7, 8 and 9 identified young people who did not use condoms and got pregnant (N=59; 1.8%). While in trajectories 6 and 7 they referred having used the pill (and either became parents: N=16; 0.50% or opted for VIP: N=28; 0.80%); in trajectories 8 and 9 young people reported having used neither condoms nor the pill. Similarly, in this group, some young people became parents (N=6; 0.20%) and others opted for VIP (N=9; 0.30%).

Comparing the group of people that became parents with the group of people that had a VIP, condom users less frequently opted for VIP than non-condom users

(condom users - VIP: N=26; 0.78%, Vs. non-condom users -VIP: N=37; 1.10).

DISCUSSION

The aim of this study was to have better knowledge of students' sexual behaviours and contraception use, and identify trajectories that may lead to pregnancy or VIP in university students in Portugal.

Results showed the majority was sexually active, had their first sexual intercourse at the age of 16 or later, used condom as their first contraceptive method and usually used the pill and condom. Women more frequently reported using the pill, which may be explained by the fact that men may not always know if their partner uses the pill. As for condom use, in general, men are more likely to report it, possibly as they feel less embarrassed buying and/or carrying them (WHO, 2009). Overall, these results have also been found in other studies (American College Health Association, 2009; Matos et al., 2011).

Overall, nine trajectories were identified; seven of which leading to pregnancy or VIP. The majority of university students did not get pregnant nor had VIP.

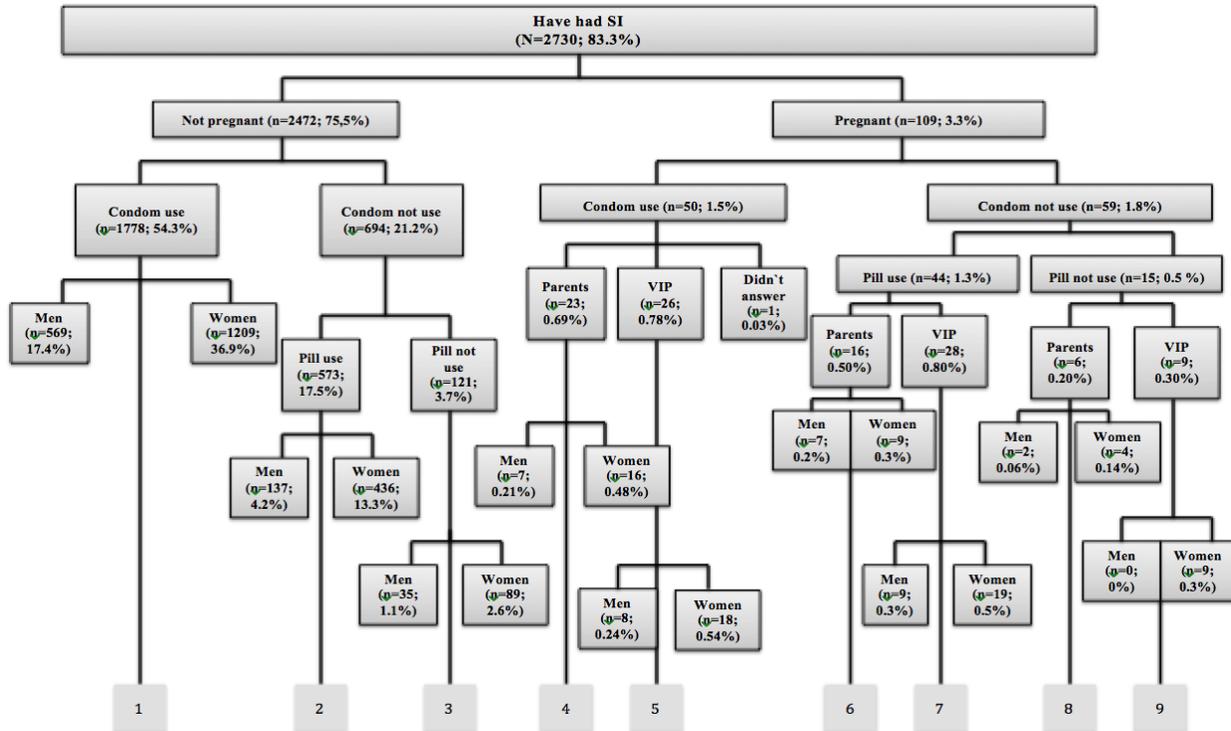


Figure 1. Trajectories that lead to pregnancy or voluntary interpretation of pregnancy (VIP).

These results suggest that most young adults have healthy behaviours, know how to protect themselves against unwanted pregnancy and consequently do not have VIP, thus are in line with most studies' conclusions (Matos et al., 2011; Reis et al., 2011).

Concerning unintended pregnancies and VIP, it was found that a minority of students (corresponding to seven trajectories) reported either case. Though they represented a minority, they are worthy of concern and therefore research must be conducted on the subject.

Both the group that reported having used the contraceptive pill and the group that reported having used the condom presented cases of pregnancy and IVG.

Even though the reasons that could have determined these young people's pregnancy were not explored, since most of them used condom or the pill, it is possible to hypothesize that pregnancy may have happened due to condom breakage or forgetfulness of the pill (thus failing to perform alternative behaviours, such as using emergency contraception). Therefore, results were consistent with the literature that suggests the importance of contraceptive failures in the event of pregnancy in young people (Sheeder et al., 2009a; 2009b).

Another reason may be an inadequate perception of the risk of pregnancy (Johnson et al., 2010; Pires et al., 2014) or the lack of information and / or skills to enable them to adequately mobilize an efficient strategy (in this case it would mean using emergency contraception). According to several studies, young

people's knowledge about the action of emergency contraception, the situations in which it should be used, and how they can access it is reduced (Johnson et al., 2010).

Moreover, it is also possible to hypothesize that the group of people that got pregnant wished so. That is why some authors suggest that this may be due to the desire that these partners have, or that the young people attribute to them, to be parents at that specific time of their lives, and some perceived advantage that it may present in dating relationships (Pires et al., 2014).

Overall, the results of this study indicated a strong preference for condoms and contraceptive pills over other birth control methods. Combined, these outcomes create possible hypotheses for future research. Ideally, women should be practicing dual contraception, which means hormonal contraception to prevent an unintended pregnancy and condoms to protect against sexually transmitted infections (though they have a contraceptive function too).

Identification of contraceptive preferences of young people lays the foundation for exploring the rationale supporting contraceptive decision-making. Understanding that some contraceptives are more likely to be used than others, and why this is so, allows practitioners to help youth choose effective contraceptive methods that best suit their lifestyles and with which they are most likely to be compliant. Determining rationale for contraceptive decisions also helps identify areas of weakness in

contraceptive knowledge. Building off of this research to establish an understanding of this rationale allows practitioners to identify opportunities to dispel misconceptions and establish accurate and appropriate education (Reis et al., 2009).

Since providing effective contraception counseling requires an understanding of the needs of specific population to which it is directed (Pace et al., 2008) our results may also be relevant as to the level of performance of professionals who provide health care to young people. In fact, family planning services are privileged places for an adequate and early sex education (Matos et al., 2014a; Reis et al., 2009).

When discussing highly sensitive information such as sexual behaviours with health practitioners, there is often response bias; young people may be apprehensive to offer full disclosure or may refrain from asking questions due to a fear of judgment resulting in shame or humiliation. Recognizing trends in contraceptive practices allows healthcare professionals to tailor their care to each youth specific needs, identifying areas of assessment with which the client may not be readily forthcoming but are important in understanding young people and allowing them to make the most informed and effective contraceptive decisions.

While significant progress has been made in the discussion of contraceptive practices, additional research needs to be conducted exploring the motivational factors behind contraceptive use, maximizing the potential of this evidence by creating supplementary opportunities for intervention by healthcare and education professionals (Matos et al., 2014a; 2014b).

Findings from the current research have practical implications for both contraceptive education and STI prevention among college students. Because young people today prefer smaller families and delay childbearing for a longer period, more family planning is necessary than in the previous generation. Given the greater diversity in contraceptive technology that is available today, young people need increasingly comprehensive education so that they are aware of all of their options. A focus on the advantages and disadvantages of all methods can help students make informed decisions (Reis et al., 2011). Because not all students go to health centers, it is imperative to create a space in university for this exchange of information in the general student population.

An increase in knowledge, attitudes and skills is positive in that it suggests that more students are aware of their future options. Substantial proportions of students, however, still do not have correct information, positive attitudes and self-efficacy skills, although these themes integrate the Portuguese school curricula, which most have attended, and there is a law (Law60/2009of 6August) that regulates this (Matos et al., 2014a; 2014b).

In terms of prevention, a continuing emphasis on teaching correct condom use and encouraging regular

testing for HIV and other STIs is crucial for the promotion of healthy sexual behaviour.

University students in particular face new challenges in sexual health and need more comprehensive education aimed at promoting healthy decision-making about family planning and STI prevention. Present actions can have considerable influence over future decisions; more sexuality education during the college years, when students are exploring sexuality and developing standards for future relationships can lead to greater sexual and reproductive health as adults.

Despite the need for further research to clarify these hypotheses, the available results indicated that (a) educating young people and their partners on possible failures in the use of contraception, (b) the risk of pregnancy inherent to every non-permanent contraceptive method, and (c) and the identification and elimination of perceived barriers in the access to it, should be priority areas in health policies in our country so as to ensure an effective reduction of pregnancy or voluntary interruption of pregnancy.

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