



ORIGINAL ARTICLE

Factors related to the voluntary interruption of pregnancy in Spain

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Key words

Voluntary interruptions of pregnancy • Abortion • Sexual and Reproductive Health • Socioeconomic factors • Spain

Summary

Introduction. *The voluntary interruption of pregnancy (VIP) is a complex process, influenced both by health and psychosocial factors, which in turn affect the health and well-being of the women. The objective of this study is to determine the factors related to the voluntary interruption of pregnancy in Spain, in women with more than one interruption, according to their origin.*

Methods. *A cross-sectional study of the VIP episodes carried out at the request of the women themselves in Spain during 2018. The factors related to repeat VIPs are described according to the origin of the women, estimating the crude and adjusted prevalence odds ratio (OR).*

Results. *The highest rates of VIP occurred in women aged 20 to 24 years. The probability of a second VIP, both in Spanish women and those of foreign origin, increased with age, with the size of the population (> 50,000 inhabitants), and with dependent children.*

Conclusions. *All women should have the possibility of planning their reproductive life, for which they have the right to have access to adequate information, to effective contraceptive methods, and to be able to interrupt an unplanned pregnancy with all the guarantees of quality, confidentiality and safety.*

Introduction

Voluntary Interruption of Pregnancy (VIP) is an important global public health issue, conditioned by diverse health and socio-demographic factors. Its incidence serves as a “proxy” for the frequency of unwanted pregnancies, which in turn, give an idea of the difficulties that exist regarding the functioning of family planning and primary care services, and women’s access to them, as well as the barriers to the access and use of contraceptives [1].

Forty-eight percent of all pregnancies that occur worldwide are unintended and, of these, 61% end in an abortion, which represents approximately 73 million abortions per year (39/1000 women aged 15 to 49 years), with higher rates occurring in low-income countries [2]. In Spain, abortion was decriminalized in certain cases in 1985 [3]; it was at that time that the official VIP Register was initiated by the Ministry of Health [4]. Currently, the law regulating VIPs in Spain is Organic Law 2/2010, of March 3, on sexual and reproductive health and the voluntary interruption of pregnancy, which “recognizes the right to freely decide maternity. Amongst other things, this means that women can make the initial decision about their pregnancy and that this conscious and responsible decision be respected”, allowing free access to VIP during the first 14 weeks of gestation and, if there is a serious risk to the life or health of the pregnant woman or the fetus, up until week 22 [5]. Outside of the essential legal requirements, abortion remains a crime in Spain as covered by the Penal Code [6].

Despite there being a slight increase in the number

of VIPs in the two years following the establishment of the 2010 Law, this trend gradually decreased over subsequent years. The steepest falls were among women in the younger age groups (under 24 years of age), although slight rises have been seen in almost all age groups over the past two years [7].

Various studies affirm that a high percentage of women who have undergone a VIP in Spain belong to the most vulnerable sections of the population [8]. Among the characteristics that have been most frequently related to VIP are age, over the passing of which more or less relevance may be given to socioeconomic variables such as the presence or not of a stable partner [9-13], migration [9-11, 14], and a poor educational level [9, 11]. Nevertheless, a higher rate of VIP has also been described in very young women with a higher educational level, or students who do not want motherhood to prevent them from completing their studies and improving their future opportunities [10, 12]. Something similar occurs with the employment situation – although VIP is generally related to women who are unemployed or facing precarious work situations [9, 13, 14], there have been cases described of women resorting to VIP so as not to lose job opportunities, either young people at the beginning of their professional careers or older women trying to consolidate positions that might be lost due to motherhood [12]. Age is also often interwoven into the reproductive life of women, who resort to abortion to postpone the onset of motherhood, or to avoid having more children they do not want [9-14]. Likewise, they resort to VIP when they cannot access contraceptive methods due to financial or administrative

problems; this is especially the case amongst immigrant women [10, 15].

Research on the characteristics and factors associated with the demand for more than one VIP (repeat VIP) is scarce, despite very high percentages of repeat VIPs having been described in different countries, even in adolescents [16-19], and hardly any data have been published on this in Spain, where repeat VIPs have been associated with immigrant women who have resided a long time in the country, and with situations of persistent social vulnerability [9].

The complexity of the elements affecting VIP and repeat VIP makes it necessary to continue studying and quantifying them so that it is possible to better understand the conditions under which they occur, to understand their implications on the safety and quality of care, and to minimize possible health problems for women, both physical and mental [20]. In order to draw up more effective sexual and reproductive health promotion strategies, we intend to improve knowledge about the factors related to the repeated voluntary interruption of pregnancy in Spain, according to the origin of the women.

Methods

This is a descriptive cross-sectional observational study on the episodes of Voluntary Interruptions of Pregnancy (VIPs) carried out in Spain during 2018. Of the 95,917 cases recorded that year (representing a rate of 11.12 per 1000 women), we have selected the 86,749 episodes (90.4%) in which the interventions were requested by the women themselves.

Our source of information is the computerized database on Voluntary Interruptions of Pregnancy (2018) of the Ministry of Health's General Sub-directorate for Health Promotion and Public Health Surveillance in Madrid. This agency compiles notifications on VIPs from the different Autonomous Communities collected via a joint questionnaire, which is automatically recorded and filtered through a Ministry of Health online application, ensuring the women's anonymity by omitting their personal identification data and those of the health centres where the VIPs are conducted.

The data collected by the specific questionnaire and analysed in our study comprise socio-demographic information on the pregnant women (date of birth, place of residence, country of birth, nationality, living arrangements, level of education, income, and employment status) and reproductive health information (living daughters or sons, previous VIPs, and use of contraceptives). To study the possible factors associated with the existence of a previous VIP, starting from the variable "Number of previous VIPs", we create the dichotomous variable "Previous VIP": yes, no.

STATISTICAL ANALYSIS

The variables are presented by their absolute and relative frequencies, except for the age variable, which

is presented with its mean and standard deviation. To analyse the relationship of the different variables to the women's origin, the chi-square test was used for the categorical variables and the Mann-Witney U test to compare the means of the "age" variable. The relationship of the different factors with the existence of a previous VIP was studied by calculating the crude prevalence odds ratios (ORs) and their 95% confidence intervals. Logistic regression models were fitted to estimate the possible factors independently associated with repeat VIP. All analyses were disaggregated by the women's origin variable. The analyses were carried out using the Stata statistical program (version 15.0).

Results

Of the 86,749 VIPs registered in Spain during 2018 that were requested voluntarily by the women themselves, 63.2% corresponded to women of Spanish origin.

Twelve percent of the VIPs occurred in Spanish women aged 19 and younger, five percentage points higher than in women of foreign origin of the same age, for whom the VIPs were more numerous in the older age groups. This is consistent with the higher percentages of Spanish women who say they are students (14.5%) and who live with their parents or relatives (28%). Among the Spanish women, the group attending university is almost double that of the women of foreign origin (17.2% compared to 9.7%). Thirty-six percent of foreign women and 38% of Spanish women do not have their own income. On the other hand, 43% of Spanish women and 55% of those of foreign origin have dependent children. Half of the foreign women and 38% of the Spanish women did not regularly use any type of contraceptive method.

Of the women who requested a VIP in 2018, 34% of Spanish women and 44% of those of foreign origin had previously had a VIP; 11.7% of Spanish women and 16.9% of foreign women had had more than one previous VIP (Tab. I).

In performing the multivariate analysis, when adjusting the factors associated with the existence of previous VIPs, it is observed that, in women of Spanish origin (Tab. II), the probability of having a second VIP increased with age up to the 30-39-year-old group (ORa = 2.97), decreasing a little in the older groups.

It also increased with the size of the population, being 33% higher in populations of more than 50,000 inhabitants (ORa = 1.33). The probability of a second VIP was 26% higher in unemployed women (ORa = 1.26) and double if they had dependent children (ORa = 2). Living with a family or partner decreased the probability of a second VIP. In foreign women (Tab. III), the probability of having a second VIP also increased with age, with an ORa of 3.25 in those aged 40 and over. It was also higher in populations with a greater number of inhabitants and almost double when they had dependent children (ORa = 1.82). However, in foreign women, living with a partner (ORa = 1.14) or family (ORa = 1.12) increased the probability of a second VIP. In both the Spanish

Tab. I. Socio-demographic, economic and sexual and reproductive health characteristics of women having a VIP at their own request in Spain during 2018 (n = 86,236).

	Spanish origin	Foreign origin	P-value*
	No. (%)	No. (%)	
Total	54,511 (63.2)	31,725 (36.8)	
Median age (IQR)	28 (22-34)	29 (24-35)	< 0.001**
Age			< 0.001
≤ 19 yr	6,660 (12.2)	2,234 (7.0)	
20-24 yr	12,104 (22.2)	6,917 (21.8)	
25-29 yr	12,019 (22.0)	7,291 (23.0)	
30-34 yr	10,619 (19.5)	7,209 (22.7)	
35-39 yr	8,824 (16.2)	5,775 (18.2)	
≥ 40 yr	4,285 (7.9)	2,299 (7.3)	
Place of residence by number of inhabitants			< 0.001
≤ 10,000	7,850 (14.4)	2,605 (8.3)	
10,001-50,000	14,874 (27.3)	6,915 (21.9)	
50,001-500,000	22,371 (41.1)	12,442 (39.4)	
≥ 500,001	9,391 (17.2)	9,602 (30.4)	
Educational level			< 0.001
Does not read/write	454 (0.8)	865 (2.8)	
Primary education	8,776 (16.2)	5,484 (17.5)	
Middle school	20,709 (38.2)	12,997 (41.4)	
Secondary school	14,712 (27.2)	8,719 (27.8)	
University education	9,290 (17.2)	3,048 (9.7)	
Others	199 (0.4)	250 (0.8)	
Employment situation			< 0.001
Self-employed	1,826 (3.4)	1,284 (4.1)	
Employed	29,926 (55.6)	17,905 (57.6)	
Pensioner	237 (0.4)	38 (0.1)	
Student	7,800 (14.5)	2,342 (7.5)	
Unemployed / looking for first job	11,207 (20.8)	6,886 (22.2)	
Unpaid care work	2,330 (4.3)	2,232 (7.2)	
Others	516 (1.0)	415 (1.3)	
Cohabitation/Living Arrangements			< 0.001
Alone	13,034 (24.3)	8,413 (27.2)	
With partner	24,450 (45.5)	15,988 (51.6)	
With parents / relatives	15,058 (28.1)	5,117 (16.5)	
Other situations	1,148 (2.1)	1,462 (4.7)	
Dependent children			< 0.001
With dependent children	21,649 (43.3)	14,393 (54.6)	
No dependent children	28,359 (56.7)	11,972 (45.4)	
No. of previous VIPs			< 0.001
0	35,812 (65.7)	17,661 (55.7)	
< 2	12,319 (22.6)	8,695 (27.4)	
≥ 2	6,380 (11.7)	5,369 (16.9)	
Use of contraceptive methods			< 0.001
Yes	27,289 (61.9)	11,338 (49.2)	
No	16,827 (38.1)	11,689 (50.8)	

* p values for Chi-square test. ** p value for Mann-Whitney U test. IQR: Interquartile Range.

women and the foreign women, a higher education level was associated with a lower probability of having a second VIP.

Discussion

This study highlights some of the factors affecting

the decision of women who requested a voluntary interruption of pregnancy in Spain in 2018. Our results indicate that, regardless of their country of origin, women have certain factors in common related to their demographic, economic and reproductive situation that support their decision to abort, something that has already been described in other studies [11, 13].

Tab. II. Factors independently related to having a second VIP in Spanish women (Spain, 2018).

	ORa (95% CI)	P-value
Age		
≤ 19 yr	1	
20-29 yr	2.81 (2.57-3.07)	0.000
30-39 yr	2.97 (2.70-3.27)	0.000
≥ 40 yr	2.18 (1.93-2.45)	0.000
Place of residence by no. of inhabitants		
≤ 10,000 inhabitants	1	
10,001-50,000 inhabitants	1.15 (1.08-1.23)	0.000
≥ 50,000 inhabitants	1.33 (1.25-1.41)	0.000
Educational level		
No education/Primary	1	
Secondary education	0.75 (0.71-0.79)	0.000
Higher education	0.38 (0.35-0.41)	0.000
Employment situation		
Working	1	
Unemployed	1.26 (1.20-1.32)	0.000
Student/pensioner	0.61 (0.57-0.67)	0.000
Cohabitation/Living arrangements		
Alone+others	1	
Partner	0.88 (0.84-0.93)	0.000
Family	0.93 (0.88-0.98)	0.010
Dependent children		
No	1	
Yes	2.00 (1.91-2.10)	0.000

ORa: Adjusted Odds Ratio.

According to our data, of the women who requested a VIP in 2018 in Spain, 34% of Spanish women and 44% of those of foreign origin had had at least one previous VIP; these figures are above the 23% found in Aberdeen (UK) and 16% in Uruguay [21, 22], but are similar to those found in populations in China [16, 18], Glasgow (UK) [23] and France [24], and are below the 48 % described in New York, USA [25]. In general, while rates of VIP appear to be decreasing, rates of repeat VIP are increasing worldwide [19].

In Spain in 2018, the highest rates of VIP occurred in women aged 20 to 24 (18.6 per 1000 women), while the lowest rates of VIP were identified in the group aged 40 and over, followed by those under 20 years of age (9 per 1000 women). Age is one of the factors most frequently related to requesting a VIP, sometimes for wanting to delay motherhood, other times for not wanting to increase the number of children that they already have [9, 13]. In our study, the probability of having a repeat abortion increased with age among Spanish women up to the 30 to 39-years-old group, while in foreign women, the probability continued to increase up to the 40-and-over age group; this is in line with other studies that also attribute higher risk to older ages [26]. Some studies have stated that the probability of a second abortion is lower the older the women are at the time of their first VIP [17] – this is something that could be happening in more mature Spanish women, but not in those of

Tab. III. Factors independently related to having a second VIP in women of foreign origin (Spain, 2018).

	ORa (95% CI)	P-value
Age		
≤ 19 yr	1	
20-29 yr	2.40 (2.11-2.73)	0.000
30-39 yr	3.14 (2.74-3.60)	0.000
≥ 40 yr	3.25 (2.75-3.83)	0.000
Place of residence by no. of inhabitants		
≤ 10,000 inhabitants	1	
10,001-50,000 inhabitants	1.06 (0.96-1.18)	0.250
≥ 50,000 inhabitants	1.14 (1.04-1.26)	0.006
Educational level		
No education/Primary	1	
Secondary education	0.91 (0.85-0.97)	0.006
Higher education	0.51 (0.46-0.56)	0.000
Employment situation		
Working	1	
Unemployed	0.96 (0.90-1.01)	0.145
Student/pensioner	0.58 (0.51-0.65)	0.000
Cohabitation/Living Arrangements		
Alone+others	1	
Partner	1.14 (1.08-1.22)	0.000
Family	1.12 (1.03-1.21)	0.006
Dependent children		
No	1	
Yes	1.82 (1.71-1.93)	0.000

ORa: Adjusted Odds Ratio.

foreign origin, perhaps related to lower utilization of family planning services at these ages. Contrary to our results, many studies show a higher probability of repeat VIP in younger women [21, 24]. It is possible that older women, especially those of foreign origin, may not be having regular gynaecological check-ups nor receiving a prescription for contraceptives [21], and that they are using less effective methods or methods poorly adapted to their life circumstances [27, 28].

In both study groups, Spanish women and foreign women, the probability of a repeat VIP is higher when women live in larger municipalities, which may be related to better access to SRH (Sexual and Reproductive Health) and VIP resources, and may also be related to less social pressure in large cities than in small ones, since abortion is still a taboo subject and closely related to gender stereotypes, which means that women who resort to VIP are judged negatively and rejected socially, especially where there is greater religious or anti-abortion group pressure [20, 29]. The study by Liu et al. in China does not describe a relationship between a second VIP and the rural or urban area of residence, but with the region's level of development, so that the probability is greater the greater the development of the area [18].

In our study, a higher level of education has been associated with a decrease in the probability of having a second VIP in both groups of women, which coincides with the majority of studies that find more repeat

abortion in women with limited education [26, 16, 18], or where no relationship is found with the educational level [18, 23]. This might be due to the fact that people with a higher level of education are more likely to know about and apply preventive measures to avoid unwanted pregnancies [26].

Our data show a lower frequency of repeat VIP in female pensioners, while the probability of having more than one VIP is higher in unemployed Spanish women, which would correspond to a more depressed socioeconomic situation, something already described in other studies [16, 21]. In the women-of-foreign-origin group, the relationship between unemployment and repeat VIP does not appear, perhaps due to the weight of the possible structural inequality suffered by immigrants, with less access to education, health services and economic resources [26], and also less access to the world of work [16, 18]. In addition, our data show a lower probability of having a repeat VIP among female students, of any origin, which coincides with lower abortion repetition in younger women, something observed by other authors [16, 18], whereas Bajos et al. in France describe female students as one of the groups with the highest risk of repeat VIP, due to their difficulty in managing daily contraception [27].

The probability of requesting a second VIP is lower in Spanish women who live with a partner or with relatives; this coincides with other studies that find more repeat abortions in women who live alone [24]. However, our data show that, among foreign women, the probability of a second VIP is higher in those who live with the family or with a partner, in line with that published by other authors [24], reporting unstable relationships or problems with the partner, in which intimate partner violence is frequently mentioned [23-25]; this is something that should be systematically explored in the case of any woman requesting more than one VIP. It has also been described, worldwide, that the rate of VIP is higher in married women in almost all sub-regions, while in the developed world the rates in married women are lower [28].

Regardless of the woman's type of cohabitation, a factor strongly related to repeat VIP (in our study and in others) is the woman having dependent children [16-21]. This, together with socioeconomic aspects such as limited income or a precarious work situation, is generally a factor associated with the VIP request [30].

Among the reproductive characteristics, approximately half of the foreign women and almost 40% of the Spanish women did not regularly use any type of contraception. These data coincide with a study carried out in Denmark, where it was observed that the non-use of contraceptives was common, mainly among immigrant women [30], although there are studies that show that a significant percentage of women used them when they became pregnant, which may indicate that they are used incorrectly or the use of ineffective means [21, 23], highlighting the need to improve reproductive health advice, especially in women who have already had a VIP.

Conclusions

Although VIP is legal in Spain, women who require this service encounter numerous barriers in meeting this need, since only 14% of the interventions are carried out in National Health Service centres [7], the vast majority depending on the existence of private centres in their area. The fact of calling this act a voluntary interruption gives it a negative moral connotation which falls on the woman, who is perceived as requiring this service on a whim [31], with no attention paid to their life circumstances. Such moral judgement is felt most by women who resort to abortion on more than one occasion [22] and this becomes clear to all women when they have to confront anti-abortion groups protesting in front of the clinics, with no one preventing the protests [32, 33], thus increasing the stigma, feelings of helplessness, and psychological pain in the women [29].

All women, Spanish and foreign, should have the possibility of planning their reproductive life and decide if they want to have children, in what number and when, for which they have the right to access adequate information, to effective contraceptive methods and to be able to interrupt an unplanned (or desired) pregnancy via the public health service, with all the guarantees of quality, confidentiality and safety.

STUDY LIMITATIONS AND ADVANTAGES

The data used in our study are based on the information provided by the Ministry of Health's database on VIPs, preventing us from knowing other relevant factors related to VIPs that are not included in said database. On the other hand, as it is a cross-sectional study, it is not possible to establish the temporality of the factors studied or to estimate the risk of performing a VIP. However, as far as we know, this is the first study in Spain that attempts to explain the factors associated with repeat abortions; and although we cannot estimate risks due to the cross-sectional study design, our results are given greater internal validity having worked with all the national data on abortions taking place in 2018 that were requested by the women themselves.

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Conflict of interest statement

This paper presents independent results. The views expressed are those of the authors and not necessarily those of the Institute of Health Carlos III, the Ministry of

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Authors' contributions

SGS and MARA conceived and designed the experiments, performed the data collection and analysed the data; SGS and MCR wrote the paper.

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