



Original Research Article

Exploring the prevalence of abortion and its characteristics in Perú^{☆,☆☆}

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ABSTRACT

Objectives: Our paper presents the analysis of a nationwide survey that explored induced abortion among women using a ballot-box technique. Our objective was to determine the prevalence of abortion and the main characteristics of the procedure.

Study design: We conducted surveys in households with 2400 women aged 18–49 from urban areas nationwide, between October 15 and 29, 2018. Data collection was overseen by the Instituto de Opinión Pública de la Universidad Católica del Perú. We performed a probabilistic, multistage, and socioeconomic level-stratified sampling. Our study used the “ballot-box technique” to ensure anonymity and reduce the risk of social desirability.

Results: We visited 15,433 houses nationwide. Among those households where surveys could not be conducted, it was due to abandoned or inaccessible property, unwilling to participate, absent members, out of quota, or inconclusive survey. On average, 19.0% of Peruvian women at all socioeconomic levels reported having had at least one abortion in their lifetime. Induced abortion is reported at all socioeconomic levels and reported age of the abortion is concentrated between 19 and 29 years old. In 57.7% of cases, women sought healthcare personnel for their last induced abortion. Among them, procedure abortion (45.3%) stands out over medical abortions (34.0%). Thirty-three percent of women who reported having had at least one induced abortion in their lifetime were admitted to a hospital after their last abortion.

Conclusions: The illegality of abortion has not prevented its occurrence in Peru. Our results suggest that, in Peru, legal restrictions on induced abortion create an unfavorable context for women's health, exposing them to services whose safety is not guaranteed. Efforts should be made to increase awareness and education about contraception and family planning methods to prevent unwanted pregnancies and reduce the need for abortion.

Implications: These findings should be considered in public policy discussions regarding abortion, since they might have a great impact for better decision making. They demonstrate that legal restrictions have not prevented the occurrence of abortion but has only created unsafe conditions around it.

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1. Introduction

In Latin America and the Caribbean, although several countries have had significant changes toward the access to abortion, including Uruguay, Argentina, Chile, Colombia, and some states in Mexico, including Mexico City, the general context is still restrictive. In most countries, the right to abortion is limited to situations where the health or life of the mother is at risk, also known as therapeutic abortion. This is the case in Peru, where a protocol that guides how to implement this procedure when it is legal (or permissible) to carry out an abortion, was not approved until 2014 [1].

According to Peruvian regulations, therapeutic abortion is legally permitted only to save the woman's life or to prevent severe or

permanent harm to her health. However, the current implementation of this procedure is currently extremely low. The negative opinion among Peruvian medical professionals and healthcare personnel regarding abortion influences its criminalization even in cases that comply with the law [2,3]. Additionally, there is constant police and judicial persecution of women who undergo induced abortions, as well as against those who participate in the process [4].

Furthermore, due to noncompliance with the provision of therapeutic abortion, the Peruvian state has negative records in international entities. In 2011, the Convention on the Elimination of All Forms of Discrimination Against Women Committee approved Communication No. 22/2009, through which it was determined that the Peruvian state was internationally responsible for violating articles 1, 2 (c) (f), 3, 5, and 12 of its Convention, due to the non-provision of therapeutic abortion to "LC" (initials used in the case to maintain the confidentiality of the minor), a 13-year-old girl who became pregnant as a result of systematic rape by her father [5].

Research on abortion in Peru has mainly focused on three topics: (1) the existing legal framework and its implications [6,7], (2) the experience of women who have miscarriages [8,9], and (3) the health effects of unsafe abortions [10]. Studies have identified general characteristics of abortion practices in Peru, emphasizing aspects such as the negative impact on the mental and physical health of women who undergo unsafe abortions and the influence of social stigma on women's attitudes toward abortion [11]. However, in Perú, quantitative analysis of the incidence of abortions nationally has been uncommon. In 2005, Ferrando [12] published a study that estimated that there were more than 370,000 clandestine abortions performed annually in the country. Furthermore, the author argued that this number would have been close to 400,000 if it were not for emergency oral contraception, which prevented more than 30,000 unwanted pregnancies.

In 2006, Bernabé-Ortiz et al. [13] surveyed 7962 women aged 15–29 in 20 cities across Peru to explore their experiences related to abortion by using self-administered and face-to-face surveys. According to their findings, 21.3% of the surveyed women reported having an abortion at some point in their lives. Among the respondents, 11.6% (about 50% of women who reported having experienced an abortion) reported induced abortions.

While the studies conducted are highly relevant, their results are still insufficient to fully understand the current state of induced abortion incidence in Peru. To contribute to fulfill this gap of information, in 2018, the NGO "Centro de Promoción y Defensa de los Derechos Sexuales y Reproductivos – Promsex" and the Institute of Public Opinion conducted a national survey of women from urban areas to explore the occurrence of abortion throughout their lives. Our study used these data to explore the factors associated with reporting an abortion and the conditions in which this had been performed.

2. Methods

We applied a probabilistic, multistage, and stratified by socioeconomic status (SES) sampling of the households. The SES was based on the Peruvian Association of Market Research Companies's classification [14], which divides the population into different socioeconomic segments based on criteria such as education, type of housing, ownership of durable goods, and access to basic services. Different SESs are identified by letters, such as A, B, C, D, and E, where A and B segments correspond to a better socioeconomic situation, while D and E correspond to a more precarious situation.

First, we did a random selection of residential blocks using computer software (specifically, the complex samples module of SPSS) and a systematic selection of households with a random start. For each Primary Sampling Unit (or set of blocks), 10 households would be selected for the application of surveys.

We used a systematic skip method with a random starting point was used for the selection of households. Starting from one randomly chosen corner, a random starting number was drawn to select the first household. The direction of the survey could be clockwise or counterclockwise. From the indicated corner, following the determined path, the first household was selected, and subsequent households were chosen using a systematic skip pattern until 10 surveys were completed. If the enumerator did not complete the assigned number of surveys in the selected block, the adjacent block on the parallel street to the initial block was used.

The selection criteria used to select a household to apply the survey was that there was a woman between 18 and 49 years of age.

We administered the survey in person, to women between 18 and 49 years old living in urban households across all 25 regions of Peru, in October 2018. We applied a total of 2400 surveys using a structured questionnaire, with sample size calculations based on a national margin of error of ± 2.0 , a probability of $\pm 50\%$, and a confidence level of 95%.

To complete this number, a total of 15,433 households were visited, obtaining a response rate of 15.6%. Among those households where surveys could not be conducted, it was due to the following reasons: abandoned property, inaccessible property, absent members, unwilling to participate, no members with the inclusion criteria, or inconclusive survey. Table 1 shows the detail about the response rate in each one of the regions included in the study.

In all cases, the interviewer informed the potential respondent about the study and the procedure of data collection; if she signed the informed consent, then the respondent received a survey (containing uniquely questions about their experience in their last abortion) to complete. After filling it out, the respondent was asked to fold the form and place it in a ballot box to ensure the confidentiality of the information [15]. Immediately later, socio-demographic data were obtained by the interviewer using a form that contained a code linking it to the form filled out by the respondent. Thus, a linkage between sociodemographic data and the form completed by the respondent could be determined.

For the data analysis, we used the statistical package Stata v. 17 (StataCorp, College Station, TX). Qualitative data were presented in frequencies and percentages, while quantitative variables were presented in means and standard deviations after evaluating their distribution. We performed a simple linear regression on all variables, and variance inflation factors were calculated to evaluate multicollinearity between independent variables. This statistical method detected no collinearity in any of the variables. Then, we included multiple linear regression analysis in each model variable with a p -value < 0.20 in the bivariate analysis. Crude prevalence ratios and adjusted prevalence ratios, as well as their 95% confidence intervals (95% CI), were calculated in each model using generalized linear models with robust variance. A statistically significant association was considered for calculated p -values less than 0.05.

This study was approved by the institutional Ethics Committee of Universidad Continental through OFFICE N°0202-2022-VI-UC. Only data relevant to the study were extracted from the database, and those that would have allowed the identification of individuals were ignored.

3. Results

The population consisted of 2400 women representing all 25 regions of the country who voluntarily agreed to respond to the questionnaire.

Table 1 presents the sociodemographic characteristics of the sample, which was mainly composed of women over 31 years old (53.9%) in a stable relationship (60.1%), with children (74.6%), belonging to socioeconomic sectors C (38.7%) and D/E (39.9%), predominantly.

Table 1
Response date in each one of the 25 provinces included in the study

Number of households visited	Number of households where the survey was not applied	Number of households where the survey was applied	Response rate	Number of blocks covered	
Total	15,433	13,033	2400	15.6%	1241
Lima	3772	3372	400	10.6%	295
Callao	1046	946	100	9.6%	82
Chimbote	789	749	40	5.1%	54
Cajamarca	277	227	50	18.1%	22
Trujillo	594	464	130	21.9%	37
Lambayeque	639	549	90	14.1%	37
Piura	1091	961	130	11.9%	63
Tumbes	52	32	20	38.5%	4
Huancavelica	111	81	30	27.0%	6
Huanuco	268	148	120	44.8%	19
Huancayo	1316	1036	280	21.3%	142
Pasco	158	108	50	31.7%	27
Apurimac	37	17	20	54.1%	4
Arequipa	1291	1151	140	10.8%	136
Ayacucho	133	93	40	30.1%	22
Cusco	352	272	80	22.7%	45
Ica	443	363	80	18.1%	43
Moquegua	161	141	20	12.4%	10
Puno	277	207	70	25.3%	36
Tacna	260	230	30	11.5%	11
Amazonas	157	117	40	25.5%	14
Iquitos	687	537	150	21.8%	30
Madre De Dios	204	174	30	14.7%	14
San Martin	894	744	150	16.8%	46
Ucayali	424	314	110	25.9%	42

The bivariate and multiple regression analysis revealed several factors associated with the occurrence of induced abortions. The findings indicate that having children (Prevalence ratio (PR) 1.06, $p \leq 0.001$), being a student or not working (PR 1.07, $p = 0.028$), and having a complete or incomplete university education (PR 1.06, $p = 0.0351$) are positively correlated with induced abortions. Conversely, being in a stable relationship (PR 0.98, $p = 0.05$) shows a negative association with induced abortions. These results highlight the significance of these factors in understanding the occurrence of induced abortions.

Around one-fifth of the surveyed women reported having had an abortion (19.3%). In the majority of cases, this procedure was attended by a healthcare professional (57.7%). Likewise, most women who had undergone an abortion did not require hospitalization (66.9%) (Tables 2 and 3).

4. Discussion

Our evidence shows that abortion is a frequent practice in Peru. The prevalence calculated here (19%) is higher than reported in previous studies, such as the one by Bernabé et al. that estimated the percentage of women who had undergone an abortion was 11.6% [13]. This difference could be associated either with the methodologies used or the changes in the dynamics of induced abortion incidence worldwide [16]. Beyond the reason for the discrepancy, this result reaffirms that restrictions on abortion do not result in a lower incidence thereof [17,18].

Most women who reported having had an abortion belong to the SES C and D/E (20.6% and 19.3%, respectively) compared to segment A/B (16.7%). This suggests a different reality about abortion than that found in other countries in the region, such as Chile, where a higher incidence of induced abortions has been reported among women from higher SES [19]. Also, the higher prevalence of reported abortions in lower SES may be closely related to differences in access to contraceptive methods in Peru, which is much lower among women with lower incomes [20]. Limited access to contraceptive methods put poor women in greater risk of unwanted pregnancies and, therefore, in a more frequent need of recurring to an abortion, as previous studies have highlighted for countries with high levels of social inequality, such as Peru [21].

Regarding the age when the abortion occurred, most women referred that they were between 19 and 29 years old (59.4%) when they had their last (or only) abortion. This coincides with previous evidence that considers that most abortion occur between 20 and 29 years old [22,23].

In most cases, women reported having sought a professional's assistance (57.7%) for their last abortion, indicating a high percentage of women whose abortions are being carried out, or at least monitored, by third parties whose expertise on the subject is unknown. This is particularly important to highlight since clandestine abortions are frequent in Perú, where it is common to see posters fixed on streets advertising "menstrual regulation," which indicates the offer of abortion services under unknown sanitary conditions. With the data obtained, it is impossible to know what kind of professional women have had access to and if those women who reported not being assisted by a professional, had any kind of direction or monitoring from anyone.

Regarding the most used methods, the prominence of procedure abortion (45.3%) stands out over medical abortions (34.0%). This appears to be opposite to the global trend, which shows an increase in medication abortions [24]. This could be associated to several factors, including the time since the abortion occurred, which could be recently or many years ago, even before medical abortion was so widely used. Also, the less frequent use of medication abortions could also be a result of the high restrictions on acquiring misoprostol, which obstetric-dose the country lacks access to and the available one is mostly acquired clandestinely for abortion purposes; as well as the absence of registration for mifepristone in Peru [25]. Similarly, it could be related to the significant deficit in access to quality and up-to-date information on ways to perform an abortion that exists in low- and middle-income countries [26].

Finally, our results indicate that approximately one-third of abortions (33.1%) resulted in a woman being hospitalized. About this finding, we cannot infer from our results that those hospitalizations were due to complications, especially considering that the frequency of postabortion complications, even in contexts of unsafe abortion such as in Peru, is less than 10 per 1000 abortions [27]; however, it is interesting to note the coincidence with what was identified by Ferrando, who reported, in 2006, that the overall risk of Peruvian women being hospitalized as a result of a clandestine abortion was 30.5% [12]. Another element that must be taken into account is the possibility that complications arise due to delayed access to abortion

Table 2
Epidemiological characteristics of the study sample of prevalence of abortion and its characteristics in Peru during 2018 (n = 2400)^a

Characteristics	n (%)		p-value
	Have you ever had an abortion?		
	No (n%)	Yes (n%)	
Civil status			≤0.05
	Single (single/separated/widower)	795 (41.1)	162 (35.1)
	In a stable relationship (Married, cohabiting)	1143 (58.9)	300 (64.9)
Age			≤0.05
	18–24 years old.	504 (26.1)	72 (15.6)
	25–30 years	434 (22.4)	98 (21.2)
	31 years or more	1000 (51.6)	292 (63.2)
		32.2 ± 9.28 ^c	34.6 ± 8.81 ^c
Children			≤0.05
	No	1393 (71.9)	397 (85.9)
	Yes	545 (28.1)	65 (14.1)
Number of children			≤0.05 ^b
		2.27 ± 1.22 ^c	2.46 ± 1.29 ^c
Primary occupation			≤0.05
	Self-employed.	439 (22.6)	119 (25.8)
	Salaried worker	357 (18.4)	89 (19.3)
	Unemployed/retired	44 (2.3)	8 (1.1)
	Homemaker	745 (38.4)	212 (45.9)
	Student/unemployed	353 (18.2)	37 (8.1)
Educational level			≤0.05
	Completed/Incomplete primary education.	113 (5.8)	41 (8.9)
	Completed/Incomplete/technical high school education	1250 (64.5)	308 (66.7)
	Complete/incomplete/university postgraduate education.	574 (29.6)	113 (24.5)
Social and economic level IOP			0.206
	Social and economic level A/B	428 (22.1)	86 (18.6)
	Social and economic level C	737 (38.1)	191 (41.3)
	Social and economic level D/E	773 (39.9)	185 (40.1)

^a Some variables may add up to less than 2400 due to missing data.

^b Calculated by kruskal-wallis test.

^c Mean ± standard deviation.

Table 3

Conditions in which the last abortion occurred in the study sample of prevalence of abortion and its characteristics in Peru during 2018

	N (n%) ^a
Have you ever had an abortion?	
No	1938 (80.8)
Yes	462 (19.3)
How old were you when you had your last abortion?	
Up to 18 years old	79 (20.2)
From 19–29 years old	233 (59.4)
30 years old or more	80 (20.4)
What method was used in your last abortion?	
Surgical intervention	204 (45.3)
Pills	153 (34.0)
Does not know	52 (11.5)
Others	41 (9.1)
For your last abortion, did you seek the assistance of a healthcare professional?	
No	188 (42.3)
Yes	256 (57.7)
Were you admitted to a hospital, health center, or clinic due to your abortion?	
No	305 (66.9)
Yes	151 (33.1)

^a Some variables may add up to less than 2400 due to missing data.

services and to relevant and up-to-date information on how to handle abortions [21,28,29].

The main limitation of our results is the low response rate we have obtained (15.6%); however, it is noteworthy that this rate includes, in the denominator, all the houses visited, including those abandoned or inaccessible, with absent members, or houses with no members that adjusted to the inclusion criteria. We anticipate that the response rated among houses with eligible members is much lower, but have not been able to obtain that information.

Another limitation is that the survey was only applied only in urban areas. Future investigations on this topic should expand the scope for data collection. However, this expansion to rural sectors would represent significant challenges, as it would require conducting surveys in hard-to-reach territories and adapting the instruments to intercultural contexts, given that many indigenous or native populations in rural Peru have languages distinct from Spanish.

It is also necessary for future research to explore the motivations behind women's decisions to undergo abortions, particularly concerning socioeconomic conditions, family environment, emotional bonds, the existence of gender-based violence and sexual violence, as well as the presence of older children and unwanted pregnancies.

There are still many unanswered questions regarding abortion in the country and the conditions in which they occur. Among the topics to be further explored, we highlight the need to delve into the conditions under which abortions that occur outside the health system are carried out, including access to guidance lines for the procedure. Likewise, we cannot fail to mention the importance of reducing legal restrictions on abortion in favor of women's health.

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