ORIGINAL RESEARCH

Profile of Users of Short- and Long-acting Contraceptive Methods: A Cross-sectional National Study of 12,973 Women

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Abstract

Aim: To compare the profile of users of short- and long-acting contraceptive methods (CM).

Materials and methods: Cross-sectional study that analyzed population-based databases in Peru. A total of 12,973 users of short- and long-acting CM were included. Social, demographic, and reproductive characteristics were studied, as well as the type of contraceptive method. Descriptive statistics were calculated; and the Chi-square test was applied with 95% confidence.

Results: Short-acting contraceptives (87.7%) are more used than long-acting contraceptives (LARCs) (12.3%). Among users of LARCs, the proportion of women with higher education (47.7%) was significantly higher. Women from the highlands (21.9%) used mostly short-acting methods; and those residing in urban areas (85.5%) and with a high wealth index (23.7%) used long-acting methods. Childlessness (18.8%) and non-desire for parity (62.5%) were higher in users of short- and LARCs, respectively. The initiation of sexual intercourse was not different in both groups of users.

Conclusion: Social, demographic, and reproductive characteristics are different in women users of short- and long-acting methods, except for age at sexual debut.

Clinical significance: The wide range of CM currently available allows women and their partners to satisfy their reproductive demands, although their choice depends on various conditions internal or external to the woman.

Keywords: Contraception, Contraceptives, Family planning, Health profile.

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Introduction

Contraceptive methods (CM) are intended to reduce the probability of fertilization in fertile women, and can be used by most women or by their partners.[1] A quality CM must have high efficacy, guarantee the safety of the user and an early return of fertility; however, the decision of use and continuity is not only subject to these aspects, but also to personal needs and reproductive goals established at each stage of life.[2]

Reversible contraceptives can be classified according to their duration of administration. Those of short action (SARC) are characterized by being low cost, accessible, controlled by the user and immediately effective, although the latter depends on the form of use. This group includes condoms, pills, injectables, vaginal rings, hormonal patches, cervical caps, and spermicides.[3] Long-acting contraceptives (LARCs), which include subdermal hormonal implants and intrauterine devices (IUDs), are characterized by their ability to effectively protect women from unwanted pregnancies for several years, although their counterpart is their high cost and the need for a trained professional for their insertion.[4]

The trend in the use of LARCs has shown an increase in recent years, globally, it was estimated that in 2019, LARC users represent about 19% of women aged 15–49 years, of which 17% used the IUD and 2% the hormonal implant; while on the side of SARCs, 21% of the users used male condoms, 16% used birth control pills and 8% used hormonal injectables.[5] A study conducted in different areas of sub-Saharan Africa showed that education level, area of origin, and age-group were important determinants of LARC use.[6]

In Peru, according to a nationally representative survey conducted in 2018, 55% of married or cohabiting women used a modern contraceptive method. The methods most used by Peruvian women were SARCs, such as the hormonal injectable in first place (18.4%), followed by the male condom (13.9%); whereas, LARCs, were the least used, such as the implant (2.9%) and the IUD (2.2%).[7]

It is recognized that the client can freely choose the different contraceptive options offered in the health services, after reproductive counseling.[8] However, the choice of a contraceptive method, especially long-acting methods, compared with short-acting methods, depends to a large extent on reproductive history and personal motives that are not necessarily linked to pregnancy prevention.[9] Thus, the decision to use a contraceptive has a considerable multifactorial component, including contraceptive

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preference,[10] age-group,[11] educational level, region of origin[12] and decision-making in collaboration with the couple.[13]

Therefore, it is recognized that the choice and use of LARCs and SARCs can be determined by different characteristics of the users. Therefore, the objective of this study is to compare the profile of users of short- and long-acting CM.

Materials and Methods

Cross-sectional study was based on the 2019 Demographic and Family Health Survey, which considers a two-stage sample design, random, balanced, with strata and independent, by area of residence and region. The ENDES databases are freely accessible and can be obtained free of charge from the official website of the National Institute of Statistics and Informatics, through the link: http://iinei.inei.gob.pe/microdatos/.

The research considered a subsample of 12,973 women, including those between 15 and 49 years of age and users of short- and long-term CM, while those widowed or divorced, who indicated not having initiated sexual relations, as well as being infertile and with incomplete or inconsistent information on the study variables in the databases, were excluded from the analysis.

The variables analyzed were from modules 66, 67, and 71. For the variable of contraceptive method use, item "V312" from the RE223132 database of the second module mentioned was used. This item was recategorized into: "short-duration methods," which included users of pills, injections, diaphragm, spermicides (foam, jelly, ovules), condoms and female condoms; and "long-duration methods," which included IUD and implant users.

The user profile included different variables. From the REC111 database of module 66, items "V012" was selected for age, which was recategorized (15–19 years, 20–29 years, 30–39 years, and 40–49 years), "V025" for place of residence, "V106" for educational level and "V190" for wealth index; from REC91, item "SREGION" was used for natural region. From module 67, the RE223132 was used, from which the item "V201" was selected for the number of children born, which was recategorized (none, 1–2 children, 3–4 children and 5 to more children); and from module 71, we used items "V531" for age at first sexual intercourse, which was recategorized (9–14 years, 15–19 years, and 20 or more years), "V501" for marital status of the household, "V602" for intention to have more children, belonging to ER51617.

SPSS version 26 was used to integrate the different databases. With the complex sample's module, the sample was stratified, weighted and grouped by clusters. The estimation of frequencies, percentages and their 95% confidence intervals was performed for the categorical variables. In addition, the Chi-square test at 95% confidence was used to determine the difference between variables.

Regarding the ethical considerations of the research, the approval of an ethics committee was not necessary since the database used in the ENDES is freely accessible. On the other hand, the research ensures the confidentiality of the responses, since the surveys do not record personal data that would allow identification.

Results

The use of short-acting CM was more prevalent (87.7%); in this group, injectables (38.7%) and condoms (33%) were the most used. Among the long-acting methods, the most frequently used was the subdermal implant (7.6%) (Table 1).

The proportion of women aged 30–39 years (44.1%) was higher among users of long-acting methods, as well as among those with higher education (47.7%). Unmarried women were more frequent among users of short-term methods (15.4%). Significant differences were found between personal characteristics and type of contraceptive method (Table 2).

Women from the Peruvian highlands (21.9%) and jungle (14.6%) were significantly more likely to use short-acting methods than long-acting methods ($p = 0.006$). In urban areas (85.5%) and areas where the wealth index is rich (23.2%) or very rich (23.7%), there is a greater preference for long-acting methods. There were significant differences in the demographic characteristics of users of short- and long-acting methods (Table 3).

Childlessness (18.8%) was more frequent in women using short-duration methods ($p < 0.001$). In users of long-duration methods, the desire not to have more children was significantly higher ($p < 0.001$). The age at first sexual intercourse did not show significant differences between users of these types of methods ($p = 0.056$) (Table 4).

Table 1: Prevalence of use of short- and long-acting contraceptive methods

Contraceptive methods	*n*	*%*	*95% CI*
Short-acting	11,302	87.7	86.5–88.7
Injectables	6,005	38.7	37.0–40.4
Condoms	3,437	33.0	31.3–34.8
Pill	1,847	15.5	14.2–16.8
Foam. jelly. ovules	13	0.5	0.2–1.6
Long duration	1,671	12.3	11.3–13.5
Implants	1,306	7.6	6.9–8.4
Intrauterine device	365	4.7	3.9–5.7

Table 2: Social profile of users of short- and long-acting contraceptive methods

	Contraceptive method				
	Short duration		*Long life*		
Demographic profile	*n*	*%*	*n*	*%*	*p**
Age					
15–19 years old	713	5.7	82	4.5	0.021
20–29 years old	4,854	38.0	811	37.2	
30–39 years old	4,183	37.3	636	44.1	
40–49 years old	1,552	19.0	142	14.2	
Marital status					
Single	963	15.4	74	4.5	<0.001
Married	2,546	23.8	378	26.7	
Cohabitant	7,085	52.6	1039	56.8	
Not cohabiting	708	8.3	180	12.0	
Educational level					
No education	164	1.1	20	0.9	0.008
Primary school	2,049	14.8	226	10.9	
Secondary	5,238	43.6	748	40.4	
High school	3,851	40.5	673	47.7	
Total	11,302	100	1671	100	

*Chi-square test

Discussion

The choice of a contraceptive method is fundamental during a woman's reproductive stage. Currently, there are short- and long-acting methods, which seek to satisfy the reproductive demands of

Table 3: Demographic profile of users of short- and long-acting methods of contraception

	Contraceptive method				
	Short duration		*Long life*		
Demographic profile	*n*	*%*	*n*	*%*	*p**
Natural region					
Metropolitan Lima	1,553	40.7	295	46.6	0.006
Rest of the coast	3,373	22.9	528	23.4	
Highlands	3,484	21.9	502	19.9	
Jungle	2,892	14.6	346	10.2	
Place of residence					
Urban	8,070	81.6	1,290	85.5	0.004
Rural	3,232	18.4	381	14.5	
Wealth index					
Very poor	2,851	16.5	344	12.3	0.044
Poor	3,222	21.8	434	18.9	
Medium	2,328	21.6	352	21.8	
Rich	1,712	20.6	304	23.2	
Very rich	1,189	19.6	237	23.7	
Total	11,302	100	1,671	100	

*Chi-square test

Table 4: Reproductive profile of users of short- and long-acting methods of contraception

	Contraceptive method				
	Short duration		*Long life*		
Reproductive profile	*n*	*%*	*n*	*%*	*p**
Number of children					
None	911	18.8	31	3.7	<0.001
1–2 children	6,912	55.8	1,096	69.3	
3–4 children	2,697	20.8	430	22.3	
5 or more children	782	4.6	114	4.6	
Age of first SR					
9–14 years old	1,367	9.6	212	10.4	0.056
15–19 years old	7,720	66.4	1,209	71.2	
20 to more years	2,215	24.0	250	18.4	
Desire for parity					
Yes	4,976	47.1	624	37.1	<0.001
Don't know	29	0.1	13	0.4	
No	6,297	52.8	1,034	62.5	
Total	11,302	100	1,671	100	

*Chi-square test

each woman and her partners. However, it is possible that personal, social, demographic, and economic qualities may orient preferences to one of these types of methods.

In our study, the prevalence of LARCS use was 12.3%; similarly, studies conducted in Ethiopia[14] and the United States[15] reported percentages of 14.3% and 13.4%, respectively. This reality may be associated with limitations in the provision of contraceptives by health professionals[16] such as the scarce availability of these methods and insufficient training for the identification of contraceptive needs.[17,18]

Regarding the demographic profile, our data show that LARC use was significantly lower in young and unmarried women, which coincides with the study by Maruwo et al.[19] This could suggest that the absence of a partner is an important factor in the choice of contraceptive, since not maintaining a stable relationship could promote the eventual use of methods so that LARCs would not be the first choice. In fact, this research shows that, among the SARCs, condoms are one of the most selected.

Boah et al.[20] and Ebrahim et al.[21] have shown that the acceptance and use of LARC in rural areas was lower compared with urban areas, which represents a finding similar to that of the present study. In less developed settings or settings with less potential for development, reproductive health care is directly linked to the culture of the setting. Thus, the role of the health care provider is to ensure contraceptive counseling and delivery of CM during timely, quality care with an intercultural approach.[22,23]

Although access to the safest and most effective CM is free and all women have the possibility of using them, our findings show that women with a higher wealth index have a higher frequency of LARC use, which is consistent with the findings of Bolarinwa et al.[24] and Gashaye et al.[25] but not with Aychew et al.[14] who reported that the use of these methods is more likely in women with lower income. This evidence could reflect that better paid employment, and as a consequence, greater autonomy and empowerment of women, favors the use of these methods.[26]

According to the reproductive profile of the women, our study shows that the proportion of women who have 1–2 children was higher in LARC users compared with SARC users. In this regard, Negash et al.[27] reported that the choice of long-acting methods was more likely in women with this number of children had. On the other hand, rapid return of fertility may be an indicator that women consider when choosing a contraceptive; in fact, our data show that in SARC users, the desire for parity is greater.

As limitations of this research we can mention that the research design does not allow establishing causality between the study variables; in addition, it is worth mentioning the response bias due to the fact that the information provided by women in the national survey is based on self-reporting of contraceptive use and not on a reliable source of verification, which could have generated a higher or lower frequency of users of these types of methods.

In conclusion, the prevalence of use of short-acting methods is higher than that of long-acting methods; in addition, the social, demographic, and reproductive profiles are significantly different in both groups of users, except for the quality linked to the initiation of sexual relations. It is necessary for sexual and reproductive health providers' strategies to encourage the preference and choice of CM that are safer and more effective, and that at the same time, are in accordance with the fertility needs of the woman and her partner.

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