



Women Empowerment and Demand for Sexual and Reproductive Health Services

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Abstract

We analyze the association between the empowerment of women and the demand for reproductive and sexual health services. In particular, we explore their use of modern contraceptive methods, if the women have had an HIV screening and if they have made a health consultation after experiencing symptoms of sexually transmitted infections. We calculate four women empowerment indexes, proxies to the economic dimension of empowerment, the freedom of movement to visit family or friends, the respect of their couple to their opinions, wishes and rights, and the ability of women to decide about their health. We found that freedom of movement for women at a medium level is associated with a higher probability of using modern contraceptive methods as well as screening for HIV/AIDS and that the couple's respect for the views and rights of women positively influences the use of modern contraceptive methods. However, women's autonomy to make decisions regarding their health is the empowerment indicator with the most robust results on the use of sexual and reproductive health services, associating with a higher probability of using modern contraceptive methods and consulting for STI symptoms.

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1. Introduction and State of the Question

1.1 Justification

At the international level, the political agenda of Universalization of Health (Sustainable Development Goal 3) has come to the fore. One specific area of interest is sexual and reproductive health; in particular, family planning, the use of contraceptive methods, and sexually transmitted diseases. It is important to remember that the use of contraceptive methods, in addition to reflecting a human right, has important health and economic effects. According to the [World Health Organization \(2010\)](#), the use of contraceptives in women who want to delay or avoid pregnancy can prevent 32% of maternal deaths and 10% of infant deaths, as well as contribute to the empowerment of women and gender equality. According to [Kohler and Berhman \(2014\)](#) and [Lomborg \(2019\)](#), guaranteeing universal access to contraceptive methods would lead to six hundred and forty thousand fewer neonatal deaths, one hundred fifty thousand fewer maternal deaths and six hundred thousand children who would not lose their mothers. Similarly, each dollar spent on universal contraceptive access policies is calculated to generate a benefit of 40 dollars in social welfare, but if we add the effects on human capital, this benefit amounts to 120 dollars for every dollar invested.

In Peru, 85% of united women do not want more children or want to postpone them for two or more years; however, only 55% use modern contraceptive methods. According to the Demographic and Family Health Survey - DHS ([Instituto Nacional de Estadística e Informática, 2019](#)), approximately 6% of women between 15 and 49 years old have unmet needs for family planning, which is equivalent to half a million women at risk of unwanted pregnancy. On the other hand, the Peruvian government has declared 2020 as the “*Año de la universalización de la Salud*” (“Year of Universalization of Health”) without the issue of sexual and reproductive health being the subject of special attention. The main measure taken by the Peruvian government in relation to the universalization of health in the country has been to promote the universal affiliation of the *Seguro Integral de Salud* (SIS).¹ This policy of universal access to health services is certainly necessary and important in the country, but it is far from being sufficient: the necessary budgetary resources are required for an adequate supply of medicines and other barriers related to the supply of health services, but also to face the barriers that prevent or hinder women and men from effectively seeking health care.²

A central problem to face these health needs is the weakness of the effective demand: many people do not have the knowledge or do not have as a usual practice to seek these health care. Likewise, due to the assignment of gender roles in society, women are responsible for the majority of family health care and responsibilities for reproductive health, family planning, and use of

¹Membership in the SIS was previously restricted only to people classified as poor and to some other specific social groups.

²This is particularly evident in the case of access to contraceptive methods and other maternal health care (for example, prenatal check-ups and institutional childbirth), and the prevention and treatment of HIV. In this case, the policy of free care (including the delivery of supplies and medicines) has been in operation for several years; however, it has not been enough to reach the goal of universal coverage.

contraceptives.³ Faced with this situation, advances in knowledge and discussions from the social sciences and in the public sphere have highlighted the importance of gender relations and the empowerment of women in a set of family, individual and political decisions.⁴

In this context, this research analyzes the association between the empowerment of women and the demand for sexual health services. This study seeks to contribute to the knowledge and discussion of public health policies in two areas. In the first place, in the universalization of health and public policies for the coverage of sexual health services in a context where demand gaps for these services persist. A better understanding of how gender relations within the home affect this demand will make it possible to improve health policies in this regard. On the other hand, it seeks to contribute to the understanding of the multiple relationships and consequences of women's empowerment, thus contributing to the fact that public policies for gender equality are designed based on evidence.

1.2 State of the Question

From the social sciences, the study by Priego (2006) on the analysis of health demand is one of the main ones in this field. From an approach based on human capital, Grossman (1972) argues that people's health is produced by individuals using their own resources such as time, goods and assets (food, housing, and water). In this model, the health thus produced is a consumer good that generates a level of utility to individuals (like any other consumer good). In this way, the demand for health services is in this model a demand derived from the production of health by the individual.

The various studies that analyze the demand for contraceptive and family planning methods have had two dimensions, one micro and the other macro (Schultz, 2010). On the one hand, the micro studies consider an intertemporal optimization of the well-being of parents, generating that they obtain a level of utility for having children and a benefit from the future economic flows that they produce. This last effect has been considered above all in rural contexts of poor families and in societies without public social protection networks, in which children would be a kind of "insurance for old age". On the other hand, macroeconomic explanations have been sought about the effects of the mortality and fertility rates of the population. In some of these models, the reduction in fertility allows higher levels of saving and accumulation of human capital, generating a virtuous cycle of growth. Also, higher incomes and lower infant mortality reduce the fertility rate (Birdsall et al., 2001).

Qualitative analysis for the Peruvian case can be found in Francke and Reynoso (2007). The authors find that domestic violence and the mistreatment of their partners is a cause of anguish and illness in the groups of women interviewed, unlike men. Likewise, this study points out a gender difference with regard to sexual and reproductive health care, evidencing considerable fear

³Some studies on this topic can be found in Rosenzweig and Schultz (1982) and Díaz and Presno (2013). Regarding the normalized gender roles that take biological differences into account, we have Stromquist (2006) and Ruiz Bravo (1997).

⁴As Sen et al. (2007, p. 30) say: "Gender biased values are translated into practices and behaviors that affect people's daily lives, their level of well-being and equity, such as nutrition, hygiene, recognition of health problems, health service seeking behavior and access to health services".

and reluctance in women towards modern contraceptive methods. In several of the interviewed localities, every time a woman mentioned a contraceptive method in the group dynamics, many of them argued about its risks and disadvantages (founded or not), denoting a negative perception of the use of contraceptives. Finally, they find that there is important participation of men in the decisions of contraceptive use and family planning.

A review of the status of contraceptive use and reproductive health policy in Peru is made by [Chávez and Távora \(2010\)](#). This study points to considerable supply problems: among the methods most affected by stockouts are the condom, the ECP, the IUD, and the injectable. Condoms tend to be in short supply for one to three months and this happens two to three times a year. On the other hand, [Gutiérrez \(2013\)](#) makes a general balance of the state of family planning in Peru. The author highlights that the main reasons for not using contraceptive methods (even despite not wanting a pregnancy) can be social, cultural and/or political, such as the feeling of having a little risk of pregnancy, not being adequately informed, or not understanding the key messages for preventing pregnancy.

Likewise, it is important to highlight the inequalities in access and quality of reproductive health and family planning services. [Gutiérrez \(2013\)](#) argues that, although women from urban areas and young women with a higher level of education are those who want the least number of children, in the rural sector the gap between the number of children they have and the number of children they want is broader. On the other hand, [Planas et al. \(2015\)](#) analyze whether there is ethnic discrimination in family planning care according to people's ethnic origin. [Del Pino et al. \(2012\)](#) with a study in rural areas in Peru explain the cultural disagreement and prejudice of health personnel. They have a western vision of health that does not coincide with the vision of the rural population. This behavior generates contempt for local knowledge, people's capacity is underestimated, and it discourages people from rural areas from seeking care in health centers. Like [Francke and Reynoso \(2007\)](#), this research finds that the population of ethnic origin, mostly from rural areas, experiences mistreatment by health workers.

It is within these discussions that the empowerment of women plays an important role.⁵ Empowerment is a term used in various areas of knowledge and therefore can be understood in various ways. [Kabeer \(2001\)](#) defines the empowerment of women as the process by which women acquire greater control over their life, body and environment, in order to increase their ability to make decisions that have to do with their life, ensuring that the decisions it makes can be made in a setting where historically such capacity had been denied. In this sense, it suggests that three dimensions of empowerment are essential: (1) possession and access to resources (material, human and social), (2) agency and bargaining power, and (3) the achievement of results that are translated into wellness.

Likewise, [Malhotra et al. \(2002\)](#) manage to systematize this breadth of dimensions into six

⁵[Ensor and Cooper \(2004, p. 18\)](#) highlight the bias of using models where preferences and decisions within the household are considered egalitarian by gender: "Theoretical and empirical work has challenged this assumption, suggesting that households should be seen as collective entities where the income is not automatically placed in a common bag and the allocations depend on the bargaining power". In the same way, the structure and social stereotypes determine that men have an invariable preference over women in accessing health services ([Narayan, 2000](#)).

categories: economic, family (interpersonal), sociocultural, legal, political, and psychological. While the first three were to some extent previously developed, the last three are less clear in the literature. The legal dimension implies that women know their rights and that the family environment allows and encourages them to exercise them. The political dimension refers to the fact that women must be able to actively participate in politics both by exercising their right to vote and by accessing information. The psychological dimension, on the other hand, considers that women must achieve psychological well-being translated into self-esteem and self-sufficiency.

Studies for the peruvian case can be found in [Vera Tudela \(2010\)](#), [Alcázar and Espinoza \(2014\)](#), and [Ruiz-Bravo et al. \(2018\)](#).⁶ First, [Vera Tudela \(2010\)](#) uses three indicators of empowerment (economic, family, and sociocultural) to analyze the effect of empowerment on the level of well-being of women. The author finds that a greater degree of empowerment is associated with a greater number of children, a greater probability of being the head of the household, and greater income; while a lower level of empowerment is directly associated with subordinate ethnic groups, especially in the population of the Peruvian jungle.

[Alcázar and Espinoza \(2014\)](#) evaluate the effect of a conditional transfer program (*Juntos*) on the empowerment of the beneficiaries. This author constructs five indicators to measure the empowerment of women in Peru: (1) decisions about household resources; (2) freedom of movement; (3) gender ideology and justification for violence; (4) gender ideology: opinion, wishes and rights; and (5) gender ideology: episodes of violence. [Ruiz-Bravo et al. \(2018\)](#), after a careful review of the literature, uses four dimensions to build the Women's Empowerment Index (IDM, for its acronym in Spanish). These dimensions are (1) life and physical health, (2) control over the material environment, (3) social relationships, and (4) physical integrity and security. These investigations are important for our study because they are the main reference to build our indicators of women's empowerment.

2. Materials and Methods

The main source of information used in this study is the DHS 2015–2018. Likewise, data from the Ministry of Economy and Finance (MEF, for its acronym in Spanish) and the Ministry of Health (MINSA, for its acronym in Spanish) are used. The research uses three types of variables. The first type of variables is those referring to the use of sexual and reproductive health services (dependent variables). In this regard, variables related to the use of modern contraceptive methods are considered.⁷ Additionally, two variables referring to sexually transmitted diseases are considered: if the women have had an HIV screening and, if they have some symptoms of sexually transmitted infections, they have made a health consultation.

The second group of variables refers to the empowerment of women, elaborated from the re-

⁶The discussion on the concept and methodology for measuring empowerment, together with the study by [Ruiz-Bravo et al. \(2018\)](#), is taken as the main reference for the methodology of this study.

⁷Modern contraceptive methods are those that have a high level of effectiveness and involve the use of a product of industrial origins, such as the pill, IUD, injection, implant, male condom, vaginal methods (foam, jelly, and ovum), amenorrhea by breastfeeding, emergency contraception, female condom, female sterilization, and male sterilization.

sponses that women have given in a couple union. This group of variables contains information about the decision-making capacity of women in relation to their partner and about different areas: economic resources, freedom of movement, ideology, and respect for their rights and opinions. Finally, the third group of data refers to demographics, health, socioeconomic conditions, access to health services, geography and community, characteristics of the home and individuals. Each of the variables is described in the following table.

Table 1

Variables used in the study.

Variables	Description	Source
Dependent variables		
Modern contraceptives ¹	Define whether you are currently using any modern contraceptive method ² (women aged 15 to 49). It takes two values: 1 if the answer is yes and 0 otherwise.	DHS
HIV screening	Define whether an HIV screening was carried out in the last 12 months (women aged 15 to 49 years). It takes two values: 1 if the answer is yes and 0 otherwise.	DHS
Consultation for STI ³	Define whether you have sought advice about STIs from a doctor or health professional in the last 12 months (women aged 15 to 49 years). It takes two values: 1 if the answer is yes and 0 otherwise.	DHS
Independent variables on empowerment		
Indicator 1	Decision on household resources. ⁴ It takes three values: 1 low, 2 medium and 3 high empowerment.	DHS
Indicator 2	Freedom of movement. ⁴ It takes three values: 1 low, 2 medium and 3 high empowerment.	DHS
Indicator 3	Respect for opinion, wishes and rights. ⁴ It takes three values: 1 low, 2 medium and 3 high empowerment.	DHS
Indicator 4	Making decisions about your health. ⁴ It takes three values: 1 low, 2 medium and 3 high empowerment.	DHS
Control variables		
<i>Variables on women</i>		
Age	Describe the age of the woman (in years).	DHS
Age * Age	Describe the woman's age (in years) squared.	DHS
Education	It describes the highest level of studies approved by the woman. It takes four values: 1 without education, 2 primary, 3 secondary and 4 tertiary.	DHS
Civil status	Describe the marital status of the woman. It takes two values: 1 if she is married and 0 if she is not married.	DHS
Employee	Describe whether the woman has a job at the time of the interview. It takes two values: 1 if the answer is yes and 0 otherwise.	DHS
Ethnicity	Describes whether the woman identifies herself as of native origin. ⁵ It takes two values: 1 if the answer is yes and 0 otherwise.	DHS
Disability	Describe whether the woman suffers from a permanent disability. ⁶ It takes two values: 1 if the answer is yes and 0 otherwise.	DHS
Health insurance	Describe if the woman has any health insurance. It takes three values: 0 if you do not have any insurance, 1 if you have SIS and 2 if you have private insurance, EsSalud or others.	DHS
Health condition	Describes whether the woman has had to see a health problem in the last 12 months. It takes two values: 1 if the answer is yes and 0 otherwise.	DHS
Without knowledge	It describes whether the woman does not know where to go when she becomes ill and wants medical advice or treatment. It takes two values: 1 if the answer is yes and 0 otherwise.	DHS
<i>Variables on household</i>		

(Continued on next page)

Table 1 (continued)

Variables	Description	Source
Wealth quintile	Describe the wealth of the home. It takes five values: 1 very poor, 2 poor, 3 medium, 4 rich and 5 very rich.	DHS
Number of household members	Describe the total number of household members.	DHS
Age of the couple	Describe the age of the couple (in years).	DHS
Education of the couple	Describe the highest level of education approved by the couple. It takes four values: 1 without education, 2 primary, 3 secondary and 4 tertiary.	DHS
Partner lives at home	Describe whether the partner lives in the same home as the woman. It takes two values: 1 if the answer is yes and 0 otherwise.	DHS
Variables on health services		
Public spending on health ⁷	Defines per capita public spending at the regional level in soles.	MEF
Doctors ⁷	Defines the number of doctors per 1,000 inhabitants at the provincial level.	MINSA
Nurses ⁷	Defines the number of nurses per 1,000 inhabitants at the provincial level.	MINSA
Health facilities ⁷	Defines the number of health facilities per 1,000 inhabitants at the provincial level.	MINSA
Higher level	It defines the maximum level of health facilities that exist in the province. It takes three values: 1 Health Center or “ <i>posta de salud</i> ”, 2 Hospital type I or II and 3 Specialized Institute or Hospital type III.	MINSA
Female staff	Describe whether it is an inconvenience for women that there are no female personnel in the health facility. It takes two values: 1 if the answer is yes and 0 otherwise.	DHS
Distance	Describes whether the distance is inconvenient for women to attend a health facility. It takes two values: 1 if the answer is yes and 0 otherwise.	DHS
Geographic variables		
Area	Describe the area where the woman lives. It takes two values: 1 if you live in an urban area and 0 if you live in a rural area.	DHS
Natural region	Describe the natural region where the woman lives. It takes four values: 1 Metropolitan Lima, 2 rest of the coast, 3 sierra and 4 jungle.	DHS
Department ⁸	Describe the department where the woman lives. It takes twenty-four values.	DHS
Year	Describe the year of the interview with the woman: from 2015 to 2018.	DHS

¹Women who at the time of the interview want to conceive or are pregnant are not considered in the sample.

²The modern contraceptives considered are the following: pill, IUD, injection, implant, male condom, vaginal methods (foam, jelly, and ovum), lactational amenorrhea, emergency contraception, female condom, female sterilization and male sterilization.

³Only women who had any symptoms such as pain, ulcers or genital discharge in the last 12 months are considered.

⁴For details on the construction of the empowerment indicators, review the methodology section.

⁵Ethnicity is defined according to the woman’s self-identification; If it is identified as being of black, brown, *zambo*, white, or mestizo origin, it is considered non-native.

⁶The permanent limitations considered include the following: moving, seeing, hearing, speaking, understanding and relating.

⁷The variables are transformed to terms per capita or 1,000 per inhabitant using population information from the National Institute of Statistics and Information (INEI, for its acronym in Spanish).

⁸Lima includes Callao.

Source: Own elaboration.

Table 2 presents the indicators selected to measure the level of empowerment of women in this study. Indicator 1 deals with the economic dimension of empowerment, in this it is considered if the woman participates in decisions about household resources. On the other hand, indicator 2 is close to the freedom of movement to visit family or friends; it also includes if the couple prevents in any way in that movement. Indicator 3 seeks to understand whether opinions, wishes and rights are respected by the couple. Finally, indicator 4 informs us about the ability of women to

Table 2

Indicators of women's empowerment.

Indicator	Questions	Source
Indicator 1: Decision on household resources	Who decides on large household purchases	DHS
	Who generates the most income	DHS
	Who decides on the money the couple earns	DHS
Indicator 2: Freedom of movement	Who decides about family visits	DHS
	Your partner prevents you from visiting friends	DHS
	Your partner prevents you from connecting with the family	DHS
	His partner insists on knowing all the places where the woman goes	DHS
Indicator 3: Opinion, wishes and rights	Your partner respects your opinions	DHS
	Your partner respects your wishes	DHS
	Your partner respects your rights	DHS
Indicator 4: Decisions about your health	Who decides about your health care	DHS

Source: Own elaboration.

decide about their health.

On the other hand, given that the dependent variables are dichotomous, the binomial logit model is used (Cameron and Trivedi, 2005). The identification strategy takes the following form:

$$Y_i^* = x_i\beta + z_i\varphi + u_i \quad (1)$$

$$\begin{cases} Y_i = 0 & \text{si } Y_i^* \leq 0 \\ Y_i = 1 & \text{si } Y_i^* > 0 \end{cases} \quad (2)$$

Where Y_i^* is a latent continuous variable, indicative of the consumption of health services, which determines whether the woman uses the health service ($Y_i = 1$) or not ($Y_i = 0$). The variables that make up the vector x are those related to the empowerment of women and the variables of the vector z are those of control, which include the characteristics of the woman, the household, the health offer, and the fixed effects of the year, natural region and department.

The accumulated logistic function is:

$$\Pr(Y_i = 1|x_i) = F(x_i\beta) = \frac{1}{1 + \exp(-x_i\beta)} = \frac{\exp(x_i\beta)}{1 + \exp(x_i\beta)}$$

In this type of model, the coefficients are not easily interpretable, therefore the marginal effects are calculated. This is achieved by deriving the probability with respect to the variable x_j .

$$\frac{\partial \Pr(Y_i = 1|x_i)}{\partial x_{ji}} = \frac{\partial (1 + \exp(-x_i\beta))^{-1}}{\partial x_{ji}} = \frac{\exp(x_i\beta)}{(1 + \exp(x_i\beta))^2} \beta_j \quad (3)$$

The marginal effect can be interpreted as the percentage change in the dependent variable when the independent variable changes.

3. Analysis and Results

3.1 Descriptive

This section presents the summary statistics regarding the use of modern contraceptive methods, and the use of sexual and reproductive health services (HIV screening and STI consultations) for the selected sample of women.⁸

Table 3 presents the statistics in relation to women who use modern contraceptive methods, with a rate of 60% that shows no change trend in the period 2015–2018. Likewise, women over 35 years of age use these methods to a lesser extent, compared to the other age groups. The differences are more marked in relation to educational level, where it is expected that more educated women have greater access to these methods, presumably due to both their greater knowledge and empowerment and the higher opportunity cost of pregnancy (although working women use fewer modern contraceptive methods). According to wealth quintiles, only the lowest income group shows less use of modern contraceptives, ruling out a greater difference between the second and fifth percentiles. This can be attributed to the greater poverty in rural areas: in urban areas, the use of modern contraceptives is considerably higher than in the countryside, which also happens if we compare indigenous women with non-indigenous women.

Table 3

Women using modern contraceptive methods, 2015–2018.

	2015	2016	2017	2018	2015–2018
Total	60%	61%	59%	62%	60%
Age					
15-24	69%	69%	71%	70%	70%
25-34	64%	70%	67%	68%	67%
35-49	54%	51%	48%	55%	51%
Education					
Without education	44%	37%	34%	46%	40%
Primary	53%	51%	50%	58%	52%
Secondary	62%	65%	62%	62%	63%
Tertiary	65%	65%	63%	66%	65%
Woman works					
No	63%	65%	62%	63%	63%
Yes	58%	59%	57%	61%	58%
Education of the couple					
Without education	49%	46%	47%	47%	47%
Primary	56%	52%	52%	49%	53%
Secondary	61%	62%	60%	66%	62%
Tertiary	65%	67%	61%	63%	63%

(Continued on next page)

⁸It is worth mentioning that the sample only includes women who at the time of the interview were in a relationship (married or living together). Therefore, the statistics presented do not correspond to national rates. Furthermore, with regard to contraception, women who at the time of the interview wish to have children or those who are pregnant are not included. Finally, regarding the STI consultation, only women who presented any symptoms of infection were included.

Table 3 (continued)

	2015	2016	2017	2018	2015–2018
Partner lives at home					
No	44%	44%	49%	40%	45%
Yes	61%	62%	60%	64%	62%
Wealth quintile					
Quintile 1	53%	51%	50%	57%	52%
Quintile 2	59%	62%	62%	63%	61%
Quintile 3	61%	63%	63%	62%	62%
Quintile 4	61%	67%	62%	67%	64%
Quintile 5	69%	64%	58%	62%	64%
Area					
Urban	62%	64%	62%	63%	63%
Rural	54%	53%	51%	59%	54%
Indigenous					
No	62%	62%	60%	63%	62%
Yes	42%	42%	41%	47%	42%

Source: DHS 2015–2018. Own elaboration.

Table 4 presents the statistics referring to HIV screening, which registers a rate of 26% on average during the period 2015–2018, but shows a downward trend in 2018. HIV screening is done more by younger women, because they may be more alert and aware of their needs. Likewise, women with more education and those who do not work do it more, possibly due to the availability of time and the limitations of hours in public health establishments. Also, in this case, wealth quintile 1 (the poorest) undergoes these tests less, but there are no differences between quintiles 2 to 5. Finally, fewer HIV screening tests are carried out by rural women and indigenous women.

Table 4

Women who underwent HIV screening, 2015–2018.

	2015	2016	2017	2018	2015–2018
Total	26%	27%	25%	23%	26%
Age					
15–24	36%	34%	33%	30%	34%
25–34	31%	31%	29%	27%	30%
35–49	19%	21%	20%	18%	19%
Education					
Without education	12%	16%	14%	14%	14%
Primary	19%	22%	18%	17%	19%
Secondary	29%	27%	28%	23%	27%
Tertiary	29%	31%	28%	27%	29%
Woman works					
No	32%	31%	28%	29%	30%
Yes	23%	25%	24%	20%	23%

(Continued on next page)

Table 4 (continued)

	2015	2016	2017	2018	2015–2018
Education of the couple					
Without education	12%	37%	18%	24%	22%
Primary	20%	22%	20%	16%	20%
Secondary	29%	28%	27%	21%	27%
Tertiary	25%	28%	26%	28%	27%
Partner lives at home					
No	28%	26%	25%	20%	26%
Yes	26%	27%	25%	24%	26%
Wealth quintile					
Quintile 1	21%	23%	22%	21%	22%
Quintile 2	27%	28%	29%	24%	27%
Quintile 3	29%	27%	26%	28%	27%
Quintile 4	29%	26%	24%	23%	26%
Quintile 5	24%	31%	26%	19%	26%
Area					
Urban	28%	28%	27%	24%	27%
Rural	22%	25%	22%	21%	23%
Indigenous					
No	27%	27%	26%	24%	26%
Yes	16%	20%	17%	15%	17%

Source: DHS 2015–2018. Own elaboration.

Finally, [Table 5](#) presents the statistics referring to health consultations on sexually transmitted infections (STIs), which register a rate of 72% (on average) during the period 2015–2018, but which shows a downward trend in 2018 reaching 63%. This consultation is done more by older women. Likewise, the test is carried out more by women who have more education and those who do not work, possibly due to time availability and schedule limitations in public health facilities. The higher the wealth quintile, the more likely a woman will make this query. Women in urban and non-indigenous areas also show a higher rate.

Table 5

Women who consulted about STIs, 2015–2018.

	2015	2016	2017	2018	2015–2018
Total	74%	72%	74%	63%	72%
Age					
15–24	63%	72%	76%	64%	70%
25–34	72%	73%	76%	60%	72%
35–49	79%	71%	71%	67%	73%
Education					
Without education	64%	57%	26%	36%	50%
Primary	63%	68%	62%	51%	63%
Secondary	74%	70%	76%	63%	72%
Tertiary	84%	78%	78%	75%	79%
Woman works					
No	75%	72%	76%	75%	75%

(Continued on next page)

Table 5 (continued)

	2015	2016	2017	2018	2015–2018
Yes	73%	72%	72%	57%	70%
Education of the couple					
Without education	15%	79%	36%	96%	47%
Primary	65%	58%	70%	60%	64%
Secondary	76%	73%	74%	55%	72%
Tertiary	84%	83%	75%	77%	79%
Partner lives at home					
No	71%	64%	57%	66%	64%
Yes	74%	72%	75%	63%	72%
Wealth quintile					
Quintile 1	64%	67%	67%	50%	64%
Quintile 2	70%	68%	74%	63%	70%
Quintile 3	71%	73%	75%	51%	71%
Quintile 4	81%	78%	70%	73%	76%
Quintile 5	89%	76%	85%	77%	82%
Area					
Urban	77%	73%	76%	63%	74%
Rural	65%	68%	67%	65%	66%
Indigenous					
No	76%	73%	75%	63%	73%
Yes	48%	59%	55%	68%	56%

Source: DHS 2015–2018. Own elaboration.

On the other hand, [Table 6](#) shows the difference between women who use and do not use modern contraceptive methods, and between those who have or have not had these preventive health care related to sexual and reproductive health, according to levels of empowerment. An ideology that justifies violence against women was, contrary to expectations, associated with greater use of modern contraceptives, but not with the other indicators in any sense. Greater respect by men for the wishes, rights and opinions of women is associated with the increased use of modern contraceptives. It is also associated with more HIV screening tests and STI consultations. Experiencing episodes of violence is associated with more HIV screening tests and STI consultations, which seems contradictory to the idea of empowering women, but it could be explained by a higher level of distrust of the woman about the possibilities of having been

Table 6

Test of means of empowerment indicators according to use of reproductive health services, 2015–2018.

Empowerment indicator	Modern contraceptives			HIV screening			ITS consultation		
	No	Yes	Sig.	No	Yes	Sig.	No	Yes	Sig.
Indicator 1: Decision on household resources	0.01	0.02	***	0.02	0.05	***	0.05	0.06	
Indicator 2: Freedom of movement	-0.02	0.00	**	-0.03	0.03	***	-0.36	-0.24	***
Indicator 3: Opinion, wishes and rights	0.00	0.05	***	0.00	0.12	***	-0.37	-0.15	***
Indicator 4: Decisions about your health	1.48	1.58	***	1.54	1.56	***	1.51	1.61	***

Source: Own elaboration. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

infected by her partner. Finally, the woman's own decisions, taken individually, independently of the consultation with the partner, is associated with greater use of modern contraceptives and independent decision, and more HIV screening tests and STI consultations.

3.2 Results

Table 7 shows estimates of the association between women's empowerment and the demand for modern contraceptive methods and sexual health. For each indicator of women's empowerment, the medium and high levels of empowerment are presented in contrast to the low levels (base or reference category).

First, concerning the use of modern contraceptives (column 1), a high level of empowerment of women in economic matters is associated with a low probability of using modern contraceptive methods by 2%. However, this indicator is based on questions about who makes spending decisions in the household and does not reflect other aspects of economic empowerment, such as who receives the income, in whose name the bank accounts are listed, or if there is a proportion of the income that man reserves for his personal use. Likewise, when women's freedom of movement goes from low to medium, the probability of using modern contraceptive methods would increase by 13%, although this association is not sustained when women's freedom of movement is high. Also, in the case of indicator 3 (respect of men for the rights, opinions and wishes of women) there is a strong positive association on the use of modern contraceptives when the indicator goes from low to medium, but not when it goes to high. Finally, in the case of the indicator referring to empowerment in decisions about their health, it is found that both the medium and high levels have a significant association with an increase in the use of modern contraceptives by 5% and 8%, respectively. It turns out to be the indicator of empowerment with the strongest effects and the only one in which there is a direct relationship at different levels of it with the greater use of modern contraceptive methods.

Second, column (2) shows the results for the probability that the woman has undergone an HIV screening test. This virus can advance in the body several years before developing AIDS and cause serious health problems, but an early diagnosis is very important to preserve health. This diagnosis in turn is useful from the point of view of public health because it helps to stop contagion. The results show that the fact that women have more power in terms of decisions about the use of household economic resources does not influence whether they are screened for HIV. Both the limitations of the indicator and the fact that the test is free in public health centers favor this result. On the other hand, the fact that women have some freedom of movement (average level of the indicator) is associated with an increase in the probability of HIV screening by 2.2%. An interpretation must start from the fact that it is an issue that for most women is considered very intimate and that whether the woman has been infected by the partner with whom she is united or in another way, it will have a strong effect on the couple's relationship. In this context, freedom of movement makes it easier for women to take the test privately, while a couple respectful of their opinions and rights will favor that their attendance at the health center is unhindered.

Finally, column (3) shows the results for the health consultations on sexually transmitted

infections (STIs). In this case, the results are conditional on women who have had symptoms associated with STIs (for example, pain, ulcers, or genital secretions). The results show that women with medium power in making decisions about the use of household economic resources, consult less in case of having symptoms. This result is difficult to interpret, both due to the negative sign of the parameter and the fact that the same does not apply to women with high decision-making power over economic resources.

Finally, neither the fact that women have greater freedom of movement nor the fact that their opinions and rights are more respected by their partners is associated with these consultations. In this case, what is associated with the probability of consultation is that the woman has greater decision-making capacity about her own health.

Table 7

Results about reproductive health.

	(1)	(2)	(3)
Variables	Modern contraceptives ME (%)	HIV screening ME (%)	Consultation on STIs ME (%)
<i>Empowerment 1: Decision on household resources</i>			
Medium level	0.2	0.5	-5.6**
High level	-2.2**	0.3	1.5
<i>Empowerment 2: Freedom of Movement</i>			
Medium level	1.3*	2.2***	1.8
High level	-0.4	-0.1	2.3
<i>Empowerment 3: Opinion, wishes and rights</i>			
Medium level	3.1***	2.8***	-0.4
High level	1.3	3***	1.3
<i>Empowerment 4: Decisions About Your Health</i>			
Medium level	5.4***	-0.3	6.3
High level	7.9***	-1.7	6.6**
Controls	Yes	Yes	Yes
Natural region	Yes	Yes	Yes
Department	Yes	Yes	Yes
Year	Yes	Yes	Yes
Observations	27,438	28,816	3,414
Pseudo R	0.0731	0.0742	0.1444

Note: ME = marginal effects. *** p < 0.01, ** p < 0.05, * p < 0.1.

4. Discussion and Conclusions

In Peru, only 60% of united women (married or living together) use modern contraceptives. Although the fertility rate has dropped substantially, even in rural areas and among women with low educational levels, there are still significant unmet needs for family planning and barriers to sexual and reproductive health care. There are also weaknesses and gaps in the demand for health services that make it possible to reduce sexually transmitted infections, such as HIV/AIDS screening (application of a laboratory test for detection) and consultations for STI symptoms.

Statistics show that younger women use modern contraceptive methods to a greater extent, in part due to a better understanding of existing options and their advantages and disadvantages,

and a greater ability to understand the consequences of not using them. It is possible that the new generations also have another look at their life plans, preferring to postpone or limit their reproductive possibilities to expand professional and/or economic capacities. Despite this, significant gaps in the unmet needs for family planning persist, which is why it is necessary to have a better understanding of the factors behind this situation.

This research analyzed whether the level of empowerment of women is associated with the use of contraceptive methods and other sexual health services such as HIV/AIDS screening and medical consultations for perceived symptoms of sexually transmitted infections (STIs) in Peru. Although the measurement of women's empowerment is an issue under discussion in the literature at the international level, the direct responses of women have been used together with a set of questions indicated in the DHS database, grouping them into four indicators: (1) decision about the household economy; (2) freedom of movement; (3) respect by the couple for their wishes and rights; and (4) autonomy in making decisions about their own health.

On the other hand, freedom of movement for women at a medium level increases the probability of using modern contraceptive methods, as well as screening for HIV/AIDS. This would indicate that when women have strong restrictions on movement due to the power of their partner limiting their movements, they would have fewer possibilities of attending a health center. Likewise, this result also indicates that behaviors by men persist that, in addition to being reprehensible in themselves for violating basic freedoms such as freedom of movement, limit the sexual and reproductive rights of women with negative consequences on public health in critical issues such as the HIV/AIDS epidemic.

The couple's respect for the views and rights of women positively is associated with the use of modern contraceptive methods. This would show that many women tend to be more likely to use these contraceptive methods than their partners, but that they are prevented from doing so when the man does not respect their wishes. The results suggest that confronting machismo and promoting that men have greater respect for the wishes and rights of women would lead to an improvement in the family planning of couples, with the known benefits on the health and well-being of women and the children who have to space pregnancies and avoid the burden that an excessive number of children can mean.

The degree of autonomy in women to make decisions regarding their own health is the empowerment indicator with the most robust results on the use of sexual and reproductive health services. This greater decision-making capacity of women about their own health is associated with a higher probability of using modern contraceptive methods and consulting for STI symptoms. None of this seems surprising, confirming that women when they have the power to do so, tend to make better decisions about family planning and sexual health and act accordingly. It should be noted, however, that these more empowered women in terms of their health are found to perform fewer HIV/AIDS screenings, something that merits further investigation.

Finally, it is necessary to emphasize that there is still much to investigate on this topic since there is insufficient knowledge on how to approach and measure women's empowerment in its different dimensions, as well as on the impact that these have on the demand for family planning and sexual and reproductive health services.

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