



Providers perspective and geographic and institutional factors associated with family planning counseling



Elvia de la Vara-Salazar^a, Leticia Suárez-López^{a,*}, Leonor Rivera^a, Eduardo Lazcano-Ponce^b

^a Reproductive Health Division, Center for Population Research, Mexican National Institute of Public Health, Av. Universidad 655, Col. Santa María Ahuacatlán, CP 62100 Cuernavaca, Morelos, Mexico

^b Center for Population Research, Mexican National Institute of Public Health, Av. Universidad 655, Col. Santa María Ahuacatlán, CP 62100 Cuernavaca, Morelos, Mexico

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ABSTRACT

Objectives: Family planning (FP) counseling is an essential activity to prevent unplanned pregnancies and allow a fulfilling sex life. We defined adequate counseling in FP as the counseling given to women and men of reproductive age that provided complete information about use, application, effectiveness, side effects, and contraindications. Two objectives are proposed in this study. First, we seek to analyze geographic and institutional factors associated with FP counseling in primary and secondary healthcare facilities in Mexico. Second, we seek to identify the cultural barriers that providers perceive as a limitation of the clients so that they can come to request information related to FP and that are associated with FP counseling.

Methods: This cross-sectional study uses a complex, probabilistic, stratified sampling design representative at national level by institution, region and rural-urban areas. We collected 16,829 provider questionnaires at healthcare facilities. Bivariate and logistic regression analyses were performed.

Results: Providers in rural areas had a greater possibility of offering adequate counseling (OR = 2.98; 95%CI 1.18–7.53). Providers in the northern region of the country were more likely to provide adequate counseling (OR = 5.37; 95% CI 1.91–15.12). Providers whom perceive religion as a limitation for clients to come to request information about FP are less likely to provide adequate counseling (OR = 0.37; 95% CI 0.15–0.88).

Conclusions: Physical space exclusively for the provision of FP counseling and the availability of manuals were not associated with adequate counseling. There is a need to address the social and cultural influences on the quality of counseling in these healthcare facilities.

Introduction

Family planning (FP) is a preventive and essential healthcare service that includes education and counseling activities, together with free, informed and timely access to contraceptive methods [1]. The use of efficient contraception methods contributes to the reduction in the rate of unplanned pregnancies and allows individuals to enjoy a full sex life. It also helps women to exercise their sexual and reproductive rights, empowering them to make informed decisions about when to have children and how many children they will have.

Data from national surveys show that 63.4% of sexually active Mexican women used a contraceptive method in 1987 [2], and this percentage increased to 75.6% in 2014 [3]. The increased use of birth control methods (BCM) and FP services is evident; however, the effectiveness of the coverage, accessibility and use is poor for a number of reasons. In Mexico, women who had more children than they wished

did so due to the non-use of BCM (34.8%) or due to the failure to use BCM (23.2%) [3]. In addition, unplanned pregnancies (21%) and unwanted pregnancies (15.5%) still occur [4].

Regardless of the reason, people need to be heard and to have their personal and reproductive needs considered, according to their age and family composition, among other factors. This would help improve the quality of interpersonal communication in FP counseling and help achieve a more efficient service. A recent study in Mexican women found that younger women were less satisfied with the quality of FP services, indicating that there were gaps in the quality of care received by different age groups [5].

Additionally, population disparities have been demonstrated to extend beyond the availability of health resources and services, and they are associated with geographic [6] and cultural aspects [7], which determine health behaviors and access to FP services. Based on these disparities, the investigation and analysis of the experiences of

* Corresponding author.

E-mail addresses: edelavara@insp.mx (E. de la Vara-Salazar), lsuarez@insp.mx (L. Suárez-López), lrivera@insp.mx (L. Rivera), elazcano@insp.mx (E. Lazcano-Ponce).

providers and clients, in particular the cultural barriers, has been proposed as a method to determine whether the FP service is adequate and responds to the real needs of the population [8].

Hence, the effective use of FP counseling requires personnel trained on many aspects of sexuality and human reproduction [9], a wide range of BCM, and their benefits and effects [10]. It is also necessary to develop a high level of sensitivity and empathy in order to develop harmonious personal relationships based on respect, with privacy and without emotional pressure, and a high degree of trust between clients and counselors [11]. A variety of studies have shown that FP providers with a more active role in counseling can help the client make informed, shared and appropriate decisions for the efficient use of BCM [10–12].

Based on the above considerations and the need to characterize counseling in FP services in public healthcare institutions, this study fills this gap by providing a national assessment of facilities' readiness to provide high quality counseling and the factors associated with such readiness. We assume that good counseling is related to institutional factors of the medical unit (e.g., physical space used exclusively for providing FP counseling and the availability of FP manuals) and training of the healthcare personnel. So that, we hypothesize will be multi-factorial, and that is why we have included institutional as well as socio-cultural factors.

Two objectives are proposed in this study. First, we seek to analyze geographic and institutional factors associated with FP counseling in primary and secondary care units in Mexico. Second, we seek to identify the cultural barriers that providers perceive as a limitation of the clients so that they can come to request information related to FP and that are associated with FP counseling.

Methods

Information source and sample design

This cross-sectional study used a probabilistic, stratified sampling design to select a representative sample of 926 public (Ministry of Health, ISSSTE, IMSS, IMSS-Oportunidades) healthcare facilities from a sampling framework of 19,995 units from all public healthcare facilities in the country. This project was called "Monitoring the care of women in the health sector, 2012" and aimed to describe and analyze the operation of various public health programs, including FP Care. The sample was based on institutions and is nationally representative. The sample of the healthcare facilities was selected through a systematic sampling of municipalities, with one fifth (20%) coming from each of five geographical regions (northwest, northeast, center, south and Mexico City-Mexico State). The sample was also representative of rural and urban areas (rural: < 2500 inhabitants and urban/metropolitan: ≥ 2500 inhabitants) [13].

A sub-sample of 716 healthcare facilities across primary and secondary care that offered FP services through their preventive medicine or outpatient consultation divisions were selected. After signing informed consent, 16,829 FP healthcare providers were interviewed in-person using a structured questionnaire (using a portable computer). A pilot study was conducted to test the length, order and understanding of the questions. Data collection spanned from August to October 2012. FP providers were selected as follows: In each unit of the first level of care, generally only one person was responsible for all programs; therefore, in these units this person was interviewed. In the second level care units, it was possible that more than one person was in the FP program, and in these cases, all the FP personnel were interviewed. The providers' response rate was 93%. The sampling frame is representative at the national level by institution, region and rural-urban areas, but not by providers. The study was approved by the Ethics, Research and Biosafety Committees of the National Institute of Public Health in Mexico [13].

Analyzed variables

To construct the dependent variable of adequate FP counseling, we began with the established guidelines of the official FP standard [1], a document of mandatory observance in the country. For constructing the dependent variable, the following questions were asked: 1.- To what groups of population do you offer FP counseling? 2.- What aspects of contraceptive counseling do you deal with? The spontaneous answers to these open-ended questions asked to the providers (which population groups were offered FP counseling and the aspects addressed by the healthcare personnel who delivered the counseling) were later categorized by researchers. The dependent variable was constructed using an additive index. Adequate counseling was defined as counseling given to women and men of reproductive age that provided complete information about contraceptive methods (i.e., use, application, effectiveness, side effects and contraindications). A value of 1 was assigned to appropriate FP counseling, and a value of 0 was assigned to all other cases.

The independent variables considered were the community size (rural, urban and metropolitan) of the medical unit, the geographic region, the healthcare institution, the availability of physical space exclusively for FP counseling, the availability of official FP standards, manuals and samples (not printouts), the gender of the provider, the hours of training of the providers and the client barriers perceived by the providers when the client was requesting FP information. These variables were categorized into three groups. The first group was geographic factors, which defined the community size (1 = urban, 2500–15,000 residents, 2 = rural < 2500 residents and 3 = metropolitan, > 15,000 residents) and geographic region (1 = north, 2 = central and 0 = south).

The second group was institutional factors, which included healthcare institutions (1 = IMSS-Opportunities, 2 = IMSS, 3 = ISSSTE and 4 = Sesa), the existence of physical space in the healthcare facilities exclusively for providing FP counseling (0 = do not have exclusive space and 1 = yes, have exclusive space) and the availability of the Official Mexican Standards for FP, manuals about indications and contraindications of contraceptive methods and samples (not printouts) of contraceptive methods in the office or place where counseling was provided. A value of 0 was assigned when these materials were available but in poor condition (incomplete or damaged) or unavailable, and a value of 1 was assigned when they were available and in good condition.

The third group corresponds to aspects of the providers, such as the gender of the providers (male or female) and training of the providers, which was defined by the number of hours of training that the healthcare personnel received in the year prior to the study on eight themes related to FP (update on post-obstetric event contraceptives, counseling on sexual and reproductive health and FP for adolescents, insertion of an intrauterine device, counseling about bilateral tubal ligation, counseling about vasectomy, emergency contraception, pregnancy termination and topics of gender equity and equality), with a value of 0 assigned when they received less than 20 h of training and a value of 1 assigned when they received 20 h or more (in 2011).

We analyzed seven variables perceived by the healthcare providers that referred to the clients' cultural barriers with the following questions: The clients have some limitation to request information about FP for reasons of: (a) language (indigenous language) (b) ethnicity (belonging to an indigenous group) (c) age (d) geography (remote place of residence or difficult to access) (e) economics (f) religious factors and (g) because the partner or family is opposed. These questions were recorded as dichotomous variables (0 = is not a limitation and 1 = yes, it is a limitation).

Analysis

Based on the univariate analysis, the distributions of the variables of

interest were observed, and the general characteristics of the study population were described. Next, a bivariate analysis was completed utilizing a Pearson Chi-square test and a logistic regression model to obtain estimates of the odds ratios (ORs) on adequate/not adequate FP counseling with 95% confidence intervals (CIs). To control for possible confounding variables and to determine the factors associated with FP counseling, a multivariable logistic regression analysis was performed to explore the association between adequate FP counseling and selected characteristics (community size, geographic region, physical space exclusively for FP counseling, availability of manuals, training of providers and religious barriers of clients perceived by providers). The best fit of the final model was constructed with those variables that, in the logistic regression analysis, had statistical significance (value of $p \leq .05$). We also included each of the variables that theoretically have been shown to be related to the variable of interest. Using the principle of parsimony and the Akaike's and Bayesian information criterion, we fit the best model. The sample design was incorporated into the statistical analysis by taking into account the complex design of the survey to obtain correct estimates [14]. Stata 13.0 was used for the analysis using the svy suite. The linktest statistical test was used to determine the goodness of fit.

Results

Geographic, institutional and provider characteristics

The univariate data analysis of the 16,829 FP providers revealed that FP counseling was offered adequately in less than half of the healthcare facilities (48.5%). Regarding the geographical characteristics, the majority of the healthcare facilities were located in rural areas (60.3%). The greatest proportion of healthcare facilities belonged to the northern region (37.0%), and approximately the same percentages were located in the central and southern regions (33.5% and 28.8%, respectively). Regarding the institutional characteristics of the healthcare facilities, most of the healthcare facilities belonged to the Sesa (70.7%), and the fewest belonged to the ISSSTE (1.1%). Less than half (43.5%) had exclusive space for delivering FP counseling, and 66.8% met the official standards of FP for a good condition and accessible location to provide counseling. More than half (56.9%) of the medical units had manuals about the indications and contraindications of contraceptive methods, and only 60.1% had satisfactory samples of contraceptive methods (Table 1).

Regarding the factors related to the providers, 32.0% were men, and only 14.2% of all providers received 20 h or more of training in FP and contraceptive issues in the year prior to the survey, with 81.0% receiving less than 20 h of training (Table 1). Among the limitations that the providers perceived as barriers for clients when requesting FP information, the most important issues were those related to opposition by the partner or a relative (50.2%), followed by religious factors (26.3%), economics (21.2%), geography (16.3%), factors related to age (12.1%) and factors related to language or indigenous language and ethnicity (4.6% and 2.9%, respectively) (Table 1).

Characteristics associated with adequate FP counseling

In the bivariate analysis, significant differences were found in the supply of adequate counseling for the geographic region in which the healthcare facilities were located and for the barriers perceived by the healthcare providers about their clients when requesting FP information (Table 2). The FP service personnel offered adequate counseling in only half of the healthcare facilities of the northern region (51.5%). Moreover, only 29.4% of the healthcare facilities in the central region and 19.2% of those in the south offered adequate counseling. Regarding the barriers that healthcare providers mentioned or perceived as limitations faced by clients when seeking FP information, those related to religious aspects showed significance in this analysis because adequate

Table 1
Geographic, institutional and provider characteristics in public healthcare facilities of first and second levels of care. Mexico, 2012.*

Characteristics	N (16,829)	%	95% CI
Counseling			
<i>Inadequate</i>	8543	50.77	(40.36–61.11)
<i>Adequate</i>	8160	48.49	(38.15–58.95)
<i>Missing</i>	126	0.75	(0.23–2.45)
Geography			
Community size			
<i>Urban</i>	3654	21.71	(14.59–31.04)
<i>Rural</i>	10,152	60.33	(50.74–69.18)
<i>Metropolitan</i>	2897	17.21	(11.86–24.32)
<i>Missing</i>	126	0.75	(0.23–2.45)
Geographic region			
<i>North</i>	6234	37.04	(28.31–46.71)
<i>Central</i>	5630	33.45	(24.94–43.20)
<i>South</i>	4839	28.76	(21.20–37.71)
<i>Missing</i>	126	0.75	(0.23–2.45)
Institutional			
Healthcare institution			
<i>IMSS-Opportunities</i>	3539	21.03	(15.70–27.57)
<i>IMSS</i>	1083	6.43	(4.85–8.48)
<i>ISSSTE</i>	177	1.05	(0.80–1.37)
<i>Sesa</i>	11,904	70.74	(63.39–77.14)
<i>Missing</i>	126	0.75	(0.23–2.45)
Physical space exclusively for providing FP counseling			
<i>No</i>	9412	55.93	(45.51–65.84)
<i>Yes</i>	7324	43.52	(33.61–53.97)
<i>Missing</i>	93	0.55	(0.15–0.21)
Availability of official Mexican standards for FP			
<i>Available but in poor condition/unavailable</i>	5587	33.20	(24.14–43.70)
<i>Available and in good condition</i>	11,242	66.80	(56.30–75.86)
Availability of FP manuals			
<i>Available but in poor conditions/unavailable</i>	7159	42.54	(32.71–53.00)
<i>Available and in good conditions</i>	9583	56.94	(46.43–66.86)
<i>Missing</i>	87	0.52	(0.14–1.90)
Availability of sample contraceptive methods			
<i>Available but in poor condition/unavailable</i>	6663	39.59	(30.02–50.04)
<i>Available and in good condition</i>	10,118	60.12	(49.69–69.70)
<i>Missing</i>	48	0.29	(0.01–1.48)
Providers			
Gender			
<i>Male</i>	5383	31.99	(23.07–42.45)
<i>Female</i>	10,964	65.15	(54.86–74.19)
<i>Missing</i>	482	2.86	(1.26–6.40)
Hours of training			
<i>Less than 20 h</i>	13,636	81.03	(72.99–87.10)
<i>20 h or more</i>	2391	14.21	(8.80–22.12)
<i>Missing</i>	802	4.76	(2.50–8.88)
Client barriers perceived by providers			
Language (indigenous)			
<i>No</i>	15,932	94.67	(89.70–97.31)
<i>Yes</i>	777	4.62	(2.13–9.72)
<i>Missing</i>	120	0.71	(0.23–2.21)
Ethnicity			
<i>No</i>	16,252	96.57	(92.59–98.45)
<i>Yes</i>	485	2.88	(1.17–6.93)
<i>Missing</i>	92	0.55	(0.01–2.11)
Age			
<i>No</i>	14,646	87.03	(79.38–92.12)
<i>Yes</i>	2032	12.08	(7.12–19.75)
<i>Missing</i>	151	0.89	(0.03–2.59)
Geography			
<i>No</i>	13,979	83.07	(74.04–89.40)
<i>Yes</i>	2737	16.26	(11.00–25.34)
<i>Missing</i>	113	0.67	(0.02–2.09)
Economics			

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Table 1 (continued)

Characteristics	N (16,829)	%	95% CI
No	13,145	78.11	(68.09–85.65)
Yes	3560	21.15	(13.69–31.22)
Missing	124	0.74	(0.25–2.17)
Religious			
No	12,287	73.01	(64.04–80.42)
Yes	4421	26.27	(18.94–35.21)
Missing	121	0.72	(0.25–2.10)
The partner or family is opposed			
No	8295	49.29	(39.00–59.65)
Yes	8440	50.15	(39.83–60.46)
Missing	94	0.56	(0.15–2.09)

CI = Confidence interval.

Data are weighted counts and weighted percentages.

counseling was given in a high percentage of healthcare facilities (81.6%) when religion was not a barrier (Table 2).

Factors associated with adequate FP counseling in healthcare facilities

According to the results of the multivariable logistic regression model, the community size of the healthcare facilities was also related to FP counseling; specifically, healthcare providers in rural areas were three times more likely to give adequate FP counseling than those in urban areas (OR = 2.98; 95% CI 1.18–7.53). Similarly, the personnel in healthcare facilities located in the northern region of the country were five times more likely to offer adequate counseling than those in the southern region (OR = 5.37; 95% CI 1.91–15.12) (Table 3).

Additionally, in the healthcare facilities where providers perceived religion as a limitation for the clients, there was a 63.0% lower likelihood of giving adequate counseling compared to providers that did not identify religion as a barrier (OR = 0.37; 95% CI 0.15–0.88) (Table 3).

Discussion

This study sought to analyze geographic and institutional factors associated with FP counseling in primary and secondary healthcare facilities in Mexico and to identify the cultural barriers that providers perceive as a limitation of the clients so that they can come to request information related to FP and that are associated with FP counseling. The results obtained highlight the significant association of adequate counseling with the community size, geographic region and religion as a client barrier perceived by providers, but not with institutional factors.

Among these findings, the geographical factors showed that healthcare facilities in rural areas were more likely to provide adequate counseling to women and men of reproductive age about contraceptive methods than healthcare facilities in urban areas. This result is striking because we assumed that better institutional infrastructure and personnel trained for FP counseling are more firmly in place in healthcare facilities in urban and metropolitan areas. However, our findings agree with a report from a study of several countries that explained that this association could be a reflection the organization of FP programs over time, which led to improved information exchange between providers and clients [15].

Additionally, the results may be explained by the existing proximity and close ties between healthcare personnel and the target population in some rural areas of the country, which enables them to build interpersonal relationships and emotional ties, thereby fostering adequate counseling. Women have been documented to feel more satisfied with the services provided if the healthcare personnel are attentive, friendly and respectful and if they take into account the women’s individual needs [11].

Table 2

Adequate FP counseling by geographic, institutional and provider characteristics in public healthcare facilities of first and second levels of care. Mexico, 2012 (bivariate analysis).#

Characteristics	N	Adequate %	95% CI	p-value*
Geographic				
Community size				
Urban	1243	15.24	(8.80–25.09)	.1587
Rural	5465	66.98	(53.19–78.36)	
Metropolitan	1451	17.78	(9.32–31.27)	
Geographic region				
North	4198	51.45	(35.55–67.06)	.0245
Central	2397	29.37	(17.08–45.65)	
South	1565	19.18	(9.09–36.03)	
Institutional				
Healthcare institution				
IMSS-Opportunities	1658	20.32	(12.93–30.46)	.7767
IMSS	491	6.01	(3.85–9.28)	
ISSSTE	70	0.86	(0.56–1.32)	
Sesa	5940	72.38	(61.7–81.64)	
Physical space exclusively for providing FP counseling				
No	4439	54.42	(38.00–69.93)	.7543
Yes	3718	45.58	(30.07–62.00)	
Availability of official Mexican standards for FP				
Available but in poor condition/unavailable	3367	41.26	(26.86–57.33)	.1245
Available and in good condition	4793	58.74	(42.67–73.14)	
Availability of FP manuals				
Available but in poor condition/unavailable	4157	50.96	(35.26–66.48)	.1043
Available and in good condition	3999	49.04	(33.52–64.74)	
Availability of sample contraceptive methods				
Available but in poor condition/unavailable	3442	42.43	(27.58–58.79)	.5875
Available and in good condition	4671	57.57	(41.12–72.42)	
Providers				
Gender				
Male	2985	36.77	(23.10–52.95)	.4444
Female	5134	63.23	(47.05–76.90)	
Hours of training				
Less than 20 h	7030	88.50	(79.05–94.00)	.3369
20 h or more	914	11.50	(6.00–20.95)	
Client barriers perceived by providers				
Language (indigenous)				
No	7721	94.62	(85.73–98.10)	.7218
Yes	439	5.38	(1.90–14.27)	
Ethnicity				
No	8022	98.31	(94.98–99.44)	.2600
Yes	138	1.69	(0.56–5.02)	
Age				
No	7209	88.35	(77.49–94.36)	.8440
Yes	950	11.65	(5.64–22.51)	
Geography				
No	6539	80.23	(64.66–90.00)	.3100
Yes	1611	19.77	(10.00–35.34)	
Economics				
No	6153	75.46	(58.53–87.02)	.4366
Yes	2000	24.54	(12.98–41.47)	
Religious				

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Table 2 (continued)

Characteristics	N	Adequate %	95% CI	p-value*
No	6635	81.57	(68.75–89.91)	.0424
Yes	1499	18.43	(10.09–31.25)	
The partner or family is opposed				
No	4386	53.75	(38.27–68.55)	.4122
Yes	3773	46.25	(31.45–61.73)	

CI = Confidence interval.

* Bivariate analysis using Pearson chi-square.

Data are weighted counts and weighted percentages.

Table 3

Association of geographic and institutional factors and user barriers perceived by providers with adequate FP counseling in first and second level public healthcare facilities. Mexico, 2012 (multivariable logistic regression model).#

Characteristics	Crude OR	95% CI	Adjusted OR	95% CI
Geographic				
Community size				
Urban	1.00		1.00	
Rural	2.26	(0.96–5.29)	3.18*	(1.23–8.28)
Metropolitan	1.94	(0.72–5.24)	1.78	(0.58–5.42)
Geographic region				
South	1.00		1.00	
North	4.31	(1.40–13.30)	6.11*	(2.16–17.32)
Central	1.55	(0.47–5.06)	2.21	(0.66–7.42)
Institutional				
Physical space exclusively for providing FP counseling				
No	1.00		1.00	
Yes	1.14	(0.48–2.69)	1.47	(0.57–3.76)
Availability of FP manuals				
Available but in poor condition/unavailable	1.00		1.00	
Available and in good condition	0.49	(0.21–1.16)	0.50	(0.20–1.26)
Providers				
Gender				
Male	1.00		1.00	
Female	0.70	(0.27–1.77)	0.52	(0.20–1.31)
Hours of training				
Less than 20 h	1.00		1.00	
20 h or more	0.60	(0.21–1.73)	0.53	(0.14–2.01)
Religion as a client limitation perceived by providers				
Not a limitation	1.00		1.00	
Is a limitation	0.43	(0.19–0.98)	0.38*	(0.16–0.92)

OR = Odds ratio.

CI = Confidence interval.

* $p < .05$.

Data are weighted counts and weighted percentages.

Similarly, the main findings of this study demonstrate that counseling is or is not adequate depending on the geographic region in which the healthcare facilities are located. Clients of healthcare facilities located in the northern region of the country are more likely to receive adequate FP counseling than clients of healthcare facilities in the southern region. Notably, the northern region of this country is located between regions that are more economically and socially developed and thus promote better living conditions through access to resources, education and public services [16].

The above factors may suggest that the healthcare personnel in this region have greater opportunities to acquire knowledge and to develop sensitivity skills. In turn, sensitivity fosters trust with the user population and promotes empowerment, thereby helping clients to show initiative and interest and to approach healthcare services with a more proactive attitude [17]. A similar result was obtained in a study that compared women of different socioeconomic and education levels, with

the most benefitted clients receiving counseling that affected the use of FP [18]. In other study, the prevalence of contraceptives was found to increase in relation to socioeconomic factors, such as household wealth and education of the woman [15]. A greater importance must be placed on a client-centered approach for advice and counseling through a process that includes needs assessment, decision-making support, method choice and follow-up based on privacy, confidentiality, non-discrimination, respect, empathy and trust [19]. Moreover, teaching of modern contraceptive methods should be included during several sessions, and the attendance of the partner should be encouraged [17].

Other important result of this study is that the clients' religion is related to adequate counseling by functioning as a cultural barrier perceived by the providers that affects the likelihood of their clients requesting FP information. This situation may be the result of the strong cultural and religious roots of societies such as Mexico, particularly in rural and/or marginalized contexts, where the population has strong beliefs that are part of their everyday life combined with particular family relationships that involve a number of family-type controls, dogmas and beliefs. For example, provider preferences in contraceptive decisions have been shown to be shaped by socio-cultural determinants and prevail in counseling. Thus, provider-client interactions can reveal social prejudices that influence decisions [20]. These circumstances may restrict the use of FP services and thus timely access to contraceptive methods, thereby preventing clients from exercising choice in when and how many children to have. These situations can distract the clients from a sense of responsibility for their health and create cycles of disregard and greater risk. This situation is aggravated when providers have poorly inclusive attitudes towards clients with certain characteristics related to social status, ethnic origin, language, gender or religion [20].

Although some providers recognize the influence of their ideas, values and beliefs on the provision of their services and the need to set limits on this influence, they admit that it is not easy to dismiss the medical judgment of the personnel [8]. This situation demonstrates the need for mechanisms to remove client and provider barriers and to achieve a reciprocal approach between FP programs and the population [21–23].

Although in this study the institutional and training factors of the providers showed no significant association with adequate FP counseling, we believe that the lack of association between these factors can be explained by low participation in training courses for more than 20 h on FP themes during the year prior to the study. Thus, healthcare personnel training that grants counseling should be incentivized [9] with the training incorporating innovative and efficient methodologies and sensitivity workshops oriented to the development of *abilities and attitudes* of awareness that are necessary to impart health education and effective counseling. In this way, healthcare personnel are enabled to build trust and to encourage the adherence [24] of clients to health services in general and to FP in particular, with the purpose of being responsible agents of health care.

Beyond having an exclusive physical space to provide FP counseling, information needs to be delivered in a private, personalized, respectful and confidential environment that is free from disruptions where clients are heard and empowered to make informed decisions. There is evidence that local actions aimed at streamlining FP counseling moderately helps to reduce health inequalities given the notable differences in FP practices by region, age group and social, economic and educational strata. In this context, developing countries should learn from the successful experiences of more advanced countries and should use appropriate didactic materials that agree with local and national sociocultural values [25].

A strength of this study is that the results are generalizable because they have been obtained from a nationally representative probabilistic sample. The findings are applicable at the national and local levels to aid in implementing policies of sensitivity and FP personnel training to deliver counseling.

Regarding limitations, because this study was cross-sectional, causality between variables could not be conferred. Furthermore, the study was conducted only in the main public healthcare institutions in the country. To gain a complete picture, research should extend to other governmental and even private institutions. Other limitation is that the survey used was focused on learning the perspectives of the healthcare providers and not the users; therefore, the study can be considered as a suitable counseling proxy in FP. Recently, the quality of FP counseling has been measured in several countries based on the Method Information Index by the type of method and characteristics of the woman [15]. Therefore, in future studies, the view of the providers should be completed through the application of this methodology with FP clients in Mexico. Similarly, we are aware that this study may include over-reporting of the activities that providers perform in the services they offer, as has been found in several studies [26–27]. Furthermore, no characteristics were taken into account at the provider level, which could influence counseling. Nonetheless, the elements analyzed in this study can contribute to the current picture of the state of FP counseling in the country.

Future research should analyze the quality of the care given by the providers to the users and investigate the perspective of the users on the quality of the services that they receive [19] using other methodologies.

Conclusions

The results suggest that counseling is more influenced by geographic and sociocultural components than by the availability of physical space exclusively provided for FP counseling or by the availability of manuals in the healthcare facilities. For effective counseling to occur, training and sensitivity of the healthcare personnel are necessary in order to create trust and closeness, which enables the user populations to make their own decisions.

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