

# Knowledge and attitudes about intrauterine devices among women's health care providers in El Salvador

Heather Lyn Hohmann,<sup>1</sup> Miriam L. Cremer,<sup>2, 3</sup> Enrique Gonzalez,<sup>4</sup> and Mauricio Maza<sup>3</sup>

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## ABSTRACT

*In order to gain an understanding of Salvadoran health care providers' clinical knowledge, attitudes, and practice toward the intrauterine device (IUD), Ministry of Health providers completed a self-administered, anonymous survey. Surveys were completed by 135 participants. The majority (94.7% and 97.0%) agreed the IUD is a safe and effective form of contraception. Only 46.6% of participants had ever received training in IUD placement, and 32.0% of them had ever inserted more than 10 IUDs. The majority of providers (54.2%) believed that the IUD was associated with a higher rate of infection than is described in the literature. Lack of formal training and knowledge about persistent infection rates associated with IUDs may contribute to low IUD placement by Salvadoran providers. Health care providers surveyed are open to learning more about the IUD and sharing the information with their patients.*

## Key words

Intrauterine devices; health knowledge, attitudes, practice; El Salvador.

Approximately 4.1% of women in Latin America use an intrauterine device (IUD), but in El Salvador the usage rate is less than 1% despite an overall increase in contraception use in that country over the past 20 years (1–4). Currently, the most commonly used method of family planning in the country is tubal ligation, with more than one-third of all women aged 15–44 years having had this

procedure (3, 5). Prior research by Cremer and colleagues (6) demonstrated that factors related to this high rate of sterilization are a health care infrastructure that can easily provide sterilization as well as women's reports that sterilization is often presented as the only, or the best, way to prevent pregnancy (6).

The health system in El Salvador is divided into public and private providers with the Ministry of Health (MSPAS) providing health care to more than 80.0% of the population (3). The use of the MSPAS for contraceptive services varies by region; for example, 66.0% of women in the paracentral and eastern regions use these services compared with 39.0% of women in metropolitan areas. Further, lay health workers called health promoters give women information about contraception.

Women who choose an IUD can have it inserted by a nurse or a physician (7).

In 1999, Family Health International conducted in-depth interviews of Salvadoran health care providers, simulated clients, and focus groups of women in order to understand the low utilization rate of this method (2). This study found that rumors and myths were the biggest barrier to IUD use. Despite Salvadoran providers reporting a positive attitude about IUD use, family-planning clients reported little provider-initiated education about the method. Not unexpectedly, clients reported that providers most often offered pills and injectable methods (2).

A recent study by McDonald-Mosley and colleagues investigated the acceptability of the IUD among women in El

<sup>1</sup> Department of Obstetrics, Gynecology, and Research Sciences, University of Pittsburgh School of Medicine, Pittsburgh, Pennsylvania, United States of America.

<sup>2</sup> Department of Obstetrics and Gynecology, New York University School of Medicine, New York, New York, United States of America. Send correspondence to: Miriam Cremer, miriam.cremer@gmail.com

<sup>3</sup> Basic Health International, San Salvador, El Salvador.

<sup>4</sup> Ministry of Health and Social Assistance, San Salvador, El Salvador.

Salvador (8). This research demonstrated that the most common reasons for not using the IUD were fear of insertion and fear of partner disapproval. Despite women's fear of the method, almost 20% of those surveyed responded that they were interested in using the IUD. Additionally, women using contraception were three times more likely to be interested in the IUD and women who received IUD information from a health care provider were five times more likely to be interested than those who received information from a friend or family member (8).

Providers' attitudes, knowledge, and experience with the IUD can affect usage rates (2, 9–11). The purpose of this study was to survey Salvadoran women's health care providers about their attitude, knowledge, and experience with this method. Given that much of the data examining IUD use in El Salvador were collected almost 10 years ago, it was considered judicious to gain an understanding of IUD use in current clinical practice. Further, the study sought to determine whether limited experience with this form of contraception influenced provider knowledge or attitude. With this information, it is hoped that interventions can be developed to help increase IUD usage in this population.

This survey was conducted through the nongovernmental agency Basic Health International after review and approval by institutional review boards from the University of Pittsburgh, New York University, and the institutional review board of the Superior Council of Public Health of El Salvador. Basic Health International's mission is to provide training opportunities for local health care providers in low-resource settings. Additionally, this organization collaborates at a national level with MSPAS to help develop sustainable health care policies. The work done by Basic Health International occurs in the paracentral region of El Salvador. This area encompasses 71 health units with 233 full-time health providers. A convenience sample of local women's health care providers working with MSPAS—including physicians, nurses, medical students in their final year of training practicing their social service as general medical practitioners, and health promoters—were identified to complete this survey.

An original survey was developed based on the goals of this study. The sur-

vey was anonymous and self-administered in Spanish. After oral consent was obtained, participants were asked to complete the survey. The survey consisted of 24 questions and took approximately 20 minutes to complete. Questions were asked in multiple-choice format with the exception of one area that allowed providers to expand in an open-ended fashion about common myths they have encountered about the IUD in their practice. Survey questions were designed to assess providers' training, demographics, current practice, and experience with IUD insertion. Additionally, questions were asked to elicit each participant's knowledge base about IUD efficacy and infection rates. Providers' attitudes were assessed by asking how much they agreed with a number of statements about the IUD, including questions about the types of patients in whom they would place an IUD. This was accomplished by listing a variety of hypothetical clinical situations such as an unmarried woman, a woman with a history of pelvic inflammatory disease, a nulliparous patient, and a woman who desired more children in the future. Providers were also asked whether they believed the IUD was a safe and effective form of contraception, whether they believed they had appropriate time to counsel patients about the method, and

whether they believed their patients were interested in learning more about it.

Data were collected from April 2008 through August 2008. Demographic data were compiled and descriptive statistics were generated as the main outcomes. Pearson's chi square, Pearson's correlation, and logistic regression were used as appropriate. Testing was done for associations between being trained to place IUDs and having placed more than 10 IUDs during a career, demographics, attitudes, and knowledge. Testing was also done for associations between having placed more than 10 IUDs during a career with demographics, attitudes, and knowledge as variables. A value of  $P < 0.05$  was considered statistically significant. Data were analyzed with Stata 9.0 (Stata Corporation, College Station, TX, United States of America).

A total of 142 providers were approached to complete the survey and 135 surveys were completed (95.0%). Demographic characteristics are presented in Table 1. Of the 135 participants who completed the survey, 132 (97.8%) self-reported as being doctors, nurses, or medical students in their last year of training completing their social service year. Either health promoters or participants who reported themselves as "other" completed the three additional surveys. Sixty-three participants (46.6%)

**TABLE 1. Demographics of study population, El Salvador, 2008**

Demographic category	Number	Percent <sup>a</sup>
Age (years)		
Median	36	
Range	21–57	
Profession		
Physician	82	60.7
Nurse	42	31.1
Medical student <sup>b</sup>	8	5.9
Other <sup>c</sup>	3	2.3
Gender		
Male	38	28.6
Female	95	71.4
Years since completion of training		
< 5	37	31.1
5–10	49	41.2
10–15	15	12.6
> 15	18	15.1
Work setting		
Hospital	14	10.4
Urban clinic	48	35.6
Rural clinic	10	7.4
Public health clinic	59	43.7
Other	4	2.7

<sup>a</sup> May not sum to 100% due to rounding.

<sup>b</sup> Includes medical students in last year of training practicing their social service as general practitioners.

<sup>c</sup> Includes local health promoters.

**TABLE 2. Women's health providers' experience with IUD training and insertion, by profession, El Salvador, 2008**

IUD experience	Possible providers <sup>a</sup>		Physicians		Nurses	
	Number	Percent	Number	Percent	Number	Percent
Trained to insert IUD	63	46.6	39	48.1	20	47.6
Inserted > 1 but < 10 IUDs in past year	30	49.1	17	43.6	10	52.6
Inserted > 10 IUDs in past year	1	1.6	1	2.6	0	0.0
Inserted > 10 IUDs during career	18	31.6	14	35.9	4	26.7
Inserted > 50 IUDs during career	5	8.8	5	12.8	0	0.0

**Note:** IUD: intrauterine device.

<sup>a</sup> Includes only providers who have the possibility to train in IUD insertions.

self-reported having training in IUD insertions, and 61 of them self-reported as being a doctor, nurse, or medical student. Of all providers who were trained in IUD insertions, 1.6% had inserted more than 10 IUDs in the past year and only 31.6% had inserted more than 10 IUDs in their career. Training and experience with IUD insertion is further divided by profession in Table 2. Having training in IUD insertion was associated with having completed more years of practice ( $P < 0.01$ ). The three most common forms of contraception prescribed by the providers surveyed were injectables, oral contraceptive pills, and the IUD, reported by 75.2%, 16.5%, and 12.8% of providers, respectively.

When asked about the efficacy of the IUD, 87.2% of providers correctly identified the method's ability to prevent pregnancy. No participants reported a less than 90.0% efficacy rate for the IUD. Eighty-eight percent were able to correctly answer how long it takes a woman to return to fertility after IUD removal. The majority of providers (54.2%) believed that the IUD was associated with a higher rate of infection than is described in the literature. Women's health care nurses were more likely than physicians to correctly identify the correct rate of infection, although the difference is not statistically significant: 57.5% for nurses and 42.5% for physicians. Interestingly, neither having training in IUD insertion nor having inserted more than 10 IUDs during a career was associated with correctly answering the knowledge-based questions discussed above.

Participants generally had positive feelings about use of the IUD (see Figure 1). The majority of participants (94.7%) agreed or strongly agreed that the IUD was a safe form of contraception. Additionally, 97.0% of responders agreed or strongly agreed that the IUD is an effective form of contraception, and only

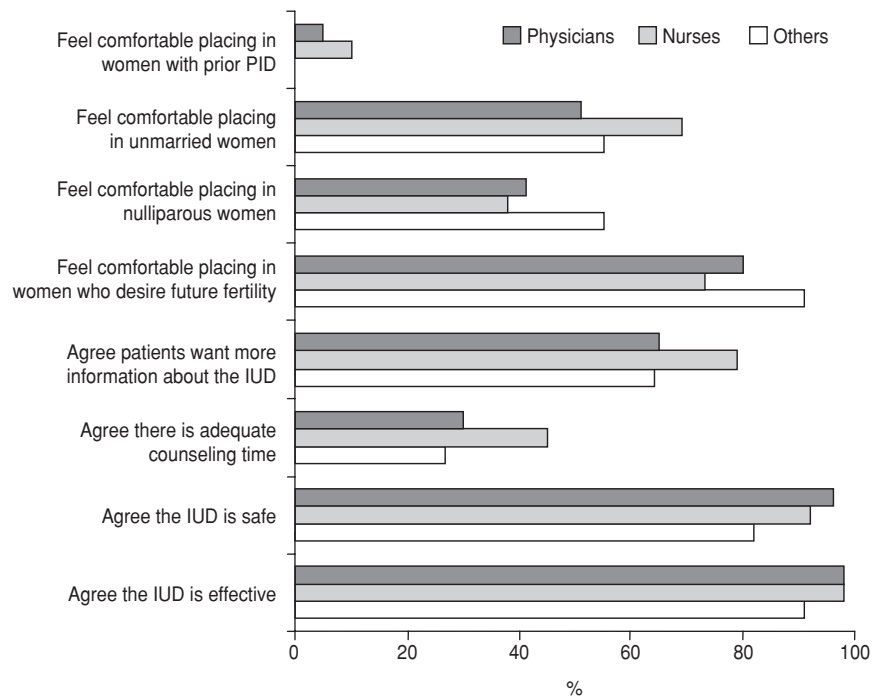
5.2% of responders agreed or strongly agreed that the IUD was an abortifacient. Survey participants reported positive attitudes about the IUD regardless of training as logistic regression failed to find an association between having IUD training or having inserted more than 10 IUDs during a career and having a positive attitude about the IUD.

Only 34.6% of providers believed they had enough time in their schedules to discuss this method with their patients. When participants were categorized into groups based on profession, more nurses than physicians reported having the time to discuss this method with patients—45.0% and 30.5%, respectively—but this

difference is not statistically significant. Unfortunately, providers trained in IUD insertion were less likely to believe that they had adequate time to discuss this method with their patients ( $r = 0.17$ ,  $P = 0.04$ ). On the other hand, being a provider who had placed more than 10 IUDs during a career was correlated with believing there was adequate time to discuss this method with patients ( $r = 0.46$ ,  $P < 0.01$ ). Despite the majority of providers reporting that their time was limited, 68.9% reported that their patients would like to learn more about the IUD. Additionally, 96.2% of providers thought there were myths among their patients about this method of contraception.

When providers were given hypothetical clinical situations, 79.1% agreed that they would be comfortable placing an IUD in a woman who had not finished childbearing. Only 41.4% of respondents agreed to being comfortable placing IUDs in nulliparous patients, although 64.4% of providers reported feeling comfortable placing an IUD in an unmarried woman when parity was not specified. For the clinical scenario in which the patient had a history of a pelvic infection (PID) in the past, only 5.9% of providers

**FIGURE 1. Attitudes of surveyed women's health providers about the use of the IUD according to documented profession, El Salvador, 2008**



**Note:** IUD: intrauterine device. PID: pelvic infection. Others include medical students completing their final year of education practice in their social service as general practitioners and local health promoters.

reported feeling comfortable placing an IUD, although time since infection or pregnancy since past infection was not specified.

A majority of women's health care providers surveyed had a positive attitude toward the IUD, despite only a minority of those surveyed having formal training in IUD insertion. Further, even for those providers trained in IUD insertion, the overall number of IUDs inserted in the past year or over a lifetime of practice remains low. It is unclear whether this low number reflects the overall low rate of use of this method in El Salvador. Most providers were able to correctly identify IUD efficacy rates and a woman's ability to return to fertility after the device's removal. However, despite good attitudes and an otherwise good knowledge base about the method, providers, regardless of training, believed a high rate of PID was associated with use of the IUD.

The data demonstrate that most health care providers surveyed overestimate the rate of PID associated with IUD use, despite the overall low rate reported in the literature of 1.6 per 1 000 woman-years of use (12). Furthermore, providers felt uncomfortable placing an IUD in a woman with a history of PID despite the World Health Organization (WHO) rating IUD use as unrestricted with a history of PID followed by subsequent pregnancy; even without a subsequent pregnancy, the benefits usually outweigh the risks (13). Unfortunately, the survey did not specify time since infection or severity of past infection or if the hypothetical patient had a pregnancy since the diagnosis of a pelvic infection. This lack of information among those surveyed may have distorted the data. The belief that IUDs have a strong link to PID may be reflected in the low percentage of providers who would recommend this method for nulliparous women because of the association of PID with tubal factor infertility. Similar misconceptions about a possible causal relationship between IUDs and pelvic infections has been reported in a survey of providers in the United States of America, despite the WHO rating the IUD as having benefits that outweigh risks when used in nulliparous patients (9, 10, 13). Additionally, one-third of providers were uncomfortable placing IUDs in unmarried women. It is unclear from the data whether the same providers would be uncomfortable

prescribing all contraceptives to unmarried women or if it is specific just to the IUD. Again, this finding may be a reflection of the belief in a causal link between IUD use and PID. It is certainly possible that providers' prescribing habits are influenced by these attitudes and this factor deserves further investigation.

The findings indicate the need for further formal IUD training for providers of contraception. The fact that a vast majority of those surveyed indicated that they believe this method is safe and effective and that their patients were interested in learning more about the IUD indicates that they may be open to formal training in the method. The participants are primary care providers with health care responsibilities beyond gynecologic care and contraception counseling, therefore demonstrating that counseling about and placement of the IUD can be accomplished in a short time in an office setting is important in order to address participants' concerns about time utilization. Accordingly, formal IUD training should include not only training in actual placement of the IUD in real clinical settings but also needs to include evidence-based information that could help dispel some misconceptions about IUD use. Additionally, the study demonstrates the important role that nonphysician health care providers play in the delivery of family planning in El Salvador. Training programs need to include all members of the health care team, with a strong emphasis on training for nurses, who play a vital role in IUD counseling as well as insertions.

There are limitations to consider when interpreting the results. First, the study did not differentiate among providers with specialty training or capture information specifically about obstetric and gynecologic providers. Also, information was included on all participants, including medical students and health promoters, who reported training in IUD insertion. Although it is possible that the students surveyed would have had training in IUD insertion, as they were all students in their final year working as general practitioners during a service year, it is assumed that professionals working as health promoters would not be inserting IUDs as part of their practice. Although it may be argued that including these responders may have influenced the results, it was decided to include these responses as only 3 of the

135 participants (2.2%) reported their profession as something other than a doctor, nurse, or medical student. As it was not possible to verify formal training for any of the participants, it was decided to count all participants' self-reported IUD insertion training regardless of profession. An additional limitation to the study is that most of the data the survey captured were quantitative data, thus limiting subjects' ability to express their attitudes and experience. Clearly, it is possible that the study failed to capture certain subject beliefs and attitudes that could be important for understanding the low utilization of the IUD in El Salvador. Additionally, the subjects may not truly represent Salvadoran women's health care workers as a whole as they were sampled from health care workers with MSPAS in the paracentral region of the country, leading to the possibility of selection bias. It was not possible to capture data on private physicians or health care workers not associated with MSPAS. Although the majority of the population receives care from the population of providers the sample was drawn from, the results would be more generalizable if it were possible to capture other health care providers working in the country. There is also a need to be concerned about the possibility of response bias from the sample population. Respondents may have answered the questions about the IUD in a way that they thought would please the researchers rather than based on their true beliefs. Last, for the purpose of this study it was considered clinically significant if those surveyed had placed more than 10 IUDs during their career. Although this number was considered clinically significant for this population because of the overall limited experience they had with IUD placement, it is important to appreciate that it is still a limited overall number of IUD insertions. Clearly, the findings on providers' attitudes and knowledge may have been affected by this assumption.

Despite limitations in the study design, the findings have important implications and contribute to the limited data available on this subject. Most providers reported having patients who were interested in using the IUD. The results suggest that there is a lack of provider training, and even for the providers who are trained to insert IUDs there is an overall lack of experience. Additionally,



many of the providers surveyed believed they did not always have time to counsel patients about the IUD, which may limit the prescribing of this method. The survey results demonstrate that

providers who thought they had adequate time to counsel patients inserted more IUDs. Clearly, there is a need for organized training programs for Salvadoran women's health care providers.

In addition to initial training, it may be important to provide continuing education that includes lecture-based as well as hands-on opportunities in order to solidify provider skill and comfort.

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## RESUMEN

### Conocimientos y actitudes de los prestadores de atención de salud de la mujer en El Salvador acerca de los dispositivos intrauterinos

A fin de evaluar el conocimiento, las actitudes y las prácticas clínicas de los prestadores de atención de salud salvadoreños en torno al dispositivo intrauterino (DIU), se solicitó a un grupo de prestadores del Ministerio de Salud que respondiera un cuestionario anónimo autoadministrado. Se recibieron 135 respuestas. La mayoría manifestó que el DIU es un método anticonceptivo seguro (94,7%) y eficaz (97,0%). Solo 46,6% de los participantes habían recibido algún tipo de capacitación acerca de la colocación del DIU y 32,0% habían colocado más de 10 dispositivos. La mayoría de los prestadores (54,2%) consideraron que el DIU está asociado a una incidencia de infecciones más alta que la descrita en la bibliografía. La escasa frecuencia con que los prestadores salvadoreños colocan el DIU probablemente sea atribuible, en cierta medida, a la falta de capacitación formal y de conocimiento acerca de los índices de infección persistente asociados a los DIU. Los prestadores de servicios de salud encuestados refirieron estar dispuestos a instruirse más acerca del DIU y a transmitir la información a sus pacientes.

### Palabras clave

Dispositivos intrauterinos; conocimientos, actitudes y práctica en salud; El Salvador.