INSERTION OF INTRAUTERINE DEVICE (IUD) BY FAMILY AND COMMUNITY PHYSICIANS IN PRIMARY HEALTH CARE IN SANTA MARIA, RIO GRANDE DO SUL, BRAZIL

INSERÇÃO DE DISPOSITIVO INTRAUTERINO (DIU) POR MÉDICO DE FAMÍLIA E COMUNIDADE NA ATENÇÃO PRIMÁRIA EM SANTA MARIA-RS

INSERCIÓN DE DISPOSITIVO INTRAUTERINO (DIU) POR MÉDICOS DE FAMILIA Y COMUNIDAD EN LA ATENCIÓN PRIMARIA DE SALUD EN SANTA MARIA-RS, BRASIL

https://doi.org/10.56238/sevened2026.020-030

Luiz Felipe Dias Carli[1], Nathieli Bianchin Bottari[2], Cristine Kolling Konopka[3], Luciane Flores Jacobi[4]

ABSTRACT

Unplanned pregnancy accounts for 40% of all pregnancies and remains a worldwide reality. Regarding physical health, the lack of reproductive planning to prevent unintended pregnancy is among the factors that worsen maternal mortality rates in Brazil. Therefore, guidance and access to contraceptive methods such as the intrauterine device (IUD) ensure women's right to reproductive and sexual health care. The Intrauterine Device (IUD) is one of the highly effective and long-acting contraceptive methods offered by the Brazilian Unified Health System (SUS), although it is still underused. In this context, the present study aimed to expand IUD insertion among SUS users in the municipality of Santa Maria-RS within the primary health care network. Initially, a theoretical and practical training course on copper IUD insertion was provided to Family and Community Medicine resident physicians from the Universidade Federal de Santa Maria and Universidade Franciscana in order to increase the availability of IUDs in the municipality's primary health care network. Subsequently, the IUD was offered as a contraceptive method to women during routine clinical consultations at Family Health Strategy (FHS) units. The project included 45 women aged 18 to 45 years who were SUS users in the city of Santa Maria, as well as four Family and Community Medicine physicians. The mean age of participants was 27 years, with 74.5% aged between 19 and 35 years; 42% had completed high school and 19.1% had completed higher education; 59.6% had paid employment; most were married and/or in a stable relationship (61.7%); and 72.3% had one or more previous pregnancies. The resident physicians who received training in Copper T 380A IUD insertion identified the following barriers before training: lack of prior knowledge and difficulty performing the procedure. After the training, 100% of the

[1] Master's in Health Sciences. Universidade Federal de Santa Maria. E-mail: luizfelipedcarli@gmail.com
Orcid: https://orcid.org/0009-0002-2385-4474 Lattes: http://lattes.cnpq.br/3400513595089284
[2]Dr. in Biological Sciences: Toxicological Biochemistry. Universidade Federal de Pelotas.
E-mail: nathieli_bb@hotmail.com Orcid: https://orcid.org/0000-0003-0294-9650
Lattes: http://lattes.cnpq.br/0374717224804681
[3] Dr. in Pharmacology. Universidade Federal de Santa Maria. E-mail: cristine.ufsm@gmail.com
Orcid: https://orcid.org/0000-0002-1177-2087 Lattes: http://lattes.cnpq.br/0307121790616384
[4] Dr. in Agronomy. Universidade Federal de Santa Maria. E-mail: luciane.jacobi@ufsm.br
Orcid: https://orcid.org/0000-0003-4622-9292 Lattes: http://lattes.cnpq.br/4372969575747920

professionals reported feeling equipped with the necessary knowledge and skills, considering insertion to be an easy procedure. None of the 45 users experienced complications after IUD insertion. This study provided positive results that may support and encourage IUD insertion by Family and Community Medicine professionals, expanding the availability of long-acting contraception for the population.

Keywords: Intrauterine Device. IUD. LARC. Family and Community Medicine. Family Health Strategy.

RESUMO

A gravidez não planejada corresponde a 40% de todas as gestações, sendo uma realidade mundial. No que se refere à saúde física, a falta de planejamento reprodutivo, para evitar a gravidez indesejada, está entre os fatores que agravam a situação da mortalidade materna no Brasil. Desta forma, a orientação e a disponibilização de métodos contraceptivos como o dispositivo intrauterino (DIU) garantem o direito ao atendimento à saúde reprodutiva e sexual das mulheres. O Dispositivo Intrauterino (DIU) é uma das opções de contraceptivos ofertadas no Sistema Único de Saúde (SUS) de alta eficácia e longa duração, embora ainda pouco utilizado. Nesse contexto, o presente estudo objetivou ampliar a inserção de DIU entre usuárias do SUS do munícipio de Santa Maria-RS na rede de atenção primária. Inicialmente, foi realizado uma capacitação teórico-prática em inserção de DIUs de cobre aos médicos residentes de Medicina de Família e Comunidade da Universidade Federal de Santa Maria (UFSM) e da Universidade Franciscana (UFN), a fim de ampliar a oferta de DIU na rede básica de saúde do município. Posteriormente, foi ofertado o DIU como método contraceptivo às mulheres durante consultas clínicas de rotina junto às unidades de Estratégia de Saúde da Família (ESF). Participaram do projeto 45 mulheres de 18 a 45 anos de idade usuárias do SUS da cidade de Santa Maria e quatro médicos de Medicina da Família e Comunidade. A média de idade das participantes foi de 27 anos, sendo 74,5% delas entre 19 e 35 anos; 42% delas completaram o ensino médio e 19,1% o ensino superior; 59,6% possuíam trabalho remunerado; a maioria era casadas e/ou em união estável 61,7% e 72,3% tinham uma ou mais gestações prévias. Os médicos residentes, que receberam treinamento para inserção do DIU de cobre 380A, apontaram os seguintes fatores impeditivos ou prejudiciais pré-capacitação: falta de conhecimento prévio e dificuldade em realizar o procedimento anteriormente. Após o treinamento, 100% dos profissionais sentiram-se dotados de conhecimento e habilidades, referendo a inserção como um procedimento fácil. Das 45 usuárias, nenhuma apresentou complicações após a inserção de DIU. Essa pesquisa forneceu resultados positivos, que podem apoiar e incentivar a inserção de DIU por profissionais de Medicina da Família e Comunidade, ampliando a oferta de contracepção de longa duração para a população.

Palavras-chave: Dispositivo Intrauterino. DIU. LARC. Medicina de Família e Comunidade. Estratégia de Saúde da Família.

RESUMEN

El embarazo no planificado corresponde al 40% de todos los embarazos y constituye una realidad mundial. En lo que respecta a la salud física, la falta de planificación reproductiva para evitar embarazos no deseados se encuentra entre los factores que agravan la situación de la mortalidad materna en Brasil. De esta manera, la orientación y la disponibilidad de métodos anticonceptivos como el dispositivo intrauterino (DIU) garantizan el derecho a la atención de la salud reproductiva y sexual de las mujeres. El Dispositivo Intrauterino (DIU) es una de las opciones anticonceptivas ofrecidas por el Sistema Único de Salud (SUS) de alta eficacia y larga duración, aunque todavía es poco utilizado. En este contexto, el presente estudio tuvo como objetivo ampliar la inserción de DIU entre usuarias del SUS del municipio de Santa Maria-RS en la red de atención primaria. Inicialmente, se realizó una capacitación

teórico-práctica en inserción de DIU de cobre dirigida a médicos residentes de Medicina Familiar y Comunitaria de la Universidade Federal de Santa Maria y de la Universidade Franciscana, con el fin de ampliar la oferta de DIU en la red básica de salud del municipio. Posteriormente, el DIU fue ofrecido como método anticonceptivo a las mujeres durante consultas clínicas de rutina en las unidades de Estrategia de Salud de la Familia (ESF). Participaron en el proyecto 45 mujeres de entre 18 y 45 años usuarias del SUS de la ciudad de Santa Maria y cuatro médicos de Medicina Familiar y Comunitaria. La edad promedio de las participantes fue de 27 años, siendo el 74,5% de ellas de entre 19 y 35 años; el 42% había completado la educación secundaria y el 19,1% la educación superior; el 59,6% tenía trabajo remunerado; la mayoría estaba casada y/o en unión estable (61,7%); y el 72,3% tenía uno o más embarazos previos. Los médicos residentes que recibieron capacitación para la inserción del DIU de cobre 380A señalaron los siguientes factores limitantes antes de la capacitación: falta de conocimiento previo y dificultad para realizar el procedimiento. Después de la capacitación, el 100% de los profesionales se sintieron dotados de conocimientos y habilidades, considerando la inserción como un procedimiento fácil. Ninguna de las 45 usuarias presentó complicaciones después de la inserción del DIU. Esta investigación proporcionó resultados positivos que pueden apoyar e incentivar la inserción de DIU por profesionales de Medicina Familiar y Comunitaria, ampliando la oferta de anticoncepción de larga duración para la población.

Palabras clave: Dispositivo Intrauterino. DIU. LARC. Medicina Familiar y Comunitaria. Estrategia de Salud de la Familia.

1 INTRODUCTION

Currently, 160 million women of reproductive age do not have access to contraception despite the availability of a variety of contraceptive methods for people (Haakenstad *et al*., 2022). According to a report carried out by the United Nations Population Fund (UN, 2022), 50% of pregnancies in the world are unplanned. In Brazil, fifty-five percent (55%) of pregnancies are unplanned, this percentage represents 1.47 million unwanted pregnancies per year in the country according to data from the Ministry of Health (2024).

Reproductive planning assistance should be part of the list of actions of health teams that work in Primary Health Care (PHC) aimed at the health of women, men, couples and families, in a vision of comprehensive health care, based on respect for sexual and reproductive rights (Carcereri *et al*., 2013, UFSC, 2016). In the 2000s, Brazil signed the Millennium Declaration stipulated by the United Nations (UN), which included among the millennium development goals that countries prioritize sexual and reproductive health. In 2006, Brazil implemented the Pact for Health in the Unified Health System (SUS) and through the Ministry of Health's More Health: Right for All Program in 2007 there was an expansion in family planning care through the provision of methods and techniques for conception and contraception, information and follow-up (Fernandes *et al*., 2016)

Among the contraceptive methods distributed to Brazilian municipalities by the Ministry of Health, the Intrauterine Device (IUD) with copper TCu 380A stands out for being a safe method, highly effective (pregnancy rates of less than 0.4% or four women per thousand in the first year, and in the following years the pregnancy rate is even lower) and practical, long-lasting, reversible and non-hormonal, in addition to being eligible, including in the postpartum period, post-abortion and as the most effective method in emergency contraception available for use after unprotected intercourse (BRASIL, 2018; Ali *et al*., 2014, FEBRASGO, 2017).

Although the SUS offers free IUD insertion with PHC, through Family Health teams, IUD insertion is still far below what would be possible, in view of the coverage of the Family Health Strategy (FHS) in Brazil. Currently, there is a technical manual from the Ministry of Health that recommends the guidance of contraceptive methods in PHC care, including the DIU (MINISTRY OF HEALTH, 2018), whose insertion can be performed by resident physicians in Health and Community Medicine. However, this practice is not adopted in the study region, which denotes a possible barrier in the dissemination and insertion of the method by primary care professionals.

In this sense, this work aims to contribute to the expansion of care and access to reproductive planning for women in the municipality of Santa Maria-RS, through the training

of resident physicians in Family and Community Medicine. To this end, it is proposed to evaluate the epidemiological profile of patients who underwent intrauterine device (IUD) insertion with family and community physicians, to analyze the theoretical-practical training of residents in performing the procedure, and to compare the results of IUD insertions before and after training.

2 LITERATURE REVIEW

2.1 HISTORY OF REPRODUCTIVE PLANNING

Since the 1990s, several world conferences promoted by the UN have been strongly marked by intense participation and articulation of social movements that have put human rights on the agenda, emphasizing women's rights. The struggle for a free and autonomous reproductive and sexual life was present in conventions and putting into discussion the need for policies and programs that would guarantee such rights (Ventura, 2009; UN 2015).

In 1994, in the city of Cairo, the International Conference on Population and Development (ICPD) took place, which defined for the first time the concept of reproductive health as: "a state of complete physical, mental and social well-being and not the simple absence of disease without restriction of organs, functions and systems". This concept gives the right to all women to have a safe, satisfying sex life and free to deliberate how and when to reproduce (UNFPA, 1994).

In the late 1990s and early 2000s, other World Conferences on women's health reinforced the concept of sexual rights and reproductive health, which were considered human rights that should be safeguarded by governments through specific practices and policies. However, with the increase in population growth and social inequalities, in the year 2000, world leaders met at the UN headquarters and prepared a document based on Human Rights with the objectives of protecting vulnerable populations and ensuring sustainable development. Among the objectives were gender equality and women's autonomy, improving maternal health and reducing the fertility rate in order to control poverty and reduce social inequalities (WHO, 2018). Brazil managed to achieve only one of these goals, reducing poverty rates from 25.5% (1990) to 3.5% (2012). The other goals were not fully achieved. Even so, there was a 55% reduction in birth rates between 1990 and 2011 according to data from the Brazilian Institute of Geography and Statistics (IBGE, 2020).

In 2012, with the failure of the goals by the countries, especially underdeveloped countries, there was a need for a World Health Conference in the city of Rio de Janeiro (RIO+20) that affirmed the objectives previously proposed and added other goals aimed at Sustainable Development (SDGs) that must be achieved by the countries by 2030. Among

them, the following stand out: "ensuring well-being and a healthy life for all; ensure gender equality; access to education and health for all women with access to contraceptive methods" (UN, 2015).

In Brazil, reproductive planning actions were only regulated in 1996 after the establishment of Law 9.263, which established the Family Planning Program. According to Law 9.263, with regard to reproductive planning: "conception and contraception actions are offered as a duty of the State and a right of all citizens, and must be guided by preventive and educational actions, means, methods and techniques available for the regulation of fertility". In addition, "the quality of reproductive planning care must ensure high standards of health, guaranteeing human rights in the provision of contraceptive information and services based on respect for informed choice, autonomy, privacy and confidentiality" (BRASIL, 1996).

In 1962, the *Population Council,* at the suggestion of Alan Guttmacher, then president of the *Planned Parenthothood Federation of America (PPFA),* organized the first international conference on IUDs in New York City. It was at this conclave that Jack Lippes, from Buffalo, presented his experience with his device, which had a single filiform tail and became the most widely used IUD in the United States and in the world. From then on, more and more new models began to appear with stainless steel materials, with silver, nylon and polyurethane wires and spiral (OMS, 2018). In Brazil, the contraceptive pill and the IUD have been marketed without hindrance since the beginning of the 70s. However, only from 2017 onwards, the Ministry of Health announced the expansion of free access to the copper IUD, distributed by the Unified Health System (SUS) in the various family planning services (FEBRASGO, 2017).

2.2 UNWANTED PREGNANCIES AND CONTRACEPTIVE FAILURES

An indication of failure in family planning often results in an unwanted pregnancy, which can be caused by lack of information, or access to contraceptive methods or their unavailability in the most different socioeconomic segments (Gelaw *et al*., 2023). The distribution of information and access to more effective contraceptive methods can help reduce the number of unwanted pregnancies, as well as the negative effects that these pregnancies cause in psychological, social, economic, and health terms for children, women, men, families, and society (Sedgh; Singh; Hussain, 2014).

It is known that in cases of unwanted pregnancy, there is a lower probability of early prenatal care, in addition to a greater probability of fetal exposure to harmful substances, such as tobacco and alcohol. Unwanted pregnancies increase the likelihood of low birth

weight, death in the first year of life, fetal distress, and developmental problems. The mother is more likely to suffer abuse and depression, and her relationship is more likely to fail. Parents may face financial difficulties, preventing them from achieving their academic and professional goals (Nogueira *et al*., 2024).

Between February 2011 and October 2012, a large-scale survey was carried out in Brazil called Birth in Brazil, which was coordinated by the Oswaldo Cruz Foundation (FIOCRUZ). The research involved 23,940 women in 121 municipalities. According to the study, unplanned pregnancies in Brazil are 55.4% and 66% among adolescents, with a higher prevalence among low-income women (Viellas *et al*., 2014).

2.3 EPIDEMIOLOGY OF IUD USE IN BRAZIL AND IN THE WORLD

The intrauterine device is a reversible, long-term, high-efficacy method of contraception that is among the most effective methods available today (FEBRASGO, 2018). It is estimated that the pregnancy rate in the first year of use is only 0.4 per thousand women, as has been reported by several studies (Savage; Lindsay, 2018).

A U.S. contraception project implemented between 2007 and 2011 called "*CHOICE"* was a prospective study of contraceptive failures in the United States that sought to encourage the use of long-acting reversible contraceptives (LARC) to reduce the number of unintended pregnancies. The study was conducted with 9,256 women in the Saint Louis region (USA), aged between 14 and 45 years. The failure rate in the LARC group (progesterone-releasing and copper-releasing IUD and subdermal implant) was lower (0.3, 0.6, and 0.9%) compared to participants who opted for pills, patches, and vaginal ring (cutouts at the end of each year of the study of 4.8%, 7.8%, and 9.4%, respectively) (Mcnicholas *et al*., 2014).

A study conducted in the United States on women of reproductive age (15 and 49 years old) during the years 2014 to 2016 estimated that 88% used modern contraceptive methods. Among the users, 18% used long-acting reversible contraceptive methods (LARC) (Megan; Kavanaugh; Pliskin, 2020). However, 84% of women still have unmet contraceptive needs, that is, they want to avoid pregnancy, but do not use contraceptive methods (Guttmacher, 2017). One explanation for this, according to the WHO, may be related to limited access to contraceptive methods, low quality of services, cultural and religious oppositions, undesirable side effects, among others (WHO, 2018).

A study conducted by Araújo et al. (2023) reported that only 4.8% of Brazilian women use long-acting methods, such as copper IUDs, hormonal IUDs, and subdermal implants. While, about 70% of Brazilian women use modern short-acting contraceptives (~~Short~~ *Term*

Contraceptives Methods, such as the pill and condom). According to the National Survey of Demography and Health of Children and Women – PNDS, carried out in 2006, the IUD was considered a contraceptive method little used in Brazil, representing only 1.9% (BRASIL, 2018).

In Brazil, 77,286, 102,836, and 41,492 IUDs were inserted and registered by the SUS in the years 2022, 2023, and 2024 (until May), respectively. In Rio Grande do Sul, 2,489, 2,708 and 943 IUDs were inserted and registered by the SUS in the same period, respectively. (DATASUS, 2024). In Santa Maria-RS, in the same database, there is no record of any IUD inserted in the period. It is estimated that in Brazil, there is a current statistic of 3% of IUD users of childbearing age, although the expectation is to reach the rates of 10% (MINISTRY OF HEALTH, 2024) which undoubtedly, to be obtained or approach, requires a population education and awareness campaign, as well as a careful prior selection of those who will obtain contraceptive benefits with this method.

2.4 INTRAUTERINE DEVICES (IUDS)

Intrauterine devices (IUDs) are considered LARCs, that is, contraceptive methods that have a durability equal to or greater than three years and that can be reversible. In addition to IUDs, both copper and hormonal, contraceptive implants also fall into the LARC category. These methods are characterized by safety, as they eliminate the need for the woman to remember to use them every day, or any other reason that prevents her from using them properly (FEBRASGO, 2022).

The first IUD was designed by German gynecologist Richard Richter in 1909, and consisted of a ring with two braided silk strips covered with cellulose. From this first model, the IUD evolved into the most modern one. It was in the 1960s that the product was developed in a "T" shape, as it better adapted to the shape of the uterus (Hsia *et al*., 2016).

The device was widely accepted until a new model, the Dalkon Shield, was introduced in the United States in the 1970s that was associated with miscarriages, pelvic inflammatory disease (PID), and even deaths, leading to its withdrawal in 1974. Subsequently, more models were introduced, but mistrust made it remain in use until the appearance of the first Intrauterine System, marketed under the name of Mirena® (Hsia *et al.*, 2016). Currently, intrauterine devices are one of the safest contraceptives known, and there are more than 150 million users worldwide who use them (Searle, 2014).

The IUD consists of a small, solid, flexible object of variable shape that is inserted through the cervix into the uterine cavity, with the aim of preventing pregnancy (Figure 1).

According to its characteristics, the IUD can be classified as: inert, copper-releasing or hormone-releasing (BRASIL, 2018).

Figure 1

Copper Intrauterine Device (IUD)

Source: (AUTHOR, 2024).

2.4.1 Copper IUDs

The TCu 380 A copper-covered IUD, a model made available in Brazil by the SUS, is T-shaped and is coated with 324 mm2 of copper on the vertical stem and two 33 mm2 copper rings on the horizontal stem (Figure 1). After being inserted into the uterine cavity, copper ions cause a thickening of the cervical mucus and an inflammatory action on the endometrium, in addition to being toxic to sperm. In this way, they interfere with sperm motility and quality, preventing sperm ascension to the fallopian tubes and consequently fertilization (FEBRASGO, 2022).

The copper IUD has an average duration of 10 years and a high efficacy rate (0.4% failure in the first year of use). In addition, it is a practical and safe method that can be used by women who want long-acting contraception, whether they are adolescents, young people, or perimenopausal. They can also be used by nulliparous women, women with previous cesarean sections, ovarian cysts or who are breastfeeding (Bahamondes; Bahamondes, 2021).

They are contraindicated for use in women with intrauterine abnormalities or fibroids. Similarly, women with vaginal bleeding with no known cause, sexually transmitted infection (STI), pelvic inflammatory disease, endometritis, purulent cervicitis, pelvic tuberculosis, or

with cervical, ovarian, or endometrial cancer can use it only after appropriate treatment (FEBRASGO, 2022).

Copper IUD users may experience changes in menstrual pattern and flow, especially in the first three months of use. Between the first and sixth month after insertion, menstrual cramps may appear or worsen, with greater frequency or duration, improving as the months go by. Uterine perforation during insertion or spontaneous expulsion include rare events although of medical risk (BRASIL, 2018).

2.4.2 Intrauterine Hormone-Releasing Devices

Hormone-releasing IUDs are considered methods with a high efficacy rate of this IUD (99.7%), being one of the most effective contraceptive methods. In addition, it has the advantage of being a reversible method and rapid return to fertility after removal (FEBRASGO, 2017).

Hormone-releasing IUDs are also T-shaped and release Levonorgestrel (LNG-IUS). They have a reservoir with 52 mg of levonorgestrel, measures 32 mm in length and releases 20 µg of levonorgestrel per day. Through the control membrane, the system is able to release levonorgestrel, which in 15 minutes after insertion is already circulating in the plasma. The release rate of 20 µg/day decreases over the course of use, stabilizing at around 12 µg/day to 14 µg/day and finally reaches 11 µg/day at the end of five years, which is the recommended time of use of the LNG-IUS. It is a contraceptive with fewer side effects and exceptional effectiveness, for five years of use. The main mechanisms of action of this model are: thick cervical mucus that is hostile to sperm penetration, inhibiting its motility in the cervix, endometrium and fallopian tubes, preventing fertilization; high concentration of levonorgestrel in the endometrium, preventing response to circulating estradiol; strong antiproliferative effect on the endometrium; inhibition of mitotic activity of the endometrium (FEBRASGO, 2017).

Absolute contraindications include confirmed or suspected pregnancy, severe distortion of the uterine cavity (such as septa, endometrial polyps, or submucosal fibroids), acute or recent (within three months) or recurrent infection (including STI, postpartum infection, or postabortion), untreated cervicitis, known allergy to levonorgestrel, acute liver disease, or liver tumor. Among the relative contraindications are important risk factors for STI (non-monogamous relationships, history of STD), previous history of problems with intrauterine contraception (perforation or severe pain), undiagnosed abnormal uterine bleeding, immunosuppression, previous history of vasovagal reflex, previous history of

progestogen intolerance (important depression), women who do not accept developing oligomenorrhea or amenorrhea (FEBRASGO, 2017).

2.5 INDICATION REGARDING THE USE OF COPPER IUD

Guidance on contraceptive methods and IUD supply according to the Technical Manual for Health Professionals - IUD with copper TCu 380ª can be provided at any time in the woman's reproductive life, when the professional contacts the user, in clinical consultations, educational groups, preventive activities or home visits, whether or not mediated by the use of informative materials (MINISTRY OF HEALTH, 2018).

In the absence of contraindications, the IUD can be indicated for any woman who is looking for a reliable, reversible, independent of coitus and long-term contraceptive method. In addition, for women who have contraindications to estrogen or women who breastfeed, the use of the IUD with copper may be a good candidate. During the lactation period, it proves to be an advantageous method because it does not interfere with the quality and quantity of breast milk (FEBRASGO, 2022).

As for perimenopausal women, initially the IUD is a good option, especially in those who have relative or absolute contraindications to combined hormonal contraception, such as smokers, obese, hypertensive and diabetic women, as these associated factors lead to greater cardiovascular risk. In those who use the IUD with copper and under 50 years of age, it is recommended to remove it two years after the last menstrual period (menopause). In women over 50 years of age, one year of amenorrhea is expected to be removed (FEBRASGO, 2022).

2.6 ADVANTAGES AND DISADVANTAGES OF THE INTRAUTERINE DEVICE

The IUD stands out from other contraceptive methods due to the following advantages: i. rapid return to fertility after its removal; ii, there is no need for additional tests (laboratory, ultrasound, Pap smear) before its insertion iii. it only requires an anamnesis, pelvic examination and STI risk assessment (level of evidence A) for its insertion; iv. non-hormonal; v. long duration (BRASIL, 2018; Bahamondes *et al*., 2019).

In addition, the IUD was considered by the World Health Organization to be a financially advantageous method for both public health agencies and users (WHO, 2018). Bongaarts and Johansson (2002) conducted a review of current methods for projecting future trends in contraception with the aim of alerting policymakers and program managers to the supplies and services needed to meet needs. They concluded that the copper IUD is the

most affordable long-acting reversible method that has ever been developed and that a lower-cost alternative LARC is unlikely to be developed (Bongaarts; Johansson, 2002)

Complications are considered rare and include the possibility of perforation of the uterine wall during insertion; however, they can evolve benignly, resulting in miscarriage, premature birth, or infection if a woman becomes pregnant while using the IUD. In addition, pelvic inflammatory disease (PID) is another occurrence when in cases of chlamydia or gonorrhea at the time the IUD is placed (Foran *et al*., 2018; WHO, 2018).

Foran and colleagues (2018) found that there were reports of pain to varying degrees during device insertion, which may hinder the acceptance of the method as more reports of pain were moderate or severe in nulliparous women. Although, there are several options to relieve this pain, including the use of misoprostol prior to insertion, cervical local anesthesia, and the use of non-steroidal anti-inflammatory drugs prior to insertion, but there is no evidence that either technique is better (Foran *et al*., 2018).

Changes in menstrual patterns, such as prolonged and heavy bleeding, irregular bleeding and more cramping during menstruation, especially in the first six months, are the most common complaints, which may be the cause of discontinuation of use (WHO, 2018).

There are few absolute contraindications to the method, namely: uterine abnormalities such as bicornuate uterus, septate or intense cervical stenosis; submucosal uterine fibroids with relevant distortion of the endometrial cavity; presence of STIs, such as chlamydia, gonorrhea and AIDS in clinical stages 3 and 4; presence of acute or chronic pelvic inflammatory disease, endometritis, mucopurulent cervicitis and pelvic tuberculosis; in the immediate postpartum period when fever is present during the labor or rupture of membranes for more than 24 hours, hypotonia or atonia after delivery, or placental retention; in the post-abortion period in cases of infected abortion; cervical cancer (BRASIL, 2018; WHO, 2018). The WHO medical eligibility criteria also consider contraindications to unexplained vaginal bleeding, malignant gestational trophoblastic disease, or elevated human chorionic gonadotropin (BhCG) levels (WHO, 2018). Due to the potential increase in menstrual flow observed in these cases, the use of copper IUDs will not be advantageous for women who use anticoagulants or have coagulation disorders (BRASIL, 2018; WHO, 2018). It can be offered to women who have had a previous ectopic pregnancy (Level B of evidence – by the American College of Gynecology and Obstetrics (ACOG) (Elgemark *et al.*, 2022).

2.7 KNOWLEDGE AND PROFESSIONAL PRACTICE IN IUD PLACEMENT

IUD insertion requires specialized training from professionals. Festin (2020) drew attention to the interest in promoting family planning programs, emphasizing the use of more effective, highly efficient, and safer contraceptives.

A survey that conducted 1,862 *online interviews* in 15 countries examined the knowledge and practice of professionals (gynecologists/obstetricians - GO, general practitioners and nurses) on IUD insertion in nulliparous women. The results showed differences between health professionals' opinions about the IUD and the available evidence (Black *et al*., 2013). The professionals mentioned the following difficulties: difficulty in insertion, concerns about PID, pain during insertion and infertility. The authors come to the conclusion that more professional education is needed.

Carty *et al*. (2019) conducted a descriptive, cross-sectional study that used a structured questionnaire for attending physicians in the U.S. Army, most of whom worked in the primary care setting. The study revealed that of the physicians who reported having received training, the proportion was 10% in copper IUD insertion, 17% in progesterone IUD insertion and 33% in subdermal implants (LARCs). With regard to the copper IUD, only ten percent of the professionals trained in insertion said they had had the procedure in the twelve months prior to the survey. About 45% of respondents said they did not feel comfortable talking about IUD insertion with users, and 45% said they did not feel comfortable talking about the method (they felt more comfortable discussing less effective methods). Some also said that there were no materials needed for the procedure. The study found that professionals did not receive training in LARC and that they did not use the method either. Implementation can be hampered by lack of availability or information about the supplies needed to insert the device. They recommend training and evaluation of materials needed in the workplace.

A research conducted by Rubin *et al.* (2011), in which they sent a self-administered questionnaire to 3,500 FCMs, a random sample, with a response rate of 25%. Among the respondents, 61.5% had inserted at least one water infusion device (IUD) during medical residency, and 23.3% stated that they had inserted at least one IUD in the last 12 months of work. The only factor that indicated insertion in clinical practice was having inserted the IUD during residency (31.5% of the participants in the training during residency continued to insert the device, while 10.2% of the participants in the training during residency performed the procedure).

Compared to MFCs who did not use IUDs in daily practice, Rubin et al. (2011) found that MFCs who used IUDs in daily practice were more likely to recommend IUDs to women,

had greater knowledge about the method, considered it safe and effective, felt safe when talking about the method, and were more receptive to dialogues about the method. with a statistically significant difference In the previous twelve months, an average of 9 IUD devices were inserted in one year, and only 22.6% of MFCs inserted more than 10. Graduates with shorter undergraduate degrees in this study inserted IUDs more frequently than graduates with longer undergraduate degrees. This may indicate that there is better training in IUD insertion during residency. The authors argue that instruction and training in IUD insertion during medical residency can increase the number of women who can use the method.

2.8 GUIDELINES AFTER THE INSERTION OF THE COPPER IUD

It is important to guide the woman so that she knows how to identify the type of IUD she is using and its shape, in addition to understanding the importance of scheduled return appointments to monitor use; to know when to return to remove or change the IUD. The patient must be provided with a form in which the data on the insertion of the IUD are recorded, including month and year, and the date for removal. The woman should be instructed to inform the use of the IUD whenever she goes to any appointment, even if she is not asked.

In addition, a follow-up visit is recommended after your first period or three to six weeks after IUD insertion. After this visit, the IUD user should have an annual routine. The post-insertion visit allows for infection exclusion, assessment of bleeding patterns, assessment of patient and partner satisfaction, and a booster opportunity for condom use to protect against STIs (FEBRASGO, 2022).

The ideal positioning of the copper IUD aims to be closer to the uterine fundus. Therefore, a transvaginal ultrasound (TVUS) should be performed when there is doubt as to whether the IUD is correctly positioned and in the management of cases with suspected or present complications (Bartz, 2018; BRAZIL, 2018).

Requesting an ultrasound is recommended in the following cases, according to the Ministry of Health, if: suspected expulsion of the IUD; non-visualization of the IUD threads in the vagina or cervical canal, woman does not know if the IUD has been expelled; suspicion of perforation; obstruction of the canal preventing the placement of the IUD, or difficult insertion (when due to obstruction, fibroids, adenomyosis, retroverted positions, obesity) (BRAZIL, 2018).

2.9 SIDE EFFECTS AND COMPLICATIONS AND THEIR MANAGEMENT

Irregular bleeding or an increase in the amount of menstrual bleeding are the most common side effects in the first few months after IUD insertion. Change in menstrual flow in users when compared to non-users of copper IUDs can increase by up to 65%. The use of nonsteroidal anti-inflammatory drugs or tranexamic acid can help reduce menstrual loss. The average number of days of bleeding or "*spotting*" appears to decrease over time. Copper IUD users have an average of 13 days of bleeding or *spotting* in the first month after insertion, decreasing to an average of six days after 12 months of insertion. The cumulative rates of withdrawal due to menstrual problems after five years of use are up to 20% for copper IUDs. Pre-insertion counseling should include menstrual modifications, which will make acceptance easier (Harper *et al.*, 2012; FEBRASGO, 2022).

Pain or dysmenorrhea are causes of discontinuity in up to 6% of copper IUDs in five years. These may be a physiological response to the presence of the device, but the possibility of infection, malposition (including perforation), and pregnancy should be excluded. Lost hairs can be associated with several causes: perforation, expulsion, malposition, associated or not with pregnancy, but increasing its risk (FEBRASGO, 2022).

In these cases, a long forceps can be used inside the cervical canal in order to make the wire visible. If this is not possible, ultrasound should be considered. If the device is well positioned, it can be maintained and, at the time of its removal/replacement, if it was not possible to remove it by exploring the cervical canal with long forceps, it should be done by hysteroscopy. If perforation is detected, laparoscopy should be considered for removal. If TVUS is not available or the IUD is not noticed, X-ray of the pelvis should be considered. The copper IUD is radiopaque (FEBRASGO, 2022).

At the time of insertion, moderate to severe pain may occur. In some women, this triggers the vagovagal reflex and produces syncope. Symptoms such as hypotension, pallor, bradycardia, tachycardia, sweating may occur.

Perforation is the most severe complication of IUD insertion, which can occur through the uterine wall reaching the peritoneal cavity. It is directly proportional to the skill of the physician. Its incidence is estimated at 0-8.7 perforations per 1,000 insertions. One of the main reasons for its occurrence is the failure to determine uterine size and orientation, which is particularly important in uteruses with large anteversoflexion or retroversion. If chlamydia or gonococcal cervicitis is suspected, appropriate antibiotic therapy should be initiated for the user (and her sexual contacts). If PID is suspected, the IUD should be removed after antibiotic treatment. The use of barrier contraceptive methods for the prevention of STIs should be advised.

3 METHODOLOGY

This research consisted of two stages. Initially, residents in selected FCMs were trained to perform the procedure of inserting the copper IUD in the research participants. After training the team, a questionnaire was applied in order to evaluate the results and learning curve in IUD insertion by resident physicians of Family and Community Medicine in the city of Santa Maria-RS.

3.1 TRAINING OF FAMILY AND COMMUNITY PHYSICIANS FOR THE INSERTION OF THE COPPER IUD

At first, the resident in Family and Community Medicine responsible for the study underwent training for IUD insertion at the Family Planning Outpatient Clinic of the University Hospital of Santa Maria (HUSM), for a period corresponding to 2 months. This training, which is part of the Medical Residency Program in Family and Community Medicine at the Federal University of Santa Maria (UFSM), was carried out in a theoretical-practical way. The theoretical part addressed the IUD insertion technique and its possible complications, based on a protocol of the Ministry of Health (2018). The practical part consisted of the execution of the IUD insertion technique in 15 women under the supervision of the outpatient clinic's preceptor. After insertion, a TVUS was requested in order to verify the proper positioning of the IUD, the result of which was seen in a follow-up consultation for review of the case.

After being qualified for IUD insertion, the author of this study selected 3 resident physicians of Family and Community Medicine, upon expression of interest in participating in the project. The interested resident physicians participated in training supervised by the author of the study, for IUD insertion, in order to verify their previous theoretical/practical skills. In a second moment, they were presented with the POP IUD Insertion and Removal previously approved by the Secretary of Health of the municipality of Santa Maria-RS. After a careful study of the SOP, the resident physicians began the insertion of IUDs in the São José FHS, under the supervision of a Community Family Physician qualified for this purpose.

3.2 STUDY DESIGN

The present study was a qualitative and quantitative study, carried out at the FHS São José, São José neighborhood, city of Santa Maria, Rio Grande do Sul State, Brazil. Women of childbearing age (18-45 years) who were interested in using IUDs as a contraceptive method were invited to participate in this study.

The study included 47 women and 3 resident physicians in Family and Community Medicine, two of whom were second-year residents at the Franciscan University (UFN), one

assigned to the ESF Passo das Tropas and the other assigned to the ESF Parque Pinheiro Machado, and 1 first-year resident from UFSM, assigned to the ESF São José.

For this study, women assisted by FCM at the FHS São José, Camobi neighborhood, Santa Maria, RS, were selected. Patients with clinical indication for long-acting contraception were offered the copper IUD as a contraceptive method, which lasts for 10 years.

After clinical evaluation, respecting the indications and contraindications of the method, the insertion of the IUD was offered by resident physicians in Family and Community Medicine of the ESF São José. Thewomen who agreed to participate in the study signed the Informed Consent Form (ICF). approved by the Research Ethics Committee under CAAE: 62388122.0.0000.5346; Opinion Number: 5.639.348.

Healthy women aged 18 to 45 years with desire and clinical indication for long-acting contraception were included in the study. Patients who are pregnant or have excessive vaginal bleeding, vaginitis, cervicitis, acute or chronic pelvic inflammatory disease, uterine malformations, pelvic tumors, or genital cancer were excluded from the study.

The information collected was used exclusively by the researchers in order to provide components for the realization of this research, the articles and publications that resulted from it. Data confidentiality was maintained during all stages of the research. In order to ensure confidentiality and privacy, the interviewers were instructed about the entire data collection process and instructed to be aware of signs of discomfort, both verbal and non-verbal on the part of the participants.

The research offered a medium risk, due to the probability of some complication or pain occurring during the IUD insertion process. In addition, there was minimal risk due to the likelihood of embarrassment, fatigue, or annoyance when answering the sociodemographic questionnaire, the time spent answering the questionnaire, and the risk of revealing confidential information.

3.3 APPLICATION OF QUESTIONNAIRES

Before the training for IUD insertion, a questionnaire containing five questions was applied to the resident physicians in Family and Community Medicine, in order to verify their knowledge and previous experiences. After the training, they answered seven others in order to check their experience and skills after learning about SOP Insertion and Removal of the Copper Intrauterine Device (IUD) approved by the Secretary of Health of the Municipality of Santa Maria-RS.

The study participants answered a questionnaire before IUD insertion containing seven questions in order to compute sociodemographic data of the target population of this study.

3.4 PRE-CONSULTATION AND IUD INSERTION

A pre-consultation with patients interested in IUD insertion was carried out by a Family and Community doctor at the ESF São José. In the consultation, the patients received guidance on the indications, contraindications, risks and benefits of inserting non-hormonal IUDs. In addition, in this consultation, a pregnancy test was requested to be performed the day before the date of scheduling for IUD insertion and a non-steroidal anti-inflammatory drug was provided to be used prior to IUD insertion.

The IUD model used during the research was the TCU 380 A copper IUD (Figure 1). This model lasts 10 years, has a T shape and is coated with 324 mm2 of copper on the vertical rod and 33 mm2 distributed in two copper rings on the horizontal rod. The IUDs used in the São José FHS were made available by the Municipal Health Department of Santa Maria-RS for the research.

The IUD insertion was performed, according to the technique described in Appendix I, by FCM working with the ESF São José and by resident physicians in Family and Community Medicine from UFSM and UFN, under the supervision of the former, with the support, when necessary, of the gynecologist and project advisor Dr. Cristine Kolling Konopka.

Guidance regarding the most prevalent clinical manifestations caused by IUD insertion was given to the patients, such as increased menstrual flow, dysmenorrhea, and pelvic pain. These symptoms are more frequent in the first months after the procedure and, for their relief, a non-steroidal anti-inflammatory drug was prescribed.

3.5 POST-IUD INSERTION FOLLOW-UP

After the insertion of the IUD, the patients were referred for TVUS at the ultrasound service of the city of Santa Maria (Women's Health Care Center), in order to verify the correct positioning of the IUD. In a follow-up visit, the result was evaluated by the FCM. Cases of IUD malposition were submitted to the removal of the device and these women were given the opportunity to perform a new IUD insertion at the same time.

3.6 STATISTICAL ANALYSIS OF THE DATA

Qualitative variables were presented through graphs and tables, with absolute and relative frequencies. Quantitative variables were represented by arithmetic mean (± standard deviation). The software used was Statistica 14.0.

4 RESULTS

The patients who participated in the research through the insertion of the copper IUD by the FCM had a mean age of 27 years, and 74.5% of them were between 19 and 35 years old. The majority declared to be married and/or in a stable union 61.7%. In addition, 72.3% had one or more previous pregnancies (Table 1). Maternal age, marital status, and previous parity may be related to a greater need for LARC and knowledge about the benefits of the IUD may be decisive in the choice of contraceptive method.

Of the sample studied, the majority (66%) declared themselves white; had completed higher education (19.1%) and completed high school or incomplete higher education (51.1%); and engaged in some paid activity (59.6%). These indices may be related to the neighborhood in which the participating women belong, since it is an area where purchasing power is higher compared to other neighborhoods in the municipality. This same relationship can be seen in the question of having health insurance, since 44.7% stated that they had some health insurance.

Table 1

Sociodemographic characteristics of women who had IUDs placed

Features	**n**	**%**
Age - mean (±standard deviation)	28.2 (± 6.4)	
≤ 19 years old	02	4,2
From 19 to 34 years old	35	74,5
≥ 35 years	10	21,3
Religion		
Catholic	14	29,8
Evangelical	10	21,3
Spiritist/Afro-Brazilian	03	6,3
None	20	42,5
Color		
White	31	66,0
Black	06	12,8
Brown	10	21,3
Education		
Incomplete elementary school	06	12,8
Complete elementary school/incomplete high school	08	17,0
Complete high school/ Incomplete higher education	24	51,1
Complete higher education	09	19,1
Has a paid activity		

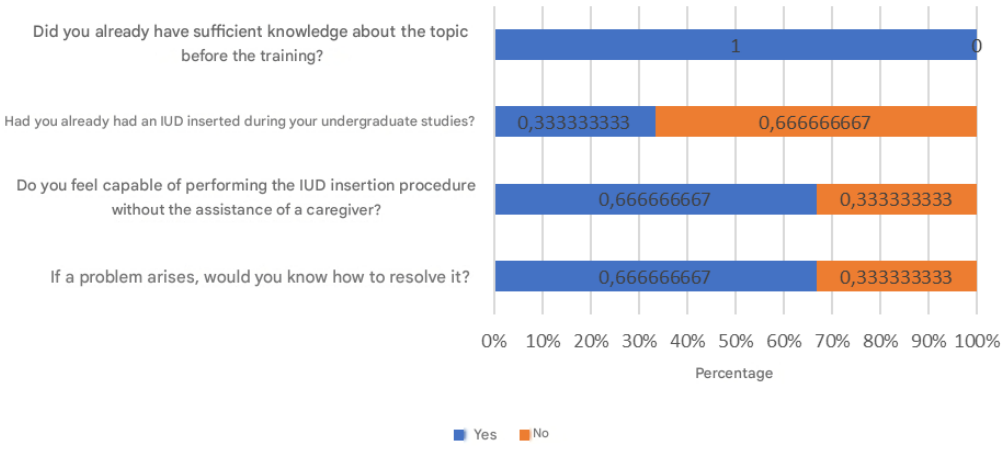
Yes	28	59,6
No	19	40,4
Married or Stable Union		
Yes	29	61,7
No	18	38,3
Health Plan		
Yes	21	44,7
No	26	55,3
How many pregnancies – average (±standard deviation)	1 (±1.3)	
0	13	27,7
1	14	29,8
2	12	25,5
3 or +	08	17,0

Source: (AUTHOR, 2024).

The resident physicians in Family and Community Medicine who participated in the research answered a questionnaire, in which some items related to technical capacity and knowledge related to IUD insertion before and after training were evaluated. Figure 2 shows the answers to the questions asked in the pre-training (Annex V – Part 1). All resident physicians reported that they already had sufficient knowledge on the subject before the training and 66.7% of them considered the procedure as difficult before the training. Although only 33.3% of them had an IUD inserted during their undergraduate studies; 66.7% felt capable of performing the procedure without the help of a tutor and would know how to solve complications related to the insertion of the device.

Figure 2

Responses of resident physicians in Family and Community Medicine to the pre-training questionnaire



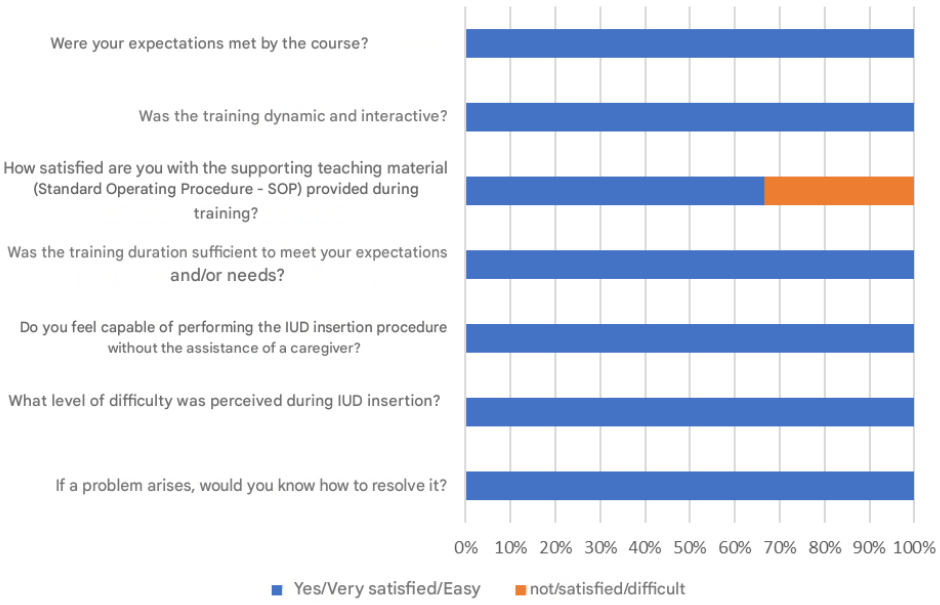
Source: (AUTHOR, 2024).

After training for IUD insertion, the same resident physicians answered the questions in Annex V, Part 2. The results are presented in figure 3. All of them considered that their expectations were met with the course, reported that the training was dynamic and

interactive, were satisfied with the didactic support material and considered that the duration of the training was sufficient to meet their expectations and/or needs. After the training, all of them stated that the insertion of the IUD is an easy procedure and they would know how to solve any complications, if it occurred, during the insertion.

Figure 3

Responses of resident physicians in Family and Community Medicine to the post-training questionnaire



Source: (AUTHOR, 2024).

Regarding the number of IUD insertions by the Family and Community physician, responsible for the development of the study, 34 IUD insertions were totaled, 15 of which during training at the Family Planning Outpatient Clinic of the HUSM, during the period of medical residency in Family and Community Medicine, under the supervision of Dr. Fernanda Lang, gynecologist and obstetrician; and another 19 IUDs at the ESF São José, post-training. On the other hand, 2 of the residents (UFN) performed 8 IUD insertions (entitled residents 1 and 3 in the order of citation), 4 pre-training IUD insertions and 4 post-training IUDs, while 1 of the residents (UFSM) performed 10 IUD insertions (entitled resident 2), 5 pre-training IUD insertions and 5 post-training IUDs, as shown in Figure 4.

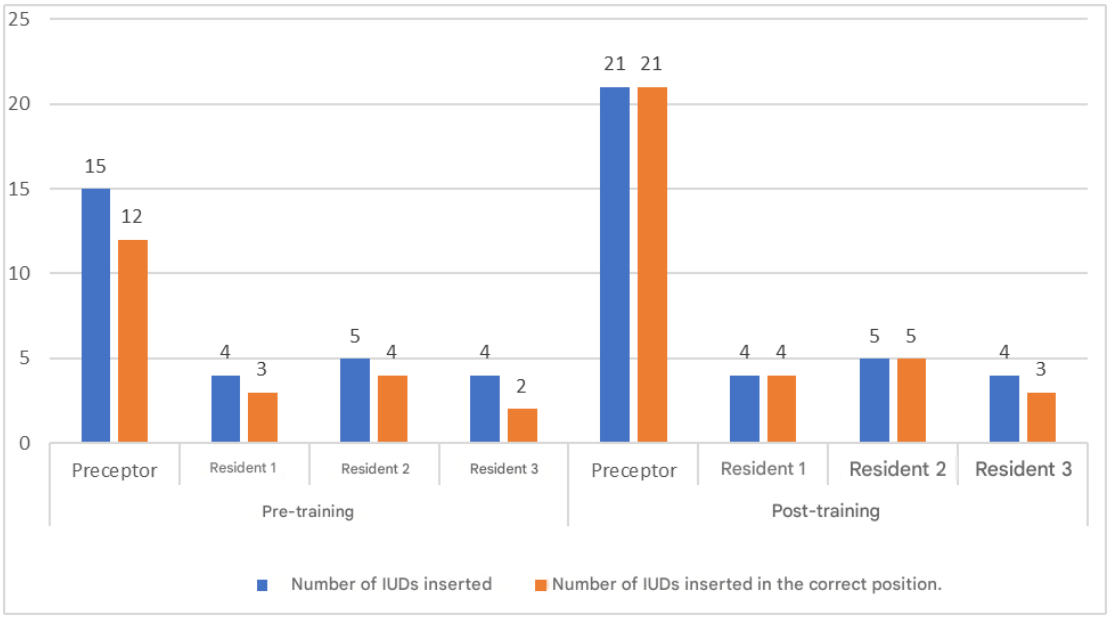
Regarding the correct position of the IUDs before and after training, of the 62 IUDs inserted, 54 (87.1%) were placed in the correct position. 28 and 34 IUDs were inserted, 21 (75%) and 33 (97%) in the correct position, respectively, in the pre- and post-training.

Of the 15 IUDs inserted during training at the Family Planning Outpatient Clinic of the HUSM carried out by the Family and Community physician (preceptor), 12/15 (80%) IUDs

were in the correct position, and of the 19 IUDs inserted post-training, 21/21 (100%) IUDs were in the correct position. As for the residents, the resident titled 1, of the 4 IUDs inserted, 3 (75%) IUDs were in the correct pre-training position and 4 (100%) IUDs in the correct post-training position, the resident titled 2, of the 10 IUDs inserted, 4 (75%) IUDs were in the correct pre-training position and 5 (100%) IUDs in the correct post-training position, while the resident entitled 3 of the 4 IUDs inserted, 2 (50%) IUDs were in the correct pre-training position and 3 (75%) IUDs in the correct position post-training (Figure 4).

Figure 4

Number of IUD insertions and number of IUDs inserted in the correct position in the pre- and post-training



Source: (AUTHOR, 2024).

In addition, when we evaluate the amount of IUDs inserted in the municipality, it is noted that at the beginning of the project that started in September 2022, only ESF São José inserted 24.1% of the IUDs in the municipality, the rest was centralized in the Women's Health Clinic, being performed by a gynecologist, and in all of 2023 there was a drop to 14.4%, this drop is due to the fact that in the Family and Community Medicine residency, in which one of the practical pillars is the insertion of the IUD, there was an increase in insertion in other ESFs after the training, in addition the municipality inaugurated a polyclinic where small procedures are performed, including the insertion of IUDs, but in the polyclinic the insertion is performed by MFCs. So the insertion of IUDs in the municipality remained, basically, with 3 fixed IUD insertion sites, and even so, the ESF São José managed to maintain a considerable percentage since Santa Maria has 26 basic health units.

5 DISCUSSION

Copper T Cu 380A IUDs were inserted in 47 women, aged 19 to 34 years (74.5%), with no religion (42.5%), white (66.0%), with complete high school or incomplete higher education (51.1%), who had a paid activity (61.7%), had no health insurance (55.3%) and were nulliparous (27.7%). In a similar study by Morais *et al*. (2021) found that women who underwent copper IUD insertion in Primary Health Care (PHC) in municipalities in Paraíba were between 20 and 29 years old, at least completed high school, had some paid activity, were nulliparous, and/or had at least one child. According to Dias *et al*. (2021) marital status, level of education, color/race, participation in a family planning group, and having already been pregnant are significant variables for reproductive autonomy.

The three resident physicians in Family and Community Medicine were trained, because according to Thompson *et al*. (2016), training is essential to ensure the quality and uniformity of all processes involved, including expanding the offer of LARCs. In addition, IUD training for healthcare professionals contributes to improved knowledge and attitudes towards IUD delivery, high rates of successful insertions with low complication rates, and increased supply of IUDs to women (Ouyang *et al*., 2019).

In a study of 45 *Harvard Medical School* students who completed their OB and GYNECOLOGY internships at Brigham and Women's Hospital, Bartz *et al*. (2016) found that more than half of the participants (54%) had learned about IUDs in a previous medical school lecture, however, only a minority (26%) had previous or during college experience in IUD insertion. In addition, Bartz *et al*. (2016), found that among the interviewees (49%) chose "participating in practical activities" as a way to improve learning, suggesting that training increases *scores* such as skill, confidence and clinical performance. The resident physicians participating in our research answered the questionnaire regarding their technical capacity and knowledge related to IUD insertion before and after training. Here, the results showed that only 33.3% of the resident physicians who participated in this study performed IUD insertion during their undergraduate studies, but 100% stated that they already had sufficient knowledge about the subject before the training. After the training, 100% of the resident physicians answered that the duration of the training was sufficient to meet their expectations and/or needs and that the training was dynamic and interactive.

When the duration of the training, number of IUDs inserted, ability to insert the IUD without tutoring, difficulty in insertion, and dealing with possible complications were determined, all the professionals in our research reacted positively.

Another relevant data was related to the degree of difficulty, which 66.7% stated as a difficult procedure before training, and after training 100% of them reported as easy to insert

IUDs. This may be related to the answer regarding the degree of knowledge about IUD insertion, in which 66.7% stated that they did not have sufficient knowledge for this procedure before the training. Other data that bring the need for more training like this is the *feedback* reported by resident physicians, in which 100% of them declared that in addition to the training being dynamic and interactive, it can meet all the expectations set for it.

In a similar survey conducted in Australia (Stewart *et al*., 2016), 87.5% of physicians working in PHC, both public and private, answered a questionnaire before and after IUD insertion training with the aim of identifying and understanding the results of the training on their knowledge and skills, as well as the obstacles to the method. Prior to the training, none of them had performed the procedure in their clinical practice. Among the twenty-two physicians who answered the follow-up questionnaire, which was conducted one year after the training, 298 IUD insertions were performed, with an 89% success rate. Compared to our study, training increased the number of IUDs placed in the correct position, because pre-training 75% of the IUDs were placed in the correct position and after training this percentage increased to 97%.

In the same Australian study, only 24% of trained physicians said they felt confident and skilled to insert copper IUDs in multiparous women, while 64% said they felt the same confidence for the procedure in nulliparous women. In total, only a few complications were reported (11% of the total), including problems with hysterometry, problems with IUD technology, vasovagal reactions, a poorly positioned IUD, and expulsion. There were no infections or perforations.

In a study to train PHC professionals for the insertion of the copper IUD in the municipality of Betim - Minas Gerais, it was revealed that at least 8 IUD insertions were able to fully enable the physician to perform such a procedure without tutoring (De Souza *et al.*, 2021). In addition, interventions with training, according to Thompson *et al*. (2018) were able to change the attitudes, knowledge and counseling practices of professionals related to IUD insertion, showing impactful, lasting work and encouraging continuing education.

In our context, the resident physicians participating in the training had a large gap between having received training and actually performing the procedure. In addition, it is added to the fact that when IUD providers during residency, they end up performing the procedure during the last year of residency in Family and Community Medicine without follow-up and continuity due to turnover, high demand for care and lack of public stimulus. All these factors, which we have pointed out here, corroborate the low adherence of contraception through IUDs by patients.

Although the IUD can be inserted at any time and is a simple and easy procedure, many of the users we serve reported having received mistaken information such as: i. not be menstruating; II. Be up to date with a preventive cervical exam; iii. not be nulliparous. Examples like this are even reported by the Ministry of Health as reasons for low adherence to the use of IUDs by users (BRASIL, 2018). According to the Ministry of Health, in addition to this information not being adequate, it can also hinder or postpone the use of contraceptive methods, which can result in unwanted pregnancies (BRASIL, 2018).

One way to give women access to the benefits of this method is to increase the supply of copper IUDs in Primary Care. As already reported by Gonzaga *et al*., (2017), this is considered a necessary and significant effort to expand people's access to this contraceptive method. The approval of the SOP linked to the theoretical-practical training with resident physicians of Family and Community Medicine in this study, indirectly allowed not only to improve the technical quality of the procedures in the municipality, but also to bring the reality and conditions of the municipality closer , allowing all professionals to follow the same standard, even in the face of intrinsic disparities and realities. Thus, the research provided results that may support the indication of the copper intrauterine device, which is still very much involved in myths and unnecessary obstacles caused by the lack of knowledge and training of most professionals.

It is estimated that 1 health unit in Santa Maria - RS out of 26 perform the procedure continuously and routinely, and that another 5 units have professionals qualified to insert IUDs, but they do not perform it continuously due to lack of interest or job change.

Another important point of working more effectively is the concept of decentralization of service supply, sensitizing contracted Family and Community Doctors and PHC managers, through continuing education activities with theoretical and practical training, perhaps with a reduction in the demand for clinical care and a better financial appreciation.

The research reinforces the importance of medical residency, but also suggests that as the insertion of IUDs is part of the curricular matrices of residencies, the training of these Family and Community Medicine residents should be removed from the Family Planning sector of the University Hospital of Santa Maria (HUSM), where the training is currently carried out, and distribute it in health units that already have trained MFCs, thus making these units maintain the offer of IUD insertion in a routine way and not intermittently. With this there would be a much greater coverage of the entire city, including poorer regions where the number of unwanted pregnancies is high.

6 CONCLUSIONS

The training carried out with the residents of Family and Community Medicine was well received by the physicians, who considered the training adequate for their qualification and technical performance. This training model in the ESF allows a greater coverage of professionals who can promote contraception with LARC, consequently reducing the cases of unplanned pregnancies in the community. The epidemiological profile of the participating patients showed a majority of women with one or more pregnancies, with a profile for the use of LARC. The increase in the number of well-positioned IUD cases after training allows us to recommend the IUD training model by FCM residents under preceptorship supervision.

Thus, through this study it was possible to conclude that training for IUD insertion by family and community physicians in the UBS and with the ESFs is a plausible reality in the city of Santa Maria-RS. In addition, the wide supply of IUDs will automatically increase the number of IUD insertions in a short period of time in the municipality of Santa Maria-RS, decentralizing the supply and ensuring greater universality to women's right to reproductive health.

It is expected and suggested that there will be greater appreciation on the part of public health management regarding the insertion of IUDs in the UBS, and that there will be greater encouragement for Family and Community Medicine physicians to implement such a procedure as a routine.

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