


SATISFACTION OF USERS OF THE LEVONORGESTREL-RELEASING INTRAUTERINE SYSTEM IN A PUBLIC SERVICE IN THE FEDERAL DISTRICT

 <https://doi.org/10.56238/arev6n4-052>

Submitted on: 05/11/2024

Publication date: 05/12/2024

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ABSTRACT

Objective: To evaluate the satisfaction of users of the levonorgestrel-releasing intrauterine system (LNG-IUS) enrolled in the reproductive planning outpatient clinic of the Hospital Materno Infantil de Brasília (HMIB). **Materials and methods:** This is a descriptive study, with a quantitative approach with all patients who underwent IUS-LNG insertion in the family planning outpatient clinic of a public hospital in the Federal District between 2015 and 2020. **Results:** A total of 144 patients were selected, 81 were excluded, and 63 patients who met the inclusion criteria were included in the present study. About 49.2% of the patients were using contraceptive pills before insertion; 44.3% wanted to stop menstrual bleeding when using LNG-IUS; 30.2% of these reported menstrual pattern success in the interval referring to the 4 months prior to the interview; About 27% menstruated in less quantity and 14.3% menstruated in fewer days. The main causes of dissatisfaction and discontinuation of LNG-IUS are changes in menstrual pattern, such as increased frequency and volume of bleeding, amenorrhea, and spotting. In terms of satisfaction with life, 50% of the patients

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declared that their lives were close to the expected ideals; 38.7% declared to have excellent living conditions; 43.5% declared that they obtained what was important in life and 30.6% declared that they were in disagreement with the information that if I could live my life again, it would change practically nothing. Conclusion: The analysis of the satisfaction of IUS-LNG users in the present study demonstrates that, despite the challenges associated with side effects such as spotting and irregular bleeding, the device is widely accepted and contributes to the improvement of the quality of life of women who use it.

Keywords: Intrauterine devices, Quality of life, Menstrual disorders, Dysmenorrhea, Pelvic pain.

INTRODUCTION

The 52 mg levonorgestrel-releasing intrauterine system (LNG-IUS) is widely used due to its high contraceptive efficacy and diverse non-contraceptive therapeutic benefits. Among these benefits, the control of abnormal uterine bleeding, relief of dysmenorrhea, and reduction of pelvic pain associated with conditions such as endometriosis and adenomyosis stand out.⁽¹⁻⁴⁾ These effects occur due to the action of levonorgestrel (LNG) on the endometrium, promoting endometrial atrophy and decreasing cell proliferation.

LNG is a second-generation synthetic progestogen with a high affinity for steroid receptors, including progesterone receptors, but minimal binding to estrogen receptors. The 52 mg formulation available in Brazil (Mirena®) releases about 20 µg/day of LNG and is approved for use for up to 5 years, ensuring consistent hormonal control during this period.^(5,6)

At the endometrial level, LNG-IUS exerts an antiproliferative effect by promoting localized decidualization and a reduction in the expression of cell proliferation markers such as the Ki-67 antigen. This action results in endometrial atrophy and is particularly effective in controlling abnormal uterine bleeding.^(2,3) In addition, by reducing local angiogenesis and increasing cell apoptosis, LNG-IUS contributes to the control of pain associated with endometriosis. In a study conducted by Anpalagan and Condous (2008) and Bahamondes et al. (2007), these authors observed that the use of LNG-IUS in the management of endometriosis significantly improves pelvic pain, providing a non-surgical alternative for the treatment of this condition. This makes the device a valuable therapeutic option for women who want to maintain fertility but who suffer from painful symptoms.^(7,8)

User satisfaction with LNG-IUS is a critical factor for its acceptance and continuity, whether for contraceptive or therapeutic use. Effective control of symptoms such as menorrhagia and dysmenorrhea contributes to a significant reduction in physical discomfort and the negative impact of these conditions on women's daily lives. This can lead to a greater perception of well-being and life satisfaction, as reported in studies exploring the relationship between quality of life and reproductive health.⁽⁹⁻¹¹⁾ However, irregular uterine bleeding, especially in the first months of use, is one of the main causes of device discontinuation.^(12,13)

The contraceptive efficacy of the LNG-IUS 52 mg is widely recognized, with very low failure rates (0.2% per year), making it comparable to methods such as tubal ligation.⁽¹⁴⁾ The safety of prolonged use was investigated by Creinin et al. (2022), who demonstrated

that the device maintains its efficacy for up to 8 years, with a very low complication rate, including cases of uterine perforation and pelvic infections.⁽¹⁵⁾ In terms of safety, Zürcher et al. (2023) point out that the use of LNG-IUS may be associated with a slight increase in the risk of breast cancer, especially in women who use the device for long periods and have preexisting risk factors.⁽¹⁶⁾ However, for many women, the benefits of symptomatic control and contraception outweigh the potential risks, provided that there is adequate monitoring by health care providers.

IUS-LNG users enrolled in the reproductive planning outpatient clinic of a public hospital in the Federal District had the indication for the use of the device related to non-contraceptive reasons, such as control of AUB, dysmenorrhea, and pelvic pain associated with endometriosis and adenomyosis. Menstruation is a physiological phenomenon, however, in some situations, it greatly impacts women's quality of life. In this context, the present study proposes to evaluate the satisfaction with life and menstrual pattern of IUS-LNG users inserted in the reproductive planning outpatient clinic of the hospital in question, in addition to determining the main reasons for the different degrees of satisfaction.

MATERIALS AND METHODS

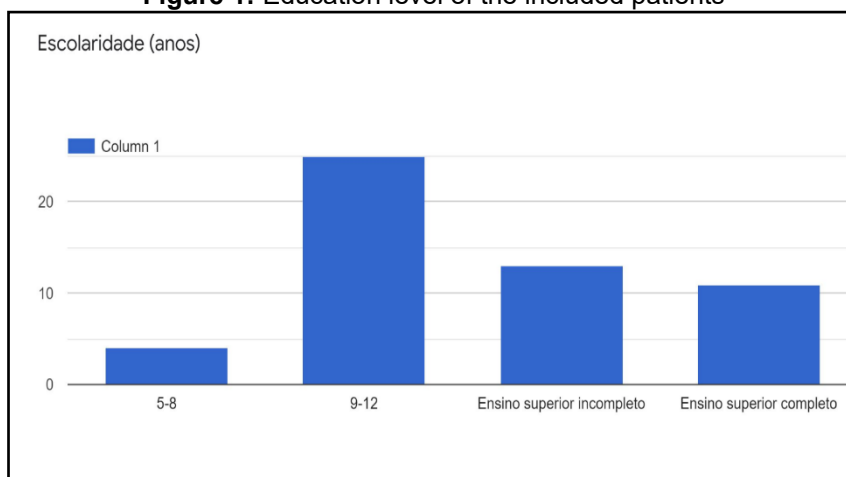
This is a descriptive study with a quantitative approach, carried out with patients undergoing IUS-LNG insertion in the reproductive planning outpatient clinic of a public hospital in the Federal District. The period analyzed runs from January 2015, when the first SIU-LNG were inserted, to December 2020. For data collection, a form adapted from the document used by Dr. Nelsilene Mota Carvalho in her doctoral thesis "Satisfaction and bleeding patterns of users of the levonorgestrel-releasing intrauterine system as a contraceptive and comparison with the etonogestrel-releasing contraceptive implant in women with pelvic pain associated with endometriosis" ⁽¹⁷⁾ was used, in addition to the satisfaction with life scale of Diener et al., version in Portuguese at <http://labs.psychology.illinois.edu/~ediener/SWLS.html> [Accessed 20 June 2020].⁽¹⁸⁾ The authors of both documents authorized their use in this study.

The present study was submitted to and approved by the Research Ethics Committee of the Foundation for Teaching and Research in Health Sciences (FEPCS), under CAAE: 39301420.6.0000.5553 and protocol number: 4.532.358.

RESULTS

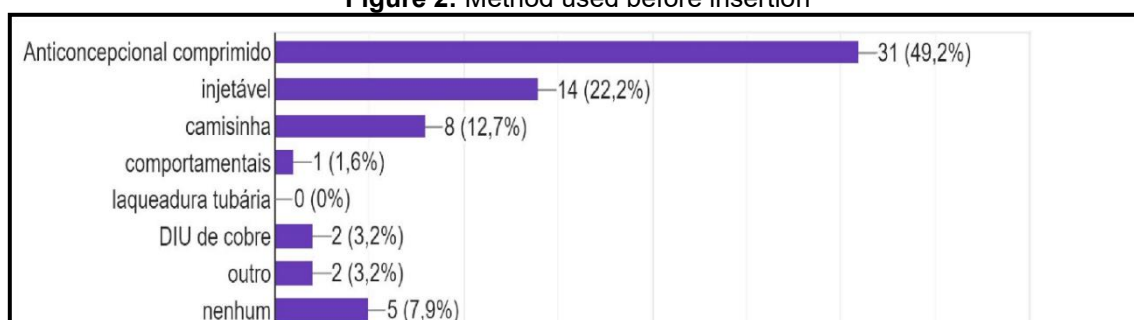
A total of 144 patients were selected for the study, of which 81 were excluded, resulting in 63 patients who met the inclusion criteria. Regarding sociodemographic data, most patients had 9 to 12 years of schooling (Figure 01). Approximately 49.2% used oral contraceptives before insertion of the LNG-IUS (Figure 02). Approximately 44.3% sought to stop menstrual bleeding with the use of the LNG-IUS (Figure 03), and, among the interviewees, 30.2% reported success in this question. In addition, 27% started to menstruate in smaller amounts and 14.3% in fewer days. The main causes of dissatisfaction and discontinuation were changes in menstrual patterns, such as increased frequency and volume of bleeding, amenorrhea, and spotting (Figure 4).

Figure 1: Education level of the included patients



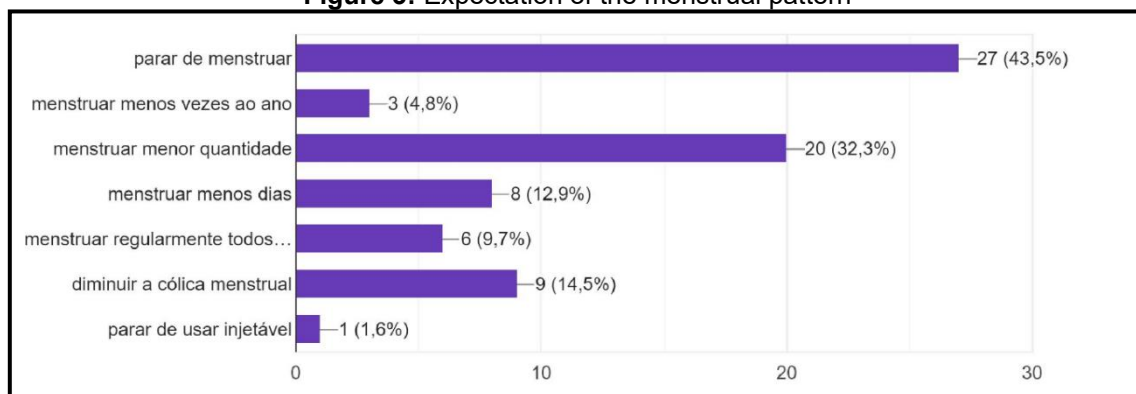
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Figure 2: Method used before insertion



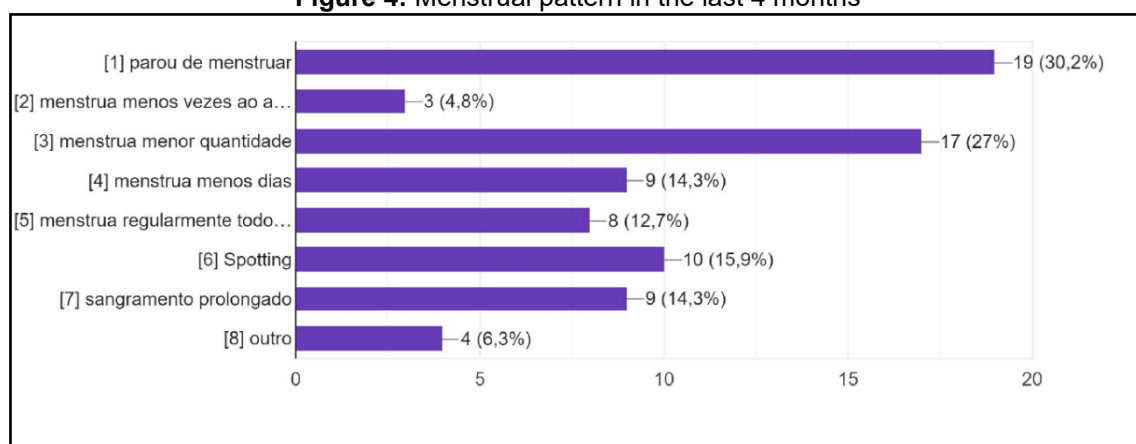
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Figure 3: Expectation of the menstrual pattern



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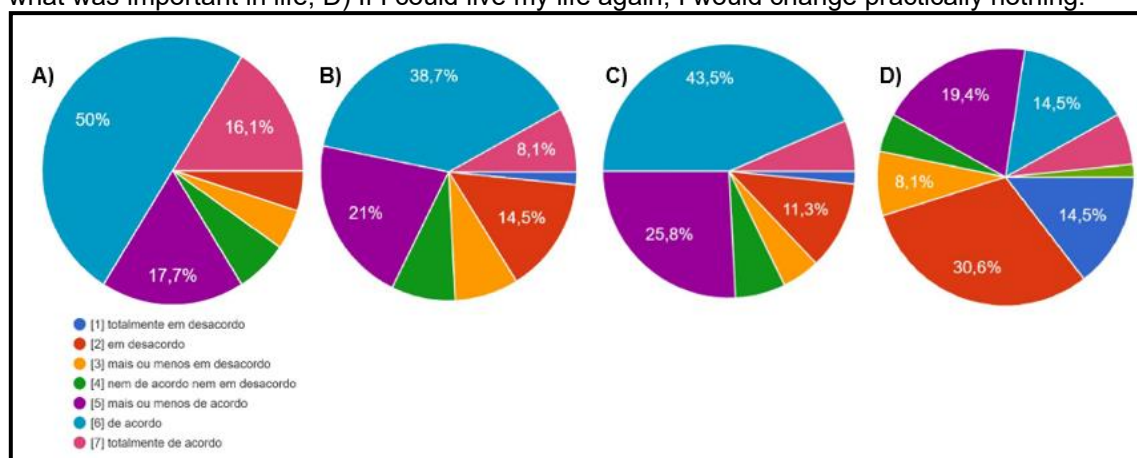
Figure 4: Menstrual pattern in the last 4 months



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There were four cases of removal of the devices, mainly motivated by expulsion, colic associated with bleeding, desire to become pregnant and one reason not listed. Regarding satisfaction with life, 50% of the patients stated that their lives were close to the expected ideals; 38.7% reported having excellent living conditions; 43.5% felt that they had achieved what they considered important in life; and 30.6% disagreed with the statement that, if they could live again, they would change practically nothing (Figure 05).

Figure 5: A) My life is close to my ideals; B) My living conditions are excellent; C) So far, I have been able to obtain what was important in life; D) If I could live my life again, I would change practically nothing.



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DISCUSSION

Long-acting contraception is critical for reproductive planning, offering an effective option for women who want to avoid pregnancy for prolonged periods. The 52 mg levonorgestrel-releasing intrauterine system (LNG-IUS) is widely used in Brazil, standing out for its high efficacy and safety profile compared to other contraceptive methods, such as hormonal pills and copper devices. ⁽¹⁴⁾ In the public health care system of the Federal District, LNG-IUS is frequently indicated for women who seek both fertility control and the reduction of gynecological symptoms, such as menorrhagia and dysmenorrhea. However, the success of the method depends mainly on the satisfaction of the users, which is directly related to the continuity of use and the proper management of side effects. ⁽¹¹⁾

Of the 63 patients included in the study, most had 9 to 12 years of schooling, a factor that may have influenced the choice and acceptance of LNG-IUS as a contraceptive method. This finding is in line with the literature, which demonstrates that higher education is associated with a better understanding of the benefits and limitations of contraceptive methods, leading to more informed adherence. ⁽¹⁹⁾ A study conducted in Pernambuco also highlighted that knowledge about intrauterine devices is directly related to the educational level of the participants, influencing their decisions about the use of contraceptive methods. ⁽²⁰⁾ In a study conducted by Laporte et al. (2022), the authors also highlight that the quality of pre-insertion counseling significantly impacts user satisfaction. ⁽¹¹⁾

The motivations for the choice of LNG-IUS by the study participants were mainly the reduction or cessation of menstrual bleeding, with 49.2% of the women expressing this expectation. This finding is consistent with the literature, which points to the reduction of bleeding as one of the main benefits reported by IUS-LNG users. ⁽¹²⁾ This benefit is

especially relevant for women who suffer from menorrhagia or dysmenorrhea, conditions that negatively impact quality of life and that can be alleviated with the use of the device.

In the present study, 30.2% of the users who sought cessation of bleeding reported success, and 27% observed a reduction in the volume of menstrual flow. These results corroborate the findings of Narvaes, et al., (2024), who identified that adaptation to the bleeding pattern is one of the main determinants for the continued use of hormonal intrauterine devices.⁽²¹⁾ Laporte, et al. (2022) reported that 81% of users were satisfied with the improvement in menstrual patterns provided by the LNG-IUS.⁽¹¹⁾ Zgliczynska et al., (2020) also emphasize that reduced menstrual flow and amenorrhea are factors that contribute to the continued use of LNG-IUS among nulliparous women. ⁽¹⁴⁾ Wang, et al., (2022) observed in their study that LNG-IUS is effective in the management of dysmenorrhea, reducing pain more effectively than systemic medications in many patients, being relevant for women with endometriosis, where chronic pain compromises quality of life.⁽²²⁾

The perception of improved quality of life is one of the most influential factors in satisfaction with long-acting contraceptive methods.⁽²³⁾ The overall satisfaction of the users in the study showed that 50% stated that their lives were close to the expected ideals, indicating a positive impact of the use of LNG-IUS on their quality of life. This impact is directly related to the improvement in menstrual symptoms, corroborating the literature that highlights the role of LNG-IUS in the management of conditions such as endometriosis and adenomyosis.⁽²⁴⁾ The perception of quality of life among the users in the present study seems to be related not only to fertility control, but also to the management of symptoms that affect their daily well-being. Laporte, et al. (2022) reinforce that the perception of quality of life is associated with the convenience and reliability of the LNG-IUS, offering users greater control over their reproductive health.⁽¹¹⁾ Turok, et al. (2021) also point out that confidence in the efficacy of the device reduces anxiety about unwanted pregnancies, contributing to overall satisfaction with the method.⁽¹²⁾

However, one of the recurring challenges in the use of LNG-IUS is the occurrence of side effects related to the bleeding pattern, such as spotting and irregular bleeding. In the present study, these effects contributed to the discontinuation of the use of the device. Pires, et al., (2020) also identified that dissatisfaction with changes in menstrual pattern, such as amenorrhea and irregular bleeding, are the main reasons for removing the device.⁽¹³⁾ Narvaes, et al., (2024) reinforce that the negative perception of irregular bleeding

can be a decisive factor for the discontinuation of long-acting hormonal methods, highlighting the importance of clear communication between health professionals and patients in the choice of method.⁽²¹⁾

Elgemark, et al. (2022) also reported that lower-dose devices, such as the Jaydess (13.5 mg), may have a higher tolerance profile in terms of bleeding for some users.⁽²⁶⁾ However, the long-term efficacy of the LNG-IUS 52 mg, as highlighted by Jensen, et al., (2022), has been preferred by users who seek a long-acting method and who have a good adaptation to its effects.⁽²⁷⁾

The 52 mg IUS-LNG used in the present study is recognized for its high efficacy and long-term control. Devices such as Kyleena (19.5 mg) and Jaydess (13.5 mg) are indicated as alternatives for women who prefer less hormone exposure.^(28,29) Although these devices may have a lower incidence of amenorrhea, they are more suitable for women who are intolerant to the more intense hormonal effects of the 52 mg LNG-IUS. As pointed out by Goldstuck (2017) and Zgliczynska et al., (2020), lower-dose devices are generally better tolerated in terms of side effects, but may be less effective in controlling symptoms such as menorrhagia.^(14,29)

In the context of the present study, the choice of the 52 mg device may reflect a preference for methods that require fewer frequent replacements, especially in a public service setting where access to replacement may be more limited. Higher-dose devices offer a longer duration of use, which can be advantageous in environments where frequent device replacement poses a logistical and financial challenge. Pepe, et al., (2017) observed that LNG-IUS is more cost-effective compared to short-term methods, providing resource savings and greater effectiveness in preventing unplanned pregnancies.^(30,31) Jensen, et al. (2022) and Creinin, et al. (2022) observed that the possibility of using the 52 mg LNG-IUS for up to 8 years is favored by its long-lasting contraceptive efficacy and improvement in menstrual symptoms, demonstrating the device's effectiveness in improving users' quality of life in the long term.^(15,27,31)

CONCLUSION

The analysis of the satisfaction of IUS-LNG users in the present study demonstrates that, despite the challenges related to side effects such as spotting and irregular bleeding, the device is widely accepted and contributes to improving the quality of life of women who use it. A personalized approach, which considers the patient's profile and preferences

regarding the bleeding pattern, can optimize results and favor continuity of use. Thus, investing in proper counseling and monitoring of side effects is crucial to promote a positive experience and acceptance of LNG-IUS as a long-term solution for reproductive planning and management of gynecological conditions.

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