http://revistas.unheval.edu.pe/index.php/repis/
https://doi.org/10.35839/repis.4.3.602

Description of secondary effects in users of the etonogestrel implant in Honduras from March 2017 to May 2018

Descripción de efectos secundarios en usuarias del implante de etonogestrel en Honduras durante marzo 2017 a mayo 2018

Sophie José[1,a,*], **Alejandra Pereira**[1,a]

[1]National Autonomous University of Honduras.

[a]Doctor in Medicine and Surgery, Specialist in Gynecology and Obstetrics

ORCID:
*https://orcid.org/0000-0001-5475-3823

Corresponding author:
Dra. Sophie José
Address: Universidad Nacional Autónoma de Honduras.

Email: drsophiej@hotmail.com

Reception date: 03 de enero de 2020

Approval date: 23 de junio de 2020

Quote as: José S, Pereira A. Descripción de efectos secundarios en usuarias del implante de etonogestrel en Honduras durante marzo 2017 a mayo 2018. Rev. Peru. Investig. Salud. [Internet]; 4(3): 115-120. Available from: http://revistas.unheval.edu.pe/index.php/repis/article/view/602

Abstract

Introduction: The etonogestrel contraceptive implant is a modern method, which offers users contraceptive efficacy of up to 99% in a period of 3 years; it is safe comfortable and accessible. As all drugs have secondary effects, they are described as follows: amenorrhea, dysfunctional uterine bleeding, acne, nausea, and headache.
Objective: To determine which are the most frequent secondary effects in users of the etonogestrel subdermal implant, in Tegucigalpa Honduras, from March 2017 to May 2018. Material and method: Descriptive, cross-sectional study of implant users in a polyclinic in Tegucigalpa, Honduras. The sample included women of childbearing age who voluntarily applied for the contraceptive implant to use it for the first time; the inclusion criteria were: use of the etonogestrel implant as a contraceptive method.
Results: A total 115 women who met inclusion criteria were included. The most frequent secondary effect was amenorrhea, reported by 78 (68%), followed by headache 29 (25%), dysfunctional uterine bleeding 28 (24%), had other secondary effects such as weight gain, mastalgia, acne, nausea and others. Despite the secondary effects, 99 (86%) of women continue to use the implant and 109 (95%) of them would recommend it to other women for use as a contraceptive method.
Conclusion: The most frequent secondary effect in users of the etonogestrel implant is amenorrhea, followed by headache and dysfunctional uterine bleeding.

Keyword: contraceptives, etonogestrel, implant, subdermal, secondary effects.

Resumen

Introducción: El implante anticonceptivo de etonogestrel es un método moderno, que ofrece a las usuarias una eficacia anticonceptiva hasta de un 99% en un periodo de 3 años; es seguro cómodo y accesible. Como todo fármaco tiene efectos secundarios, se describen así: amenorrea, sangrado uterino disfuncional, acné, náusea, cefalea.
Objetivo: Determinar cuáles son los efectos secundarios más frecuentes en usuarias del implante subdérmico de etonogestrel, en Tegucigalpa Honduras, durante marzo 2017 a mayo 2018.
Material y método: Estudio descriptivo, transversal, en usuarias del implante en un policlínico de Tegucigalpa, Honduras. La muestra incluyó mujeres en edad fértil que voluntariamente solicitaron el implante anticonceptivo para utilizarlo por primera vez; los criterios de inclusión fueron: utilización del implante de etonogestrel como método anticonceptivo.
Resultados: Se incluyeron 115 mujeres que cumplieron criterios de inclusión. El efecto secundario más frecuente fue la amenorrea, afirmado por 78(68%), seguido de cefalea 29(25%), sangrado uterino disfuncional 28(24%), tuvieron otros efectos secundarios como aumento de peso, mastalgia, acné, náuseas y otros. A pesar de los efectos secundarios 99 (86%) de las mujeres continúan utilizando el implante y 109(95%) de ellas lo recomendarían a otras mujeres para su uso como método anticonceptivo.
Conclusión: El efecto secundario más frecuente en usuarias del implante de etonogestrel es la amenorrea, seguido de cefalea y sangrado uterino disfuncional.

Palabras clave: anticonceptivos, etonogestrel, implante, subdérmico, efectos secundarios.

Introduction

Family planning is essential to promote the well-being and autonomy of women, their families and communities. Women now have a choice between a wide variety of contraceptive methods and to base their choice on evidence about the efficacy, safety, risks and benefits of the various methods (1). The etonogestrel contraceptive implant is a hormonal contraceptive, consisting of a white, soft, non-biodegradable radiopaque flexible rod 4 cm long and 2 mm in diameter (Implanon data sheet). It should be placed by a trained healthcare provider, under the skin on the inside of the arm. It does not contain estrogen so it can be used safely during lactation and can be used in women who have contraindications to using estrogen. It is one of the most effective and long-lasting modern methods (3 to 5 years according to the presentation). Less than one pregnancy is reported for every 100 women who use the implants in the first year, an effectiveness that is similar in combined oral users, with the advantage that they are not dependent users. In women weighing more than 80 kg the method loses efficacy after 4 years of use (1).

The subdermal implant was first introduced in the United States in 1991 and has since become a popular method. It works by slow and sustained release of a synthetic progestin, which causes anovulation, thinning of the endometrium and increased thickness of cervical mucus, thereby creating an impenetrable barrier for sperm. The new version of the

implant contains 68 mg of etonogestrel, releases and maintains an average serum level of etonogestrel of 450 pg / ml, decreases constantly to 200pg / ml at the end of the three years. This inhibits ovulation in about 100% of cycles. It comes in an improved insertion mechanism, and contains barium sulfate, allowing it to be localized by X-ray if not easily palpated. It is approved by the FDA as a contraceptive method with a period of 3 years (2).

The effectiveness of a contraceptive method is measured by means of the Pearl index, which expresses the percentage of pregnancies that occur, for every 100 women who use a certain contraceptive method during a period of one year; In the case of the etonogestrel implant, this index is relatively very low, ranging from 0.27 to 0.031 (3).

The main effects associated with the use of implants include: dysfunctional uterine bleeding, headache, weight gain, acne, dizziness, mood disorders, nausea, abdominal pain, hair loss, loss of libido, pain at the site of placement of the implant, neuropathy, and follicular cysts.4 Despite the secondary effects, users continue with the implant after one year of use, especially adolescents (5,6).

The abnormal uterine bleeding refers to disturbance in the normal menstrual cycle. It may be due to changes in regularity, cycle frequency, duration of flow, or volume of bleeding. In this case, bleeding disorders secondary to etonogestrel implantation are considered dysfunctional uterine bleeding (LDS), an iatrogenic anovulatory secondary to the use of progesterone according to the PALM-COEIN classification (7,8).

The objective of this research was to determine the most frequent secondary effects in users of the etonogestrel-releasing contraceptive implant in the study population. Since in Honduras there are no similar studies that describe these effects.

Material and methods

A descriptive, cross-sectional, observational study was carried out for 14 months from March 2017 to May 2018, in a polyclinic in Tegucigalpa, Honduras. The sample was determined for convenience, taking as inclusion criteria all the women users of the subdermal implant that contains 68 milligrams of etonogestrel as the exclusive contraceptive method and who agreed to answer a questionnaire to participate in the study. As an exclusion criterion, the combination of implant with another method was established (for example, breastfeeding or a condom to prevent sexually transmitted diseases). The sample includes women of childbearing age from 17 to 41 years, literate person mostly incomplete secondary school, low socioeconomic level, including null and multiple pregnancies women.

The women went to the Ciudad Mujer Kennedy polyclinic health center in Tegucigalpa Honduras, voluntarily requesting the implant as a contraceptive method, the implant was placed by a doctor, after consulting on its operation, secondary effects, and signing of authorization to place it as well as consent informed to participate in the study. A total of 144 implants, Implanon NXT®, were placed from March 2017 to May 2018. All users of the implant were called by phone in June 2018 to apply the instrument, 115 (80%) women had the instrument applied. 24 (17%) did not answer / cell off and 5 (3%) did not agree to participate in the research.

The data collection instrument was a questionnaire validated by experts in the area (OB / GYN) and previously piloted. It consists of questions oriented as follows: Age, marital status, schooling, socioeconomic level, gyneco-obstetric history, reasons for preference for the use of the implant (open-ended question), time of use of the implant (more or less than 6 months), secondary effects , contraceptive efficacy, continues with the implant, if it was removed, you were asked to explain the reason (open-ended question), I would recommend the implant, if the answer was no, you were asked to explain the reasons (open-ended question).

Amenorrhea was defined as the absence of menstrual bleeding for more than three months. Abnormal uterine bleeding (SUA) refers to the disruption of the normal menstrual cycle. It may be due to changes in regularity, cycle frequency, duration of flow, or bleeding volume. In this case, SUA is dysfunctional uterine bleeding (SUD), an iatrogenic anovulatory secondary to the use of progesterone according to the PALM-COEIN classification (7,8).

The statistical analysis was performed using the Microsoft Excel 2010 program through descriptive statistics of the variables included, using simple frequency tables. This study follows the principles of the Helsinki declaration. Institutional authorization for the research was requested, in addition to acceptance and authorization of the users to participate in the study through the signing of the informed consent. The information was handled confidentially only by the researchers, who received Research Ethics training online at The Global Health Networks.

Resultados

The 115 women participating in the study were classified according to age range: Adolescents less than or equal to 18 years old there were 23 (20%), 18 to 35 years old there were 82 (71%) and over 35 years old there were 10 (9 %) (Table 1).

Table 1. Classification of etonogestrel implants users by age range

Age range	#	%
Under 18	23	20
From 18 to 35	82	71
Over 35	10	9
TOTAL	**115**	**100**

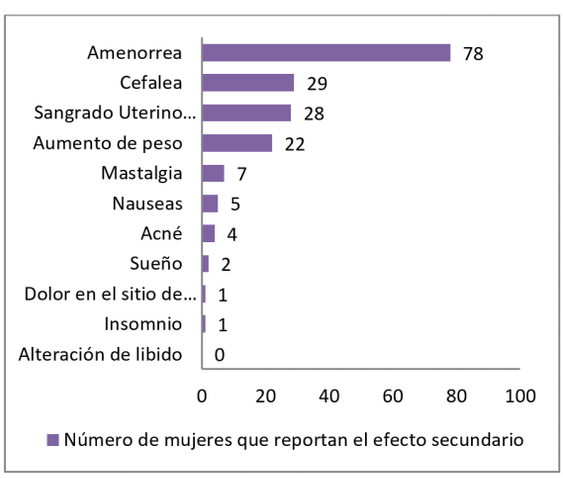
Regarding parity: 27 (23%) had nulligesta, 42 (37%) had a pregnancy and 46 (40%) had multigesta. Regarding the reason for the method preference: 100 (87%) of the women reported having chosen the etonogestrel implant as a contraceptive method due to its efficacy and 56 (49%) chose the method due to its temporality, that is, it lasts 3 years. (Table 2).

Table 2. Characterization of the reasons for preference for using the etonogestrel implants

Reason for method preference	#	%
Efficacy	100	87
Temporality (lasts 3 years)	56	49
Discreet	20	17
It does not forget	15	13
It does not bother	7	6
Practical	7	6
Achievement of objectives	3	3

At the time of the research 30 (26%) of the women had less than 6 months of implant use and 85 (74%) had more than 6 months of use. The women were asked about which secondary effects they had presented from the implant placement to the moment of applying the instrument; we found that 110 (96%) of them reported having had at least one or more secondary effects. The most frequent secondary effect was amenorrhea, confirmed by 78 (68%), followed by headache 29 (25%), claimed dysfunctional uterine bleeding 28 (24%), reported weight increase 22 (19%), mastalgia 7 (6 %). Other reported secondary effects related to the use of the implant, although less frequently (less than 4%) included: nausea, acne, sleep, insomnia, nervousness. Only 1 (1%) reported pain and itching at the placement site. No woman reported altered libido. Of those with secondary effects, symptoms appeared in the first month of implant use 92 (80%). (Figure 1).

Figure 1 Secondary effects reported by the users of the etonogestrel implants



Of the 115 women included in this investigation, 1 (0.87%) became pregnant three months after the implant was placed, which means that this method has been 99.13% effective in this population. Of the users of the etonogestrel subdermal implant, 109 (95%) would recommend it to other women for its use, and only 6 (5%) would not. Of those that I would not recommend, 5 (83%) is due to the secondary effects they have presented. At the time of the study, 99 (86%) of the women continue to use the implant, only 16 (14%) have had it removed. Of the 16 who decided to stop using this contraceptive method, 11 (69%) did so due to secondary effects, 3 (19%) because they no longer have a stable partner and affirm that they do not need a long-term contraceptive

method, 1 (6%) you want a pregnancy and 1 (6%) because you got pregnant. (Table 3)

Table 3. The causes of users to stop the use of Implanon

Implant removal cause	#	%
Secondary effects	11	69
She don't have a partner	3	19
She wants to get pregnan	1	6
She is pregnant	1	6
Total	**16**	**100**

In this research 23 (100%) adolescents participated, of which 3 (13%) have withdrawn it since they do not have a stable partner. All adolescents would recommend the method. All of them report having had secondary effects; the most frequent effect is amenorrhea 20 (87%).

Discussion

As stated above, the overall objective of this study has been to determine the most common secondary effects in women using the etonogestrel contraceptive implant. The users of the contraceptive implant are women of childbearing age, most of them multi-pregnant, so it is significant that with increasing age and more obstetric events there is greater interest in the use of a long-term contraceptive method. We found that the majority of etonogestrel implant users report having one or more secondary effects, contrary to a study carried out in India that reported a much lower percentage (9). Amenorrhea is the most frequent menstrual disorder; similar results were obtained by Wahab et al in Malaysia (10). More studies should be carried out considering associated factors, for example tobacco use has been associated with more changes in the bleeding pattern (11).

The alterations in bleeding and headache coincide as the most frequent effects attributed to the use of the implant, a similar result to a study carried out in the Department of Public Health of the Pedagogical and Technological University of Colombia Tunja. It has been postulated that gestagens (such as etonogestrel) induce the secretory transformation of the proliferative endometrium, which can cause withdrawal bleeding, a self-limited and predictable effect in anovulatory cycles, with episodes of intense or prolonged bleeding (12).

Regarding weight gain when using the etonogestrel implant, similarities were found in several studies where 19% of users reported considerable weight gain. It has been postulated that progestins in the body induce a higher energy intake (9), however, more research is needed in this regard, to determine if the weight gain is due to the effect of etonogestrel or other factors associated with its use such as changes in diet, lifestyle, etc. (12). Despite irregularities in the bleeding pattern and other adverse effects, the implant is well accepted by its users and one of the main causes of discontinuation of the use of the implant is poor counseling prior to implant placement (13).

Contraceptive implants should be offered to all teens as first-line contraceptive options. In Honduras, only 20% of Implanon users are adolescents and all of them report having secondary effects from using it. A study conducted in Chile found a low percentage of adolescents who report having secondary effects when using Implanon. However, in Honduras we found that all adolescents report secondary effects, this opens the way for further studies to find the basis for these differences. Since the perception of secondaryeffects could be influenced by many factors including literacy, information and education prior to implant placement about it. We believe that more research should be carried out to evaluate the impact of contraceptive counseling in relation to confidence and comfort in the use of the implant in adolescents (14,15).

Although we found that most users report secondary effects, they continue to use the method since they consider the advantages of the method to be greater than the disadvantages. Even with the secondary effects they present, they refer that they are tolerable; they continue to use it and recommend it to friends and family. Of the few patients who remove the implant, as found in international evidence, secondary effects are the main reasons for removal. It should be noted the importance of prior counseling lies in the possibility of improving adherence to the method as the user who chooses it knowing the possible secondary effects is more likely to keep it in place even if they occur (16).

Implant users who in the first three months of use have a favorable bleeding pattern (amenorrhea, infrequent bleeding, normal

bleeding frequency, without prolonged bleeding) are more likely to continue with the same pattern for the next two years. When evaluating vaginal bleeding in any 90-day reference period over 2 years of using etonogestrel implants, approximately 80% of women with favorable bleeding patterns and 40% with unfavorable patterns will have favorable bleeding in the coming years. These findings may facilitate advice on dysfunctional bleeding prior to placing the etonogestrel implant (17).

In the sample, there is only one confirmed pregnancy with an implant in place, evidencing the low rate of implant failure, although it also points out the possibility of such failure occurring.

Conclusions

The use of the etonogestrel implant as a contraceptive method is effective for the prevention of pregnancies; it is safe, long-lasting, that despite the secondary effects found, it has a high satisfaction rate, tolerance, comfort and confidence in its users, so they continue its use.

References

1. Johns Hopkins Bloomberg School of Public Health/Center for Communication Programs y Organización Mundial de la Salud. Organización Mundial de la Salud. Planificación familiar, un manual mundial para proveedores. Organización Mundial de la Salud [Internet] 2011. [citado 15 mayo 2020] Disponible en: https://www.who.int/reproductivehealth/publications/family_planning/9780978856304/es/
2. Ramdhan RC, Simonds E, Wilson C, et al. Complications of Subcutaneous Contraception: A Review. Cureus [Internet] 2018. [citado 15 mayo 2020] Vol. 10(1): e2132. DOI 10.7759/cureus.2132 Disponible en: https://www.ncbi.nlm.nih.gov/pubmed/29610715
3. Calixto-Morales DP, Ospina-Díaz JM, Manrique-Abril FG. Retiro temprano del implante subdérmico con etonogestrel en usuarias de un programa de anticoncepción de Tunja - Boyacá, Colombia. Univ. Salud. [Internet] 2015. [citado 15 mayo 2020] Vol.17, No 2: 224-232. DOI:org/10.22267/rus.151702.7 Disponible en: https://revistas.udenar.edu.co/index.php/usalud/article/view/2709
4. Aisien, AO. Enosolease, ME. Safety, efficacy and acceptability of implanon a single rod implantable contraceptive (etonogestrel) in University of Benin Teaching Hospital. Niger J Clin Pract. [Internet] 2010 [Citado 15 mayo 2020] Vol.13, No.3:331-5 Disponible en: https://www.ncbi.nlm.nih.gov/pubmed/20857796
5. Romano, M. Toye, P. Patchen , L. Continuation of long-acting reversible contraceptives among Medicaid patients. Contraception. [Internet] 2018 [citado 15 mayo 2020] Vol. 98, No.2:125-129 DOI: 10.1016/j.contraception.2018.04.012. Disponible en: https://www.contraceptionjournal.org/article/S0010-7824(18)30148-3/fulltext
6. Bahamondes, L. Brache V, Meirik O, Ali M, Habib N, Landoulsi S. A 3-year multicentre randomized controlled trial of etonogestrel- and levonorgestrel-releasing contraceptive implants, with non-randomized matched copper-intrauterine device controls. Human Reproduction[Internet] 2015 Vol.30, No.11:2527–2538 DOI: 10.1093/humrep/dev221 Disponible en: https://academic.oup.com/humrep/article/30/11/2527/2384927
7. Orane, A. Sangrado uterino anormal. Rev Cl EMed UCR [Internet]. 2016 [Citado 16 mayo2020] Vol 6, No.6:11-20 Disponible en: https://www.medigraphic.com/pdfs/revcliescmed/ucr-2016/ucr164i.pdf
8. Sepúlveda-Agudelo J, Sepúlveda-Sanguino AJ. Sangrado uterino anormal y PALM COEIN. Ginecol Obstet Mex. [Internet] 2020 [Citado 16 mayo2020] Vol.88, No.1:59-67. DOI: org/10.24245/gom. v88i1.3467 Disponible en: https://www.medigraphic.com/pdfs/ginobsmex/gom-2020/gom201j.pdf
9. Sajid, D. Mehmood, T. Etonogestrel implant (Implanon) frequency of adverse effects caused by implantation of single rod etonogestrel implant in females seeking birth spacing after delivery of previous pregnancy. Professional Medical Journal [Internet] 2017 [Citado 16 mayo 2020] Vol. 24 No.5:685-689. DOI: 10.17957/TPMJ/17.3965 Disponible en: https://www.researchgate.net/publication/317377743_ETONOGESTREL_IMPLANT_IMPLANON_FREQUENCY_OF_ADVERSE_EFFECTS_CAUSED_BY_IMPLANTATION_OF_SINGLEROD_ETONOGESTREL_I

MPLANT_IMPLANON_IN_FEMALES_SEEKING_BIRTH_SPACING_AFTER_DELIVERY_OF_PREVIOUS_PREGNANCY

10. Wahab Noraziana A, Rahman NA, Mustafa KB, Awang M, Sidek AA, Ros RM. A clinical evaluation of bleeding patterns, adverse effects, and satisfaction with the subdermal etonogestrel implant among postpartum and non-postpartum users. Int J Gynaecol Obstet. [Inernet] 2016 [Citado 16 mayo 2020] Vol.132, No.2:237-8. DOI: 10.1016/j.ijgo.2015.07.022. Disponible en: https://obgyn.onlinelibrary.wiley.com/doi/abs/10.1016/j.ijgo.2015.07.022
11. Peterson AM, Brown A, Savage A, Dempsey A. Prevalence of early discontinuation and associated factors among a retrospective cohort of etonogestrel contraceptive implant users. Eur J Contracept Reprod Health Care. [Internet] 2019 [Citado 16 mayo 2020] Vol.24, No.6:475-479. DOI: 10.1080/13625187.2019.1666361. Disponible en: https://www.tandfonline.com/doi/abs/10.1080/13625187.2019.1666361?journalCode=iejc20
12. Calixto-Morales DP, Ospina-Díaz JM, Manrique-Abril FG. Retiro temprano del implante subdérmico con etonogestrel en usuarias de un programa de anticoncepción de Tunja - Boyacá, Colombia. Univ. Salud. [Internet] 2015. [Citado 15 mayo 2020] Vol.17, No 2: 224-232. DOI: org/10.22267/rus.151702.7 Disponible en: https://revistas.udenar.edu.co/index.php/usalud/article/view/2709
13. Aziz MM, El-Gazzar AF, Elgibaly O. Factors associated with first-year discontinuation of Implanon in Upper Egypt: clients and providers perspectives. BMJ Sexual & Reproductive Health [Internet] 2018 [Citado 16 mayo 2020] Vol. 44:260-266. DOI: 10.1136/bmjsrh-2017-101860 Disponible en: https://srh.bmj.com/content/44/4/260
14. Leal I, Molina T, Montero A, Gonzalez C. Efectos secundarios en adolescentes chilenas usuarias de implante anticonceptivo subdérmico de etonogestrel. Matronas Prof. [Internet] 2016 [Citado 16 mayo 2020] Vol.17, No.4:137-142. Disponible en: https://www.cemera.cl/publicaciones/revistas/internacionales/1internacional%20Efectos%20secundarios.pdf
15. Diedrich JT, Klein DA, Peipert JF. Long-acting reversible contraception in adolescents: a systematic review and meta-analysis. Am J Obstet Gynecol. [Internet] 2017 [Citado 16 mayo 2020] Vol.216, No.4:364.e1-364.e12. DOI: 10.1016/j.ajog.2016.12.024. Disponible en: https://scholarworks.iupui.edu/handle/1805/14931
16. Nageso A, Gebretsadik A. Discontinuation rate of Implanon and its associated factors among women who ever used Implanon in Dale District, Southern Ethiopia. BMC Womens Health. [Internet] 2018 [Citado 16 mayo 2020] Vol.20;18(1):189. DOI: 10.1186/s12905-018-0678-x Disponible en: https://bmcwomenshealth.biomedcentral.com/articles/10.1186/s12905-018-0678-x
17. Mansour D, Fraser IS, Edelman A. et al. Can initial vaginal bleeding patterns in etonogestrel implant users predict subsequent bleeding in the first 2 years of use? Contraception. [Internet] 2019 Vol.100, No. 4:264-268. DOI: org/10.1016/j.contraception.2019.05.017 Disponible en: https://www.contraceptionjournal.org/article/S0010-7824(19)30193-3/fulltext