Jordanian Women's Experience with Etonogestrel Subdermal Contraceptive Implant in Two Family Planning Clinics

Moamar Al-Jefout, MD, PhD [1], Nedal Nawaiseh, MD, PhD [2], Sahar Tashman, MD [3], Rawan Ryalat [1], MD, Sara Zaitoun [1], MD, Louai Al-Alawi [1], MD, Wassem Tabaza [1], MD*

Abstract

Objective: Etonogestrel subdermal hormonal contraceptive implant (Implanon®) is a popular and effective contraceptive. However, some users discontinue it for a variety of reasons.
To explore the experience of Jordanian women with Implanon.

Methods: This survey was undertaken with 69 women who had used or were using Implanon. Data was obtained through telephone interviews and by examining the women's medical records.

Results: The mean age of participants was 30.9 (± 4.99) years. All users had pre-insertion counseling by family planning nurses. No pregnancies occurred while on Implanon. At the time of the survey, 37 women had Implanon in situ and 32 women had Implanon removed due to side effects. Thus, the discontinuation rate was 46.4%. The main reason for discontinuation was bleeding problems. The other main reasons for removal were: weight gain (34.4%), mood change (50%), headache (34.4%), nausea (21.9%), reduced libido (40.6%), acne (15.6%) and hirsutism (3.1%). Of those who discontinued the implant (n=32), 20 women (40.8%) experienced a period duration of < 8 days compared to 12 women (60 %) with periods > 8 days (Chi square 7.9, p value = 0.005). Moreover, 62% of current implant users reported higher satisfactory pre-insertion knowledge of the advantages and disadvantages than those who removed it (chi-square=5.12, p=0.024).

Conclusions: The discontinuation rate of Implanon was rather high compared to other countries. The main reason for discontinuation was abnormal bleeding pattern. This is the first report about discontinuation rate of Implanon in Jordan.

Keywords: Etonogestrel releasing-subdermal implant, Discontinuation rates, Bleeding disturbances, Decreased libido.

(J Med J 2015; Vol. 49 (1): 27-35)

Received	***Accepted***
May 12, 2014	*Oct. 23, 2014*

Implications

Main reason for discontinuation of Implanon was bleeding problems. Women with prolonged periods > 8 days are more prone to remove the implant. Jordanian women had poor quality of pre-insertion counseling.

1. Department of Obstetrics and Gynecology, Mutah Medical Faculty, Mutah University, Jordan.
2. Department of Public Health, Mutah Medical Faculty, Mutah University, Jordan.
3. Department of Obstetrics and Gynecology, Al-Bashir Hospital, Ministry of Health, Jordan.
**** Correspondence should be addressed to:***
Dr Moamar Al-Jefout, MD, PhD
E-mail: drmoamar@yahoo.co.uk

Thus, we recommend that counseling should be improved, with greater involvement of doctors. Women with prolonged periods should be offered another method.

Background:

The etonogestrel (68mg) releasing-subdermal implant Implanon® (NV Organon, Oss, the Netherlands, subsidiary of Merck & Co., NJ, USA) is a single-rod implant (4 cm long, 2 mm in diameter) for Long Acting Reversible Contraceptive (LARC). The implant inhibits ovulation within one day of insertion and provides effective contraception for up to three years [1] with a cumulative Pearl Index of 0.38 [2, 3].

The main problem with Implanon is the relatively high discontinuation rates, with 80% first year continuation rates [4]. However, some studies reported discontinuation rate of 31% in the first 2 years [5]. Factors influencing continuation rates are: age, bleeding disturbance and body weight. Implanon® use is associated with an unpredictable bleeding pattern, which includes amenorrhea and infrequent, frequent, and/or prolonged bleeding episodes [6-9]. A positive correlation was found between numbers of bleeding/spotting days and body weight, with less bleeding/spotting occurring in women with normal BMI [6]. Other side effects reported by Implanon users were weight gain, acne, loss of libido and mood changes [10, 11].

In Jordan, 61% of currently married women are using a method of family planning: 42 % use modern contraceptive methods and 19 % use traditional methods [12]. The most popular modern method is the IUD, used by 21 % of married women. The next most popular modern methods are the pill (8 %) and the condom (8%). Only 2 % of married women have been sterilized, while less than 1% are using injectables or implants [12].

Implanon has been available in Jordan since 2001 with slowly increasing popularity. However, some Jordanian health care providers continue to be concerned about the increasing number of premature discontinuations and there are almost no data on women's experience of this method in Jordan. Hence, our study aimed to investigate the continuation rates, side effects and reasons for the early discontinuation of Implanon among Jordanian women in two family planning clinics in Amman and Karak.

Statistical Analysis

The data was normally distributed based upon the value of Kolmogorov-Smirnov test of normality (P value- 0.2) and therefore, parametric statistical analysis was used. Clinical parameters between groups were compared using a chi-square test. Data analysis was performed by using the software Statistical Package for Social Sciences (SPSS) Version 16 (SPSS Inc 2008). The level of significance was taken at $P < 0.05$. All statistics were done by (NA).

Ethics Approvals:

The researcher gained the ethics approvals from The Ethics and Scientific Research Committees in Mu'tah University (Reference Number: 20137, 19/02/2013).

Methods:

The team searched the records of women who used or are using Implanon in two family planning clinics in the cities of Amman and Karak in Jordan. Inclusion criteria: women who used or are using Implanon implants as a

contraceptive method between the years 2010-2013. We identified 130 records. We could reach only 80 women via telephone; the remaining 50 had missing telephone numbers or addresses. Of the 80 women, only 69 agreed to participate. Most of the refusal came from husbands. Some women refrained from participating in the study because they could not spare the time. The survey took around 15 minutes over the phone. The language of the interview was Arabic. Verification of the identity of participants was done by checking date of birth and address.

Results:

The mean age of participants was 30.9 (±4.99) years. In our study, none was nulliparous; 15.9% of participants had two children, 18.8 % had three children and 65.2% had more than three children. Of the participants, 69.6% and 21.7 % had secondary and higher education degrees respectively, while 8.7% had no education. The mean BMI was 25.99 (SD-5.44). Doctors were the main source of advice to insert Implanon (55%) followed by a relative (27%). However, all users had pre-insertion counseling on the same day of fitting by family planning nurses. In addition, when women were asked about their satisfaction of the pre-insertion knowledge of advantages and disadvantages of the implant, only 62% among current users were satisfied with their knowledge. This was significantly higher than those who had their implants removed (chi-square=5.12, p=0.024).

No problems were experienced with fitting or removal of implants. However, 24.6% reported some pain during insertion. No pregnancy was reported while on Implanon. At the time of the survey, 31 (44.9%) had Implanon in situ. Thirty eight participants (44.8%) removed the implant; of them 6 (15.8%) removed it because the implant had expired. Thus the discontinuation rate is 46.4 %, of them 56.5% (n- 9) < 24 months and 34.8% (n- 24) < 12 months (Figure 1).

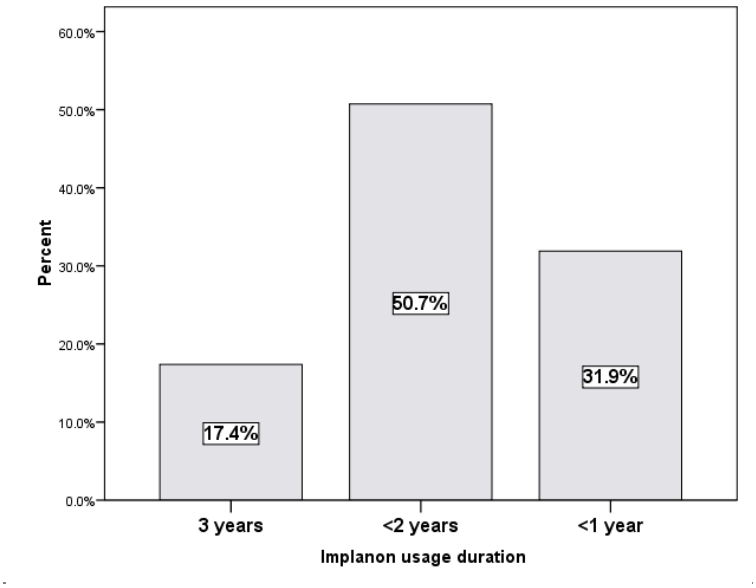

Figure 1: Continuation rates at 1, 2 and 3 years

Almost half of the users reported side effects. Among the most common side effects: bleeding disturbances, mood changes, acne, hirsutism, nausea, abdominal discomfort, weight gain and decreased libido (Table 1).

Table 1: Main side effects encountered among all users

Side effects		Using the implant			
		No		Yes	
		Count	%	Count	%
Bleeding disturbances	yes	24	46.2%	28	53.8%
	no	8	47.1%	9	52.9%
Acne	yes	5	55.6%	4	44.4%
	no	27	45.0%	33	55.0%
Headache	yes	11	42.3%	15	57.7%
	no	21	48.8%	22	51.2%
Weight gain	yes	11	40.7%	16	59.3%
	no	21	50.0%	21	50.0%
Nausea and abdominal discomfort	yes	7	50.0%	7	50.0%
	no	25	45.5%	30	54.5%
Mood changes	yes	16	51.6%	15	48.4%
	no	16	42.1%	22	57.9%
Decreased libido	yes	13	46.4%	15	53.6%
	no	19	46.3%	22	53.7%
Hirsutism	yes	1	50.0%	1	50.0%
	no	31	46.3%	36	53.7%

Thirty eight women (55.1%) had removed the implant. Of them, 6 removed it because of expiry. The remaining 32 women (46.4%) removed it prematurely due to side effects. The mean overall continuation period was 25.7 months (95%, CI: 23.6-27.6). Twenty two women (31.9 %) removed the implant after 1 year, and 35 women (50.7%) after 2 years and 12 women (17.4%) removed within the third year. Eleven women removed the implant due to bleeding disturbances in the first year (91.7%), compared to 6 women (30%) in the second year, a statistically significant ($p < 0.001$) difference. The main reason for early discontinuation (<2 years), was bleeding disturbances occurring in 17 women (53.1%), in terms of irregular periods (n=8, 25%), heavy bleeding (n=6, 18.8%) and scanty

periods (n=8, 25%). The other main reasons for removal were: weight gain (n-11, 34.4%), mood change (n-16, 50%), headache (n-11, 34.4 %), nausea (n- 7, 21.9%), reduced libido (n-13, 46.4%), acne (n-5, 15.6%) and hirsutism (n-1, 3.1%) (Table 1, Figure 2).

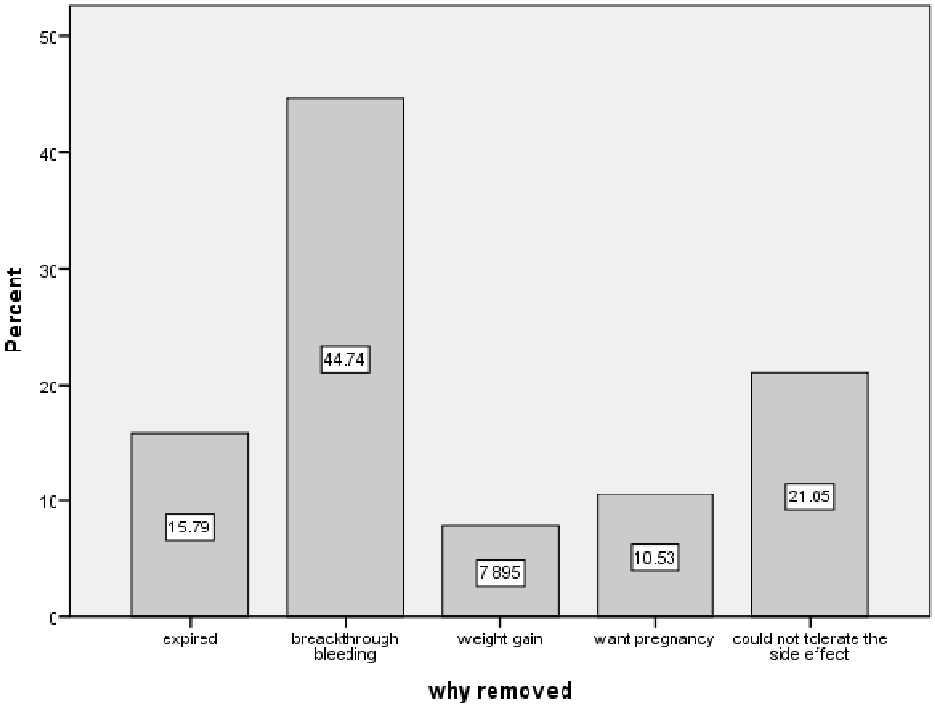

Figure 2: Reasons for removal (n-38)

Among study participants, 49 women (71%) had a period duration of < 8 days, while 20 (29%) women had periods > 8 days. Of those who discontinued the implant (n=32), 20 women (40.8%) had a period duration of < 8 days, compared to 12 women (60 %) with periods > 8 days (Chi square 7.9, p value = 0.005).

Finally, of those who discontinued the implant due to bleeding problems, only 8 women (25%), found the treatment of bleeding disturbances to be effective. However, they still chose to remove the implant.

Discussion:

In our study, the overall early discontinuation rate (removal < 2 years) among etonogestrel implant users was as high as 46.4 %. Of all women who discontinued use of the implant because of unpredictable bleeding, almost one-third did so during the first year and just over half of them during the second year. Our results are higher than those of other reports of discontinuation rates [13] though this is the first study to report the discontinuation rate among Implanon users in Jordan. Our results are also a mirror reflection of the Jordanian figures regarding other contraceptive methods in general, as almost half of contraceptive users in Jordan (48%) discontinued the use of a method within one year [12]. It is discouraging that nearly 46% discontinued the use of Implanon® for contraception before having it for 2 years.

Continuation and discontinuation rates of any contraceptive method are affected by socio-cultural attitudes toward contraception, preferences for a specific method and the counseling setup.

The main reason for discontinuation was bleeding disturbances, occurring in 17 women (53.1 %), in terms of irregular periods (n-10, 26.3 %), heavy bleeding (n-9, 23.7%) and scanty periods (n-9, 23.7 %). Our results support previous reports on the reasons for the discontinuation of Implanon [6, 14-17]. The other most prominent adverse events that led to premature discontinuation were acne, weight gain, headache, mood swings and decreased libido corresponding with data in the literature [8, 18].

None of the implant users conceived while using the method, which reflects the high efficacy of the implant, and none was nulliprous. More than two third of users had more than three children, which reflects the specific population group using subdermal implant as a long-acting contraceptive method in Jordan. In general, Jordanian women are not happy to use LARC before having a few children. Our results are also in concordance with Jordanian figures regarding contraceptive prevalence in certain reproductive groups [12]; the contraceptive prevalence rate in Jordan is highest among those with five or more children (75%) and is expectedly low (2%) among nulliparous women.

In Jordan, most pre-insertion counseling is done by family planning nurses on the same day of fitting. In our study, only 62% of women thought that they have enough knowledge about the side effects and advantages of the implant. There was a statistically significant difference in the knowledge of advantages and disadvantages of the implant between those who removed the implant and those who continue its use. . These results may have affected the continuation rates and may reflect the inadequacy of pre-insertion counseling [6, 19]. Another important finding in our study is the high incidence of side effects among all users. It is surprising and far higher than other reports. Almost half of users experienced side effects. The high figures may be due to the lack of effective counseling or bias in reporting side effects, among other reasons. Further studies are needed to explore this issue.

We also studied the relationship between age, parity, BMI, period heaviness and reason for early discontinuation and found no causal relationship. The only factor that had causal relationship was period duration >8 days, which was found to be an important factor for early removal of the implant. Forty nine women (71%) had periods < 8 days, while 20 (29%) women had periods > 8 days; which is higher than the 10-20% incidence reported in the literature [20]. Women who experienced prolonged periods (>8 days) (n- 20, 40.8%) were significantly more likely to have their device removed than women with period duration < 8 days (n-12, 60%) with Chi square 7.9, and p value < 0.005). This high prevalence of prolonged period duration in our data may have played an important role in the high discontinuation rate.

Weight is considered a factor for removal of Implanon. Reports suggest that women with high BMI are less likely to remove the implant [21]. A perceived weight gain was observed in 27 (39.1%) of the 69 women. Weight gain

accounted for 4.3 % of the removals (n=3/32) in our study. These numbers were small and our results cannot hold meaningful conclusions.

Many studies have also shown that there is loss of libido among Implanon users [22, 23]. The women in our study o did not report loss of libido. However, we found a high percentage of decreased libido (39.5 %). Forty percent (n-31) of women reported decreased libido, of them 46.4 % (n-13) were among those who then had the implant removed. As mentioned above, there was a high prevalence of menstrual bleeding disturbances among all participants (n- 51, 75.4%). This high prevalence could have played a role in the decrease in libido among our participants. This is a question that need to be addressed in another, larger, study.

Only 8 women (25%) of those who discontinued the implant due to bleeding problems, and asked for treatment, found the treatment of bleeding disturbances to be effective. This very low percentage of treatment efficacy reflects the inefficiency of the strategies utilized by our clinicians in dealing with Implanon bleeding problems. This fact almost certainly caused the high discontinuation rate among our Implanon users.

One of main weaknesses in our study is the small sample size and the fact that the study was conducted in only two family planning clinics; one in an urban area (Karak), and the other in one of the main clinics in Amman. These factors could limit the generalizability of the outcomes. In addition, we did not compare the continuation rates of other contraceptive methods to that of Implanon. Moreover, the selection of women in our study was dependent on their willingness to participate, which resulted in a poor response rate. The reliance on self-reporting by women about their subjective experiences may have affected the validity of the data. However, this first study sheds some light on the questions surrounding the use of Implanon among Jordanian women.

In conclusion, this is the first study to report the discontinuation rate of the etonorgestrel subdermal implant in Jordan. We found high discontinuation rates among implant users in Jordan. Factors that may influence these rates may include the counselling provider and methods, as all Implanon related counselling is done by family planning nurses. The other important factors for early removal are bleeding disturbances and prolonged periods (> 8 days). We recommend that more attention be paid to the counseling process and that women with prolonged periods be offered another method.

Acknowledgment: We thank Mrs Jenine Jaradat for her assistance with writing.

References

1. Croxatto, H.B. and L. Makarainen, The pharmacodynamics and efficacy of Implanon. An overview of the data. Contraception, 1998. 58(6 Suppl): p. 91S-97S.
2. Darney, P., et al., Safety and efficacy of a single-rod etonogestrel implant (Implanon): results from 11 international clinical trials. Fertility and sterility, 2009. 91 (5): p. 1646-1653.
3. Graesslin, O. and T. Korver, The contraceptive efficacy of Implanon®: A review of clinical trials and marketing experience. European J. of Contraception and Reproductive Healthcare, 2008. 13(S1): p. 4-12.

4. Power, J., R. French, and F. Cowan, Subdermal implantable contraceptives versus other forms of reversible contraceptives or other implants as effective methods of preventing pregnancy. Cochrane Database Syst Rev, 2007. 3.
5. Croxatto, H.B., et al., A multicentre efficacy and safety study of the single contraceptive implant Implanon®. Human Reproduction, 1999. 14(4): p. 976-981.
6. Mansour, D., et al., The effects of Implanon® on menstrual bleeding patterns. European J. of Contraception and Reproductive Healthcare, 2008. 13(S1): p. 13-28.
7. Teunissen, A.M., B. Grimm, and F.J.M.E. Roumen, Continuation rates of the subdermal contraceptive Implanon® and associated influencing factors. The European Journal of Contraception and Reproductive Health Care, 2013. (0): p. 1-7.
8. Bitzer, J., S. Tschudin, and J. Alder, Acceptability and side-effects of Implanon in Switzerland: a retrospective study by the Implanon Swiss Study Group. European J. of Contraception and Reproductive Healthcare, 2004. 9 (4): p. 278-284.
9. Yildizbas, B., et al., Side effects and acceptability of Implanon: a pilot study conducted in eastern Turkey. Eur J Contracept Reprod Health Care, 2007. 12(3): p. 248-52.
10. Gezginc, K., et al., Contraceptive efficacy and side effects of Implanon. European Journal of Contraception & Reproductive Health Care, 2007. 12(4): p. 362-5.
11. Sergent, F., et al., [Acceptability of the etonogestrel-containing contraceptive implant (Implanon)]. Journal de Gynecologie, Obstetrique et Biologie de la Reproduction, 2004. 33(5): p. 407-15.
12. Department of Statistics, J., Jordan Population and Family Health Survey. 2013: Amman, Jordan.
13. O'Neil-Callahan, M., et al., Twenty-four–month continuation of reversible contraception. Obstetrics & Gynecology, 2013. 122(5): p. 1083-1091.
14. Rubenstein, J., et al., Counselling styles and their effect on subdermal contraceptive implant continuation rates. The European Journal of Contraception and Reproductive Health Care, 2011. 16(3): p. 225-228.
15. Riney, S., B. O'Shea, and A. Forde, Etonogestrel implant as a contraceptive choice; patient acceptability and adverse effect profile in a general practice setting. Irish medical journal, 2009. 102(1): p. 24-25.
16. Teunissen, A.M., B. Grimm, and F.J. Roumen, Continuation rates of the subdermal contraceptive Implanon((R)) and associated influencing factors. Eur J Contracept Reprod Health Care, 2014. 19 (1): p. 15-21.
17. Smith, A. and S. Reuter, An assessment of the use of Implanon® in three community services. Journal of Family Planning and Reproductive Health Care, 2002. 28 (4): p. 193-196.
18. Bhatia, P., et al., Implanon: subdermal single rod contraceptive implant. The Journal of Obstetrics and Gynecology of India, 2011. 61 (4): p. 422-425.
19. Tolley, E., et al., The impact of menstrual side effects on contraceptive discontinuation: findings from a longitudinal study in Cairo, Egypt. International family planning perspectives, 2005. 31(1).
20. Edwards, J.E. and A. Moore, Implanon: a review of clinical studies. British Journal of Family Planning, 1999. 24(4 Suppl): p. 3-16.
21. Casey, P.M., et al., Association of body mass index with removal of etonogestrel subdermal implant. Contraception, 2013. 87 (3): p. 370-374.
22. Aisien, A.O. and M.E. Enosolease, Safety, efficacy and acceptability of implanon a single rod implantable contraceptive (etonogestrel) in University of Benin Teaching Hospital. Nigerian journal of clinical practice, 2010. 13(3).
23. Duvan, C.I., et al., Etonogestrel contraceptive implant (Implanon): analysis of patient compliance and adverse effects in the breastfeeding period. J Turk Ger Gynecol Assoc, 2010. 11 (3): p. 141-4.

تجربة النساء الأردنيات مع غرسة منع الحمل التحت جلدية في اثنتين من عيادات تنظيم الأسرة

معمر الجفوت [1]، نضال النوايسة [2]، سحر تاشمان [3]، روان ريالات [1]، سارة زيتون [1]، لؤي العلاوي [1]، وسيم تابازة [1]

1- قسم أمراض النسائية والتوليد، كلية الطب، جامعة مؤتة، الأردن.

2- قسم الصحة العامة، كلية الطب، جامعة مؤتة، الأردن.

3- قسم أمراض النساء والتوليد، مستشفى البشير، وزارة الصحة، الأردن.

الملخص

الخلفية: تعد غرسة منع الحمل الهرمونية (الإمبلانون ,Implanon) من أكثر وسائل منع الحمل شعبية وفاعلية. لكن مؤخراً قررت بعض المستخدمات التوقف عن استخدامها لمجموعة من الأسباب.

الهدف معرفة تجربة المرأة الأردنية مع غرسة منع الحمل الهرمونية.

تصميم الدراسة والطرق البحثية: أجريت هذه الدراسة المسحية على 69 امرأة من اللواتي استخدمن أو ما يزلن يستخدمن الغرسة. تم الحصول على البيانات من خلال تعبئة الاستبانة والمقابلات الهاتفية وفحص السجلات الطبية.

النتائج: كان متوسط عمر المشاركات 30.9 (± 4.99) سنة. تم عمل المشورة قبل الغرس من قبل الممرضات في عيادات تنظيم الأسرة. لم تحدث أية حالة حمل أثناء استخدام الغرسة. عند إجراء الدراسة، كان هناك 37 امرأة مستخدمة للغرسة و32 امرأة كن قد أزلن الغرسة بسبب الآثار الجانبية. وبالتالي، فإن معدل التوقف المبكر عن استخدام الغرسة – 46.4٪. كان السبب الرئيس للتوقف عن الاستخدام هو النزف الرحمي. ومن الأسباب الرئيسة الأخرى للإزالة المبكرة: زيادة الوزن (34.4٪)، وتغير المزاج (50٪)، والصداع (34.4٪)، والغثيان (21.9٪)، وانخفاض الرغبة الجنسية (40.6٪)، وحب الشباب (15.6٪) وازدياد الشعر (3.1٪) من بين أولئك اللواتي توقفن عن استخدام الغرسة (عدد = 32)، عشرون امرأة (40.8٪) شهدن فترة حيض أكثر من 8 أيام مقارنة مع 12 امرأة (60٪) شهدن فترات حيض أقل من 8 أيام (chi-square =7.9، P = 0.005). وعلاوة على ذلك، ذكرت 62٪ من المستخدمات الحاليات للغرسة معرفة مرضية ما قبل الاستخدام عن مزايا وعيوب الغرسة من أولئك اللواتي قررن إزالة الغرسة (p=0.024, chi-square=5.12).

الاستنتاجات: إن معدل وقف استخدام الغرسة المبكر في الأردن عالٍ نوعاً ما مقارنة بالدول الأخرى. السبب الرئيس لهذا المعدل العالي هو النزيف الرحمي ذو النمط الغير طبيعي. وعلى علمنا إن هذه الدراسة هي الأولى حول معدل النزع المبكر للغرسة في الأردن.

الكلمات الدالة: غرسة منع الحمل، النزف الرحمي، انخفاض الرغبة الجنسية.