

## ORIGINAL RESEARCH ARTICLE

# Reasons for Discontinuation of Implanon among Users in Buffalo City Metropolitan Municipality, South Africa: A Cross-Sectional Study

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## Abstract

Early discontinuation of implanon, a long-acting, reversible contraceptive among reproductive age women in South Africa is a serious public health concern. The aim of this study was to examine the reasons for discontinuation of implanon among its previous users. This descriptive cross-sectional study involved 188 consecutively selected participants in two large family planning clinics in Buffalo Metropolitan Municipality, East London, South Africa. Descriptive statistics was conducted using SPSS version 22.0. The mean duration of use was  $11.2 \pm 7.1$  months. Side effects such as heavy bleeding, severe headache and painful arm were the main reasons for discontinuation of implanon (71.3%). Some participants discontinued implanon because they were receiving other medical treatments: 24 participants on the anti-retroviral drugs, one on antipsychotic and anti-tuberculosis drugs, respectively, necessitating removal. Few participants reported wrong positioning (3.2%) and desire for more pregnancies (4.3%) as reasons for discontinuation. The side effects of implanon were the reason for early discontinuation of implanon among women who still needed contraception. Pre-insertion counselling should empower women towards making informed decision on discontinuation and transition to other options. (*Afr J Reprod Health 2018; 22[1]: 113-119*).

**Keywords:** Contraceptive methods, Discontinuation, Implanon, Long-acting reversible contraception, South Africa

## Résumé

Au début de l'arrêt de l'implanon, une longue durée d'action, entre l'âge de contraception réversible de la reproduction des femmes en Afrique du Sud est un grave problème de santé publique. Le but de cette étude était d'examiner les raisons de l'arrêt de l'implanon parmi ses utilisateurs précédents. Cette étude transversale descriptive impliquée 188 participants sélectionnés consécutivement dans deux grands centres de planification familiale dans la municipalité métropolitaine de Buffalo, East London, Afrique du Sud. La statistique descriptive a été réalisée à l'aide de SPSS version 22.0. La durée moyenne d'utilisation est de  $11,2 \pm 7,1$  mois. Effets secondaires tels que des saignements abondants, des maux de tête et bras douloureux ont été les principaux motifs d'abandon de l'implanon (71,3 %). Certains participants ont abandonné l'implanon, parce qu'ils reçoivent d'autres traitements médicaux : 24 participants sur les médicaments anti-rétroviraux, l'une sur l'antipsychotiques et, respectivement, ce qui nécessite la dépose. Peu de participants ont déclaré mauvais positionnement (3,2 %) et de désir pour plus de grossesses (4,3 %) que les motifs de l'interruption du traitement. Les effets secondaires de l'implanon, étaient à l'origine de l'arrêt précoce de l'implanon chez les femmes qui ont encore besoin de contraception. Insertion pré-counseling devraient donner aux femmes à l'égard de la prise de décision sur l'arrêt et la transition à d'autres options. (*Afr J Reprod Health 2018; 22[1]:113-119*).

**Mots-clés:** méthodes de contraception, l'interruption du traitement, l'Implanon, contraception réversible à longue durée d'action, Afrique du Sud

## Introduction

Contraception is an essential public health tool<sup>1,2</sup>. It plays a significant role in the reduction of maternal and neonatal morbidity and mortality, which often accompany unplanned pregnancy; alongside the socio-economic burden usually associated with it<sup>3-6</sup>. The use of modern contraception is high in South Africa<sup>7,8</sup>. About 65% of reproductive-age women in South Africa use at least one modern method of family planning compared to 20% in sub-Saharan Africa, 57% worldwide and 60% for most developing countries<sup>1,8</sup>.

Given that women differ in their birth control methods, preferences and experiences with contraceptives, the need for access to varieties of family planning options becomes pertinent<sup>9</sup>. In trying to achieve this, the South African Department of Health added a long-acting contraceptive device (implanon); termed “fit and forget” to the long list of available family planning options in 2014<sup>1,10,11</sup>. Availability of various family planning options does not only help in ensuring optimal contraception to those who need and want it; but also provides useful alternative options for those having unpleasant experiences with their current method(s)<sup>12</sup>.

Implanon has been made available internationally since 1998 and in use in over 40 countries worldwide<sup>9</sup>. It is considered as a highly effective method of contraception, with an effectiveness rate of about 99.9%<sup>10,13-15</sup>; comparable to permanent contraception. Clinically, it is considered safe for use in obese and hypertensive women<sup>16</sup>. It has a rapid onset of action and return to fertility almost immediately the device is removed<sup>17</sup>. Likewise, it does not rely a great deal on compliance as well as correct use, which reduces the stress of frequent visits to the family planning clinics often associated with other methods<sup>18</sup>, as it stays in place and is effective for three years<sup>1,18,19</sup>. Although, no modern family planning method is without its associated side effect(s), the most commonly reported side effect of implanon is changes in bleeding pattern<sup>20-22</sup>.

An implanon device is valued at R1700<sup>23</sup>. However, this has been made available for free by the South African government at the various

family planning clinics in public hospitals<sup>1</sup>. In spite of the various benefits and cost-effectiveness of implanon, anecdotal evidence shows that the programme which was rolled out less than three years ago and considered a huge success seems to be at the verge of collapsing, as women have been reported to be queuing in health clinics across the country to get the device removed prematurely (before 2.5 years)<sup>24,25</sup>.

Various factors have been reported to be associated with early removal of implanon. These factors range from; the side effects of implanon, poor positioning, disapproval by spouse, poor quality of care and counselling by healthcare professionals amongst others<sup>20,26,27,28,29</sup>. However, no empirical evidence exists on the reasons for the discontinuation of implanon by its users in the Eastern Cape Province, South Africa. Considering the health and economic implications of the untimely removal of the implanon, it is imperative to ascertain the reasons for discontinuation of implanon by its users in this setting. Findings from this study could help inform policy makers and health managers about the possible lapses responsible for this attitude among implanon users. The findings could also assist in the appropriate design of interventions.

## Methods

The study was conducted at the Buffalo City Municipality (BCMM) in the Eastern Cape (EC) Province — one of the nine provinces in South Africa. The Eastern Cape Province is predominantly dominated by Xhosa people. Contraceptive prevalence rate in EC is 50.7%<sup>30</sup>, a rate higher than the national average. The Buffalo City Municipality is a metropolitan municipality situated on the east coast of the Eastern Cape Province in South Africa. Data collection took place at two reproductive health centres; one regional (Cecilia Makiwane Hospital) and a community health centre (Nontyatyambo Community Health Centre) providing health services for about 2.8 million people, the hospital and clinic have a total bed capacity of 750. Family planning practices are available for free in all government hospitals in South Africa. The 2012 South African National Contraception and fertility

planning policy and service delivery guidelines aimed to expand the available contraceptive options. As part of the policy implementation, free insertion of implanon was introduced in 2014 in all government hospitals.

This descriptive, cross-sectional study was combined with a retrospective review of the implanon insertion and removal registers from 2014 to 2016 at the selected study settings.

The study population were women of child-bearing age (15-42 years) attending the family planning clinics of the selected health facilities in BCMM which had been earmarked for patients requesting implanon insertion.

Family planning registers detailing the insertion and removal of implanon from 2014 to 2016 were obtained from the two selected clinics. The family planning registers were used to identify women who inserted or removed implanon over the study period and to obtain information on the date of insertion, date of removal, and place of insertion. As a result of incomplete information, eligible participants were invited to obtain information on the reasons for removal of implanon and demographic characteristics using a structured questionnaire. Of the 249 eligible participants, 188 participated in the study (response rate=75.5%). Participants were included in the study if they had removed the implanon at the study settings, irrespective of where the implanon had been inserted.

A pre-piloted questionnaire was used to obtain relevant items on demographics, duration of implanon use and reasons for the discontinuation of implanon. The pilot study was conducted with 10 women in one of the study settings to assess their understanding of the questionnaire and to streamline it for clarity. The feedback obtained from the pilot study was used to modify the instrument. The questionnaire was scrutinised for face, content and construct validity by experts in family planning and reproductive health. The questionnaire was administered to the participants in a secured office provided by the hospital.

Statistical Package for the Social Sciences (SPSS version 22.0) was used to analyse the data. The analysis involved the use of descriptive statistics (frequency and mean).

The study was approved by the University of Fort Hare Research Ethics Committee (Ref: GOO091SMRW01) and the Eastern Cape Provincial Department of Health. Permission to implement the study protocol was obtained from the respective Heads of the health facilities. Written, informed consent was obtained from the participants after detailed information on the purpose and process of the study was provided to them. The right of participants to anonymity and confidentiality was also ensured.

## Results

The average age of participants was 26.55 ±6.4 years. Most participants were ≤30 years (82.9), single (56.3), Christian (94.0), black Africans (97.3), and had more than one child (74.3). Only 22% of the respondents had prior histories of abortion (Table 1). Majority of the participants (93%) inserted the implanon at the two health centres.

The duration of implanon usage among the participants ranged from one to thirty-six months while the mean duration for implanon usage was 11.2 (SD=±7.1) months. The median duration for implanon use was 10 months. In the first six months of use, 27.2% of the participants removed the implanon.

A majority (67.3%) removed the implanon in the first year of use while 94.4% had removed after the second year.

Most participants discontinued implanon because of side effects (71.3 %) (Table 2). Other reasons for discontinuation of implanon were poor or wrong positioning (3.2%) and a desire for more pregnancies (4.3%). Some participants discontinued implanon because they were receiving other medical treatments: 24 participants on the anti-retroviral drugs, one on antipsychotic and anti-tuberculosis drugs, respectively, necessitating removal of implanon. Ten participants (5.3%) got pregnant despite using implanon and decided to remove it. Only two participants removed implanon because it was due for removal.

As shown in Table 3, heavy bleeding was the most reported side effect experienced by the

**Table 1:** Demographic Characteristics of Women who discontinued the use of Implanon in Buffalo City, South Africa

Variables	Frequency (%)
Age (years)	
15-20	41(21.8)
21-25	51(27.1)
26-30	47(25.0)
31-35	29(15.4)
36-44	20(10.6)
Marital status	
Single	103(56.3)
Married	52(28.4)
Separated/divorced	25(13.7)
Widow	3(1.6)
Religion	
Christianity	171(94.0)
Others	11(6.0)
Race	
Black African	177(97.3)
White African	1(0.5)
Coloured	4(2.2)
Parity	
One child	47(25.7)
Two children	93(50.8)
Three children	42(23.0)
Four children	1(0.5)
Ever had abortion	
Yes	41(21.8)
No	147(78.2)

\*Missing data for six participants on religion, parity, race and marital status

**Table 2:** Reasons for implanon removal by women in Buffalo City, South Africa

Reasons for implanon removal	Frequency (%) (n=188)
Experience of side-effects	134(71.3)
On treatment	24(12.8)
Wrong positioning	6(3.2)
Want to get pregnant	8(4.3)
Got pregnant	10(5.3)
Tired or no reason	4(2.1)
Due for removal	2(1.1)

participants which prompted their decision to discontinue. Eighteen (9.6%) participants experienced painful arms and 12 (6.4%) reported severe headaches. Other reported side-effects of implanon were falling hair (1.6%), body pain (5.9%), back pain (1.6%), rashes (3.2%), nausea and vomiting (0.5%), dizziness (0.5%), abdominal pain (0.5%), fits (1.6%), loss of libido (1.1%), weight gain (4.8%) and weight loss (3.2%).

**Table 3:** Side Effects of Implanon Experienced by Women in Buffalo City, South Africa

Variables	Frequency (%) (n=188)
Heavy bleeding	75(39.9)
Painful arm	18(9.6)
Falling hair	3(1.6)
Severe headache	12(6.4)
Body Pain	11(5.9)
Back pain	3(1.6)
Weight gain	9(4.8)
Weight loss	6(3.2)
Reaction like rashes	6(3.2)
No sex drive	2(1.1)
Nausea and vomiting	1(0.5)
Dizziness	1(0.5)
Fits	3(1.6)
Abdominal pain	1(0.5)

## Discussion

The present study sought to determine the reasons for discontinuation of implanon usage among reproductive-age women in Buffalo City Metropolitan Municipality, Eastern Cape Province, South Africa. The mean duration of implanon usage among the participants in the present study was 11.2 months. This has serious health and economic implications, considering the investment of the government into family planning service delivery in the region. This duration is lower than the reported duration among women in Ethiopia and Nigeria<sup>20,31</sup>; a duration which ranged from 19.5 months to 27 months. Another study conducted in Ethiopia, however, reported a lower duration of use of 6.6 months<sup>26</sup>. The present study confirmed the assumption that most recipients of implanon had it removed prematurely.

Various reasons for early discontinuation of implanon included adverse side effects and quality of service<sup>20,26-29</sup>. The main reason for early discontinuation of implanon in the present study could be attributed to the side effects experienced by the participants, particularly, excessive bleeding. This finding was not surprising as several other studies had also documented this<sup>20,21,22,24,31</sup>. The proportion of women who experienced excessive bleeding resulting from implanon usage varied from 36% in Ethiopia<sup>20</sup>, 56.2% in Australia<sup>24</sup> to as high as 62% among women in the United Kingdom<sup>31</sup>. It has been

asserted that pre-insertion counselling of women about the different side effects of implanon goes a long way in the continuation of the usage of implanon<sup>11</sup>. Perhaps, intensification of pre-insertion counselling on the side effects of implanon, proper management of women at the family planning clinics and provision of information on available alternative contraceptive options will empower women to make better decisions about their contraception. Early discontinuation of implanon while in need of contraception in BCMM requires the attention of the health managers. Equipping the family planning practitioners with the skills required for counselling on the various contraceptive options might help address the contraceptive needs of women in the district. It is believed that proper counselling of women seeking implanon insertion will guide their decisions if faced with the challenge of possible discontinuation.

Our study showed that some women discontinued implanon use because they were receiving other medical treatments, such as antiretroviral, antipsychotic and anti-tuberculosis drugs. It is possible that some of these women removed implanon because they were about to start those medications. Nonetheless, clinicians need to always probe for medications women are using before recommending implanon.

Finally, this study observed that 10(5.3%) women removed implanon because they became pregnant. Considering that implanon is a very effective family planning method with an efficacy rate of 99.9%<sup>10,11,14,15</sup>, it is possible that some of them were already pregnant before insertion of implanon. Another plausible explanation could be that some of these women may in fact be on ARV medication. This is highly probable judging by the prevalence of HIV among women of reproductive age in South Africa. Even though we do not have data on their HIV status, it is more likely that the effectiveness of the implanon was influenced by the use of ARVs by these patients. There is a documented high failure rate reported among individuals taking enzyme inducing drugs<sup>10</sup> such as the anti-retrovirals (Efavirenz), anti-epileptic drugs (Sodium valproate, Phenytoin and Carbamazepine) and anti-tuberculosis drugs

(Rifampicin)<sup>17,32</sup>. As such, the South African Department of Health has issued circulars to health facilities to this effect<sup>1</sup>. This further laid credence to the decision of some women to seek removal of implanon while on the anti-retroviral drugs. Another plausible reason for implanon failure in this cohort could be wrongly performed insertion, which has been reported in the literature as a reason for implanon failure<sup>33</sup>.

## Limitations

The cross-sectional approach and the convenience sampling technique used in the study are obvious limitations to the study. As such, our findings are not generalisable to all women utilising implanon in Eastern Cape, South Africa. Also, we were unable to retrieve the number of insertions done at the clinics and did not query the HIV status of participants. Thus, we were unable to determine whether those women that got pregnant while using implanon were using antiretroviral drugs or other drugs known to interfere with the effectiveness of implanon. Nevertheless, the findings can inform local policies on the strengthening of family planning services in the district.

## Conclusion

Discontinuation of contraception by women of reproductive age group while still in need of it is a serious public health concern in the district. Heavy bleeding as a side effect of implanon was the main reason for discontinuation among the study participants. A prospective study involving a larger sample and many reproductive health clinics in the Eastern Cape Province will provide evidence on strategies to shape the policy on long-acting reversible contraception in the province.

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## Conflicts of Interest

None declared.

## Contribution of Authors

KPM, DTG, ES: conceptualised and designed the study.

OVA, EOO, AIA: participated in the data collection.

AIA and EOO: performed the statistical analysis.

KPM, EEO, OVA, DTG and AIA: drafted the paper.

All authors gave intellectual input to the paper and approved the final version for submission.

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