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Long-Acting Reversible Contraceptive Use: Knowledge and Attitude of Reproductive Age Women in Buffalo Metropolitan Municipality, East London, South Africa

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Abstract: There documented low-utilization and early discontinuation long-acting reversible contraceptive (implanon) among its users. This study sought to assess the knowledge and attitude toward implanon use among women of reproductive age in Buffalo City Metropolitan Municipality (BCMM), East London, South Africa. This descriptive cross-sectional study involved 189 consecutively selected participants in two largest family planning clinics in Buffalo Metropolitan Municipality. Information on the demographic characteristics, knowledge and attitude towards implanon were obtained by self-reporting. The average age of participants was 26.55±6.4 years. Only 22% of the respondents had prior history of abortion. Most of the participants (66.9%) had poor knowledge of implanon. Age was the only factor statistically associated with knowledge of implanon ($p = 0.03$). A poor knowledge of implanon was observed among the younger and the older participants. Generally, the attitude of the participants towards implanon was positive. The majority (77.8%) of participants had poor knowledge about implanon and stressed the need for the provision of adequate knowledge on implanon and its side effects during pre-insertion counselling. There was a poor knowledge of implanon among its users in this setting, however, demonstrated a positive attitude towards its use. Pre-insertion counselling will go a long way in promoting the utilization of implanon and its continuation.

Key words: Contraceptive methods, discontinuation, long-acting reversible contraception, reproductive, knowledge and attitude, South Africa

INTRODUCTION

A woman's ability to space and limit her pregnancies has a direct impact on her health and the pregnancy outcome. Family planning as key public health tool (Tsui *et al*., 2010), plays a vital role in the reduction of unintended pregnancy; one of the significant contributors to maternal and neonatal morbidity and mortality (Blumenthal *et al*., 2010). Currently, there is a documented high prevalence of contraceptive use in South Africa (Lince-Deroche *et al*., 2016). About 65% childbearing-age women in South Africa uses one form of modern contraception or the other which is the highest reported contraception prevalence in Sub-Saharan African and among the highest in the world (Anonymous, 2012a).

The effectiveness of the contraceptive method is fundamental in the reduction of unintended pregnancy as well as the poor obstetric outcome, morbidity and mortality associated with it (Paul *et al*., 2011; Stover and Ross, 2010). Among the highly effective modern family planning methods are the Long-Acting Reversible Contraceptives (LARCs) with an effectiveness rate which is close to permanent methods (Anonymous, 2011, 2012b). Long-acting reversible contraceptives include the intrauterine contraceptive device and the subdermal implants (Strasser *et al*., 2016; Morgan *et al*., 2016). The subdermal implant is the most recently introduced long-acting reversible contraceptive device in South Africa (Patel, 2014).

In spite the effectiveness rate of the LARCs, particularly, implanon, there is a reported low utilization and premature discontinuation, both in the developed and the developing countries (Fleming *et al*., 2010; Finer and Zolna, 2016; Jabeen, 2016; Mosher and Jones, 2010)

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including South Africa (Patel, 2014). Poor utilization as well as premature discontinuation of the implanon has an enormous health, social and economic implications (Blumenthal *et al*., 2010).

Studies have shown that the reasons for the low utilization and poor attitude towards LARCs, particularly, the implant include the cost, poor knowledge or mis-information about the device, adverse effects and accessibility (Burns *et al*., 2015; Gomez *et al*., 2015; Spies *et al*., 2010; Whitaker *et al*., 2008; White *et al*., 2013). In South Africa, the cost and accessibility of implanon is not a challenge as the South African government has made it readily available at no cost in government hospitals. However, the knowledge and attitude of reproductive child-bearing women about implanon is scantily documented. Hence, the aim of this study was to examine the knowledge and attitude of reproductive age women in Buffalo City Metropolitan Municipality (BCMM), East London, South Africa. Such information is important to inform policy direction in the development of interventions to promote implanon utilization and continued usage.

MATERIALS AND METHODS

Population: The study population were women of child-bearing age between the ages of 15 and 42 years who attends the family planning clinics of the selected hospital and have accepted implanon as a form of contraception at Buffalo City Municipality and Amathole District.

Sampling: The implanon insertion and removal register of the selected clinics was used to purposively identify participants by calling or inviting them to participate in the study. Participants who honoured the invitation and were willing to participate in the study were recruited into the study. Of all the 249 eligible participants, 189 participated in the study.

Inclusion and exclusion criteria: Participants were included in this study if they have removed the implanon in the two selected clinics, irrespective of where the implanon was inserted. Participants who still had implanon in place as at the time of data collection were considered ineligible for the study.

Data collection instrument: A self-designed questionnaire was used to obtain information on participant's demographic characteristics, knowledge and attitude towards the use of implanon.

Data collection procedure: Registers for the insertion and removal of implanon from 2014-2016 were obtained from the two selected clinics. Patients with mobile phone contacts were invited to participate in the study. The questionnaire was administered to the participants in a private area provided by the hospital.

Validity and reliability: The face, content and construct validity of the questionnaire were assessed by experts in family planning and reproductive health as well as an expert in quantitative research. Also, we conducted a pilot study with ten women to assess their understanding of the questionnaire and to exclude ambiguity. The instrument was then modified based on the feedback obtained from the pilot study and the experts.

Ethical considerations: The study was approved by the University of Fort Hare Research Ethics Committee, the Eastern Cape Provincial Department of Health, the Head of Clinical Governance at Buffalo City Municipality as well as the clinic managers of the selected clinics. Informed consent was obtained from the participants. Participants were briefed on the aim and nature of the study. Right to anonymity and confidentiality was also ensured.

Data analysis: Descriptive statistics (frequency, mean and standard deviation) was used to analyse the data. Chi-square was used to examine relationship between categorical variables with $p<0.05$ considered statistically significant. Statistical Package for the Social Sciences (SPSS Version 22.0) was used for data analysis.

RESULTS AND DISCUSSION

The average age of the participants was 26.55±6.4 years. Most participants were ≤30 years old (82.9), single (56.3), Christian (94.0), Black Africans (97.3) had more than one child (74.3). Only 22% of the participants had prior history of abortion (Table 1).

Knowledge of implanon: Generally, the knowledge of implanon use among the participants was poor. Most of the participants did not know if one can easily become pregnant after the discontinuation of implanon (68.1%); implanon side effects will not last forever (62.8%); implanon acts the same way as injectables (92.8%); implanon is not superior to other methods of contraception (81.5%) and using implanon does not require proper diet (77.6%). Similarly, most participants agree or were not sure whether one can still become pregnant even with the use of implanon (60.3%). More than half of the participants (64.3%) doubted the efficacy

Table 1: Demographic characteristics of the participants

Variables	Frequency (n)	Percentage (%)
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	38	22.0
No	151	78.0

Table 2: Knowledge of implanon

Statements	Agree	Not sure	Disagree
One can easily become pregnant after discontinuing implanon	52 (28.9)	107 (56.4)	21 (11.7)
Implanon will not be effective after 3 years	113 (60.1)	57 (30.3)	9 (5.0)
Implanon side effects will last forever	7 (3.9)	106 (58.9)	67 (37.2)
Implanon act the say way as injectables	13 (7.2)	146 (81.1)	21 (11.7)
Implanon is for women with more than one baby	7 (3.9)	34 (18.9)	139 (77.2)
One can still become pregnant even with the use of implanon	27 (15.1)	108 (60.3)	44 (24.6)
Implanon can prevent STI	1 (0.6)	16 (8.9)	163 (90.6)
Implanon can effectively prevent pregnancy	64 (35.8)	97 (54.2)	18 (10.1)
Implanon can cause permanent infertility	2 (1.1)	145 (81.0)	32 (17.9)
Foreign body in your body can cause irreversible damage	2 (1.1)	147 (82.6)	29 (16.3)
Implanon is inserted for people with many children	17 (9.5)	0 (0.0)	162 (90.5)
Implanon is superior to other methods as it does not reduce sexual pleasure	5 (2.8)	140 (78.7)	33 (18.5)
Using implanon requires proper diet	1 (0.6)	137 (77.0)	40 (22.5)

of implanon. Also, 81% of the participants were not sure if implanon can cause permanent infertility. In addition, most participants (82.6%) were not sure if the presence of foreign body in one's body can cause irreversible damage. Few women (9.5%) believed that implanon is inserted for women with many children and do know that implanon cannot prevent STIs (9.5%) (Table 2).

Factors associated with knowledge of implanon: The knowledge variables were scored to determine the total knowledge score for each participant. As shown in Table 3, only 9.7% of the participants had good knowledge of implanon. Most participants (66.9%) had poor knowledge of implanon. Only age was significantly associated with knowledge of implanon. While 28-37% of women in age group 21-35 years had moderate knowledge of implanon, only 5.3-7.9% of women aged 15-20 and 36-44 years had moderate knowledge of implanon. Younger women (73.4%) and older women (89.5%) had the highest proportion of women with poor knowledge of implanon. Parity and marital status were not significantly associated with knowledge of implanon. As shown in Fig. 1, there was a u-relationship between age and poor knowledge of implanon.

Table 3: Knowledge of implanon by demographic characteristics

Variables	Good knowledge	Moderate knowledge	Poor knowledge	p-values
All	17 (9.7)	41 (23.4)	117 (66.9)	0.00
Marital status				
Single	12 (12.0)	24 (24.0)	64 (64.0)	
Married	4 (8.3)	12 (25.0)	32 (66.7)	
Separated/divorced	0 (0.0)	5 (20.8)	19 (79.2)	0.40
Widow	1 (33.3)	0 (0.0)	2 (66.7)	
Parity				
1	5 (11.4)	7 (15.9)	32 (72.7)	
2	9 (10.0)	28 (31.1)	53 (58.9)	
3	3 (7.5)	6 (15.0)	31 (77.5)	0.31
4	0 (0.0)	0 (0.0)	1 (100.0)	
Age (years)				
15-20	7 (18.4)	3 (7.9)	28 (73.7)	
21-25	5 (11.1)	13 (28.9)	27 (60.0)	
26-30	3 (6.5)	14 (30.4)	29 (63.0)	0.03
31-35	1 (3.7)	10 (37.0)	16 (59.3)	
36-44	1 (5.3)	1 (5.3)	17 (89.5)	

Table 4: Participant's perception of their knowledge and role of service provider

Statements	Agree	Not sure	Disagree
I have adequate knowledge of implanon	6 (3.3)	34 (18.9)	140 (77.8)
Healthcare workers should explain contraceptive side effects	173 (96.6)	6 (3.2)	0 (0)
Healthcare worker should be trained and competent in reproductive health	169 (94.9)	5 (2.8)	4 (2.2)

Participant's perception of their knowledge and role of service provider: The majority of participants (77.8%) disagree that they have adequate knowledge of implanon and stated that health workers should explain contraceptive side effects to clients. Also, most participants (94.9%) stated that health workers should be trained and competent in reproductive health (Table 4).

Attitude towards implanon use: Generally, participant's attitude towards implanon was positive. Most participants (85.5%) disagree that their partners should decide their method of contraceptive (Table 5). Only, 19.1% participants adopted implanon because of an unintended pregnancy or abortion. Most participants disagree that implanon should only be used by married women.

Table 5: Attitude towards implanon use

Statements	Agree	Not sure	Disagree
My partner should decide my contraceptive method to use	2 (1.1)	24 (13.4)	153 (85.5)
Implanon choice was because of an unintended pregnancy or abortion	34 (19.1)	3 (1.7)	141 (79.2)
Implanon should be used by married women	28 (15.6)	21 (11.7)	130 (72.6)

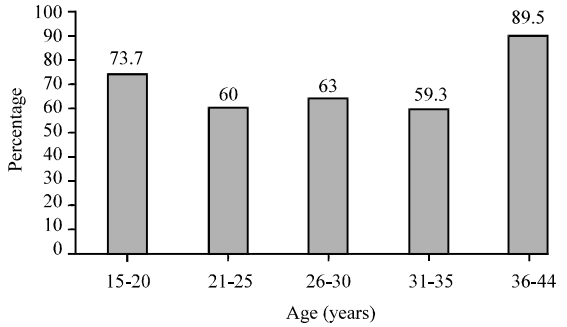

Fig. 1: Age and poor knowledge of implanon

Adequate knowledge on contraceptive methods is essential in informing a woman's choice and acceptance of the method. In this study, the participants generally had low knowledge of implanon. Several other studies have also reported inadequate knowledge of LARCs, particularly implanon, among women of reproductive age (Anguzu *et al*., 2014; Irinyenikan, 2016; Mubarik *et al*., 2017; Anonymous, 2015). However, the low knowledge about implanon among the participants in this present study is surprising, given that the participants were all previous implanon users. As such, it is expected that they should be knowledgeable about implanon as they were provided with enough information prior to accepting or choosing the method. This might be a responsible factor for discontinuation of use by these users as adequate knowledge is vital in promoting continual usage. This is a pointer to the need to further empower family planning providers on adequate health education of prospective clients prior to administration of the family planning method.

Similar to other authors, only age was significantly associated with knowledge of implanon (Anonymous, 2015; Mubarik *et al*., 2017). The younger and the older women were found to have a poor knowledge of implanon compared with middle-aged women. Similarly, Mabarik *et al*. (2017) reported a low knowledge among the individuals at the two extremes of age. The National Demographic Health Survey (NDHS) conducted in Nigeria in 2013 also reported that married and middle-aged women are more likely to be more knowledgeable about contraception compared with sexually active unmarried women and the younger women. They further showed an increase in knowledge of modern contraception with age, climaxing at 44 years with a subsequent reduction with further increase in age. This might be as a result of the need for contraception among the various age groups. The younger women (15-20 years) as well as the older ones are less likely to be in need of contraception, thus, exposed to lesser information about contraception. Although, the younger ones might be sexually active, they may however be less confident to approach family planning service providers for information about the family planning methods, particularly, the implants which is sometimes erroneously believed to be suitable for married women (Anonymous, 2015). Although, some other studies showed significant association between knowledge of modern contraception, parity and marital status, the result of this study prove otherwise as there was no significant association between them.

Also, majority of the participants indicates having inadequate knowledge of implanon. They further stated that health workers involve reproductive health should be explaining the side effects of implanon to the clients. Health education by the family planning providers is vital in promoting adherence and utilization of family planning methods (Birhane *et al*., 2015, Zerihun *et al*., 2015).

Despite, the reported low knowledge about implanon among participants in this present study, their attitude towards it was generally positive. This is similar to a study by Elias and Hailemariam (2015). The plausible reasons for this might be the easy accessibility and no cost of the implanon. Also, the effectiveness of the device even in the absence of user's adherence as well as its long duration of action might have influenced the positive attitude displayed towards implanon by the participants. Improving women's knowledge about implanon could further boost their attitude towards it, improve the utilization and ultimately lead to reduction in unintended pregnancy and the dangers associated with it.

The cross-sectional approach as well as the sampling technique adopted in this study is obvious limitations to the study, thus, we could not assess knowledge of other women in the settings on implanon. Besides, given that the study was conducted in two reproductive health clinics, the sample size is not large enough to generalise the findings. Nonetheless, given that no such previous study exists in the region, provides baseline information on the phenomenon for future studies related to implanon use.

CONCLUSION

There was a poor knowledge of implanon among its users but a positive attitude towards its use. Only age

was significantly associated with knowledge of implanon among the participants in this setting. There is a need for pre-insertion counselling on implanon to promote continual use by the users.

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