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Original Research Article

Postpartum implanon/nexplanon uptake in a tertiary hospital in West Africa

Kwaku Asah-Opoku^{1*}, Kareem Mumuni¹, Vincent J. Ganu², Ali Samba¹

¹Department of Obstetrics and Gynecology, University of Ghana School of Medicine and Dentistry (UGSMD), Korle-Bu, Accra, Ghana

²Department of Medicine-Fevers Unit, Korle-Bu Teaching Hospital, Korle-Bu, Ghana

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***Correspondence:**

Dr. Kwaku Asah-Opoku,

E-mail: kasahopoku@yahoo.com

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ABSTRACT

Background: The postpartum period is viewed as an opportune period for uptake of contraception. Ghana has an unmet need for family planning of 30%. This study sought to determine the postpartum Implanon/Nexplanon uptake among women at a tertiary hospital.

Methods: This was a retrospective study that analysed 391 Implanon/Nexplanon insertions between 2012 and 2015 at the reproductive health and family planning unit at the Korle-Bu teaching hospital.

Results: Almost 69% (391/565) of all Implanon/Nexplanon insertions conducted between 2012 and 2015 were conducted in the postpartum period. Out of these postpartum insertions, 2.3% were done in the immediate postpartum period, 27.6% were done during the interval postpartum period and 70.1% were in the delayed postpartum period. Age and implant insertion status (first time ever or continuing) were significant determinants of postpartum Implanon/Nexplanon insertions. Compared to women less than 20 years of age, women in the age group 20-29 and 30-39 were 76% (AOR=0.24, CI=0.62-0.97) and 80% (AOR=0.20, CI=0.05-0.86) respectively less likely to have postpartum Implanon/Nexplanon insertions done. Continuing users of implant insertions were 45% (AOR=0.55, CI=0.37-0.82) less likely to have post-partum Implanon/Nexplanon insertions done compared to first ever users.

Conclusions: There is a high uptake of postpartum Implanon/Nexplanon use among patients who receive implant insertions at the Korle-Bu Teaching Hospital. However immediate postpartum Implanon/Nexplanon insertions are low. There is the need to educate women and couples on the benefits of immediate postpartum implant insertion to avoid rapid repeat pregnancies.

Keywords: Etonorgestrel containing implant, Extended postpartum, Delayed, Immediate, Implanon/Nexplanon, Uptake

INTRODUCTION

The World Health Organization has recommended a birth to pregnancy interval of 2 years.¹ About 20% of pregnancies in developing countries occur less than 2 years after the preceding one.² The burden of unintended pregnancies in developing countries is high. Close to 40% of all pregnancies in developing countries are unintended.^{3,4}

The uptake of effective contraception helps to reduce this burden and improve maternal and child health.^{5,6} Over 1.8 million unintended pregnancies could be prevented over a 5-year period with use of contraceptive implants.⁷ The postpartum period is viewed as an opportune period for uptake of contraception as new mothers make contact with health facilities. Long acting reversible contraceptives (LARC) such as the Etonorgestrel

containing implant (Implanon/Nexplanon) have been found to be safe and efficacious.^{8,9}

Data from some countries have shown that postpartum contraception constitutes a significant proportion of modern contraceptive uptake.¹⁰ Ghana has an unmet need of family planning of 30%.¹¹ There is paucity of data on the uptake of postpartum Etonorgestrel containing implant and its determinants in the sub-region. Data on postpartum Etonorgestrel containing implant uptake will be very useful information for future planning in our efforts at reducing the high unmet need for family planning.

This study therefore sought to determine the uptake of postpartum Implanon/Nexplanon as well as determinants of these insertions among women.

METHODS

This was a retrospective study that analysed extended postpartum Implanon/Nexplanon uptake at the reproductive health and family planning unit at the Korle-Bu Teaching Hospital between 2012 and 2015. Data were extracted from the Unit's data storage system that captures all procedures undertaken at the unit. Data captured included total number of Implanon/Nexplanon insertions over the period, total number of Implanon/Nexplanon uptake and socio-demographic and obstetric determinants of uptake of postpartum Etonorgestrel containing implant.

The extended postpartum period was defined as the period from delivery of baby to one year post delivery. The extended post-partum period was categorized into the immediate (0-2 days post-partum), interval (3-42 days post-partum) and delayed (43-365 days post-partum).

Statistical Analysis

The extracted data was entered into Microsoft Office Excel 2010, cleaned and then exported into the IBM Statistical Package for Social Science (SPSS) version 20. The data analysis was presented as: Descriptive statistics i.e. frequencies, means and median and tables and charts. The categorical outcomes were presented as percentages. Chi square test was performed on categorical data to test association between uptake of Implanon/Nexplanon and selected determinants. Multiple logistic regressions were used to determine any predictors of the implant uptake. In all the statistical procedure, a p-value of less than 0.05 was considered statistically significant.

RESULTS

A total of 565 postpartum Implanon/Nexplanon insertions were conducted from 2012 to 2015. Approximately 69% (391/565) of these implant insertions were done during the extended postpartum period (Figure 1).

Table 1: Socio-demographic characteristics of women who were provided with postpartum Implanon/Nexplanon at the Korle-bu teaching hospital, Accra, Ghana from 2012-2015.

Variable	Frequency (%)
Age group	N=391
<20	23 (5.9)
20-29	189 (48.3)
30-39	173 (44.2)
40 and above	6 (1.5)
Parity	N=391
P1	136 (34.8)
P2-P4	235 (60.1)
P5 and above	20 (5.1)
Abortions	N=391
0	297(76.0)
1	52 (13.3)
2	30 (7.7)
3+	12 (3.1)
Occupation	N=351
Professional	119 (33.9)
Skilled	64 (18.2)
Semi-skilled	12 (3.4)
Trader	104 (29.6)
Housewife	8 (2.3)
Student	23 (6.6)
Unemployed	21 (6.0)
Educational level	N=349
No formal education	27 (7.7)
Primary	27 (7.7)
JHS	98 (28.1)
SHS	48 (13.8)
Vocational	6 (1.7)
Tertiary	143 (41.0)
Couple involvement	N=391
Yes	7 (1.8)
No	384 (98.2)
Status	N=391
First ever	244 (62.4)
Continuing	147 (37.6)

Table 2: Timing of postpartum Implanon/Nexplanon uptake among women at the Korle-Bu Teaching Hospital, Accra, Ghana from 2012-2015.

Timing of uptake of post- partum implanon	Frequency (%)
Immediate post-partum	9 (2.3)
Interval post-partum	108 (27.6)
Delayed post-partum	274 (70.1)

The mean age of patients who had postpartum Implanon/Nexplanon insertions during the study period was 28.51±5.29 years. The median parity was 2.0 with a range of 1-9.

Majority (41%) of the patients had tertiary education and 28.1% having education up to the junior high school level (Table 1). Approximately 62% of the women were having their first ever post-partum Implanon/Nexplanon insertion (Table 1). Couple involvement for post-partum Implanon/Nexplanon insertions was only in 1.8% of the patients.

The rates of post-partum Implanon/Nexplanon intake ranged from 50% to 89.7% with the highest uptake rate occurring in 2013 (Figure 2). Almost 70% of post-partum Implanon/Nexplanon insertions were done in the delayed postpartum period with the least (2.3%) done in the immediate postpartum period (Table 2).

Table 3: Socio-demographic determinants of postpartum Implanon/Nexplanon uptake among women at the Korle-Bu teaching hospital, Accra, Ghana from 2012-2015.

Variable	Postpartum Uptake		OR (95% C.I)	AOR (95% C.I)
	Yes N=391	No N=174		
Age group				
<20	23 (5.9)	3 (1.7)	1	
20-29	189 (48.3)	76 (43.7)	0.32 (0.10-1.12)	0.24 (0.62-0.97)
30-39	173 (44.2)	80 (46.0)	0.28 (0.08-0.97)	0.20 (0.05-0.86)
40 and above	6 (1.5)	15 (8.6)	0.05 (0.01-0.24)	0.05 (0.01-0.27)
Parity				
P1	136 (34.8)	42 (24.1)	1	
P2-P4	235 (60.1)	120 (69.0)	0.61 (0.40-0.91)	0.87 (0.53-1.43)
P5 and above	20 (5.1)	12 (6.9)	0.52 (0.23-1.14)	1.71 (0.61-4.78)
Previous abortions				
	N=94	N=77		
1	52 (55.3)	40 (51.9)	1	
2	30 (31.9)	23 (29.9)	1.00 (0.51-1.98)	*
3+	12 (12.8)	14 (18.2)	0.66 (0.28-1.58)	*
Occupation				
	N=351	N=171		
Professional	119 (33.9)	32 (18.7)	2.30 (1.04-5.09)	2.36 (0.85-6.55)
Skilled	64 (18.2)	35 (20.5)	1.13 (0.51-2.53)	1.37 (0.56-3.38)
Semi-skilled	12 (3.4)	10 (5.8)	0.74 (0.25-2.20)	0.87 (0.26-2.87)
Trader	104 (29.6)	71 (41.5)	0.91 (0.43-1.93)	1.28 (0.54-3.04)
Housewife	8 (2.3)	4 (2.3)	1.24 (0.31-4.95)	0.90 (0.20-4.04)
Student	23 (6.6)	6 (3.5)	2.37 (0.76-7.37)	1.23 (0.34-4.46)
Unemployed	21 (6.0)	13 (7.6)	1	
Educational level				
	N=349	N=169		
No formal education	27 (7.7)	12 (7.1)	1	
Primary	27 (7.7)	19 (11.2)	0.63 (0.26-1.55)	0.70 (0.27-1.83)
JHS	98 (28.1)	61 (36.1)	0.71 (0.34-1.51)	0.74 (0.33-1.67)
SHS	48 (13.8)	30 (17.8)	0.71 (0.31-1.61)	0.74 (0.30-1.78)
Vocational	6 (1.7)	3 (1.8)	0.89 (0.19-4.16)	1.05 (0.21-5.24)
Tertiary	143 (41.0)	44 (26.0)	1.44 (0.68-3.09)	1.25 (0.47-3.29)
Couple involvement				
	N=391	N=174		
Yes	7 (1.8)	2 (1.1)	1.57 (0.32-7.62)	1.26 (0.24-6.62)
No	384 (98.2)	172 (98.9)	1	
Status				
	N=391	N=174		
First ever	244 (62.4)	74 (42.5)	1	
Continuing	147 (37.6)	100 (57.5)	0.45 (0.31-0.64)	0.55 (0.37-0.82)

Age and Implanon/Nexplanon insertion status (first time ever or continuing) were significant determinants of post-partum Implanon/Nexplanon insertions. Compared to women less than 20 years of age, women in the age group 20-29 were 76% less likely to have post-partum

Implanon/Nexplanon insertions done. Continuing users of Implanon/Nexplanon were 45% less likely to have post-partum implant insertions done compared to first ever postpartum implant inserters (Table 3).

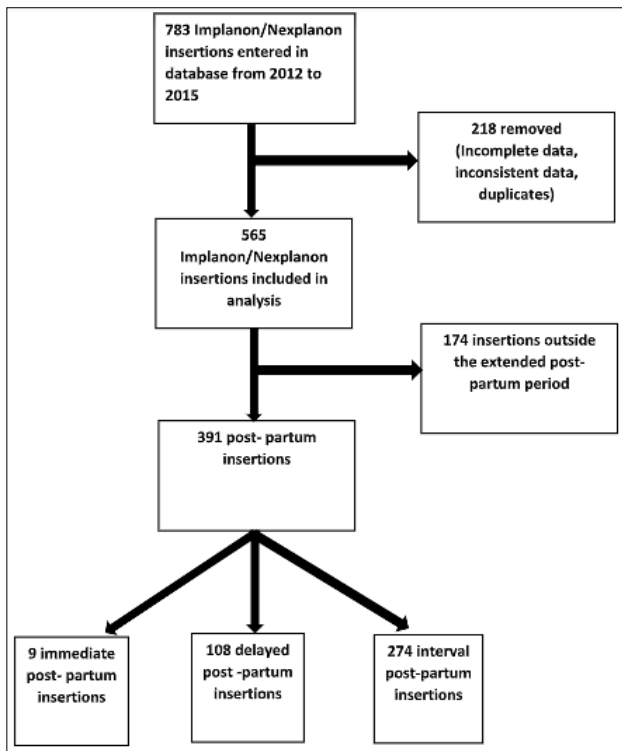


Figure 1: Flow chart.

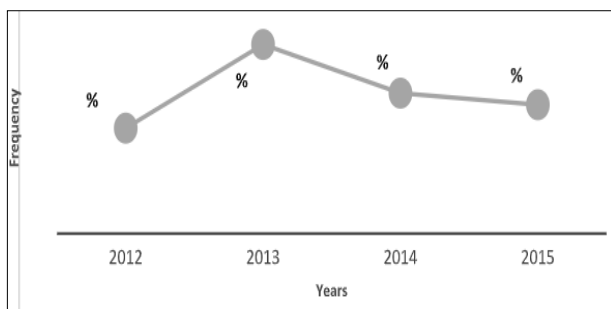


Figure 2: Postpartum implanon/Nexplanon uptake rates among women between 2012-2015 at Korle-Bu teaching hospital, Accra, Ghana.

DISCUSSION

Approximately 69% of postpartum Implanon/Nexplanon insertions were done during the extended postpartum period. The rates of postpartum Implanon/Nexplanon intake ranged from 50% to 89.7% with the highest uptake rate occurring in 2013. Almost 70% of post-partum Implanon/Nexplanon insertions were done in the delayed postpartum period with the least (2.3%) done in the immediate post-partum period. Age and implant insertion status (first time ever or continuing) were significant determinants of postpartum implant insertions.

Immediate postpartum Implanon/Nexplanon use has not been found to have any deleterious health effects on the mother or baby.^{8,9} It has also been associated with long term continuation rates and less cost.^{12,13} In a

retrospective cohort study by Ireland et al, postpartum uptake of implanon during the immediate, delayed and interval period were 62.6%, 11.8% and 25.6% respectively.¹⁴ This finding is contrary to findings in our study where only 2.3% of postpartum Implanon/Nexplanon uptakes were in the immediate period. The reason for this could be due to poor counselling for post-partum implant use at the time. This constitutes a missed opportunity for women who will still be at the hospital and in touch with healthcare givers to take up Implanon/Nexplanon since the subsequent postpartum visits cannot be guaranteed. With the situation in Korle-Bu now, over the past 4 years, trained family planning midwives visit the post-partum wards to counsel women on contraception including postpartum implant use which can be delivered on site, this trend may improve in the near future. Bryant et al showed that with adequate provision of postpartum Implanon, the immediate postpartum Implanon is more likely to be accessed compared to the delayed.¹⁵

Concerning the determinants of uptake of postpartum Implanon/Nexplanon, teenagers were more likely to use postpartum Implant compared to other age groups. This is encouraging as it helps to prevent rapid repeat pregnancies among adolescents as reported in other studies.^{16,17} Postpartum Implanon use has been reported to be well accepted among adolescents.¹⁶⁻¹⁸ Though couple involvement was associated with about a quarter more uptake of postpartum Implanon/Nexplanon uptake this was not a significant finding in this study. This finding is similar to reports from other studies that partner involvement is important for uptake of modern contraception.^{19,20}

Continuing users of Implanon/Nexplanon were 45% less likely to take up postpartum implant. This was a significant finding in this study. Previous experiences such as abnormal irregular bleeding while on implant may be the reason for this observation underscoring the need to counsel women thoroughly about what to expect when contraceptive methods are chosen. This finding is in contrast to another study where it was observed that subdermal implants in general have a high satisfaction uptake rates as well as continuation rates.²¹ This study however did not look specifically at this postpartum Implanon subgroup.

The highest uptake of postpartum Implanon/Nexplanon was in 2013 because a training workshop held in that year for healthcare givers on the Etonorgestrel insertions and removals with free insertions done during the period of the training. Cost of Implanon/Nexplanon therefore may be an inhibition to the uptake of these highly effective long acting reversible contraceptives.

CONCLUSION

There is a high uptake of postpartum Implanon/Nexplanon among patients who receive Implant

insertions at the Korle-Bu Teaching Hospital. There is the need to educate women and couples on the benefits and side effects of immediate postpartum Implant insertion to avoid rapid repeat pregnancies.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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