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■ Original Research Article

Awareness and Uptake of Immediate Postpartum Long-Acting Reversible Contraception Among Women in Northern Nigeria

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ABSTRACT

Background: The postpartum period is a vulnerable period for women for unintended pregnancies and also an ideal time to start highly effective contraception in order to prevent unintended pregnancy and achieve appropriate childbirth spacing. **Aim and Objectives:** To determine the awareness, level of uptake of immediate postpartum long-acting reversible contraception (IPP LARC) and factors affecting their uptake in Ahmadu Bello University Teaching Hospital, Zaria. **Method:** A cross sectional study conducted within three months on 123 women, recruited from the reproductive health, antenatal and postnatal clinics of the hospital. The data was collected using a semi-structured interviewer administered questionnaire and analysed using the statistical package for social sciences (SPSS version 25.0), Chi-square test was used to test for significant association between variables, with the level of significance set at $P < 0.05$ and the results were presented using tables and charts. **Results:** All the women were aware of contraception however only 32.5% had heard of any form of immediate postpartum contraception and only 20.3% had heard of IPP LARC. Implants were the commonly known IPP LARC (17.9%) and only 4.1% knew IPP IUCD. Only 6.5% had used contraception within 6 weeks postpartum and only 1.6% had used IPP LARC despite 21.1% having resumed menses within 6 weeks. There was an association between awareness and uptake of IPP LARC ($P = 0.005$). The intended acceptability rate for IPP LARC in women that had never used was 62% and the common reasons for non-utilization were lack of awareness (56.9%), fear of side effects (26%), ignorance about availability of the service in the hospital (24.4%) and husbands' disapproval (11.4%). **Conclusion:** Awareness and uptake of IPP LARC was low despite the good awareness and uptake of contraception in general. Reasons for the poor uptake include lack of awareness, ignorance about the availability of the service in the facility, fear of side effects and husbands' disapproval. This makes it pertinent that couple targeted postpartum contraception counselling be included in routine contraception counselling.

Keywords: Immediate Postpartum Contraception, Long-Acting Reversible Contraception, Implant, Intrauterine Contraceptive Device

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INTRODUCTION

The use of highly effective contraception is important in preventing unintended pregnancy and achieving appropriate child birth spacing.[1] Global stabilization of population also depends on successful utilization of contraception services.[2] Family planning which forms one of the pillars of safe motherhood enables people to attain their desired number of children and determine the spacing of pregnancies in order to reduce maternal morbidity and mortality in developing countries.[2] It also improves child survival by increasing inter birth interval and lowering sibling competition for maternal and family resources.[3]

Globally, utilization of modern contraception rose slightly from 54% in 1990 to 57.4% in 2015, however utilization rates are still low in Sub-Saharan Africa compared to other regions like Asia and America.[4] Currently, the global contraceptive prevalence stands at 64%, with Africa lagging behind at 33.4%[2] and Nigeria far below with a 16.6% prevalence rate.[5] Additionally, the unmet needs is higher in Africa (24.2%) with that of Nigeria being 18.9% compared to Asia and Latin America and the Caribbean regions with relatively high contraceptive prevalence where the levels of unmet need are 10.2 % and 10.7% respectively.[4,5]

In Nigeria, the contraceptive prevalence rate is currently 16.6% with the modern form of contraception prevalence being 12% and long acting reversible contraception rate being 4.2% (3.4% for implants and 0.8% for intrauterine devices).[5] North western Nigeria has the lowest contraceptive prevalence of 6.8% in Nigeria with that of Kaduna state being higher than the regions prevalence at 14.9%.[5] As at 2018, the total demand for family planning in Nigeria is 35.5% with unmet needs of 18.9%, which has increased from 31% and 16% respectively in 2013.[5]

According to the World Health Organization (WHO), women in the postpartum period are among groups of individuals with the highest unmet needs, averaging 61%.[6,7] Others include; Adolescents, Migrants, Urban slum dwellers and Refugees.[7] The postpartum period is a vulnerable period for women not intending to get pregnant with studies reporting pregnancy rates ranging between 6 to 44%.[6,8,9] The timing for the return of fertility after child birth is variable and unpredictable as women can become pregnant even before the return of menses.[10] Consequently, short inter pregnancy intervals are associated with adverse obstetric and neonatal outcomes including preterm births, low birth weight and small for gestational age.[11] Therefore, the postpartum period is an ideal time to start contraception because motivation to adopt contraception is usually high and the timing is convenient for both the client and the provider.[6]

In this regard, the most effective reversible methods of contraception are intrauterine contraceptive devices (IUCD) and contraceptive implants with extremely low failure rates and unlike other methods, they are user independent, cost effective, and offer a quick return of fertility after discontinuation.[10,12-15.] Additionally, these methods are relatively safe in the postpartum period as they do not interfere with breastfeeding.[10,16] The services of a health care provider is also needed for their removal and so continuation rates and pregnancy prevention are high.[10,12] As the WHO recommendation for inter birth interval is at least 2 years, these long-acting reversible contraceptive (LARC) methods are very suitable for use in the immediate postpartum (IPP) period.[10]

Immediate postpartum LARC is defined by the American College of Obstetrics and Gynecologists (ACOG), as placement of LARC prior to hospital discharge.[17] It is supported by various organizations including the Center for Disease Control and Prevention and the American Academy of Pediatrics.[11] Implants may be inserted in the delivery room or at any other time during the woman's stay in the postpartum unit before hospital discharge while best practice for immediate postpartum IUCD insertion is to place the IUCD in the delivery room, within 10 minutes of placental delivery in vaginal and caesarean births or up to 48 hours post-delivery.[17,18]

According to the WHO Medical eligibility criteria, insertion of Copper IUCD within 48 hours of delivery is 1 (Use the method in any circumstance) while that of LNG-IUS is 1 without breast feeding and 2 (Generally use the method) if breastfeeding. That of implant is 2.[19] Generally, contraindications to IUCD insertion include active or current tubal infection or pelvic tuberculosis and sexually transmitted infections, unexplained abnormal vaginal bleeding, abnormal anatomy of the uterus and cervical cancer, while contraindications to inserting a postpartum IUCD include prolonged rupture of membrane, postpartum haemorrhage and sepsis.[10,19] Breast cancer is a contraindication for insertion of implants.[10,19]

Side effects associated with IUCD include; uterine perforation (1:1000), expulsion of IUCD, heavy menses with copper IUCD usually within the first 3 months and irregular spotting and bleeding for LNG-IUS usually within the first 6 weeks followed by light menses and sometimes ammenorrhoea.[10,17]

Expulsion rates for immediate postpartum IUCD insertions are higher than for interval or post abortion insertions and it can be as high as 10–27%.[10,17] The side effects of implant include irregular bleeding and ammenorhoea.[10]

Postpartum Family Planning (PPFP) should be discussed at every opportunity including the antenatal clinic, labour and post-natal wards.[10] In the antenatal clinic, the information about all PPFP options should be given, making emphasis on the benefits of PPFP and particularly those of IUCD and implants should be highlighted.[10] The opportunity to ask questions about contraception at every visit should be provided and the method chosen should be documented in the appropriate case record so that it can be provided as soon as possible after childbirth.[10] Women in the labour ward should be asked whether they have received contraceptive advice during antenatal and the method chosen should be confirmed and then provided unless complications during pregnancy or delivery indicate the need for review. Contraception should however not be discussed with a woman who is in active labour.[10] For women who have not had the chance to discuss contraception before delivery, it should be discussed with her in the post-natal ward before she leaves the hospital and her chosen method should be provided.[10] Catch up counselling and provision of contraception can be done in the postnatal and immunization clinic for women that have not chosen or are not using any form of contraception.[10]

This study was embarked on because globally, unintended pregnancy contributes significantly to maternal morbidity and mortality, especially in low and middle income settings.[12,20] Studies show that about 95% of women who are zero to twelve months postpartum want to avoid pregnancy in the next two years, but 70% of them are not using contraception.[21] Pregnancies in the postpartum period pose the greatest risk for women and their infants, and have increased risks of adverse health outcomes.[21] Furthermore, there are few studies regarding immediate postpartum long acting reversible contraception and factors affecting its uptake in Nigeria, especially in North western Nigeria. Hence, this study sought to assess the pattern of immediate postpartum long-acting reversible contraception (IPP LARC) use among women in Ahmadu Bello University Teaching Hospital (ABUTH), Zaria. Specifically, the awareness, level of uptake, benefits and side effects as well as factors affecting the uptake of IPP LARC were studied.

METHODOLOGY

Study Design

It was a descriptive cross-sectional study that was conducted between 4th December 2020 to 25th February 2021 in ABUTH, Zaria.

Study Population

The study population comprised of pregnant women attending the antenatal clinic and women attending the postpartum and reproductive health clinics of the hospital.

Sample Size Determination

The sample size was calculated using the formula:

$$n = \frac{Z^2pq}{d^2}$$

where n = Minimum sample size
z = standard normal variate taken as 95% confidence interval with a value of 1.96 from the z table
p = proportion of prevalence of in a previous study, 7.9% (0.079)[22]
q = 1 - p
d = 0.05, degree of precision.
Inserting values into the equation,

$$n = \frac{1.96^2 \; x \; 0.079 \; x \; (1 - 0.079)}{0.05^2}$$

n = 111.8 ~ 112.
To correct for 10% non-respondents,
112 x 0.1 = 11.2 ~ 11.
n = 123

Sampling Technique

Based on the number of women attending the various clinics monthly, the proportion of women to be sampled was calculated and a total of 85 (69%) women were recruited from the antenatal clinic, 24 (19%) from the reproductive health clinic and 14 (12%) from the postnatal clinic to get the minimum sample size of 123 (100%). The women in each clinic were then recruited via a systematic random sampling technique.

Data Collection

The Data was collected with the aid of a semi-structured, pretested interviewer administered questionnaire. The interviewers included the researchers and trained research assistants (residents and nurses) at the reproductive health, postnatal and antenatal clinics.

Data Analysis

The statistical analysis was done using the statistical package for social sciences (SPSS version 25.0). Test of association was done using Chi-square, with the level of significance set at $P < 0.05$. The data was presented using tables and charts.

Ethical Consideration

Ethical clearance was obtained from the hospital's ethical committee. Informed verbal consent was obtained from the respondents in English language and in the local language of Hausa for those who do not understand English.

RESULTS

A total of 123 women were interviewed and the socio-demographic characteristics (Table 1) revealed that most of the respondents were aged between 25 and 34 years, 72 (58.5%) with a mean age of 31 ± 6.15 years. All were married and were mostly civil servants, 32 (26%) and businesswomen, 31 (25.2%) while 75 (61%) had attained tertiary education.

Most of the women were multiparas, 92 (74.8%) and only 31 (25.2%) were primiparas, while 47 (38.2%) of the women had their last childbirth less than 2 years prior to the study. Most, 116 (94.3%) had a live birth in their last delivery and almost all, 121 (98.4%) had at least one child alive. More than half, 74 (60.2%) of the women had their menses return within 6 months of delivery while majority, 106 (86.2%) had an had an average inter-birth interval of at least 2 years as depicted in Table 2.

All the women had heard of contraception, however, only 40 (32.5%) had heard of any form of immediate postpartum contraception (IPPC) and only 25 (20.3%) had heard of IPP LARC. Implants 22 (17.9%) were the commonly known IPP LARC amongst the women while only 5 (4.1%) of them knew about IPP IUCD. Other forms of IPPC known to the women were progesterone only pills, barrier contraception and sterilization (figure 1). Health workers were the commonest source of information about IPPC in (68.3%) of the women followed by friends (26.8%), media (22%) and family (17.1%).

Table 1: Socio-Demographic Characteristics of Study Participants

Variable	Frequency (%)
Age (in years)	
15 – 24	14 (11.4)
25 – 34	72 (58.5)
35 – 44	34 (27.7)
45 - 54	3 (2.4)
Ethnicity	
Hausa	71 (57.7)
Yoruba	18 (14.6)
Igbo	5 (4.1)
Others	29 (23.6)
Religion	
Islam	91 (74)
Christianity	32 (26)
Occupation	
Unemployed	19 (15.5)
Student	18 (14.6)
Civil servant	32 (26)
Business woman	31 (25.2)
Teacher	9 (7.3)
Others	14 (11.4)
Marital Status	
Married	123 (100)
Level of education	
Islamic	3 (2.4)
Primary	14 (11.4)
Secondary	31 (25.2)
Tertiary	75 (61)

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There was a statistically significant association between level of education and occupation with awareness of IPP LARC at $P < 0.05$. There was however no association between other socio-demographic characteristics and reproductive profile with awareness of IPP LARC. (Table 3 and 4)

More than half of the women had used at least one form of modern contraception, however only 6.5% had ever used contraception within 6 weeks postpartum, of which only 1.6% of them had used IPPC (figure 2). All the respondents that had used IPPC, used LARC comprising of Implants and IUCD with equal distribution (1:1). There was a statistical significance between awareness of IPP LARC and uptake of IPPC LARC at $P = 0.005$ (Table 5).

Table 2: Reproductive Profile of The Study Participants

Variable	Frequency (%)
Parity	
1	31 (25.2)
2 - 4	63 (51.2)
□ □	29 (23.6)
Live births	
1	33 (26.8)
2	32 (26)
3	21 (17.1)
□ □	37 (30.1)
Last Child Birth	
< 12 months	21 (17.1)
12 - 23 months	26 (21.1)
24 - 35 months	35 (28.5)
□ □ months	41 (33.3)
Outcome of LCB	
Live birth	116 (93.4)
Still birth	7 (5.7)
Number of Children alive	
0	2 (1.6)
1	38 (31)
2	31 (25.2)
3	18 (14.6)
□ □	34 (27.6)
Average Inter-birth interval	
Not applicable	3 (2.4)
< 2 years	14 (11.4)
□ □ □	106 (86.2)
Duration before return of menses after last delivery	9 (7.3)
Yet to resume	26 (21.1)
< 6 weeks	48 (39.1)
6 weeks - 6 months	26 (21.1)
> 6 months ↔ 12 months	14 (11.4)
> 12 months	

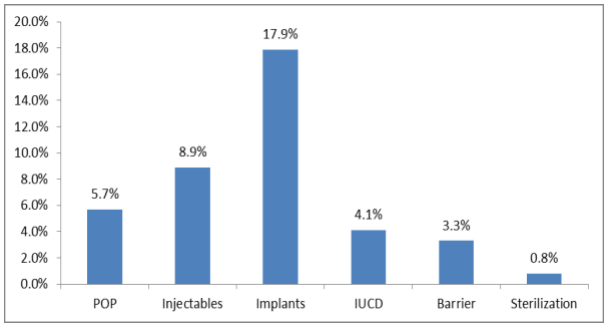

Figure 1: A bar chart showing the awareness of different immediate postpartum contraception (POP = Progesterone-only Pills, IUCD = Intrauterine Contraceptive Device)

Table 3. Association Between Socio-Demographic Characteristics and Awareness of IPP LARC Among the Study Participants

Variable	Aware of IPP LARC	Not aware of IPP LARC	X^2, df, *P*
Age (in years)			
15 ↔ 24	3	11	
25 ↔ 34	15	57	22.2, 27, 0.729
35 ↔ 44	6	28	
□ □	1	2	
Ethnicity			
Hausa	12	59	
Yoruba	4	14	23.9, 24, 0.468
Igbo	1	4	
Others	8	21	
Occupation			
Unemployed	2	17	
Student	4	14	
Civil servant	12	20	24.9, 12, 0.015
Businesswoman	4	27	
Teacher	0	9	
Others	3	11	
Level of education			
Islamic	2	1	
Primary	0	14	9.8, 3, 0.012
Secondary	4	27	
Tertiary	19	56	

Table 4: Association Between Reproductive Profile and Awareness of IPPC LARC Among The Study Participants

Variable	Aware of IPPC LARC	Not aware of IPPC LARC	X^2, df, *P*
Parity			
1	10	21	
2 - 4	11	52	6.8, 9, 0.663
□ □	4	25	
Live births			
1	12	21	
2	5	27	11.2, 9, 0.265
3	1	20	
□ 4	7	30	
Outcome of LCB			
Live birth	24	92	0.17, 1, 0.683
Still birth	1	6	
Number of Children alive			
0	1	1	
1	13	25	
2	4	27	10.7, 10, 0.380
3	2	16	
□ □	5	29	
Average Inter-birth interval			
Not applicable	0	3	
< 2 years	5	9	15.1, 18, 0.656
□ □ □	20	86	
Duration before return of menses after last delivery			
Yet to resume	1	8	
< 6 weeks	2	24	
6 weeks - 6 months	12	36	35.6, 24, 0.060
> 6 months ↔ 12 months	6	20	
> 12 months	4	10	

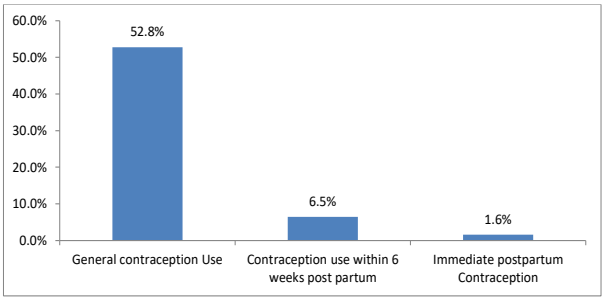

Figure 2: A Bar Chart Comparing the Contraception Usage at Different Times

The main identified benefit was frequent sexual intercourse without fear of pregnancy in the two women that had used LARC while one of them found it to be convenient after birth, safe in breastfeeding, very effective, of fewer complications and had an early return to sexual intercourse after birth. The woman who had the IPP IUCD had had it for 3 years and was still using it. She however stated heavy bleeding as the side effect experienced. Whereas the only woman that used the immediate postpartum implant discontinued after 3 weeks because of irregular bleeding.

More than half of the women (62%) that had never utilized immediate postpartum LARC were willing to accept it if offered to them and the reason that was mostly identified by the women for the non-utilization of IPPC LARC was lack of awareness (56.9%). The fear of side effects (26%), being unaware of the service being offered in the hospital (24.4%) and husbands' disapproval (11.4%) were among other main reasons for non-utilization as shown in Table 6.

Table 5: Association Between Awareness and Utilisation of IPP LARC Among the Study Participants

Utilization of IPP LARC	**Awareness of IPP LARC**	
	Yes	**No**
Yes	2	0
No	23	98
X^2, df, P	7.97, 1, 0.005	

There was no statistically significant association between socio-demographic characteristics and reproductive profile with willingness to accept IPP LARC.

Table 6: The Reasons for The Non-Utilization of IPPC LARC Among Study Participants

Barriers	**Frequency (%)**
Lack of awareness of IPPC LARC	70 (56.9)
Home deliveries	4 (3.3)
Unaware of the service being offered in the hospital	30 (24.4)
Husband's disapproval	14 (11.4)
Scared of effects on breastfeeding	10 (8.1)
Scared of side effects	32 (26)
Long periods of abstinence after delivery	9 (7.3)
Religious factors	2 (1.6)
Cultural factors	1 (0.8)
Background subfertility and fear of delay in return of fertility	6 (4.9)
Misinformation about IPPC LARC	1 (0.8)
Lactational Amenorrhea	3 (2.4)
Preference for natural methods	3 (2.4)

DISCUSSION

The study revealed that the overall awareness of IPPC (32.5%) and IPP LARC (20.3%) was low. Though one would expect a higher level of awareness given the fact that all the women were aware of contraception in general, the fact that the study was hospital based, and done in specialized clinics where counselling on contraception are routinely done. There was however an association between level of education and occupation with awareness of IPP LARC as more than half of the women had attained tertiary education (60.97%) and were mainly civil servants (26%) and businesswomen (25.2%). The awareness of IPPC was higher than the finding in Port-Harcourt (24.72%) which was also a hospital-based study although limited to pregnant women.[22]

Similarly, though 52.8% had practiced contraception in general, only 6.5% had used contraception within 6 weeks postpartum and only 1.6% had practiced immediate postpartum contraception despite the fact that 21.1% had resumed menses within 6 weeks postpartum. This is expected seeing as the awareness of IPPC was low in the women. These rates are lower than that found in Pakistan and Nairobi where 27.3% and 49% of the women had utilized contraception in the postpartum period.[23,24] Also lower than postpartum contraception uptake in several Nigerian studies including Enugu (14.7%),[25] and Ibadan (20.7%) where 24.6% had also resumed menses.[26] This may be explained by the fact that contraception prevalence is generally higher in these regions and also, the studies in Pakistan and Nairobi also assessed contraception usage in the extended postpartum period, exploring uptake up to 1 year after delivery.

Despite the fact that Pakistan had a higher level of postpartum contraception uptake, the rates of postpartum IUCD and Implant were very low, being 4.8% and 3.1% respectively, comparable to that found in this study of (0.8%) for both immediate postpartum IUCD and implants and (2.4%) for postpartum implants in general.[23] There was a significant association between awareness and utilization of IPP LARC which suggests that with increased awareness, the uptake of IPP LARC will likely increase. Compared with studies in other parts of Nigeria, the uptake rate of IPP IUCD is much lower in this study (0.8%) with uptake rates of 41% and 29.4% in South-East, South-South and South-West respectively.[3,6] This may be explained by the fact that these regions generally have higher contraception prevalence than Northwest and also the studies assessed uptake rates after proper counselling of the women. Likewise, in this study, 62% of the women that had never utilized IPP LARC were willing to accept it after adequate counselling, which is lower than the intended acceptability of IPPC in Port Harcourt, South-South Nigeria (76.01%).[22] There was also no significant association between socio-demographic characteristics and reproductive profile with willingness to accept immediate postpartum LARC, which also suggests that with appropriate education and counselling, uptake rates for IPP LARC may increase.

The benefits experienced, side effects, discontinuation and reasons for discontinuations could not be properly explored and compared with other studies seeing the very low rates of uptake of immediate postpartum LARC. However, the most common cause of discontinuing LARC in India was abnormal bleeding which was the same reason for discontinuing the IPP Implant in this study.[15]

The uptake of contraception generally in Nigeria is faced with challenges; therefore, exploring the possible reasons that could affect the uptake of IPP LARC in this study identified lack of awareness of IPP LARC, fear of side effects, lack of knowledge of the service being offered in the hospital of delivery and husbands' disapproval as the main reasons. This is similar to the barriers to uptake of postpartum contraception identified in Jos, North-Central Nigeria, including desire for further child bearing, fear of side effects and spousal refusal.[27] This finding suggests the need for inclusion of continuous counselling on postpartum contraception in general contraception counselling for couples and also at every opportunity including the antenatal clinic, labour ward and post-natal clinics as recommended by the RCOG.[10] There is also a need to increase awareness through various forms of media.

CONCLUSION

This study showed that awareness and uptake of IPP LARC and postpartum contraception in general is low despite the good awareness and uptake of contraception in general. There was also an association between awareness and utilization of immediate postpartum LARC. The most identified reason for the poor uptake being lack of awareness, ignorance about the availability of the service in the facility, fear of side effects and husbands' disapproval. It is therefore pertinent that postpartum contraception counselling be included in routine contraception counselling and it should be targeted at the couple and not the women alone seeing that husbands' approval was important in decision making.

Recommendations

There is a need to improve on the already existing counselling and education on contraception done at different service points in the hospital and to include immediate postpartum contraception. It is also pertinent that the women be made aware that they can be offered this beneficial service in this facility. It is recommended that health care workers especially Nurses stationed at the labour ward and Doctors in the department of Obstetrics and Gynaecology be trained on immediate postpartum contraception counselling and insertion techniques in order to avoid missed opportunities after delivery and for postpartum women to be able to benefit from an all-encompassing care after delivery. It is also recommended that the delivery suite should have available, these contraceptive methods to ease accessibility for women that may want to benefit from this service. Public awareness in communities can be increased by liaising with community extension workers and community leaders. This will also aid in reaching the male population of the community.

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