PATTERN OF INTER-PREGNANCY INTERVAL AND ITS DETERMINANTS AMONG WOMEN IN OGBOMOSO – AN INDICATOR FOR EARLY CONTRACEPTIVE UPTAKE

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ABSTRACT

Background: The interpregnancy interval (IPI) has been viewed by many as an important and modifiable risk factor for adverse birth outcomes

Objective: This study aims to determine the inter-pregnancy interval (IPI) among multiparous women who exhibit contraceptive use awareness and how this influences the IPI.

Methodology: This study is a cross-sectional descriptive study carried out among consenting women, with at least 3 parous experiences regardless of the outcome and resident in Ogbomoso. A structured interviewer-administered questionnaire was employed in interviewing the participants.

Results: A total of 288 participants aged 19-56 years with a mean age of 37.82 ± 10.87 years, median of 35 years were recruited. The number of children per each respondent ranged between two to six with an average of 3.364 ± 2.12 children per woman. On average, the women had their first child at 23.89 ± 4.95 years. Majority (92%) of the respondents had vaginal delivery while 6.9% had Caesarean delivery but a small fraction (1.1%) had instrumental vaginal delivery. The mean first inter-pregnancy interval (IPI_1) of the respondents was 30 ± 1.393 months while the mean second inter-pregnancy interval (IPI_2) was 40 ± 2.034 months. The inter-pregnancy interval was significantly related to the family income ($p=0.025$), educational status of the participants ($p=0.01$) and that of their husband ($p=0.026$) but not related to the participants' age ($p=0.243$), occupation ($p=0.808$), marital status ($p=0.953$) and the husband occupation ($p=0.956$). The contraceptive awareness showed that 85.4% of the respondents were aware of family planning and 14.6% were not. Of those that were aware, the contraceptive uptake was 14.9% and 23.6% after the first and 2nd pregnancy respectively.

Conclusion: The inter-pregnancy interval was related to the family income, educational status of women and their husbands as well as influenced by contraceptive uptake.

KEYWORDS: Contraceptive, Delivery: Interpregnancy Interval; Parous

INTRODUCTION

The interpregnancy interval (IPI) has been viewed by many as an important and modifiable risk factor for adverse birth outcomes. (Conde-Angudelo A et. al (2006), Zhu BP (2005), Shachar BZ and Lyell DJ (2012)) The incidences of preterm birth, small for gestational age, preeclampsia and low birth weight have each been shown to have a relation with the time interval between pregnancies. (Conde-Angudelo A et. Al (2006), Zhu BP (2005)) Typically, short intervals (< 18 months

between previous birth and subsequent conception) and long intervals (>23 months) have a higher risk of these poor birth outcomes compared with intermediate intervals of 18-23 months. (Conde-Angudelo A et. Al 2006, Zhu BP 2005, Grisaru-Granovsky S et. al (2009)) This was the reason prevention of short IPI was made a public health priority in the United States, (Gemill A and Duberstein LL (2013)) specifically, the 2020 Healthy People objectives call for a 10% reduction of pregnancies that occur within 18 months of a previous birth. (US Department of Health and Human Services, (2020))

Interpregnancy interval (IPI) is defined as the time (in months) between the previous live birth and conception of the index pregnancy. (Fuentes-Afflick E and Hassol NA. (2000)) Health care practitioners generally advise couples to adequately space their births so as to allow the body system recover from the stress of pregnancy. Adequate IPIs impact positively on the economic conditions of households, a good way for couples to achieve this is with effective use of contraception.

The Nigeria National Demographic and Reproductive Health Survey shows that 39% of non-first births has an IPI of 36 months with the average IPI pegged at 31.7 months. It also showed that birth spacing of at least 24 months reduces infant death. The higher the IPI, the lower the perinatal mortality rate as evidenced by an infant mortality rate of 52 for IPI less than 15 months and 36 for IPI between 15-26 months. (National Population Commission (Nigeria) and ICF International. 2014)

Aim

To determine the interpregnancy interval among multiparous women who exhibit contraceptive use awareness and how this influences the interpregnancy interval.

METHODOLOGY

Study Area

Ogbomoso, Oyo State, Southwest Nigeria, with a population of approximately 1.2 million

Study Design

This study is a cross-sectional descriptive study

Study Population

Among consented women, with at least 3 parous experiences regardless of the outcome

Instrument of Survey

A structured interviewer-administered questionnaire was employed in interviewing the respondents.

Data Management

Obtained data were analyzed using (SPSS) version 21

Ethical Consideration

Participation is voluntary, all information gathered was kept confidential, data obtained from the study was stored in my personal passworded computer. Ethical clearance was obtained from the ethical committee of LTH Ogbomoso. Written informed consents were obtained from the Participants.

RESULTS

In total, 288 eligible women were enrolled into the study. The mean age of these respondents were 37.82± 10.87 years with a median of 35 years. Majority of the respondents (72.6%) were Yorubas while 19.8% were Igbos. The remaining 7.6% of the study population were Hausas and other tribes such as Tivs and Urhobos. 57.3% of the respondents are Christians while 41.1% are Muslims and only 1.7% practice Traditional religion.

Almost half of the studied population (49.3%) had at least secondary education, 29.2% constitute those who have advanced formal education. However, 11.1% of the respondents have only primary education, while 10.4% had no formal education. Majority of the respondents were married (85.8%), 8.7% of them were widowed and 5.6% were either separated from their partners or divorced. More than half (56.9%) were traders, 25% were applicants, 12.5% were professionals (teachers, doctors, accountants etc), 2.8% were artisans and 2.7% were undergraduates.

About 46.5% of husbands of respondents had at least secondary education, 23.3% had tertiary education, 21.2% had primary education and only 9% had no formal education. Also, their occupational distribution showed that 25.3% are in the skilled workforce, 64.3% are semi-skilled and the remaining 10.4% are unskilled and unemployed.

The monthly joint household income of the majority of the respondents (41%) was below the National workforce minimum allowance of N18,000, 19.4%- N 18,000, 32.6% it is between N18,000- 50,000 and only 6.9% had above N50,000(Table 1).

Table 1: Sociodemographic Characteristics

Characteristics	Number (n=288)	Percentage (%)
Age (Grouped)		
19-29 yrs	95	32.99
30-39 yrs	110	38.19
40-49 yrs	83	28.82
Religion		
Christianity	165	57.3
Islam	118	41.0
Traditionalism	5	1.7
Educational Status		
None	30	10.4
Primary	32	11.1
Secondary	142	49.3
Tertiary	84	29.2
Occupation		
Applicant	72	25
Artisan	9	2.8
Student	7	2.7
Trader	164	12.5
Professional	36	56.9
Marital Status		
Married	247	85.8
Widowed	25	8.7
Divorced/separated	16	5.6
Husband's Education		
None	26	9
Primary	61	21.2

Secondary	134	46.5
Tertiary	67	23.3
Income		
<18,000	118	41.0
18,000	56	19.4
18,000-50,000	94	32.6
>50,000	20	6.9

The mean ages at 1st, 2nd and 3rd pregnancies were 23.89±4.95 years, 26.57 ±4.87 years, 30.03±4.91 years respectively, giving medians of 23 years, 25 years and 29 years respectively.

The number of children each respondent had ranged from 2-6 with an average of 3.364±2.12 children per woman. Majority (92%) of the respondents had spontaneous vaginal delivery while 6.9% had Caesarean section for both maternal and fetal indications. A small fraction (1.1%) had instrumental vaginal delivery. The mean first inter-pregnancy interval (IPI_1) of the respondents is 30 ±1.393 months while the mean second inter-pregnancy interval (IPI_2) is 40±2.034 months.

Table 2: Cross-Tabulation Of Interpregnancy Interval With Various Characteristics Of Respondents

Characteristics	Degree of Freedom df	Chi-square	p-value
Age(grouped)	3	4.174	0.243
Marital status	2	0.096	0.953
Educational status	3	11.271	0.010*
Occupation	5	2.289	0.808
Educ. Status of husband	3	9.304	0.026*
Occupation of husband	3	0.322	0.9 56
Family income	3	9.354	0.025*
P significant < 0.05			

The inter-pregnancy interval was significantly related to the family income (p=0.025), educational status of the participants (p=0.01) and that of their husband (p=0.026) but not related to the participants age (p=0.243), occupation (p=0.808), marital status (p=0.953) and the husband occupation (p=0.956)

The average period of time intercourse was resumed after delivery was within 12 weeks of birth in 86.5% of respondents, 10.8% between 13-24 weeks and only 2.7% resumed intercourse after 24 weeks of birth. Majority 85.4%of the respondents were aware of family planning and 14.6% were not. The contraceptive uptake after the first pregnancy was 14.9%. After the 2nd pregnancy, 23.6% had some form of contraception usage.

Table 3: Contraceptive Awareness and Pattern of uptake in-between Pregnancies

Contraceptive	Frequency (n=288)	Percentage (%)
Awareness		
Yes	246	85.4
No	42	14.6
Desire for More Children		
Yes	174	60.4
No	113	39.2
Use after First Pregnancy		
Yes	43	14.9
No	245	85.1

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First Pregnancy Intentional?		
Yes	229	79.5
No	59	20.5
Use after Second Pregnancy		
Yes	68	23.6
No	220	76.4
Second Pregnancy Intentional?		
Yes	188	65.3
No	100	34.7

DISCUSSIONS

The study shows that there is some correlation between certain socio-demographic characteristics of the woman and inter-pregnancy interval. This was equally shown in the works of Nathalie Auger et al of Montreal, Canada about the impact of neighborhood clusters on inter-pregnancy interval, (Auger N et. al (2008)) though the influence was explained on the basis of marital status against educational status in their study.

According to information from 55 countries analyzed by Rasheed and Al-Dabal in Iran, the median birth interval in developing countries was about 32 months. (Rasheed P and Al-Dabal BK (2007). Rasheed P and Al-Dabal BK (2013)) This trend was also noticed in our study, where the mean first and second IPI were put at 30 months and 40 months respectively.

Owonikoko et al found out in their study that young women aged between 20-29 years postponed their IPI beyond 24 months while older women tended to have a shorter IPI. (Owonikoko KM et. al (2015)) In contrast to this, de Jonge et al observed that younger women were less likely than older women to experience shorter IPIs due to an overall shift in reproductive choices that may reflect wider changes in family planning and fertility observed globally. (De Jonge HCC (2014)) This study however revealed that there was no statistically significant difference between the maternal age and the IPI. Baschier et al had a similar finding of the non-association between maternal age and IPI due to the family planning social norms of child spacing for an average of 3 years in his study population in Yazd, Iran. (Baschier A and Hinde A (2000))

The educational status of a woman has far-reaching effects on her health-seeking behavior and her ability to understand, identify risks to her health and take steps to mitigate such risks, this study demonstrated a statistical significance between IPI and educational status. Baschier et al discovered that the higher the educational level of women is, the stronger the link to longer IPIs, as it implies better awareness. (Baschier A and Hinde A (2000)) Surprisingly, de Jonge et al found that women with higher educational attainment are more likely to have short IPI. (De Jonge HCC (2014))

Educational status of the husband was found to correlate with the IPI. Mboane et al observed that the healthcare decision-making power as a husband is a significant barrier for a woman's intent to use contraceptives, which may also imfluence the IPIs. (Mboane R and Bhatta MP (2015))

The contraceptive prevalence of southwest Nigeria (which includes Ogbomoso) was put at 24.9% according to National Demographic and Reproductive Health Survey. (National Population Commission (Nigeria) and ICF International. 2014) This study revealed lower rates after the first pregnancy with a moderate increase after the second despite remarkable contraceptive awareness of 85.4% in the respondents.

CONCLUSIONS

The inter-pregnancy interval was related to the family income, educational status of women and their husbands as well as influenced by contraceptive uptake

RECOMMENDATION

Adequate health information and reproductive education would encourage effective contraceptive uptake and better maternal and baby outcome.

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