

BIRTH INTERVAL AND SOCIO-ECONOMIC STATUS OF WOMEN IN POSTMENOPAUSAL AGE IN EKITI STATE, NIGERIA

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ABSTRACT

The study examines the interrelationships between birth interval and socioeconomic status of postmenopausal women in Ekiti state, Nigeria. Specifically, two indicators, employment history and social class - were used to measure women's socioeconomic status in relation to birth intervals. A cross-sectional survey research design was adopted to elicit information using multi-stage sampling technique. The respondents were selected from two local governments per senatorial district in Ekiti State viz; Ado Ekiti, Efon Alaaye, Ikere, Emure, Oye, and Ilejemeje LGAs, a total of 710 respondents were involved in the study. Univariate and bivariate statistics analyses were conducted on the quantitative data. The chi-square analysis reveals a significant relationships between birth interval and social class and number of years in paid employment among post-menopausal women. The study documents the significant role of birth interval in women's socioeconomic status in the study location. Consequently, the study suggests several recommendations to improve women's socioeconomic status and address birth interval issues. These include enhancing family planning education, offering flexible employment options, and encouraging spousal support for family planning decisions. Overall, the research underscores the importance of birth interval in understanding women's socioeconomic status and highlights potential avenues for policy intervention to support women's empowerment and reproductive health.

Keywords: *birth interval, postmenopausal, socioeconomic status, employment history,*

INTRODUCTION

The socioeconomic status of women has been a subject of concern globally, especially in the developing world where significant numbers of them live in abject poverty and are unable to compete with their male counterparts. Women in these societies live in low socioeconomic ladder. Women's emancipation and the issue of improving the quality of life of women generally formed a major part (Goal 6) in the United Nations' Sustainable Development Goals. Scholars have studied various causes of the perpetual stay of women at the base of the socioeconomic ladder, but not much work has looked into the relationship between parity (number of live births) and inter-birth interval (spaces in-between births), and the socioeconomic status of women. The effect of birth interval on women on the other hand has been linked with the likely consequences on the health of mother and child by many authors in medical and sociological fields (Shayan et al., 2014). The effect of parity and interval between births on the woman and the child has also been found to be a contributor their quality of life (Prick et al., 2015).

Birth interval patterns are important aspects of any reproductive plan, as they have a direct impact on mother and child health (Casterline & Odden, 2016), and it is defined as the length of time between two successive live births (Hailu & Gulte, 2016). Beginning with a live birth, the birth interval can be divided into three periods of; postpartum amenorrhoea (menstruation stops), the menstruating interval (return of menstruation), and the following period of gestation (conception) (Yohannes et al., 2011). Short birth intervals is defined as those less than 2 years which have health implications on not only the mother, but also the child (De Jonge et al., 2014), long birth intervals on the other hand is defined as those above 5 years which also have undesired health effects on mother and child (Conde-Agudelo et al., 2012). An adequate birth interval which is defined as minimum of 2years and maximum of 4years, which helps women recover from macro- and micronutrient depletion which occurs during pregnancy and lactation (Conde-Agudelo et al., 2012). Having an optimal birth interval aids future pregnancies and child health (Dhingra & Pingali, 2021). It has been estimated that if all birth-to pregnancy intervals were spaced at least 3 years (optimal interval), 1.6 million deaths of under-five would be averted annually (UNICEF, 2012). It is noteworthy that to date, no study has analyzed links between birth interval and women's socio-economic status in Nigeria. This study therefore set out to fill this gap by investigating the effects of birth interval on women's socioeconomic status. About five indicators were be

considered to measure the dimensions of women's socioeconomic status as they relate to birth intervals.

Low birth interval and high parity have implications, not only for the woman, but also for the children, spouse, the family (nuclear and extended), the society, and the nation at large. A woman frequently burdened with pregnancy and child care has lower chances of acquiring post-secondary formal education, and getting a job in the formal setting.

Various factors said to be responsible for the perpetual low socio-economic status of women in the developing countries (Okafor & Akokuwebe, 2015); including poor birth spacing, have not been duly explored. This is due to the fact that women spend greater part of their time on pregnancy and care of the new born.

BRIEF LITERATURE REVIEW

Spacing births is a critical mother and child health intervention (Kraft et al., 2014). Healthy pregnancy timing and spacing are key measures to improve newborn, child, and maternal health, according to statistics (Modiba & Kadango, 2019) (World Health Organization, 2016). International organizations' birth spacing recommendations were based on information that was available some years ago. The World Health Organization (WHO) and other international organizations have previously suggested waiting at least 2-3 years between pregnancies to prevent newborn and child mortality and improve maternal health (World Health Organization, 2016a) (Dibaba, 2010). Recent study advise that after a live delivery, the recommended time before trying to have another child is 3–5 years to lower the risk of miscarriage (Sundermann et al., 2017).

In the Africa sub-region, a study was conducted along similar lines in Rufiji, Tanzania, which revealed that the median inter-birth interval was 33.4 months. According to the same survey, 48.4 percent of respondents had an inter-birth interval that was less than the WHO-recommended minimum of 36 months (Hailu & Gulte, 2016). Similarly, an Ethiopian study found that the majority of women (57%) used a short birth interval length (three years), with a median birth spacing of 33 months (Hailu & Gulte, 2016). The average inter-birth-interval of 21.5 months obtained from a study on the drivers and factors associated with short IBI in Enugu, Nigeria, was shorter than the average number of 31 months reported by both the 2003 and 2008 Demographic Health Surveys (DHS) of Nigeria (Dim et al., 2013)..

Education and birth Interval

Researchers have shown that there exists a relationship between education and birth interval among women in their reproductive years. A study carried out in Jordan by Youssef (2005) showed that birth interval was shorter among women who did not have any formal education while it was higher among women who had secondary and tertiary education. The latter group had longer birth interval of an average of 41 months. The study also showed that the risk of subsequent live birth among women with secondary education was 0.86 times lower than those with no formal education and 0.83 times lower among women with University education (Youssef, 2005). In Ethiopia, women who had no formal education and those who had primary education were 5.28 times and 2.79 times more likely short birth interval than those who had high education (Roble et al., 2021). This was corroborated by another study carried out among multiparous women in Miesoagro-pastoralist district in Eastern Ethiopia. The Study showed that the odd of having short birth interval was lower among women with formal education than those without formal education (Wakeyo et al., 2022).

Most studies in developing countries as exemplified by facts stated above concentrated on the impact of education on inter-birth interval but the effects of inter-birth interval on educational performance and attainment of women have been given no consideration. However, in the developed countries, series of researches have been conducted in the past with focus on the outcomes of inter-birth interval on socio-economic variables like education. The results have been

mixed because some studies confirmed the long-term effects of inter-birth interval on education outcomes of women while other studies showed no significant association. But studies that used instrumental variables generally established the fact that there is an association between inter-birth interval and education outcomes for women. Summing up these facts are the words of Barclay and Smith (2022)(Barclay & Smith, 2022).

Employment and Inter-birth Interval

There is a relationship between employment status, birth interval, and parity. A study carried out in Saudi Arabia by Rasheed, & Al Dabal, (2007) revealed that women who were employed either formally or informally had higher birth interval of 3 to 5 years than those who were home makers/housewives. Increase in employment opportunity for women has changed to a great extent the pattern of maternal employment during pregnancy and many pregnant women continue to work during pregnancy and post postpartum period for different reasons like financial obligation, employment identity, self-actualization, commitment to job, escape from home among others (Rasheed & Al-Dabal, 2007). In their study in America, Youngblut, et.al (2000) found that most employed women during pregnancy were African Americans and 69.7% of them were multiparous. According to the findings of the study, cessation of employment for most women occurred mostly during the 2nd trimester due to symptoms of preterm labour (Youngblut et al., 2000). In Iran, Najafi-Vosough, et.al. (2017) revealed that employment status of women and their husbands influenced birth interval and that child birth ration for the employed was lower than that of the unemployed (Najafi-Vosough et al., 2017).

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Theoretical framework

In the study investigating the relationship between birth intervals and the socio-economic status of post-menopausal women in Ekiti State, Nigeria, both the life course theory and social stratification theory are employed. The life course theory, emphasizing the influence of early life events on future decisions and socio-economic outcomes, provides a framework to understand how women's reproductive choices intersect with their life trajectories. This theory, as proposed by scholars like Glen H. Elder, Jr., considers life as a sequence of socially defined events, shedding light on the connection between birth intervals and socio-economic status.

Similarly, social stratification theory, which examines hierarchical structures within societies based on attributes such as wealth, education, and power, contributes to the study's understanding of how birth intervals impact women's lives. By exploring dynamics related to social mobility, inequality, and resource allocation, this theory elucidates how shorter birth intervals may



influence educational attainment, income levels, and employment patterns among postmenopausal women in Ekiti State.

In tandem with the objectives of this study, the theories can be used to explain the dynamics of **Education and Birth Intervals**. According to the survey, postmenopausal women in Ekiti State are showing a good trend in their educational attainment, especially those who had fewer childbirth intervals. Because they may better control the quantity and timing of their families, women with shorter birth intervals may be more likely to pursue education, according to social stratification theory. As a result, individuals may experience an increase in social mobility as they become more employable and have greater social standing.

Secondly, **Income and Birth Intervals**. The study emphasizes how family planning strategies affect the distribution of income. Women who have shorter birth intervals can start earning money earlier. This is consistent with the hypothesis of social stratification since it shows how having access to family planning can raise income levels, which are frequently directly correlated with one's standing in the social hierarchy.

In addition, **Employment and Birth Intervals**; it has been demonstrated that women's employment position is significantly impacted by the time of childbirth. Early return to work is more common among women whose birth intervals are shorter. According to social stratification theory, these women may experience upward social mobility as long as they continue on their work paths and retain their financial independence, which will eventually affect their social position.

METHODS

This study employed the survey method; the cross-sectional survey was used to generate primary data from the samples proportional to the identified population from each of the local government areas in the three senatorial districts in Ekiti state. The local government areas are: Ado local government, Efon Alaaye local government, Ikere local government, Emure local government, Oye local government, and Ilejemeje local government. The respondents were purposively selected.

The research location for the study was South Western Nigeria, Ekiti State has been identified as having the lowest birth interval in the sub region; according to the 2018 NDHS. Birth interval in the south west Nigeria ranges from 33months (lowest in the region) in Ekiti State to 36months (highest in the region) in Lagos state (NDHS 2018). The study was therefore conducted in Ekiti State where the shortest birth-interval in the region has been recorded.

This study generated data from women within the age bracket of those who are already at the end of their child bearing lifespan (ages between 50 years and 60 years plus), these women are also referred to as postmenopausal women (who have not had their menstrual flow for one year.) and are women who have given birth to children at least more than one time. The population census of 2006 presented the total population of women in their post menopausal years as 117,285. Calculated at the 2.8 Nigerian population growth rate, the current population of post menopausal women in Ekiti State is 118, 013. The participants for the study were selected scientifically from this total number of women who are between 50 years and above, drawn from the three senatorial districts in the state. This was further broken to identifying the two local governments per senatorial district with the lowest birth interval. The total population of postmenopausal women is calculated using the 2.8 growth rate from the 2006 population census, at 118,013. Using the DIY Sample Size Calculation machine with the formula;

$$S = (z^2 (d (1 - d)) / e^2) / 1 + (z^2 (d(1 - d)) / e^2)$$

S = sample size | P = population size | z = z-score | e = margin of error | d = standard deviation=383.

The calculator assumes a standard deviation of 0.5. A total of 383 women would be the calculated participants for the study, but this shall be increased to 710 participants to give room for possible field errors. Moreover, this will move the sample closer to the total study population

in terms of representativeness. These women were selected across the three senatorial districts; from both the rural and the urban local government areas of Ekiti State. These were further distributed in ratios commensurate to senatorial, local government, and ward demarcations within the state.

The quantitative data were analyzed using both descriptive and inferential statistical techniques, and inferences drawn from the analysis were used to validate the research conceptual framework. The participants' background information was summarized using descriptive statistics, and responses of the participants related to the research constructs were analyzed using inferential statistical methods such as chi-square. In conducting this study, ethical approval was obtained from the University of Lagos Research Ethics Committee (UNILAGREC) with approval no UNILAGREC/23/05/004.

RESULTS

The study was conducted among 710 menopausal women aged 50-86 years who had at least two successive live births, in Ekiti State Nigeria. Demographic characteristics of the participants which were measured include the actual age, age at marriage, education attainment, occupation, religion, marital status, ethnic background and place of residence of the participants among others. From the results, the women in the study were aged between 50 and 86 years, with an average age of 56.50 (SD=6.869), meaning the sample represents post-menopausal women. The average age at marriage of the women was 25.72 (SD=4.021) indicating that they got married at the ripe age of their fertility period. 46.9% (333) of the respondents were aged 50-54 years, 27.0% (192) were aged 55-59 years while 26.1% (185) of the respondents are aged 60 years and above. 70.7% (502) of the women live in rural areas while the remaining 29.3% (208) live in urban areas. In terms of their local government of residence, 29.2% (207) of them reside in Ado-Ekiti, 21.7% (154) of them reside in Ikere LGA, 19.0% (135) of them reside in Oye LGA, 12.3% (87) of them reside in Emure LGA, and 9.0% (64) of them reside in Efon Alaaye LGA while the remaining 8.9% (63) reside in Ilejemeje LGA. The sample is proportional to the total population of women in the senatorial districts. About 70.7% (502), reside in rural areas, while only (29.3%) live in urban areas.

To analyse the first hypothesis, data collected on birth interval and socioeconomic class of postmenopausal women were selected and then analysed using chi-square test.

Table 1. Cross-Tabulation between Birth Interval and Socioeconomic class

Socioeconomic class	Birth interval		Total
	Short birth interval	High birth interval	
Lower class	61 (18.5%)	93 (24.4%)	154 (21.7%)
Middle class	205 (62.3%)	255 (66.9%)	460 (64.8%)
Upper class	63 (19.1%)	33 (8.7%)	96 (13.5%)
Total	329 (100%)	381 (100%)	710 (100%)
$\chi^2 = 17.746$, $df=1$, $p=0.000$			

Results indicate that 19.1% of women with birth intervals under 33 months are upper class, 62.3% middle class, and 18.5% lower class. For those with intervals over 33 months, 8.7% are upper class, 66.9% middle class, and 24.4% lower class. Chi-square analysis confirms a significant association ($p = 0.000$) between birth intervals and employment status among postmenopausal women, supporting the hypothesis that those with shorter birth intervals are more likely to belong to the upper socioeconomic class.

Table 2 below illustrates the correlation between birth interval and years in paid employment. Among women with low birth intervals, 4.3% stayed under 10 years, 16.6% between 10-20 years, 22.7% between 21-30 years, and 7.4% over 31 years. For women with high birth intervals, 6.7% stayed under 10 years, 19.6% between 10-20 years, 18.4% between 21-30 years, and 3.7% over 31 years. Chi-square analysis reveals a significant relationship ($p=0.0310$) between birth interval and years employed for postmenopausal women. Women with low birth intervals tend to remain longer in paid employment compared to those with high intervals, supporting alternative hypothesis three.

Table 2: Relationship between Birth interval and years in paid employment.

Years in paid employment	Birth interval		Total
	Short birth interval	High birth interval	
< 10	7 (4.3%)	11 (6.7%)	19(11.7%)
10-20	27(16.6%)	32 (19.6%)	59 (36.2%)
21-30	37(22.7%)	30(18.4%)	67 (41.1%)
>31	12 (7.4%)	6 (3.7%)	18 (11.0%)
Total	83(50.9%)	80 (49.1%)	163 (100%)
$\chi^2=9.852$, $df=1$, $P= 0.0310$			

DISCUSSION OF FINDINGS

The study attempted to investigate *the nexus between birth and socioeconomic class of post-menopausal women in Ekiti State, Nigeria*. The findings indicate that 84.1% of women utilized contraceptives, reflecting awareness of family planning. Most (57.9%) gave birth at ages 25-29, and 50.1% had their last child at 35-39, potentially affecting birth intervals. Delayed childbearing may relate to education and career pursuits, signaling socioeconomic status. Breastfeeding was practiced by 50.6% for an average of 7 months and 12 days, crucial for child health. 83.7% never experienced miscarriage or abortion, indicating healthy pregnancies. Qualitative insights showed diverse financial impacts of childbearing. Some earned up to N50,000 monthly, indicating financial agency, possibly influenced by education and entrepreneurship. Others had limited finances, suggesting lower income, influenced by factors like education and family responsibilities. This underscores the complex interplay between childbearing, socioeconomic status, and women's agency.

The research objective examined *the effect of birth interval on the employment of post-menopausal women in Ekiti State*. A study on birth intervals and their influencing factors found that 73.5% of women were employed post-childbirth, with only 6.3% in apprenticeships. Most women (72.5%) reported childbirth didn't affect their employment, while 4.4% temporarily stopped working. Among postmenopausal women, 14.1% experienced unemployment, with 7.6% attributing it to childbirth. Disruptions in careers due to childbirth affected birth intervals. Age and number of children significantly predicted employment status. These findings stress the importance of family planning for birth intervals. High self-employment rates in trading and craft among postmenopausal women highlight entrepreneurial potential. Supporting their businesses could foster regional economic development. Policies addressing career interruptions due to childbirth are crucial for women's financial stability and well-being. Tailored employment programs for different age groups and family sizes are recommended for comprehensive support. The study connects with the study by Vosough et al., 2017 that women's stay in employment improves the quality of life of every member of the family particularly the children. The study is however in contrast to a study in Saudi Arabia by Rasheed, & Al Dabal, (2007) which revealed that women who were employed either formally

or informally had higher birth interval of 3 to 5 years than those who were home makers/housewives.

CONCLUSION

The study highlighted a strong relationship between socioeconomic class, years in paid employment and birth interval among women who are at the end of their reproductive lifespan. Women with shorter birth intervals were more likely to have higher socioeconomic class, as well as staying longer in paid employment. This emphasizes the role of the knowledge of and uptake of contraceptives in enabling women to take part in economic activities alongside child bearing. High self-employment rates in trading and craft among postmenopausal women highlight entrepreneurial potential. Supporting their businesses could foster regional economic development. Policies addressing career interruptions due to childbirth are crucial for women's financial stability and well-being. Tailored employment programs for different age groups and family sizes are recommended for comprehensive support. Employers and policymakers should explore flexible work arrangements such as part-time, remote work, and job-sharing to accommodate postmenopausal women's needs. Initiatives aimed at enhancing women's financial literacy and entrepreneurship skills are vital, enabling them to manage finances

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