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# Factors contributing to the duration of postpartum abstinence among Nigerian women: semi-parametric survival analysis

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## Abstract

**Background:** The duration of postpartum abstinence is on the decrease but has not been met with increased uptake of contraceptive in Nigeria. This imbalanced transition could result in shorter birth intervals and worsen maternal and child health outcomes. There is a paucity of information on the duration and predictors of time to end of postpartum abstinence in Nigeria. This study was aimed at understanding the time to end of postpartum abstinence and factors predicting the duration in Nigeria.

**Methods:** The NDHS 2013 data was used. Data of all women who had ever given birth were included. The time to end of postpartum abstinence was censored among currently breastfeeding mothers. The Kaplan Meier Product Limit method was used to estimate the survival and hazard function while the Cox regression was used to fit a model for time to end of postpartum abstinence at 5% significance level. Data were weighed and provisions were made for multicollinearity.

**Results:** The overall average duration of postpartum abstinence in Nigeria is 3 month. In all, 58% ended postpartum abstinence within the first three months

while 18%, 10%, and 14% ended it within 4–6 months, 7–12 months and after one year respectively. Postpartum abstinence did not last beyond 3 months among 83% of the women in the North-West region, compared with 23% in the North Central region, and 34% in the South East. The Muslims had the highest proportion of women who ended postpartum abstinence within the first three months after delivery at 72% compared with Catholic women (31%). The median time to end of postpartum abstinence was lowest (2 months) among women from North West, Muslims, in poorest wealth quintiles and those with no education. The “hazard” of earlier resumption of sexual activity after birth was over 3 times more likely among women in the North West than those in the North Central (aHR = 3.09, 95% CI: 2.95–3.24). Women using contraceptives had a 40% hazard of ending postpartum abstinence earlier. Rural women were 7.6% times less likely to end postpartum abstinence compared to their urban counterpart. Women from rich households have an excess risk of 14% to end postpartum abstinence early compared to women from poor households.

**Conclusion:** Women of reproductive age in the North West, who are Muslims and with no education are at higher risk of ending postpartum abstinence early. Hence, policymakers and reproductive health stakeholders should design effective intervention targeted at this group of women as a means of controlling fertility.

Keywords: Reproductive medicine, Public health

## 1. Background

Postpartum Abstinence is the period of voluntary sexual abstinence after pregnancy delivery and when combined with postpartum amenorrhea is the period of insusceptibility to pregnancy (National Population Commission (Nigeria) and ICF International, 2014). Globally, the period of postpartum abstinence is on the decrease but it has been met with increased prevalence of contraceptive use (World Health Organization, 2010). However, the contrary is the situation in developing countries. In Nigeria for instance, while the postpartum abstinence reduced overtime (Caldwell and Caldwell, 1981), low contraceptive use prevailed (National Population Commission (Nigeria) and ICF International, 2014; National Population Commission (Nigeria) and ICF International, 2009). The implication of this imbalanced transition is a short birth interval, and this might explain the relatively constant high fertility and maternal mortality the country has been experiencing for over a decade. The same inference can be made for the prevalent high under-five mortality in Nigeria, since short birth interval does not only affects the health of a mother but also that of the child (Ball et al., 2014; Batyra, 2016; Chen et al., 2014; Zhang et al., 2017).

Studies conducted in the 1980s (Caldwell and Caldwell, 1981; van de Walle and van de Walle, 1989) showed that Nigeria and many other African countries had a