Male roles and under-five mortality in Nigeria: An analysis of individual and family level factors

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EXTENDED ABSTRACT

Introduction

Globally, under-five mortality, defined as the number children dying before the fifth birthday (0-59 months) has universally remained unacceptably high and led to establishment of efforts aiming at reducing its trends (Adinew, Feleke, Mengesha & Workie, 2017). Although, the world witnessed a tremendous reduction in child mortality, sub-Saharan Africa which Nigeria belongs is still characterised by high under-five mortality. These deaths remain considerably high in Nigeria as the eighth highest in the world and second highest reported under-five deaths in Africa (UN IGME, 2018). In spite of the decline from 213 deaths per 1,000 live births in 1990 to 128 deaths per 1000 live births in 2013 (NPC and ICF International, 2014), one in every ten children in Nigeria die before age 5 (Susuman, Chialepeh, Bado & Lailulo, 2016).

Male roles and responsibilities including behaviours that are displayed as heads of households within the family influence the reproductive health of women and the health outcome of their children. A study in Tanzania revealed that gender roles division in households influence condition of under-five children, specifically household prevalence of under-five mortality (Ringo, Bengesi & Mbago, 2018). In Nigeria, men's positions in the issues of reproductive decision and child health service care affect the health outcome of children because women live at the mercy of their partners in reproductive decision (Imo, Isiugo-Abanihe & Chikezie, 2016). Also, inequality between men and women subject under-five children to the hands of less empowered women possibly missing power to make immediate decisions to avert health problems, which results into under-five mortality (Chant, Klett-Davies & Ramalho, 2017). As a result, given the crucial role African men play in family decisions, their support and involvement in maternal and child health care cannot be undermined.

Previous studies have explored the perspectives of women, but not men irrespective of their overwhelming relevance in influencing both maternal and child health (Imo et al., 2016; Akinyemi et al., 2017). Also, various factors which include paternal educational attainment, type of marriage, number of children and unfavourable gender roles associated with male involvement in maternal health care services (Craymah, Oppong & Tuoyire, 2017). Therefore, going by the current rate of under-five mortality, addressing poor child health outcomes requires an urgent attention for renewed efforts at understanding the influence of male roles on child survival in Nigeria. In Nigeria, like most African societies, gender inequality is skewed in favour of men and at the expense of women's marginalisation, resulting in poor care of under-five children as a result of women being denied their right to make quick and informed decision on issues relating to under-five children (Chant et al., 2017). It is from this context, that this study examined individual and family level factors in male roles and involvement in the demographic issue of under-five mortality in Nigeria.

Data and Research Methods

The data for this study were obtained from the birth recode data file of the 2013 Nigeria Demographic and Health Survey (NDHS). The analyses for this study covered a weighted sample of 107,744 birth history within 5 years before the survey in order to improve the

representativeness of the data from the group of men and women interviewed in the survey (i.e. 2008-2013). These data were based on the reproductive history of the women. The dependent variable study was under-five mortality – defined as the probability of a live birth dying between birth and the fifth birthday. This was measured as the duration of survival since birth (if the child died) and death (if the child was still living) in months. In the analysis, survival time was age at death, while children who were alive by the survey data were censored at their age.

The primary explanatory variables were paternal factors (individual and family factors) which were guided by literature. The individual factors of male role factors include paternal age, education and employment status. At the family level, men's positions in the decisions of large household purchase, how the money they earn is spent, decisions on wives' health care, men's desired number of children and family structure play key roles in influencing the children's health outcome (Adedini et al., 2015; Craymah et al., 2017, Akinyemi et al., 2017).

Three levels of analysis (univariate, bivariate and multivariate) were employed in this study. Pearson chi-square test was used at bivariate level to investigate the relationship between the outcome variable (under-five mortality) and each of the selected explanatory variables. At the multivariate level, data were analysed using Cox proportional hazard model to investigate relationship between under-five mortality and explanatory variables. For the analysis of survival data, the Cox regression procedure is a useful technique because it takes care of censoring problem in mortality data as some children are not fully exposed to the mortality risk. Three Models were fitted in all at the multivariate level of analysis. The results were presented as Hazard ratios (HRs) with 95% confidence intervals (CIs). A variable with Hazard Ratio greater than 1.00 implied that the variable increases the likelihood of the outcome (under-five mortality). All analyses were done using Stata software (version 14).

Summary of key findings

With respect to individual factors, the largest proportions of the children (39.1%) were children of mothers whose partners were aged 50 years or older, 43.8% were children of mothers whose partners had no formal education and an overwhelming majority of the children (98.8%) were children of employed fathers. Considering family level factors, about 62% of the children were found among mothers whose partners made independent decision on large household purchase, 72.6% were children of mothers whose partners made independent decisions on their earnings, 43.4% were children of mothers whose partners wanted more number of children, 61.6% were children of mothers whose partners made independent decisions on their health care and 60.5% were children found in monogamous unions.

The results of bivariate relationship indicated that all individual and family level factors of male roles were significantly associated with under-five mortality. The relationship between paternal age and under-five mortality showed that highest percentage of under-five deaths were found among mothers whose partners were aged 50 years or above (20.0%) and lowest for those whose partners were aged 30 years or younger (11.3%; $p<0.001$). With respect to educational attainment, the results revealed an inverse relationship between men's education and under-five mortality. Considering other factors, results revealed that high percentage of under-five deaths were reported for children of mothers whose partners were employed (17.1%; $p<0.001$); children of mothers whose partners made independent decision on large household purchase (19.4%; $p<0.001$); children of mothers whose partners desired for more number of children (19.5%; $p<0.001$); children of mothers whose partners made independent decisions on their health care (19.4%; $p<0.001$); children of mother whose partners were found in polygamous unions (20.9%; $p<0.001$).

The results of survival analysis as associated with explanatory variable after incorporating all the male role factors into one analysis showed that risks of under-five death significantly increased for children of mothers whose partners were aged 50 or older (HR: 1.16, CI: 1.03-1.32, $p<0.01$), children of mothers whose partners made independent decisions on their health care (HR: 1.18, CI: 1.05-1.33, $p<0.01$) and children of mothers whose partners were found in polygamous unions (HR: 1.21, CI: 1.14-1.27, $p<0.001$). The result further indicated an inversely significant relationship between paternal educational attainment and risks of under-five death. Also, the risks of under-five death were significantly lower for children of mothers whose partners involved in the decision of large household purchase (HR: 0.85, CI: 0.77-0.93, $p<0.001$) and children of mothers whose partners desired fewer number of children (HR: 0.81, CI: 0.70-0.94, $p<0.01$), compared to their counterparts in the reference categories.

Discussion, conclusion and recommendations of findings

The objective of this study was to examine the influence of individual and family level factors of male roles on under-five mortality in Nigeria. It was revealed that the risks of under-five death decreased with an increase in paternal educational attainment, thus supporting Craymah, Oppong and Tuoyire (2017) in observation that a woman's partner's education is one of the factors affecting maternal and child health care. The fact that risks of under-five death was significantly higher for children of mothers whose partners were employed relative to their unemployed women counterparts could have some policy implications. This is because as some family roles which include nursing of children are culturally reserved for women could have grave implications for child survival. Men who are employed tend to be more obsessed with office responsibilities and may not be available whenever there are children's health challenges.

At the family level, the result on large household decision revealed that involvement of women in the decision of large household purchase is significantly related to a decrease in the risks of under-five mortality. This result corroborates earlier study by Akinyemi, Adedini and Odimegwu (2017) in observation that under-five mortality is significantly associated with maternal decision-making involvement. With respect to decision on how men's earnings are spent, the result also indicated that involvement of women in such decision lowers the risks of under-five death in Nigeria. In line with Chant et al. (2017), the findings, therefore, suggests that involving women in decision-making regarding large household purchase and how partners' earnings are spent could give them the power to make immediate decisions to avert children health problems. The analysis also revealed significantly higher risks of under-five death for children of mothers whose partners made independent decisions on their health care. This perhaps could partly account for the rate of under-five mortality in the country. Hence, a woman with personal autonomy to make independent decision about her health care is able to improve and maintain healthy lifestyle and seek necessary health-related resources. Also, the risks of under-five death were significantly higher among children of mothers whose partners were found in polygamous unions, relative to their counterparts in monogamous unions. Adedini et al (2015) had earlier observed that the presence of many women and children in the same household could engender a stiff competition for household resources, especially if the household is poor. As a result, polygyny could have adverse effects on child's health outcome and survival because of unhealthy rivalry among co-wives.

Therefore, the risks of under-five mortality are negatively influenced by the domineering nature of men in decision-making even with respect to their earnings, as well as desire for more children at family level in Nigeria. Also, within the context of a patriarchal, i.e., male-dominated society, it is important to promote spousal communication by involving

women in decision-making of their health care by partners towards the reduction of under-five mortality. Consequent upon the prevalent rate of under-five mortality in the country, stakeholders should urgently create/strengthen intervention strategies in form of routine campaigns, seminars and workshops involving men on the need for joint household decision-makings and negative impact gender division roles about nursing children that is geared towards improving under-five children's health outcome.

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