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Original Research

Single motherhood and neonatal and infant mortality in Sierra Leone, Burkina Faso and Burundi

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ABSTRACT

Background: Childhood mortality is a stubborn problem and remains highest in Sub-Saharan Africa (SSA). Existing research on childhood mortality in SSA indicate that most of the childhood deaths are from preventable causes such as diarrhoea, pneumonia, measles, malaria, HIV and underlying malnutrition, acute respiratory infections, whooping cough, tuberculosis, bronchopneumonia, dirty feeding bottles and utensils, inadequate disposal of household refuse and poor storage of drinking water. However, insufficient attention has been given to maternal marital status and childhood mortality relationships. Understanding the implications of maternal marital status for childhood mortality can add to our knowledge of the correlates of neonatal and infant mortality and furnish insights to support the design and delivery of interventions to address the problem.

Objective: To document and examine the extent to which the association between neonatal and infant mortality varies between single and ever-married mothers in Sierra Leone, Burkina Faso, and Burundi. A single mother is defined in this study as a woman who has either lived with a partner, married before, widowed, separated during the survey periods and has given at least one life birth. Ever-married woman is woman who has been married at least once in their lives although their current marital status may not be married.

Study design: Data for this study were drawn from the latest Demographic and Health Surveys (DHS) in Burkina Faso, Sierra Leone and Burundi. The selected datasets came from 2010 Burkina Faso DHS (BFDHS), 2008 Sierra Leone DHS (SLDHS) and 2010 Burundi DHS (EDSB II).

Methods: The relevant data for this study (women age 15–49 years who had at least one live birth within the five years preceding the survey) were extracted from the whole dataset of each country (Burkinabe (n = 17,087), Sierra Leonean (n = 7374) and Burundian (n = 9389). Univariate and multivariate statistical analyses were used to assess the association between neonatal and infant mortality and maternal marital status. All data were analysed using STATA Version 11.

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Results: The multivariate logistic regression analyses yielded significantly increased risk of neonatal and infant mortality among single mothers.
Conclusions: Neonates and infants of single mothers are at increased risk of neonatal and infant mortality compared to those of ever-married women.

Introduction

Childhood mortality is a stubborn problem and remains highest in Sub-Saharan Africa (SSA).[1,2] In 2013, the childhood mortality rate in SSA was 92 deaths per 1000 live births, more than 15 times the average rate in developed nations (6 deaths per 1000 live births).[12] Analyses of recent trends however show that SSA is making progress in slowing down childhood mortality rates. For instance, average annual rate of reduction in childhood mortality has accelerated from 1.2% a year over 1990–1995 to 3.9% over 2005–2012.[1,12] Apparently, much has been achieved in improving child survival in SSA but definitely much remains to be done.

A review of literature on childhood mortality in SSA indicate that most of the childhood deaths are from preventable causes such as diarrhoea,[3] pneumonia, measles, malaria,[4] HIV and underlying malnutrition,[5] acute respiratory infections,[6,7] whooping cough, tuberculosis,[8] bronchopneumonia,[4] dirty feeding bottles and utensils, inadequate disposal of household refuse and poor storage of drinking water.[9] Mounting evidence has also shown that childhood mortality rates vary by socioeconomic and bio-demographic characteristics. For instance, women with low or no education;[13,14] women in lower wealth quintile;[1,15] women who reside in rural areas;[1,16] women who have poor or no access to electricity;[17,18] women who delay initiation of breastfeeding;[19,20] women who did not complete child immunization;[21] women who use illicit substances during pregnancy;[22] women who are indigenous religious worshippers; and older fathers tend to have higher childhood mortality.[1,23]

In other studies birth intervals, mother's age at birth, number of living children, sex of the child and unintended births are significantly associated with infant and neonatal mortality.[1]

Some other researchers examined the interaction between intimate partner violence and childhood mortality.[24] In such studies,[25] it was observed that infant and neonatal mortality was greater among children whose mothers experienced intimate partner violence versus those whose mothers did not experience intimate partner violence. The primary explanation of the influence of violence against women on the risk of neonatal and infant mortality is the possible constraining effect of such violence upon women's ability to physically and emotionally care and provide for their children's basic needs.[26]

Little is known about maternal marital status and early children health outcome relationships. In the available literature, single mothers are seen as a sociodemographic risk factor associated with smoking during pregnancy, and maternal depression.[27] Children of single mothers fare worse with respect to cognitive development,[28] educational outcomes,[29] and behavioural adjustment.[30] In Kenya,[31] it was found that children of never-married and formerly married women had higher rates of wasting and were less likely to receive a complete course of polio vaccination.

Most studies have been unable to distinguish cohabiting mothers from married mothers, for instance, in a study of smoking during pregnancy in Sweden,[32] the authors grouped married and cohabiting mothers together. Other studies used indicators of female-headed households as a measure of maternal marital status.[33] However, female household heads and single mothers differ in important ways.[34] For example, measures of female-headed households generally does not capture what Buvinic and Gupta called 'subfamilies',[35] which are made up of single mothers and their children who live within male-headed households. Lastly, a large portion of female-headed households in some countries consist of married women with migrant husbands who send their families substantial remittances.[36] Put simply, a single mother family is where a woman who has had at least one dependent child and is living alone without a partner.[37] Never with a partner, married before, widowed, separated and living with at least one dependent child is the core basis in the definition of single mother family.[38] These data limitations may partially or fully explain the surprisingly weak and inconsistent evidence that children living in female-headed households suffer from poorer health than children living in male-headed households.[1]

There are limited studies that have examined the relationship between single motherhood and neonatal and infant mortality in Africa. As a result, precious little is known about whether mortality rates among children aged <1 year of single mothers differ. For example, we do not know whether or to what extent differences in neonatal and infant mortality rates exist between ever-married and single mothers. The Child Health Epidemiology Reference Group estimated that 40.3% of 7.6 million childhood deaths in 2010 (3.1 million deaths) occurred in children aged >1 year.[39] In all, conclusive evidence shows however that early childhood health is the most important phase in life which determines the quality of health, well-being, learning and behaviour across the life span. It is a period of great opportunity, but also of great vulnerability to negative influences.[12] Studies also show that scores of the health and well-being problems we see in adults such as obesity and its associations such as diabetes and heart disease, mental health problems,