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The Association between Age at Marriage and Child Mortality in Bangladesh

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ABSTRACT

The main objective of this paper is to show the association between age at marriage and the early stage neonatal mortality in Bangladesh. The secondary data has been used for this paper and the data source is Bangladesh Multiple Indicator Cluster Survey. The target group of respondents in this study were the ever married women and who had ever given birth. The total sample size was 44207. In this paper both univariate and bivariate analysis have been used and some graphical representation has also been applied. At bivariate level, to find out the association between dependent variable and independent variables chi square test has been applied. Here dependent variable is considered as early stage neo-natal mortality (child who ever breathed or cried or showed other signs of life-even if he/she lived only a few minutes or hours) which is a binary variable indicating 1 if early stage neo-natal mortality is occurred and 0 if early stage neonatal mortality is not occurred among the respondents. Results show that among the respondents around 16.52 percent experienced very early stage neonatal mortality of their children and this percentage of early stage neonatal mortality for the women who got married at age 18 and above is 22.58 and this figure is 25.96 percent for the women who got married before reaching age 18 and this difference is statistically significant at 5 percent level of significance. So from this study it has been found that age at marriage has a significant role on early stage neonatal mortality in Bangladesh.

Key words: Neonatal Mortality, Age at Marriage, Association, Bangladesh

INTRODUCTION

Child mortality has an important consequence on the health system of Bangladesh. For ensuring good health for all, a target of sustainable development Goals (SDG), proper attention should be given to reduce child mortality specifically on early stage neonatal mortality. The target of MDG was to eliminate the child mortality rate on an average two third from 1990 to 2015 (Mustafa and Odimegwu, 2008).

The level of various socioeconomic factors significantly influence to reduce early stage neonatal mortality and maternal nutrition is also important to reduce poor health condition as well to overcome low birth weight and infant mortality (Gage et al., 2013). The infant mortality rate was 94 per 1000 live birth and the under-five child mortality rate was 151 per 1000 live birth in 1990 (Sayem et al., 2011). But just after two decades the infant mortality rate have been decreased to 46 per 1000 live births and the under-five mortality rate have been decreased to 58 per 1000 live births in 2015 (Multiple Indicator Cluster Survey - MICS). It is well known that the neonatal period (first 28 days of life) is the most vulnurable time for a child but recently the neonatal mortality is decreasing worldwide as well as Bangladesh. The neonatal mortality rate have been decreased from 36 to 19 deaths per 1000 live birth (UNICEF Data). So it is important to provide more emphasize on the reduction of early stage neo-natal mortality.

Bangladesh Multiple Indicator Cluster Survey (MICS) was conducted from December 2012 to March 2013 by the Bangladesh Bureau of Statistics, Ministry of planning. United Nations Children's Fund (UNICEF), Bangladesh was the main technical and financial support of this survey. The child mortality rate is decreasing rapidly globaly due to the development of proper health care facilities. In all the WHO regions there is no widespread evidence of rising child

mortality rates except the Western Pacific during the year 1990 (Ahmad et al., 2000). Inspite of these declining pattern, survival of the children still remains an urgent concern. Additionally, there exists large inequality in terms of early stage neonatal mortality between low and high income countries (Kim and Saada, 2013). In 2013 the under-five mortality rate in low-income countries was 76 deaths per 1,000 live births which is more than 12 times the average rate in high-income countries. Reducing these inequities across countries and saving more children's lives by ending preventable child deaths are important priorities (UNICEF, 2014). Neonatal mortality is declining globally but more slowly than post-neonatal (1-59 months) mortality. The first 28 days of life-the neonatal period are the most vulnerable time for a child's survival. Globally, the neonatal mortality rate fell from 36 deaths per 1,000 live births in 1990 to 19 in 2015. By considering all these issues this paper aims to find out the main factors which are associated with the early stage neo-natal mortality.

METHODS

The data used for this study is the Bangladesh Multiple Indicator Cluster Survey was conducted from December 2012 to March 2013 by the Bangladesh Bureau of Statistics, Ministry of planning. This study mainly used the women data set and 59,599 women (age 15-49 years) were identified and among them 51,791 were successfully interviewed (86.90%). Among the 51627 (15-49 years aged group) women 44207 were ever married and had ever given birth (85.63%).

In this study, child mortality has been considered as the very early stage neo-natal mortality (i.e. a child who ever breathed or cried or showed other signs of life-even if he/she lived only a few minutes or hours) (MICS). Here the dependent variable has been considered as the risk of death of the early stage neo-natal. On the other hand the independent variables are considered as Age at first marriage, School attendance, Place of residence, Religion and Wealth index.

Here both univariate and bivariate analysis have been used and some graphical representation has also been applied. At bivariate level chi-square test have been used to find out the statistical association (which are considered statistically significant at 5% level) between dependent and independent variables. Here the dependent variable is early stage neo-natal mortality (child who ever breathed or cried or showed other signs of life-even if he/she lived only a few minutes or hours) which is a binary variable indicating 1 if early stage neo-natal mortality is occurred and 0 if early stage neonatal mortality is not occurred among the respondents. All the analyses have been performed using the software STATA version 13.

RESULTS

Among the respondents around 16.52 percent reported that they ever had child who ever breathed or cried or showed other signs of life- even if he or she lived only a few moments or hours (0-7 days) and it is considered as very early stage neo-natal mortality (Table 1).

Table 1: Background Characteristics of the Respondents

Background Characteristics	(%)
Experienced Early stage neonatal mortality	**16.52**
Age at First Marriage	
Below 18	76.39
18 and Above	23.61
Total	100.00
Ever Attended School	
Yes	72.22
No	27.78
Total	100.00
Place of Residence	
Urban	17.27
Rural	82.73
Total	100.00
Religion of the Respondents	
Muslim	86.99
Others	13.01
Total	100.00
Wealth Index	
Poorest	22.73
Second	20.84
Middle	20.11
Fourth	19.58
Richest	16.74
Total	100.00

The background variable age at marriage has been categorized in two types named below 18 and above 18. According to the findings of this study univariate analysis shows that around 76.39 percent respondents reported that they got married before reaching age 18 and the rest 23.61 percent respondents reported that they got married after reaching age 18. Women's school attendance is an important factor to reduce early stage neo-natal mortality. In this study around 72.22 percent respondents reported that they have ever attended school and the remaining 27.78 percent stated that they never attended school. In terms of place of residence only 17.27 percent respondents comes from urban areas and 82.73 percent comes from the rural areas. In terms of religious belief around 86.99 percent respondents are Muslim and the remaining 13.01 percent respondents comprise other categories of religious belief. Wealth index is an important and composite indicator of wealth. The principal component analysis has been performed to calculate the wealth index using the information on ownership of household consumer goods, dwelling characteristics, water and sanitation, and other characteristics that are related to household wealth. Then the respondents have been classified into five equal parts/quintiles from lowest (poorer) to highest (richest) based on the wealth scores of their household. In terms of wealth index of the respondents 22.73 percent are poorest, 20.84 percent are second, 20.11 percent are middle, 19.58 percent are fourth and the remaining 16.74 percent comes from the richest family. (Table 1).

This study found that some background variables have significant association with early stage neonatal mortality. Age at marriage is an important variable which has significant association with early stage neonatal mortality. According to the findings of this study the women who got married before age 18 has significantly (p=0.000) higher percentage of early stage neo-natal mortality (25.96%) compared to the women who got married after age 18 (22.58%) (Figure 1).

Figure 1: Percentages of Early Stage Neonatal Mortality by Age at Marriage
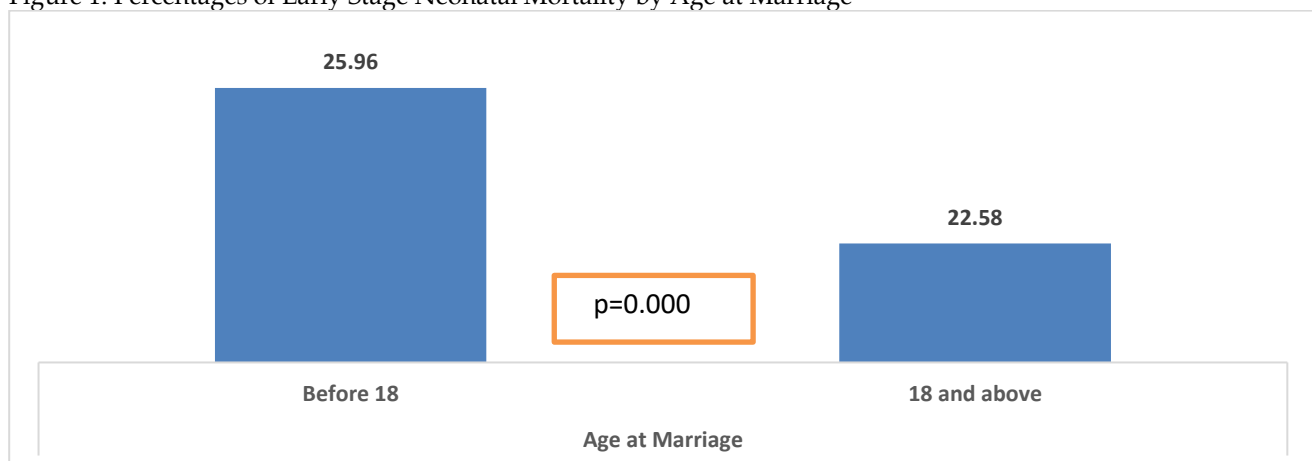
School attendance also shows significant association (p=0.000) with early stage neo-natal mortality. This study found that the women who ever attended school has lower percentage of early stage neo-natal mortality (11.76%) compared to their counter groups who never attended school (26.81%) (Figure 2).

Figure 2: Percentages of Early Stage Neonatal Mortality by School Attendance
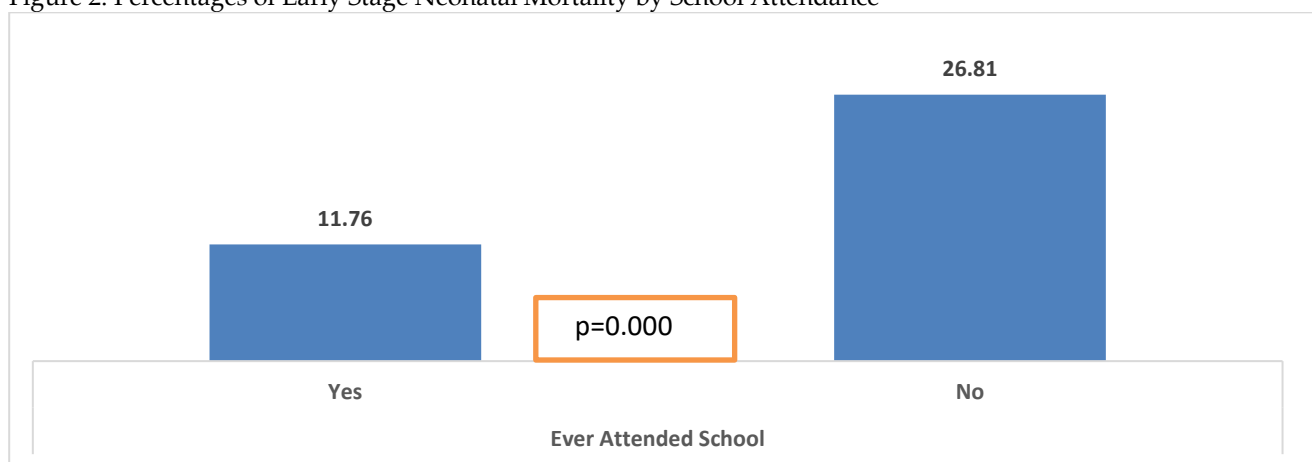
In terms of place of residence the women who lives in rural areas reported that they experienced significantly (p=0.000) higher percentage of early stage neo-natal mortality (17.23%) compared to the women who lives in urban areas (13.02%) (Figure 3).

Figure 3: Percentages of Early Stage Neonatal Mortality by Place of Residence


The neonatal mortality rate is higher among the Muslim respondents compared to other respondents. This study found that the early stage neonatal mortality is significantly higher (p=0.000) among the Muslim respondents (16.84%) compared to others religion (14.33%) (Figure 4).

Figure 4: Percentages of Early Stage Neonatal Mortality by Religion
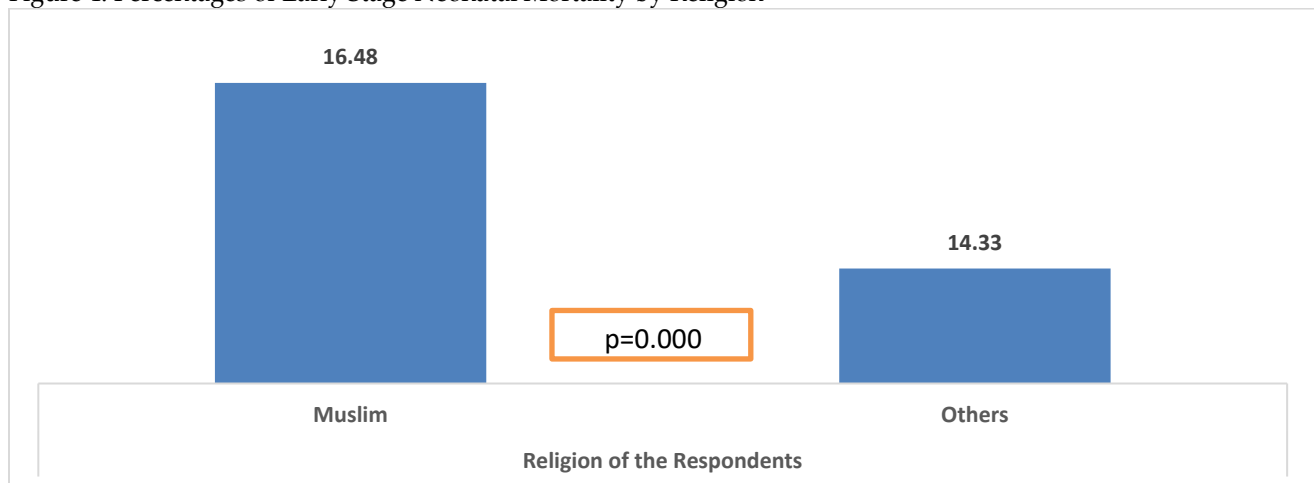
The economic condition of the respondents has tremendous influence in occurring early stage neonatal mortality. According to the findings of this study it has been found that wealth index has also statistically significant impact (p=0.000) on the early stage neo-natal mortality. The respondents who belong to poorest groups are experiencing more early stage neo-natal mortality (20.75%) compared to the richest groups (10.08%) (Figure 5).

Figure 5: Percentages of Early Stage Neonatal Mortality by Wealth Index
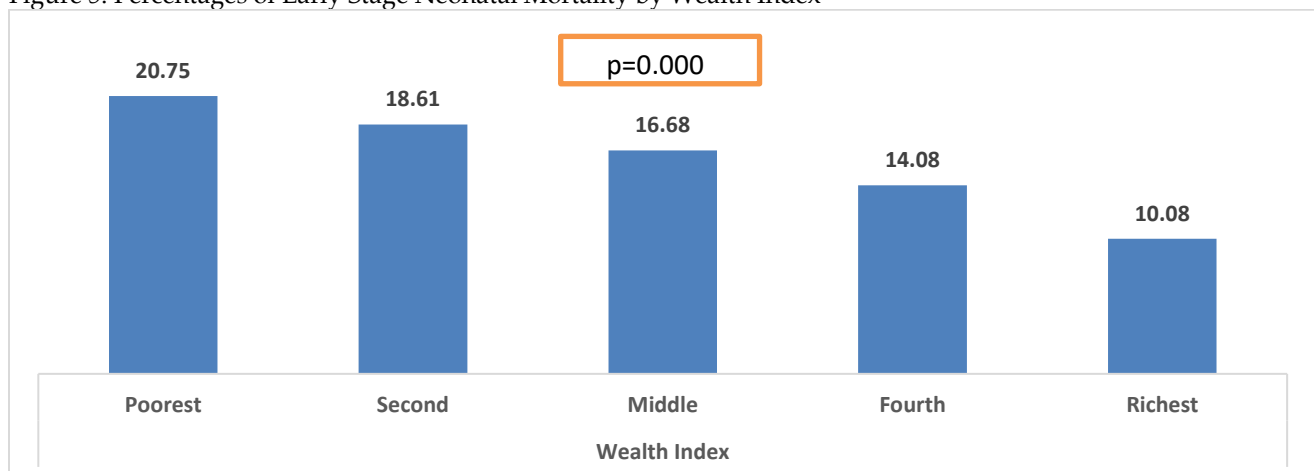
DISCUSSION AND CONCLUSION

This study shows that age at marriage and other socio economic variables have significant association with the early stage neonatal mortality in the context of Bangladesh. Overall around 16.52 percent respondents reported that they ever had experienced very early stage neo-natal mortality. According to the findings of this study it has been found that age at marriage has significant association with early stage neonatal mortality. The results reveal that the women who got married at age 18 and above have experienced significantly lower percentage of early stage neonatal mortality (22.58 %) compared to the women who got married below 18 (25.96%), as found by other researchers (Zafari et al., 2012; Shera and Dar, 2014).

The educational attainment and place of residence of the respondents also have significant association with the early stage neonatal mortality. The respondents with school attendance experienced significantly lower percentage of early stage neonatal mortality compared to non- school attendant. On the other hand respondents living in urban areas have experienced lower percentage of child mortality than the respondents living in rural areas.

In terms of wealth quintile, the woman who comes from the richest family have experienced significantly lower percentage of early stage neonatal mortality (10.08%) compared to the respondent who belong to poorest wealth quintile (20.75%) and this findings is consistent with the findings of other researcher (Shera and Dar, 2014; Kembo and Van Ginneken, 2009; Belizán et al., 2012).

Based on the key findings of this paper it can be recommended that marriage of women before reaching age 18 should be restricted to decline very early stage neo natal mortality. Since rural respondents are experiencing highest percentage of early stage neonatal mortality than urban respondents, so proper awareness building programmes and modern health care system should be established in rural areas to reduce early stage neonatal mortality. In addition, the people who belong to richest wealth index are experiencing significantly lower percentage of child mortality. For that reason, subsequent economic development is also necessary to reduce early stage neonatal mortality. By taking above mentioned necessary steps it is possible to reduce early stage neo natal mortality in the context of Bangladesh.

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