Introduction

Past studies suggest that improved care during pregnancy can significantly improve the health outcomes of both mothers and children [4]. Furthermore, pregnant women require physical and psychological support during pregnancies [3, 5] for the proper development of the fetus and preparing the mother’s body for the strenuous delivery process [6].

In rural Bangladesh, pregnant women rarely receive the adequate care and support required for safe pregnancy and reducing the risk of maternal morbidity and mortality. As a coping mechanism, pregnant women in rural areas often migrate to their natal homes to give birth because of the increased social support and improved quality of care provided by their extended families. This research attempted to understand this migration and answer two specific questions:

1) Is there any sociodemographic difference between pregnant women migrating to their natal homes with those who did not migrate?

2) Are there any differences in the health care utilization pattern and pregnancy outcomes between pregnant women migrating to their natal homes with those who did not migrate?

Study Setting

Child Health and Mortality Prevention Surveillance (CHAMPS) is a multi-country project that aims to better identify and understand the causes of under-5 death in the countries of Sub-Saharan Africa and South Asia.

The CHAMPS-Bangladesh site has established a GIS-based Demographic Surveillance System (DSS) in the Balukandi sub-district of the Rajshahi District in Bangladesh (Fig. 1). Through GIS, demographic and health-related (such as delivery and birth) information is collected and updated at regular intervals. For this study, pregnancy outcomes in 2019 were extracted from the CHAMPS DSS database and used to identify pregnant women migrating to their natal homes for delivery.

Methods

• The differences between women who did not migrate with those who migrated to their natal homes were analyzed using Chi-square [4] and t-tests.

• Logistic regression models were used to examine the relationship between the outcome and exposure variables. The variables used in the regression models are:

  1) Outcome variables: ANC, PNC, Delivery place, Delivery attendant, Delivery type, Delivery outcome, Neonatal death

  2) Exposure variables: Migration status (migrant vs. non-migrant), Age, Education, Religion, Birth order outcome, Wealth quintile, ANC status and Number of ANC received. The migration status was the primary exposure, while the other variables were adjusted as potential confounders.

The regressions were conducted in a step-wise manner and only the exposure variables having p < 0.15 in single variable regressions were adjusted in the final models.

Results

• In 2019, out of 4931 pregnancy outcomes in Balukandi, 14% of outcomes took place at mothers’ natal homes (Table 1).

• Compared to pregnant women who did not migrate to their natal homes for delivery, the temporary migrants were younger and more educated.

• The average parity (mean 2.4, SD ± 0.7) of temporary migrants was lower than that of women who remained in Balukandi (mean 2.4, SD ± 1.5).

• Temporary migrants were more likely to give birth at a health facility and have a skilled birth attendant.

• Temporary migrants were more likely to receive 4 or more ANC visits and a postnatal medical check-up.

• In Table 1 and Fig 2, we compare the results of regressions that show the association between birth and temporary migration.

• Neither ANC visit nor the health status of ANC were significantly associated with the outcome of interest. Among the sociodemographic variables, we identified that the wealth level of the household was significantly associated with the outcome of interest.

Table 1: Distribution of socio-demographic variables, health care pattern and pregnancy outcomes between pregnant women and those who did not migrate

<table>
<thead>
<tr>
<th></th>
<th>Not migrate (N=4991)</th>
<th>Migrate to natal home (N=1679)</th>
<th>Total (N=6669)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Migration</td>
<td>79.3 (279.2)</td>
<td>57.4 (167.9)</td>
<td>67.2 (247.7)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Wealth status</td>
<td>7.5 (12.0)</td>
<td>9.3 (12.0)</td>
<td>8.7 (12.1)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Religion</td>
<td>4.3 (7.5)</td>
<td>6.6 (7.5)</td>
<td>5.8 (7.6)</td>
<td>0.0008</td>
</tr>
<tr>
<td>Birth order</td>
<td>1.8 (1.5)</td>
<td>2.0 (1.6)</td>
<td>1.9 (1.6)</td>
<td>0.002</td>
</tr>
<tr>
<td>Wealth quintile</td>
<td>1.8 (1.5)</td>
<td>2.0 (1.6)</td>
<td>1.9 (1.6)</td>
<td>0.002</td>
</tr>
<tr>
<td>Migration status</td>
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Fig 3: Forest plot showing AOR with 95%CI for neonatal death

Discussion

This study attempted to understand the sociodemographic profile of pregnant women who return to their natal home (temporary migrants) and the care they receive both during and after pregnancy, as compared to women who do not migrate and remain at their in-laws’ home for delivery. This migration is a tradition, specifically for first pregnancy in Bangladesh.

Our results indicate that women’s tendency to migrate to their natal homes is higher amongst women belonging to high wealth quintiles (both forth and highest), which is consistent with past studies suggesting that the financial conditions of the households strongly influence women’s decision to undertake various health beneficial decisions [7, 8]. Also, these women were more supported and younger, highlighting the importance of education in strengthening women’s decision-making power in rural settings.

Although at the 10% significance level, stillbirth was found to be lower for women migrating to their natal homes, the association between stillbirth and temporary migration was insignificant in the regression model.

The findings suggest that temporary migrant women have a considerably lower likelihood of miscarriages and lower odds of neonatal death. We believe that these observed differences are due to social support and improved quality of care provided at their natal homes compared to their-in-law’s place [2, 5]. However, further study is warranted to confirm this hypothesis.

Limitations

Several improvements to our study are possible

1) Incorporating multi-year data can help improve the statistical significance of our obtained results, such as the association between birth and temporary migration.

2) We employed a linear logistic model for assessing the association between outcome and exposure variables. In real-life, the relationship might not be so straightforward linear. The application of non-linear models may help obtain a better picture of real life.

Conclusion

1. The study highlighted the stark differences between women delivering in their natal homes with women who delivered in their in-law’s house.

2. Pregnant women who visited natal homes were younger, more educated and belonged to households in upper wealth quintiles. They also had significantly lower miscarriages and neonatal deaths.

3. This study created the primary knowledge base for future studies to explore the differential treatment that women receive at their-in-law’s place and its subsequent impacts on their health outcomes.

References


