

Title: Geographic inequalities and determinants of anaemia among preeclamptic women: a cross-sectional sample-based study in Bangladesh

Author: Ahasan Ali, Jahirul Islam, Ratna Paul, Shahinur Parvin, Abu Taiub Mohammed Mohiuddin Chowdhury, Rafiqul Islam, Sharmina Siddique, Atiqur Rahman, Sayeda Tamanna Tasnim & Suraiya Hasna

Abstract: Anaemia among preeclamptic (PE) women is a major undefined health issue in Bangladesh. This study explored the risk factors associated with anaemia and mapped the regional influences to understand the geographical inequalities. Data from 180 respondents were prospectively collected from the Preeclampsia ward of Dhaka Medical College Hospital (DMCH), Bangladesh. Anaemia was defined as a blood haemoglobin level less than 11.0 g/dl. Preeclampsia was defined as systolic blood pressure (SBP) $\geq$ 140 mmHg and diastolic blood pressure (DBP) $\geq$ 90 mmHg with proteinuria. Factors associated with anaemia were explored using the chi-square test. Logistic regression (LR) was done to determine the level of association with the risk factors. Among the participants, 28.9% were identified as having early onset and 71.1% reported late onset of PE. 38.9% of the subjects were non-anaemic, whereas mild, moderate, and severe anaemia was found among 38.3%, 17.8%, and 5% of patients respectively. The following factors were identified; including age range 25–34 (OR: 0.169, $p < 0.05$), a lower education level (OR: 3.106, $p < 0.05$), service-holder mothers (OR: 0.604, $p < 0.05$), pregnancy interval of less than 24 months (OR: 4.646, $p < 0.05$), and gestational diabetes mellitus (OR: 2.702, $p < 0.05$). Dhaka district (IR: 1.46), Narayanganj district (IR: 1.11), and Munshiganj district (IR: 0.96) had the highest incidence rates. Determinants of anaemia must be considered with importance. In the future, periodic follow-ups of anaemia should be scheduled with a health care program and prevent maternal fatality and fetus morbidity in patients with PE.

Keywords: Preeclampsia, Anaemia, Bangladesh, Hypertension, Risk Factors

DOI: <https://doi.org/10.1186/s12889-024-18176-8>

<https://link.springer.com/article/10.1186/s12889-024-18176-8>