

## Prevalence and Spatial Distribution of Anaemia in Ethiopia using 2011 EDHS

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**Abstract :** Anaemia is a condition in which the haemoglobin concentration falls below an established cut-off value due to a decrease in the number and size of red blood cells. The current study aimed to assess the spatial pattern and identify predictors related to anaemia using the third Ethiopian demographic health survey which was conducted in 2010. To achieve this objective, this study took into account the clustered nature of the data. As a result, multilevel modeling has been used in the statistical analysis. For analysis purpose, only complete cases from 15,909 females, and 13,903 males were considered. Among all subjects who agreed for haemoglobin test, 5.49 %males, and 19.86% females were anaemic. In both binary and ordinal outcome modeling approaches, educational level, age, wealth index, BMI and HIV status were identified to be significant predictors for anaemia prevalence. Furthermore, it was noted that pregnant women were more anaemic than non-pregnant women. As revealed by Moran's I test, significant spatial autocorrelation was noted across clusters. The risk of anaemia was found to vary across different regions, and higher prevalence was observed in Somali and Affar region.

**Keywords :** anaemia, Moran's I test, multilevel models, spatial pattern

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