Bayesian Multilevel Model on Maternal Mortality in Ethiopia

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Research

Keywords: Demographic and Health Survey 2016, Ethiopia, Bayesian Multilevel, Random Intercept Logistic Regression Model, Maternal Mortality

DOI: https://doi.org/10.21203/rs.3.rs-54647/v1

Abstract

Maternal mortality is one of the socio-economic problems and widely considered a serious indicator of the quality of a health. Ethiopia is considered to be one of the top six sub-Saharan countries with severe maternal mortality. The objective of this study was to investigate the effects of the Demographic and Socio-economic determinant factors of maternal mortality in Ethiopia. Data from the 2016 Ethiopia Demographic and Health Survey indicated that the sample of women (15-49) was (n=10103). The Bayesian multilevel l was used to explore the major risk factors and regional variations in maternal mortality in Ethiopia. MCMC methods with non-informative priors have been applied. The DIC model selection criteria were used to select the appropriate model. The analysis result, 145(1.43%) mothers were died due to pregnancy. Using model selection criteria Bayesian multilevel random coefficient was found to be appropriate. With this model, Age of mother, marital status, number of living children, wealth index and Education are found to be the significant determinants of maternal mortality in Ethiopia. The study indicated that there was within and between regional variations in maternal mortality. Inference is the fully Bayesian multilevel model based on recent Markov chain Monte Carlo techniques. Some of the socioeconomic, demographic and environmental determinants included in the study were found to be statistically significant. The result of the Bayesian multilevel model in this study has shown that educational attainment, wealth index, an age of mother, marital status and number of living children was a significant factor of maternal mortality.

Full Text

Due to technical limitations, full-text HTML conversion of this manuscript could not be completed. However, the manuscript can be downloaded and accessed as a PDF.

Figures

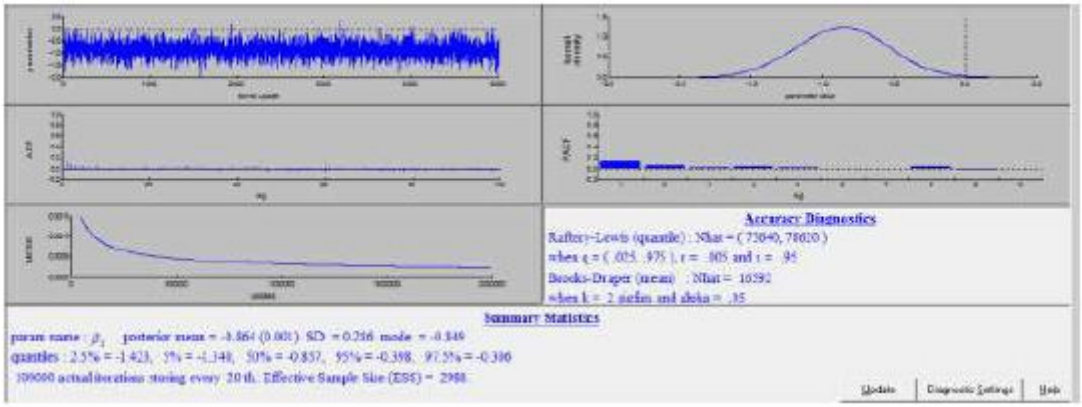

Figure 1

convergences for β1

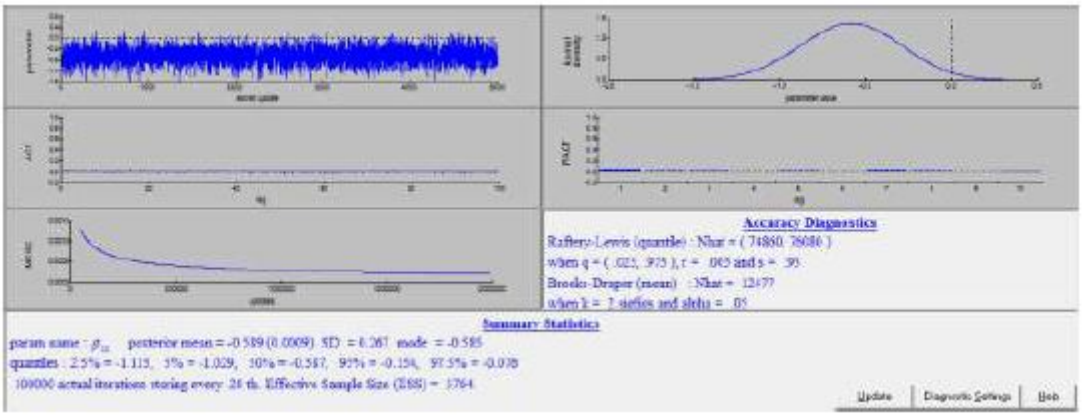

Figure 2

convergences for β15