

Bayesian Regression Analysis of Correlates of Modern Contraceptive Method Usage: A Case Study in Hawassa City, Ethiopia

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Despite widespread adoption of family planning in the developing world contraceptive use is still very low in sub-Saharan Africa including Ethiopia and in other regions. The general objective of this study was identifying the socioeconomic factors of modern contraceptive methods usage among married women of reproductive ages (15-49 years old) in Hawassa city. From a total 990 sampled married women about 57.9% (573) were modern contraception methods users. Bayesian logistic regression procedure was adopted to make inference about the parameters of a logistic regression model. The purpose of this method is generating the posterior distribution of the unknown parameters given both the data and some prior density for the unknown parameters. Bayesian inference for logistic regression models is derived applying a Markov Chain Monte Carlo algorithm to simulate from the joint posterior distribution of the regression and the link parameters. The Bayesian logistic regression analysis results revealed that age of the respondent, number of children, education level, occupation, monthly income, family planning field workers visit, frequency of following radio program, source of information, experience on modern contraceptive use and husband's encouragement had statistically significant impact on modern contraceptive usage.

Key Words: Markov chain Monte Carlo, posterior distribution, prior density, family planning