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| Title | Statistical exploration and projection of SDG-3 in Bangladesh through DHS: a study on data-driven perspectives using logistic regression | | |
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| Abstract |  |
| Sustainable Development Goal-3, as defined by the United Nations, aims to ensure healthy lives, and promote well-being for all at all ages. In the context of Bangladesh, achieving the targets of SDG-3 is a critical priority for public health and development. This study presents a data-driven exploration of SDG-3 in Bangladesh, focusing on maternal and child health indicators. We utilized data from multiple Bangladesh Demographic and Health Surveys conducted in 2011, 2014, and 2018 to provide a comprehensive analysis of health-related trends and determinants. We employed rigorous statistical techniques, including backward stepwise logistic regression and Pearson correlation coefficients, to uncover insights into the status of maternal and child health in Bangladesh. The prevalence of safe childbirth practices exhibited a gradual improvement from 2011 (32.5%) to 2018 (50.2%). Notably, women with higher levels of education demonstrated a significantly higher likelihood of safe childbirth practices (odd ratio = 1.73, 95% Confidence Interval: 1.19 – 1.97). Additionally, residing in urban regions (odd ratio = 1.07, 95% Confidence Interval: 0.96 – 1.39), having access to mass media (odd ratio = 1.34, 95% Confidence Interval: 0.98 – 1.41), receiving antenatal care (odd ratio = 1.62, 95% Confidence Interval: 1.16 – 1.92), being in the rich wealth index category (odd ratio = 1.13, 95% Confidence Interval: 0.92 – 1.39), and choosing to deliver outside the home (odd ratio = 1.48, 95% Confidence Interval: 1.11 – 1.86) were all associated with a higher likelihood of safe childbirth practices. The findings from this study show the power of data-driven decision-making in shaping health policies and interventions. They reveal critical factors affecting health outcomes, offering a roadmap for policymakers and stakeholders to design evidence-based strategies for improving maternal and child health in Bangladesh. This proposed work not only contributes to the academic understanding of public health in Bangladesh but also serves as a practical guide for those working to achieve SDG-3. As Bangladesh continues its journey toward health and well-being for all, this study sets a benchmark for evidence-based policymaking, emphasizing the importance of data-driven perspectives in the pursuit of SDG. | |