Assessment of Incomplete Childhood Immunization Determinants in Ethiopia: A Nationwide Multilevel Study

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Abstract : Imunization is one of the most cost-effective and extensively adopted public health strategies for preventing child disability and mortality. Expanded Program on Immunization (EPI) was launched in 1974 with the goal of providing life-saving vaccines to all children in all and building on the success of the global smallpox eradication program. According to World Health Organization report, by 2020, all countries should have achieved 90% vaccination coverage. Many developing countries still have not achieved the goal. Ethiopia is one of Africa's developing countries. The Ethiopian Ministry of health (MoH) launched the EPI program in 1980, with the goal of achieving 90% coverage among children under the age of 1 year by 1990. Among children aged 12-23 months, complete immunization coverage was 47% based on the Ethiopian Demographic and Health Survey (EDAS) 2019 report. The coverage varies depending on the administrative region, ranging from 21% in Afar region to 89% in Amhara region, Ethiopia. Therefore, identifying risk factors for incomplete immunization among children is a key challenge, particularly in Ethiopia, which has a large geographical diversity and a predicted with 119.96 million projected population size in the year 2022. Despite its critical and challenging issue, this issue is still open and has not yet been fully investigated. Recently, a few previous studies have been conducted on the assessment of incomplete children immunization determinants. However, the majority of the studies were cross-sectional surveys that assessed only EPI coverage. Motivated by the above investigation, this study focuses on investigating determinants associated with incomplete immunization among Ethiopian children to facilitate the rate of full immunization coverage. Moreover, we consider both individual immunization and service performance-related factors to investigate incomplete children's determinants. Consequently, we adopted an ecological model in this study. Individual and environmental factors are combined in the Ecological model, which provides multilevel framework for exploring different determinants related with health behaviors. The Ethiopian Demographic and Health Survey will be used as a source of data from 2021 to achieve the objective of this study. The findings of this study will be useful to the Ethiopian government and other public health institutes to improve the coverage score of childhood immunization based on the identified risk determinants.

Keywords : incomplete immunization, children, ethiopia, ecological model

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