ABSTRACT (A)

Childhood immunization is one of the most essential and cost-effective public health interventions to reduce child morbidity and mortality due to vaccine preventable diseases. In Myanmar, although childhood immunization was provided with free of charge to all children, some of them were incompletely or unimmunized at all. The aim of this study was to identify the determinants of incomplete or no immunization among children age 12-23 months in Myanmar using *Myanmar Demographic and Health Survey 2015-16* data. Analyses were based on weighted samples of 852 children age 12-23 months. The associations of immunization status with mother's characteristics, child's characteristics and household characteristics were assessed using multiple logistic regression analysis. All the analyses were accounted for cluster survey design using survey data analysis command (SVY) in STATA version 11. The prevalence of incomplete or no immunization was found to be 45.2% (95% CI: 40.6, 49.9). It was significantly higher in rural area i.e., 49.6% (95% CI: 44.0, 55.2) compared to urban area i.e., 32.5% (95% CI: 25.6, 40.3) and it was highest in Ayeyarwaddy Region i.e., 66.2% (95% CI: 53.5, 77.0) while it was found to be lowest in Mandalay Region i.e., 18.7% (95% CI: 9.9, 32.5). In multiple logistic regression analysis, factors significantly associated with incomplete or no immunization status were poorest households (AOR = 3.36; 95%CI: 1.56, 7.24), poorer households (AOR = 3.90; 95%CI: 1.90, 8.01) compared to highest households, maternal age 15-24 years (AOR = 2.46; 95%CI: 1.43, 4.24) compared to 35-49 years, receiving antenatal care (AOR = 0.49; 95%CI: 0.28, 0.84 for 1-3 times), (AOR = 0.27; 95%CI: 0.16, 0.47 for 4 times and above) compared to no antenatal care. Incomplete or no immunization was considerably high in Myanmar children age 12-23 months. The major determinants for incomplete or no immunization were poor households, younger mothers and mothers without antenatal care. Current maternal and child healthcare services should be strengthened particularly on younger mothers and mothers with low socioeconomic status. Further research with mixed method approach including provider's perspective should be warranted to explore the contextual factors for incomplete or no immunization among children age 12-23 months.

ABSTRACT (B)

Immunization is one of the essential tools for primary health care and it is an important and cost-effective disease prevention and control strategy. Although global immunization coverage has improved, millions of under-one year of children remain incomplete or un-immunized all over the world. Myanmar national immunization coverage is not too low but there may be many inaccessible areas. There were 66% of the children who did not get complete immunization in Ayeyarwaddy according to MDHS. This study aimed to find out the determinants of incomplete or no immunization among children age 12-59 months in Bogale Township, Ayeyarwaddy Region. Community based cross-sectional study design applying mixed methods was conducted. A total of 299 caregivers of children age of 12-59 months from two urban slum areas and four rural areas of low immunization coverage were included. House to house survey was done using semi-structured questionnaires after receiving written informed consents. For qualitative method, in depth interview was done among 12 caregivers and 10 healthcare providers after receiving written informed consents. The children found to be incomplete or un-immunized in Bogale Township were 18. Incomplete immunization in urban population was more than rural population (17.2% caregivers in urban and 1.4% in rural). Regarding knowledge about EPI, the most well-known diseases were measles and polio (93.3% and 87.6% respectively). Although all caregivers had heard about EPI, the percentage of caregivers who knew all names of the vaccines, the frequency of vaccination and the age of the children for vaccination was 18.1%, 2% and 2% respectively. Education and occupation of the caregivers were significantly associated with the knowledge level of the caregivers (p=0.004 and p=0.006). Residence and knowledge level of the caregivers significantly associated with immunization status of the children (AOR=0.06, 95% CI: 0.01, 0.20 and AOR=4.8, 95% CI: 1.41, 16.35). Main reasons for no immunization were fear of adverse effect, caregivers too busy and migration. These reasons were supported by the main barriers of qualitative approach and more barriers were mentioned in qualitative findings since healthcare providers' aspect was only explored in qualitative approach. Geographic barrier, communization, health system challenges such as financial support, cold chain system, vaccines vial policy, immunization target and waiting time for immunization were additionally found as barriers towards

immunization in qualitative method. In conclusion, though the immunization status of Bogale Township was not too low compared with Ayeyarwaddy Region, there were some cases of unimmunized children in Bogale. Major determinants of incomplete immunization were knowledge of caregivers residing in urban slums. Therefore, this study recommended that immunization services should be emphasized to urban slums and should be strengthened including financial support and cold chain system. Vaccines vial policy and setting of immunization target should be reviewed and revised.