Evaluate child vaccination timing and interval between doses in hard to reach, pastoral and semi-pastoralist areas in Ethiopia: Evidence from CORE Group Polio Project implementation areas

Legesse Bezabih (MSC), Filimona Bisrat (MD, MPH), Solomon Zeldeke (MPH), Fasil Tessema (Assoc.Prof)

STUDY OBJECTIVE:
To evaluate timeliness of vaccines given, assess interval between vaccine doses identify associated maternal factors among children 12 to 23 months of age.

METHODS:
A cross-sectional descriptive study that employed a 30 by 10 modified WHO EPI cluster sampling survey was used. Considering pastoral and semi-pastoral areas, a total of 60 clusters with sample of 600 children age 12-23 months of age and mothers or caretakers were included from 51 Woredas/districts and 14 zones. Data was collected using Smart phones loaded with Open Data Kit (ODK) system and exported to STATA12.0 for data description and analysis.

RESULTS:
• From the planned sample of 600 children 12-23 month of age, complete response was obtained from 577 (96.2%) respondents, 2 (0.3%) refused, and 5 (0.8%) excluded due to incomplete data and the remaining 16 (2.7%) were not at home during the survey period,
• Nearly fifty five percent (54.8%) were from pastoralist areas. About 51% of the respondents were Muslim and 68% were illiterate,
• More than one-fifth (21.9%) of children have received at least one vaccine dose earlier than the recommended minimum age. The proportion of children who had received early vaccine doses ranged from 32.9% measles vaccine before 9 months to 23.8% for first dose of Rota virus vaccine before 6 weeks,
• Nearly half (47.7%) of children received at least one subsequent dose earlier than 4 weeks interval. Early administration of the second doses of OPV (11.9%), Pentavalent (11.6%) and PCV (11.5%) were higher compared to the third doses of OPV (7.3%), Pentavalent (7.5%) and PCV (8.5%),
• Almost sixty percent (58.7%) of children received at least one timely invalid dose,

CONCLUSION AND RECOMMENDATIONS:
• Children who received vaccination earlier than the recommended age (later for OPV 0) and before minimum interval of four weeks were found to be higher,
• Maternal characteristics (such as residence, religion, education, occupation, age and sex of child) have no significant association with vaccination timing and interval between doses,
• Strong interpersonal communication between mothers and vaccinators should be in place to improve timely vaccine doses,
• Health workers need to practice proper age screening for timely vaccine commencement and keeping interval between consecutive doses.