

EDITORIAL

Contributing Towards Polio Eradication in Ethiopia

Filimona Bisrat (MD, MPH)¹, Mesganaw Fantahun²

Polio is a highly infectious disease caused by Poliomyelitis is a virus that mainly affects children under five years of age. It invades the nervous system and can cause total paralysis. The virus enters the body through the mouth and multiplies in the intestines. Initial symptoms are fever, fatigue, headache, vomiting, stiffness of the neck and pain in the limbs. One in every 200 infections leads to irreversible paralysis (usually in the legs). Of those paralysed, 5 – 10% dies when their breathing muscles become affected. However, Polio is preventable. There are vaccines that prevent the disease by developing the body's immunity to the virus (1).

In 1988, the World Health Assembly (2) passed a resolution to eradicate polio globally, which resulted in the establishment of the Global Polio Eradication Initiative (GPEI) and four main strategies were defined for polio eradication: high routine immunization coverage, conducting supplemental immunization activities, acute flaccid paralysis (AFP) surveillance and mop up immunization campaigns targeting high-risk areas. Ethiopia joined the Polio Eradication Initiative in 1996 and since then, the country has been implementing the four strategies (3). Ethiopia initiated AFP surveillance in 1997 and AFP forms part of the Integrated Disease Surveillance and Response (IDSR), which was adopted by Ethiopia in 1998 (4). Currently, AFP surveillance in the country is conducted by MOH in collaboration with WHO. The last laboratory confirmed wild poliovirus was detected in April 2008 in Gambella region. In addition, a total of 11 cases of circulating Vaccine Derived Polio Virus (cVDPVs) were identified from 2008 – 2010 in different part of the country (5,6).

The Child Survival Collaborations and Resources Group (The CORE Group), a membership association of 60 USA based international NGOs, was established in 1997 and aims at improving the health and welfare of children and women globally. The CORE Group Polio Project (CGPP) was formed in 1999 to support and coordinate efforts of NGOs involved in polio eradication activities.

CGPP Ethiopia was started in Ethiopia in 2001, and is hosted by Consortium of Christian Relief and Development Association (CCRDA). CCRDA/CORE Group created forum for partnership and collaborates with 11 partners (seven international and four local) in seven regional states of 55 woredas (districts) and the project is funded by USAID. The Ethiopian project focuses on hard to reach areas such as pastoralists and mobile communities.

One of the main successes CCRDA/CORE Group is that it initiated and developed community based surveillance activities in 2003 and trained and involved 4000 community volunteers to fill the gap of national facility based surveillance and EPI interventions. They are doing active community based case searching, house to house education, social mobilization and defaulter tracing activities. As part of the PEI, CCRDA/CORE Group has made great contribution through technical and logistics support with the objective of increasing routine immunization coverage in the targeted areas and the result is encouraging. Furthermore, the project managed to establish EPI mainstreaming using local church system in Gambella. In addition, the project contributed for better coverage and quality SIAs in target areas by participating partners in planning, implementation, monitoring and evaluation and providing logistic and financial support.

The project offered training on thematic topics in relation to PEI for front line health workers to improve their performance, as well as, conducted and documented various formative and operations research to serve management

decision and project improvement. CCRDA/CORE Group is working in strong partnership with FMOH, WHO, UNICEF, Rotary International, USAID, GAVI, and RHBs and representing partners in different forum and task forces in national and international

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Legesse Kidanne , Filimona Bisrat , Bezunesh Dinku , Meghan Lynch , Mesganaw Fantahun. 2013. *Ethiop Med J Sup 1*

NEWBORN TRACKING FOR POLIO BIRTH DOSE VACCINATION IN PASTORALIST AND SEMI-PASTORALIST CORE GROUP POLIO PROJECT IMPLEMENTATION DISTRICTS (*WOREDAS*) IN ETHIOPIA

Legesse Kidanne¹ , Filimona Bisrat¹ , Bezunesh Dinku¹ , Meghan Lynch² , Mesganaw Fantahun³

ABSTRACT

Background: Estimates of immunization coverage rates in Ethiopia varied widely, but were consistent in that polio birth dose coverage is much lower than other antigens, particularly in semi-pastoralist and pastoralist areas.

Objective: Examine pregnancy and child delivery practices and identify mechanisms for improving polio birth dose coverage in CORE Group Polio Project implementation districts.

Methods: A community based cross sectional study was conducted in March – April 2012 involving 600 women who delivered in the previous one year. Interviews were also conducted with key informants, Traditional Birth Attendants and, Health Extension Workers complemented by Focus Group Discussions (FGDs) with community leaders.

Results: Three hundred twelve women (52.0%) had attended antenatal care at least once during the last pregnancy. Five hundred forty nine women (91.5%) delivered their last baby at home. Polio coverage was 29.7%, 19.7%, and 32.7% by history, by card and by history or card respectively. Antenatal care attendance was the main predictor of polio birth dose utilization adjusted for other factors. Discussion with FGD participants revealed the prevailing knowledge on polio including misconceptions, and immunization service utilization.

Conclusions: Newborn tracking for improving polio birth dose requires raising awareness among women and the community at large, strengthening mechanisms for identification and follow up of pregnant women at the community level, coordinating and strengthening the activities of front line health workers, and improving accessibility of health service.

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Kibrom Abraham, Filimona Bisrat , Mesganaw Fantahun, Muluken Asres, Legesse Kidane, Bezunesh Rogie. 2013. *Ethiop Med J, Sup 1*

ORIGINAL ARTICLE

ACUTE FLACCID PARALYSIS SURVEILLANCE STATUS AND COMMUNITY AWARENESS IN PASTORALIST AND SEMI-PASTORALIST COMMUNITIES OF ETHIOPIA

Kibrom Abraham¹, Filimona Bisrat¹, Mesganaw Fantahun², Muluken Asres¹, Legesse Kidane¹, Bezunesh Rogie¹

ABSTRACT

Background: Acute flaccid paralysis (AFP) surveillance is an essential component of the polio eradication strategy. The last laboratory confirmed wild poliovirus in Ethiopia was identified in April 2008. However, the country remains at risk for re-infection because of a number of silent areas and borders with high risk countries.

Objective: Assess AFP surveillance status and community perception on AFP/Polio in semi pastoralist and pastoralist areas.

Methods: Community and facility based cross-sectional survey was conducted complemented by Focus Group Discussions (FGD) from March -April, 2012. The study populations included District and health center AFP surveillance focal persons, WHO surveillance officers, community and religious leaders and women who delivered in the previous one year in purposively selected districts in Core Group Polio Project Implementation areas of Ethiopia.

Result: Interviews with health center and district AFP surveillance focal persons revealed deficiencies in training, supervision and feedback. The performance of AFP detection varied in the study districts and knowledge about polio and AFP detection was found to be low in the study communities.

Conclusion: There is a need to strengthen awareness of communities through targeted information, education and communication (IEC) interventions. Regular need-based training and supportive supervision should be conducted, involving all stakeholders including religious leaders and community leaders at each step of the awareness creation process, case detection and reporting and by giving special emphasis to silent and border districts.

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Bezunesh Rogie, Yemane Berhane, Filimona Bisrat. 2013. *Ethiop Med J, Sup. 1*

ORIGINAL ARTICLE

ASSESSMENT OF COLD CHAIN STATUS FOR IMMUNIZATION IN CENTRAL ETHIOPIA.

Bezunesh Rogie¹, Yemane Berhane², Filimona Bisrat¹

ABSTRACT

Background: In order to achieve immunization goals, two factors are necessary; the delivery of potent vaccines to children through properly maintained cold chain systems and achieving high vaccine coverage. Maintaining quality

of vaccines has been one of the main challenges of immunization programs in Africa.

Objective: To assess the cold chain status and practices in 116 health facilities located in three CCRDA/CORE Group Ethiopia operational districts (woredas).

Methodology: An institution based cross-sectional study was conducted in December 2011 and January 2012 in three districts (woredas) of Oromiya, SNNP and Amhara Regions of Ethiopia, data was collected from 116 health facilities and from the same number of immunization service providers. Multiple logistic regression analysis was carried out to identify factors related to knowledge of cold chain management.

Result: Of 116 visited facilities, only 22 (19%) had functional refrigerators. The remaining facilities transported vaccines from nearby facilities having functional refrigerators. Complete temperature recording of the last month was observed in 13(59.1%) facilities. Of 22 functional fridges, the thermometer reading was found to be outside the recommended range in 6(27.3%) on the date of data collection. Vaccine storage in the refrigerator was not proper in 12(54.5%) facilities. Sixty-five (56%) health workers had satisfactory knowledge on cold chain management. Professional qualification and year of service in the immunization program showed a statistically significant association with knowledge of cold chain management ($P<0.05$).

Conclusion and Recommendations: Vaccines in some facilities were found to be at a high risk of losing their potency. There is an urgent need to improve knowledge and practice on cold chain management through improved supervision and training.

Bezunesh Rogie, Yemane Berhane, Filimona Bisrat. 2013. *Ethiop Med J, Sup. 1*

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ORIGINAL ARTICLE

**CROSS-BORDER WILD POLIO VIRUS TRANSMISSION IN CORE GROUP
POLIO PROJECT AREAS IN ETHIOPIA**

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Frank Conlon² , Mesganaw Fantahun³

ABSTRACT

Background: Ethiopia interrupted indigenous polio transmission in April 2008. However, it remains at risk of re-infection because of importation of polio virus from bordering countries.

Objectives: Assess polio immunization activities and risk of wild polio virus (WPV) importation in CORE Group Polio Project (CGPP) international border areas of Ethiopia.

Methods: The study employed key informant interviews of community volunteers (CV), health extension workers (HEWs), program coordinators, managers and other stakeholders, as well as focus group discussions (FGDs) with community and religious leaders in six border districts (woredas) located in three regions of the country. It was conducted in March and April 2012.

Results: Thirty-three key informant interviews and six FGDs were conducted. Immunization coverage was reported to be low and misconceptions about causes and transmission of polio were abundant. There was extensive cross-border movement of people for various reasons and mechanisms for prevention of cross-border polio transmission was almost nonexistent . AFP case detection and reporting was generally low.

Conclusion and recommendations: Cross-border transmission of polio can occur from several frontiers. Suggestions to control cross-border polio transmission included establishing and/or strengthening cross-border collaboration with responsible counterparts in neighboring countries by using existing cross-border forums and structures to create community awareness, share information and resources, design and implement strategies for identification of children who are eligible for vaccination or suspected AFP cases. In addition districts should coordinate supplemental immunization activities to coincide with when adjacent districts in neighboring countries are carrying out similar actions.

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Endale Zewdu Beyene, Alemayehu Worku , Filimona Bisrat, Mesganaw Fantahun. 2013. *Ethiop Med J, Sup. 1*

**FACTORS ASSOCIATED WITH IMMUNIZATION COVERAGE AMONG
CHILDREN AGE 12–23 MONTHS: THE CASE OF ZONE 3,
AFAR REGIONAL STATE, ETHIOPIA**

Endale Zewdu Beyene, ¹ Alemayehu Worku, ² Filimona Bisrat³, Mesganaw Fantahun²

ABSTRACT

Background: Strengthening routine immunization is one of the four pillars of the global polio eradication initiative. **Objectives:** To determine the magnitude and factors associated with vaccination coverage among children age 12 - 23 months in Zone 4 of Afar Regional State, Ethiopia.

Methods: A community based cross-sectional study using the WHO modified cluster sampling method was carried out in Zone 3 of Afar Regional State between January 01 and May 31 , 2009. The calculated sample size was 762 and 740 were included in the analysis of vaccination status.

Results: A total of 740 children aged 12-23 months were included in the study. Three hundred forty two (46%) respondents reported that their children were vaccinated at least once. Polio 3 coverage was found to be 35.0 % and full immunization coverage was 20.6%. Respondents who could read and write had a higher likelihood of getting their children vaccinated compared to those who could not read or write [AOR=0.18, 95% CI:0.08-0.34]. Similarly age of the mother, husband's attitude and joint decision making by husband and wife were significantly associated with child immunization adjusted for other factors.

Conclusion: The population immunity for polio measured by routine polio vaccine uptake in the study area indicated a high risk for wild polio virus outbreaks following importations, and the emergence and spread of circulating vaccine- derived polio virus. Literacy, positive attitude towards immunization and decision power are important factors to be addressed.

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Muluken Asres ,Filimona Bisrat, Yetnayet Kebede, Bethelhem Asegedew, Beharu Getachew, Mesganaw Fantahun. 2013. *Ethioph Med J, Sup. 1*

ORIGINAL ARTICLE

KNOWLEDGE AND PRACTICE OF FRONTLINE HEALTH WORKERS (HEALTH EXTENSION WORKERS AND COMMUNITY VOLUNTEER SURVEILLANCE FOCAL PERSONS) TOWARDS ACUTE FLACCID PARALYSIS (AFP) CASE DETECTION AND REPORTING IN PASTORALIST AND SEMI-PASTORALIST AREAS OF ETHIOPIA.

Muluken Asres¹, Filimona Bisrat¹, Yetnayet Kebede¹, Bethelhem Asegedew¹, Beharu Getachew¹, Mesganaw Fantahun²

ABSTRACT

Background: Front line workers in pastoralist and semi pastoralist areas are expected to play a vital role in detecting cases of Acute Flaccid Paralysis.

Objective: Assess knowledge and practice of Health Extension Workers (HEWs) and Community Volunteer Surveillance Focal Persons (CVSFPs) on AFP case detection and reporting.

Methods: A cross sectional survey involving 70 Health Extension Workers (HEWs) and 71 Community Volunteer Surveillance Focal Persons (CVSFPs) was conducted in 9 districts in Core Group Polio Project Implementation areas of Ethiopia from March 1-April 30, 2013. Data were entered and analyzed using SPSS version 17.

Results: Thirty four HEWs (48.6%) searched for AFP cases by going from house to house, while 27(38.6%) did not perform any function specific to AFP surveillance. Twenty (28.2%) and 7(9.9%) of CVSFPs respectively, indicated using a case definition of AFP which included paralysis and acute paralysis. Nine (12.7%) of the CVSFP provided responses that did not include paralysis while 22 CVSFPs (31.0%) did not know the case definition of AFP. Three HEWs and 9 CVSFPs claimed to have detected and reported AFP cases. Thirty-eight (53.5%) CVSFPs had received training on community-based surveillance while 33 (46.5%) had none. Thirty nine (54.9%) of the CVSFPs reported having received supervision during the last six months, 22 (31.0%) of whom reported having received feedback.

Conclusion: Inadequate pertinent knowledge on AFP and inadequate training and supervision appear to be obstacles for effective AFP detection by front line health workers in the study communities.

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Bezunesh Dinku , Filimona Bisrat , Yetnayet Kebede, Bethелеhem Asegidew , Mesganaw Fantahun. 2013. *Ethiop Med J, Sup. 1*

ORIGINAL ARTICLE

KNOWLEDGE OF MOTHERS ON POLIOMYELITIS AND OTHER VACCINE PREVENTABLE DISEASES AND VACCINATION STATUS OF CHILDREN IN PASTORALIST AND SEMI-PASTORALIST AREAS OF ETHIOPIA.

Bezunesh Dinku ¹ , Filimona Bisrat ¹ , Yetnayet Kebede ¹ , Bethелеhem Asegidew ¹ , Mesganaw Fantahun ²

ABSTRACT

Background: Awareness and service utilization are key to polio eradication.

Objective: Assess the knowledge of mothers on polio and other vaccine preventable diseases, and utilization of immunization services in pastoralist and semi-pastoralist areas in Ethiopia.

Methods: A community-based cross sectional study using a multistage cluster sampling method involving women who delivered during the previous one year was conducted.

Results: A total of 600 women were interviewed. Three hundred-and-five (50.8%) women said they knew what polio was. The time to initiate polio vaccination was correctly indicated to be at birth or within 2 weeks of birth by 224 (37.4%) women. Four hundred forty five (74.2%) women said they did not know how polio is transmitted. Polio birth dose (Polio 0) and Polio 3 vaccine coverage were estimated at 32% and 37% respectively. Adjusting for other factors, knowledge of when polio vaccination starts was significantly associated with having a child vaccinated for Polio 3 (OR 95% CI= 3.45(2.33- 5.11).

Conclusion: Knowledge of mothers about polio is low and a little more than one third were aware of when the initial vaccine dose should be administered. Providing detailed information on polio and the recommended vaccination schedule can contribute to improve immunization and hasten polio eradication.

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Muluken Asres, Mesganaw Fantahun. 2013. *Ethiop Med J, Sup. 1*

BRIEF COMMUNICATION

HEALTH FACILITY PREPAREDNESS FOR ROUTINE IMMUNIZATION SERVICES IN GAMBELLA REGION, ETHIOPIA

Muluken Asres ¹ , Mesganaw Fantahun ²

ABSTRACT

Background: Immunization coverage has been consistently low in semi pastoralist regions of Ethiopia, including the Gambella region.

Objective: Assess facility preparedness for routine immunization services in the region.

Methods: All health centers and randomly selected health posts that were reported to provide immunization services for at least six months earlier to the data collection time were included. The study was conducted in August, 2011. Data were collected through observations and interviewing health facility head or EPI focal person using structured questionnaire.

Result: Only 7/28(25%) of health facilities provided routine EPI service regularly while the rest 21/28 (75 %) health facilities did not offer routine EPI regularly. The reasons given for not providing EPI services regularly were lack of refrigerator in 9/28 (32.1%) health facilities, shortage of kerosene in 7/28 (33.3%), the refrigerators were dysfunctional in 3/28 (14.3%), had no vaccine in 1/28 (3.6%) health facilities. At times higher coverage were attained when Enhance Routine Immunization Activities (ERIA) were conducted.

Conclusion: Routine EPI performance in Gambella region is generally low. There seems to be reliance only on ERAs to increase EPI coverage. Health facilities should be staffed with trained personnel and adequate immunization logistics should be available to run regular static and outreach services.

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Bezunesh Dinku, Abera Kumie, Filimona Bisrat, 2013. *Ethiop Med J, Sup. 1*

BRIEF COMMUNICATION

LINKING COMMUNITY VOLUNTEER SURVEILLANCE FOCAL PERSONS WITH HEALTH EXTENSION WORKERS ON POLIO SURVEILLANCE

Bezunesh Dinku (MD, MPH)¹, Abera Kumie (MD, MPH, PHD)² Filimona Bisrat (MD, MPH)¹

ABSTRACT

Background: Inadequate involvement of community volunteers in vaccine preventable disease surveillance and lack of uniformity in the reporting channel.

Objective : To identify factors affecting linkage of Community Volunteers Surveillance focal Persons (CVSFP) and HEWs/Woreda Health Offices, identify feasible and acceptable solution for strong linkage and sustainable implementation of the project

Method: A qualitative study based on purposive convenient sampling method involving CVs, HEW, responsible officials on Health Extension Program (HEP) and CORE Group Ethiopia Polio Partner NGO's focal persons was conducted.

Result: A total of 26 discussants were interviewed in the study woredas. Training of community volunteers at enrollment was not uniform. Health Extension workers and CVs plan together, visit the community together, have periodic meeting and both are supervised by the woreda health office. Community volunteers report to HEWs or woreda health office. The HEWs complain that CVs are not available as required; some are not reporting to HEWs, HEWs are not involved in the training of volunteers. Community volunteers complain distant travel to woreda and kebele to report and for meeting.

Conclusion: The day to day working relation, the meeting forums, woreda level monitoring and feedback mechanism shows how well the work of CVs and relation with HEWs is recognized. No standard training procedure is followed. Volunteers are used as guide; distance travel with no/inadequate incentive can reduce commitment of volunteers. Misunderstanding of HEWs about the volunteers' private/obligatory work was a factor for loose relation.

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