Knowledge, perception and factors affecting health care service providers for reporting adverse events following immunizations in pastoral zone of Ethiopia

Presented by: Muluken Asres (PhD)
Background

- The research is done on CORE Group Polio Project (CGPP) intervention areas that supported by USAID.
- The knowledge and perceptions of health workers towards surveillance of Adverse Events Following Immunization (AEFI) influence the quality and safety of the vaccination services.
- **Objective:** assess health care service providers’ knowledge, Perception and factors affecting AEFI reporting.

**Map of CGPP intervention**

![Map of CGPP intervention areas in Ethiopia](image)
Methods

- The respondents of the study were; all Health Extension Workers working in Health Posts, EPI, Surveillance and HMIS Focal Persons working in the Zone, Woreda, Hospital and Health Centers and also Head of Health Centers and Hospitals.

- Data were collected using structured questionnaires
- A total of 109 health care providers included in the study.
- Data analyzed using SPSS version 25.

- Likert scale applied, constructs developed, average value of knowledge and perception indicators calculated.
Method

- Percentages calculated for each specific and construct indicators
- Collinearity test, Bivariate and multivariate analysis were done.
- Each respondents response scored for each knowledge/perception indicator and tried to measure the average result of all knowledge indicators.
- When average result of all indicators were above the mean value respondents considered as had good knowledge/perception and those scored below the mean value had poor knowledge/perception otherwise fair knowledge.
Average and specific values of study participants’ knowledge

- Out of all respondents;
  - 94% had good knowledge on causes of AEFI and
  - 69% had good knowledge on the sign and symptoms of AEFI
  - While 42.2% had poor knowledge on AEFI case treatment,
  - 45.9% did not know about case investigation and
  - 44% did not know about AEFI reporting.

Knowledge on specific Variables

- Only 11% of respondents were aware or ever heard about AEFI whereas the remaining were either did not know it or totally not heard about it.
Average values of study participants’ knowledge

- Also 61.5% of them did not know as vaccine reaction cause AEFI and 60.6% of them did not know that adrenaline use to manage anaphylaxis shock
- In general, Adrenalin provision, reporting injection site redness, Reporting of AEFI to Woreda health office, the ability of AEFI reporting through mail and fax were below 50%
- While 69.7% and 84.4% of respondents knew that about AEFI reporting through telephone calls and colleagues respectively.
Graph shows average values of study participants’ knowledge
Average values of study participants’ perception

- Almost all believed that reporting of AEFI is important.

- However, 60.6% of them thought reporting of AEFI can lead to personal consequence and 74.3% believed reporting of AEFI such as injection abscess will make him/her guilty.

- Also 18.3% believed AEFI investigation done by clinical officers and not nurses or HEWs but

- Almost all (99.1%) believed that Health Workers and HEWs working in the health facilities play a vital role in diagnosing, reporting, investigating and managing AEFI
Graphs shows average values for respondent perception on AEFI Surveillance, Benefit, procedure, Responsibility and Reporting.
Factors affecting health care service providers for reporting adverse events following immunizations

- Availability of partners support (p< 0.05) and knowledge to AEFI Case Management (p<0.05) were significantly associated.
Binary logistic regression in multivariate analysis for associated variables during bivariate analysis

<table>
<thead>
<tr>
<th>Variables</th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>Sig.</th>
<th>Exp (B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of education</td>
<td>1.930</td>
<td>2.730</td>
<td>0.500</td>
<td>0.480</td>
<td>6.891</td>
</tr>
<tr>
<td>Location of institution</td>
<td>15.513</td>
<td>6542.574</td>
<td>0.0001</td>
<td>0.998</td>
<td>545.152</td>
</tr>
<tr>
<td>Distance of health facility</td>
<td>-13.713</td>
<td>6542.574</td>
<td>0.0001</td>
<td>0.998</td>
<td>0.01</td>
</tr>
<tr>
<td>Electricity Availability</td>
<td>-15.720</td>
<td>8187.204</td>
<td>0.0001</td>
<td>0.998</td>
<td>0.001</td>
</tr>
<tr>
<td>Partner Support</td>
<td>2.498</td>
<td>1.095</td>
<td>5.207</td>
<td>0.022*</td>
<td>12.162</td>
</tr>
<tr>
<td>Knowledge how to Manage AEFI</td>
<td>2.590</td>
<td>1.339</td>
<td>3.741</td>
<td>0.048*</td>
<td>13.331</td>
</tr>
<tr>
<td>AEFI training</td>
<td>0.810</td>
<td>1.324</td>
<td>0.374</td>
<td>0.541</td>
<td>2.247</td>
</tr>
<tr>
<td>Constant</td>
<td>-5.688</td>
<td>3.268</td>
<td>3.030</td>
<td>0.082</td>
<td>0.003</td>
</tr>
</tbody>
</table>
Recommendation

- Intensive AEFI training has to be given to enhance the knowledge and capacity of Health Care Providers on AEFI and necessary logistic for AEFI surveillance such as guideline and reporting formats have to be supplied through government and partners working on immunization and surveillance.
Authors;
Principal investigator: Muluken Asres (PhD), mulukena.cgpp@gmail.com
Advisor: Workneh Abebe (PhD), wawj2017@gmail.com

Acknowledgement:
It is my deepest gratitude to extend my appreciation to my Advisor Dr Workneh Abebe for his tireless support and valuable comment from the beginning to the end of this study. I would like to thank CCRDA/CORE Group which supported me the data collection logistic and covered related expenses. I sincerely appreciate Mr Seid Ahmed and Abwola Dingur who were coordinated the data collection process and collected data on which without their support it would not be reached at this stage. The last but not least I would like to thank Health Care Providers working in Majang Zone, Godere and Mengesh Woredas, Health Posts, Health Centers and Hospital for their fully cooperation to be interviewed and provide the information based on the tools.