

CORE GROUP POLIO PROJECT BASELINE  
SURVEY

Report

CORE Group Ethiopia  
Filimona Bisrat, MD, MPH  
Alemayehu Worku, PhD

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## Table of Contents

List of Tables .....	iv
I. Background .....	1
II. Objectives of the survey.....	3
III. Methods.....	4
3.1. Study Design .....	4
3.2. Study Population.....	4
3.3. Study period.....	4
3.4. Sample size determination .....	4
3.5. Sampling Procedure .....	4
3.6. Data collection .....	7
3.6. Data collection .....	7
3.7. Training of Interviewers and Supervisors.....	7
3.8. Data entry and analysis.....	8
<b>IV. Findings of the Survey .....</b>	<b>9</b>
<b>4.1. Socio demographic characteristics of respondents.....</b>	<b>9</b>
<b>4.2. Knowledge of Respondents on Immunization .....</b>	<b>13</b>
<b>4.3. Immunization coverage of children 12-23 months .....</b>	<b>23</b>
<b>4.4. Reasons for not receiving any polio vaccin .....</b>	<b>32</b>
<b>4.5. Immunization status of under five children .....</b>	<b>35</b>
<b>V. Conclusions.....</b>	<b>40</b>
<b>VI. Recommendations .....</b>	<b>43</b>
<b>VII. Annex .....</b>	<b>45</b>



## **List of Tables**

Table 1: Socio Demographic Characteristics of Respondents

Table 2: Knowledge of Respondents on Immunization

Table 3: Vaccination coverage by routine immunization and during campaign among children 12-23 months old

Table 4: Reasons for not receiving vaccination and defaulting

Table 5: Vaccination coverage by routine immunization and during campaign among under five children

## List of Figures

- Fig. 1 Respondents ever attended school
- Fig.2 Time a baby need to receive the first dose of polio vaccin
- Fig.3 Percent rememebered the date of last vaccination campaign
- Fig.4 Main source of information about the last campaign
- Fig. 5 Percent heard of acute flaccid paralysis
- Fig. 6 What happens to a child with paralysis
- Fig. 7 Children 12-23 months who have vaccination card
- Fig. 8 OPV3 and Pentavalent3 vaccination coverage by card
- Fig. 9 Reported polio vaccination coverage for 12-23 months
- Fig. 10 Reasons for not receiving any polio vaccin

## **I. Background**

Vaccine preventable diseases represent a major potential source of morbidity and mortality among children throughout the developing world. To prevent the development of these diseases, vaccines are delivered through routine health services and, increasingly, through NID/SNID which may target a wide age range of children. Determining vaccine coverage permits evaluation of vaccination services delivered to date, appropriate targeting of additional services and, when linked to surveillance data, assessment of the success of vaccination strategies in preventing disease.

The Child Survival Collaborations and Resources (CORE) Group is a membership association of more than 47 U.S. PVOs that work globally to strengthen local capacity to measurably improve the health and well-being of children and women in developing countries through collaborative action and learning. In 1999, USAID awarded an \$8 million grant to the CORE Group Partners Project to implement polio eradication activities through its PVO members and their partners in selected polio endemic and polio-affected developing countries where PVO access to hard-to-reach, high risk and “silent” communities could help achieve the immunization coverage necessary to interrupt polio transmission and eradicate the virus. Since then, the CORE Group's polio eradication initiative (PEI) activities supporting routine and polio immunization, AFP surveillance and health sector and organizational capacity building have been implemented by US-based PVOs and their local partners in countries including Angola, Ethiopia, India and Nepal.

A National Secretariat office established in each country provides strategic direction and technical support to the program and partners; facilitates training, communications and coordination for the participating partner organizations; and represents the partner PVOs, NGOs and the community voice in national and international forums. The Secretariat ensures the necessary coordination and communication to prevent duplication of effort, disseminates information and

lessons learned among partners and stakeholders, and contributes to maximizing the return on investments.

In Ethiopia, The CORE Group Partnership for Polio Eradication was commenced in 2000 and since then different activities in relation to polio eradication activities have been implemented. Currently, 12 partners of which eight PVOs<sup>1</sup> and four local NGOs<sup>2</sup> are agreed to implement in 52 woredas of seven regions in the country namely Gambella, Southern Nation Nationalities People Regional State (SNNPRS), Amhara, Oromiya, Afar, Somali and Benshangule-Gumuze. They managed to reach a total of 4,717,044 people of which 2,217,010 are under fifteen while 849,067 are under five years of age and 179,247 are under one child. Recently CORE awarded fund from USAID Global Bureau for CORE Group Polio project for five years. In this connection, it was planned to conduct baseline survey for the new project which will serve for the monitoring and evaluation purpose.

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<sup>1</sup> AMREF, IRC, CRS, SAVE, CARE, CCF, PLAN, and World Vision

<sup>2</sup> Alemtena Catholic Church, Harerghe Catholic Secretariat, Pastoralist Concern Association of Ethiopia, and Ethiopia Evangelical Church Mekane Yesus

## II. Objectives of the survey

- (i) To determine immunization coverage for the eight antigens<sup>3</sup> among children aged 12-23 months old in all CORE Group Polio Partner Project implementation areas/Regions
- (ii) To assess immunization status of under five children during NID and sub NIDs
- (iii) To determine knowledge and attitude of mothers or care takers on polio and AFP surveillance
- (iv) To identify reasons for not immunization

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<sup>3</sup> BCG, diphtheria, tetanus toxoid, pertussis, Hepatitis B, Haemophilus influenza type b and Measles



### III. Methods

#### 3.1. Study Design

A cross-sectional descriptive survey to estimate the percentage of children within CORE Group Polio partner project intervention areas that have been vaccinated with a specified antigen was employed. The survey used a 30 by 10 modified WHO EPI cluster sampling procedure. In each partner intervention Region 30 clusters were included. Within each cluster a total of at least 10 eligible children have been surveyed.

#### 3.2. Study Population

All children in the age group 12 -23 months residing in CORE Group partner project intervention woredas and under five children residing within eligible households. A household is eligible if there is at least one 12-23 months age child.

#### 3.3. Study period

- ☞ The coverage survey was conducted from July 21 to July 31 , 2008
- ☞ Children with birth dates from July 21, 2006 to July 20, 2007 (13/08/1998 to 12/08/1999 EC) were surveyed for child immunization. Region specific adjustment was done based on the Polio vaccination campaign date in each respective Region.

#### 3.4. Sample size determination

Assuming a 50% average coverage, providing estimate at a level of accuracy of within  $\pm 8\%$  , 95% confidence level and a design effect of 2, the sample size required for the survey was 300 children of age 12-23 per Region.

#### 3.5. Sampling Procedure

The hierarchical structure of the administrative system of the country is as follows: The Regions are divided into Zones and Zones into Woredas. The Woredas are

further divided into Kebeles. The Kebeles are the smallest administrative unit in the country. Typically, a Kebele consist of approximately 1,500 households (HH) all of which are registered with the local Kebele office.

There are eleven CORE Ethiopia partner organizations which are implementing CGPP project in 53 woredas of seven regions of the country. Some of them are covering one or more woredas of different regions. All the seven Regions were included in the survey. The woredas to be surveyed were selected based on a set criteria considering geographical accessibility due to rainy season and security problem. After discarding some of the woredas with these criterions, then probability proportionate to size method was used to select woredas. From each of the seven Regions 30 clusters were allocated which brought a total of 210 clusters and 2100 children.

The distribution of clusters in the study woredas followed the following steps:

- ☞ The selected partner study woredas were listed with their population.
- ☞ The cumulative population was calculated.
- ☞ Sampling Interval was calculated and the 1<sup>st</sup> cluster was selected using a random number chosen between 1 and the sampling interval.
- ☞ Woreda Sampling Interval (S.I.) = Woreda Population/No clusters in allocated to the Region
- ☞ A Random Number was selected from a table of random numbers. The random number must have same number of digits as the Sampling Interval.
- ✓ The Random Number must be equal to or smaller than the Sampling Interval.
- ✓ Identify the woreda in which the first cluster is located by using the first cumulative population that equals to or exceeds the Random Number.
- ✓ Identify the woreda in which the second cluster is located by using the Random Number + Sample Interval. If the population of that woreda is equal to or greater than the sum of both numbers, then second cluster also falls in the 1<sup>st</sup> woreda else the 2<sup>nd</sup> cluster went to the second or third woreda depending on the population of the second woreda.

- ✓ The calculation continuing until reaches 30 clusters in the selected Region.
- ☞ Depending on the size of the population number of clusters fell in each woreda was not equal.
  
- ☞ After identified the total number of clusters in each study woreda lottery method was applied to distribute clusters for kebeles.

### **3.6. Data collection**

#### **Selection of households**

In the selection of the households for the data collection generally two methods were employed depending on the availability of household lists. In areas where household lists were found a random method was used to select the first household and then the subsequent households were selected based on the principle of the next nearest house. On the other hand in areas where household lists could not be found the first household was selected after randomly selecting direction from the center of the village (EPI model) and then the subsequent households selected based on the same principle of the next nearest household.

### **3.7. Training of Interviewers and Supervisors**

The field supervisors were holders of bachelor degree or above from CORE Ethiopia secretariat office and partner organization and those involved in similar type of survey process before. Based on the geographical location seven supervisory areas identified and one field supervisor was deployed for each area. The selection of the supervisors was done through the CORE Ethiopia Secretariat. Furthermore, data collectors and guiders were recruited from the respective study woredas to collect data. Those were people who know the main languages used in the area of their assignment. The selection of data collector was handled in collaboration with partner field staff and woreda health offices. Central facilitators have trained the field supervisors for two days in Addis Ababa and the field supervisors also provided one day training for the data collectors in their respective woredas. The morning session of the training day was devoted for theory which familiarized the survey process and the questionnaire. The afternoon session was used for practical field -testing and trial runs. The actual data collection took 11 days with a team collecting data on 10 children aged 12 – 23 months in a cluster for childhood immunization.

Field supervisor have collected the questionnaires from the data collectors and made editing/cleaning of data each day to keep the quality of the information.

### **3.8. Data entry and analysis**

Data entry have been commenced parallel with data collection and continued as the fieldwork progressed. The data were processed using Epi Info Version 3.4 for windows statistical packages. A data entry template was developed first. A check program was also employed to minimize errors occurred during data entry. Data were cleaned prior to analysis. Frequencies have been run by specific objectives to estimate coverage at Regional level and identify reasons for immunization failure. Results are presented in tables and graphs.

## IV. Findings of the Survey

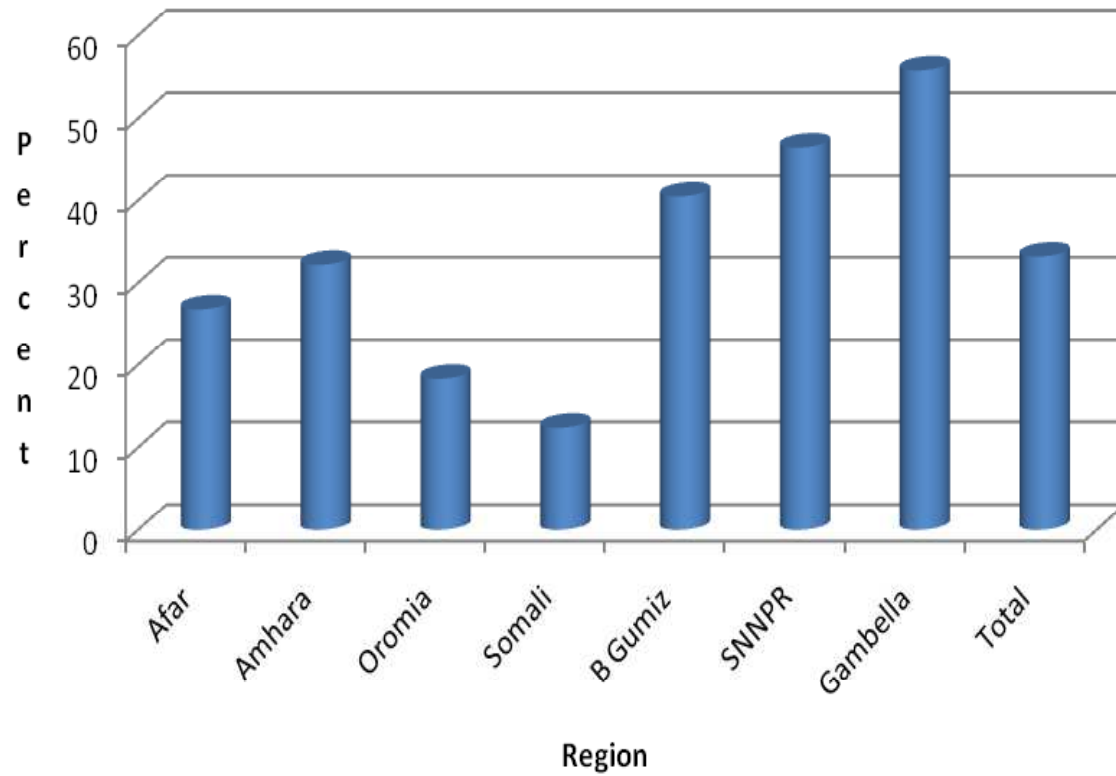
### 4.1. Socio demographic characteristics of respondents

A total of 2109 households were included in the survey. The total number of households included in the survey is a bit higher than the calculated, which was 2100. In Amhara Region about 314 households were included. Having a larger sample size in Amhara and as a result over all the seven Regions increased the precision of the immunization coverage. The response rate was 98.3% for Afar, 99.7% Somali and SNNPR and above 100% for the rest of the Regions. Majority of the respondents were females, with 92.3% for all Regions. Mean age of the respondents ranges from 27.4 years for Oromia and Benishangul Gumiz to 30.3 years for Amhara. The overall mean $\pm$ SD age was 28.6 $\pm$ 7.3 with median age of 28 years. Majority of the respondents, about two third of them never attended a formal school (66.8%). In Oromia and Somali Regions more than 80% of the respondents never attended schools. Among those respondents who ever attended school, about 78% of them attended primary schools. Very few of them, 3.9%, attended above secondary school. Among the seven Regions, in more than half of them (four Regions), more than 80% have attended only primary schools. Majority of the respondents speak their own local language. More than 80% of the respondents have lived continuously since birth in the current residence. About 35% of the respondents reported that they work outside of home. In Amhara and Benishangul Gumize Regions more than half of the respondents said that they work outside of home. Small proportion, 15.1%, of the respondents from SNNPR reported work outside home. Farming is the main means of living for the majority of the respondents, 59.6%. This is true for all Regions except for Afar Region where about 30% reported that they are pastoralists. When mothers or care takers are not at home, most of the time older children are taking the responsibility of caring children. This is followed by respondent's mother and respondent's mother-in-law. In Afar, Somali and Oromia Regions the majority of the respondents are Muslims. In Amhara, Benishangul Gumiz, SNNPR and Gambella the majority are Christians (Table 1).

**Table 1: Socio demographic characteristics of respondents**

		Region							Total (%)
		Afar (%)	Amhara (%)	Oromia (%)	Somali (%)	Bgumiz (%)	SNNPR (%)	Gambella (%)	
No of Households in the survey		295	314	300	299	301	299	301	2109
<b>Charatersics</b>									
sex	Male	15.9	6.8	5.4	5.1	6.9	8.4	5.8	7.7
	Female	84.1	93.2	94.6	94.9	93.1	91.6	94.2	92.3
Mean age±		28.3±6.5	30.3±9.4	27.4±6	29.3±6.1	27.4±7.8	29.3±6	28.0±8.2	28.6±7.3
Median age		27	29	26	29	26	28	28	28
Ever attended school	Yes	26.8	32.2	18.3	12.4	40.5	46.5	55.8	33.2
	No	73.2	67.8	81.7	87.6	59.5	53.5	44.2	66.8
Highest level of school attended	Primary	67.1	74.3	80.0	83.8	82.8	83.5	74.4	77.7
	Secondary	27.8	22.8	16.4	13.5	13.9	15.8	18.5	18.4
	TVET	1.3	0.0	0.0	0.0	3.3	0.7	0.6	1.0
	Higher	3.8	3.0	3.6	2.7	0.0	0.0	6.5	2.9
Language speeked most comforable	Amharic	31.9	96.2	8.3	3.0	37.5	31.1	5.3	30.9
	English	0.0	0.0	0.0	1.3	0.0	0.0	0.3	0.2
	Oromiffa	3.7	0.0	91.7	3.7	24.3	0.3	2.0	17.9
	Somali	1.0	0.0	0.0	91.9	0.0	0.0	0.0	13.1
	Afar	56.3	3.8	0.0	0.0	0.0	0.0	0.3	8.5
	Other	7.1	0.0	0.0	0.0	38.2	68.6	92.0	29.3

**Fig. 1 Respondents ever attended school**





**Table 1: Socio demographic characteristics of respondents-Continued**

		Region							Total (%)
		Afar (%)	Amhara (%)	Oromia (%)	Somali (%)	Bgumiz (%)	SNNPR (%)	Gambella (%)	
Time lived in the area	Less than a year	15.9	2.5	36.0	34.4	10.3	7.4	21.9	18.3
	Since birth	83.4	94.9	62.0	64.2	89.7	92.6	77.7	80.7
	Visitor	0.7	2.5	2.0	1.3	0.0	0.0	0.3	1.0
Work outside home	Yes	29.8	58.9	25.0	33.8	54.2	15.1	23.9	34.6
	No	70.2	41.1	75.0	66.2	45.8	84.9	76.1	65.4
Main means of income	Business/Shop	26.1	13.0	32.0	23.8	4.3	22.2	23.6	17.7
	Other home	5.7	2.7	2.7	0.0	0.6	6.7	16.7	3.8
	Farming	20.5	83.2	40.0	36.6	88.3	57.8	36.1	59.6
	Selling in a street/Market	2.3	0.0	6.7	21.8	0.0	6.7	4.2	4.8
	Pastorla	29.5	1.1	16.0	6.9	3.1	0.0	0.0	7.1
	Other	15.9	0.0	2.7	10.9	3.7	6.7	19.4	6.9
When not at home taking care of child	Respondent's Mother	21.0	26.2	20.7	22.3	17.3	6.0	30.6	20.6
	Resp. Mother-in-law	7.1	7.7	17.3	13.9	14.0	19.1	15.9	13.5
	Husband/Partner	21.4	12.5	7.3	6.4	7.0	21.1	8.3	12.0
	Older child	24.4	33.5	39.3	30.1	39.5	40.8	34.9	34.7
	Neighbors/Friends	16.3	7.3	13.0	16.2	10.0	9.4	4.7	10.9
	Other	9.8	12.8	2.3	11.1	12.3	3.7	5.6	8.3
Religion of the respondents	Coptic Orthodox christian	14.9	93.0	17.1	0.3	21.6	22.1	7.6	25.8
	Other christian	7.1	1.9	0.7	1.1	40.6	75.3	81.0	29.6
	Muslim	78	4.8	80.6	98.6	37.2	2.3	0.3	42.6
	None	0.0	0.3	0.3	0.0	0.0	0.3	4.0	0.7
	Other	0.0	0.0	1.3	0.0	0.7	0.0	7.0	1.3

## 4.2. Knowledge of Respondents on Immunization

Knowledge on the time for the first dose of polio vaccine is low. Proportion of respondents who reported immediately at birth varies from Region to Region. It is as low as 5% in Oromia followed by Afar (13.2%), SNNPR (16.4%), and Somali (18.9%). The highest being in Gambella (39.5%). Overall 21.5% of the respondents said immediately at birth. In all Regions, except Gambella and Afar, larger proportion of respondents mentioned that a baby need to receive the first dose of polio vaccine when he/she is older than four weeks. For the total about 18% of the respondents don't know the time for the first dose of polio vaccine.

Large majority of the respondents (89.7%) from Gambella Region remembered the data of the last vaccination campaign followed by respondents from Amhara Region (72.6%). In Somali and Benishangul Gumize, a little higher than half of the respondents remembered the date of the last vaccination campaign, 58.9% and 53.8% respectively. The lowest proportion is in Afar where only 15.6% remembered the date followed by SNNPR (26.1) and Oromia (34.0%). Overall half (50.4%) of the respondents remembered the date of the last vaccination campaign. For those who remembered the date the main source of information about the last vaccination campaign were health institutions/health professionals and CORE volunteers, 49.2% and 26.6% respectively for the total. The distribution varies from Region to Region. For Oromia and SNNPR CORE volunteers were the main source of information. The least mentioned source of information about the last vaccination campaign were printed material and Families. Majority of the households were visited by vaccinators during the most recent NID/SNID, 92.3%. Lesser proportion of households were visited in Oromia, 69.6%.

About 90.6% of the respondents believe that children can receive polio vaccinations too often. Except in Somali and Afar, 76.1% and 82.4% respectively, in the other Regions more than 90.0% of the respondents believe that children can receive polio vaccinations too often. Large majority of the respondents don't believe that there are some children who should not be vaccinated or might be

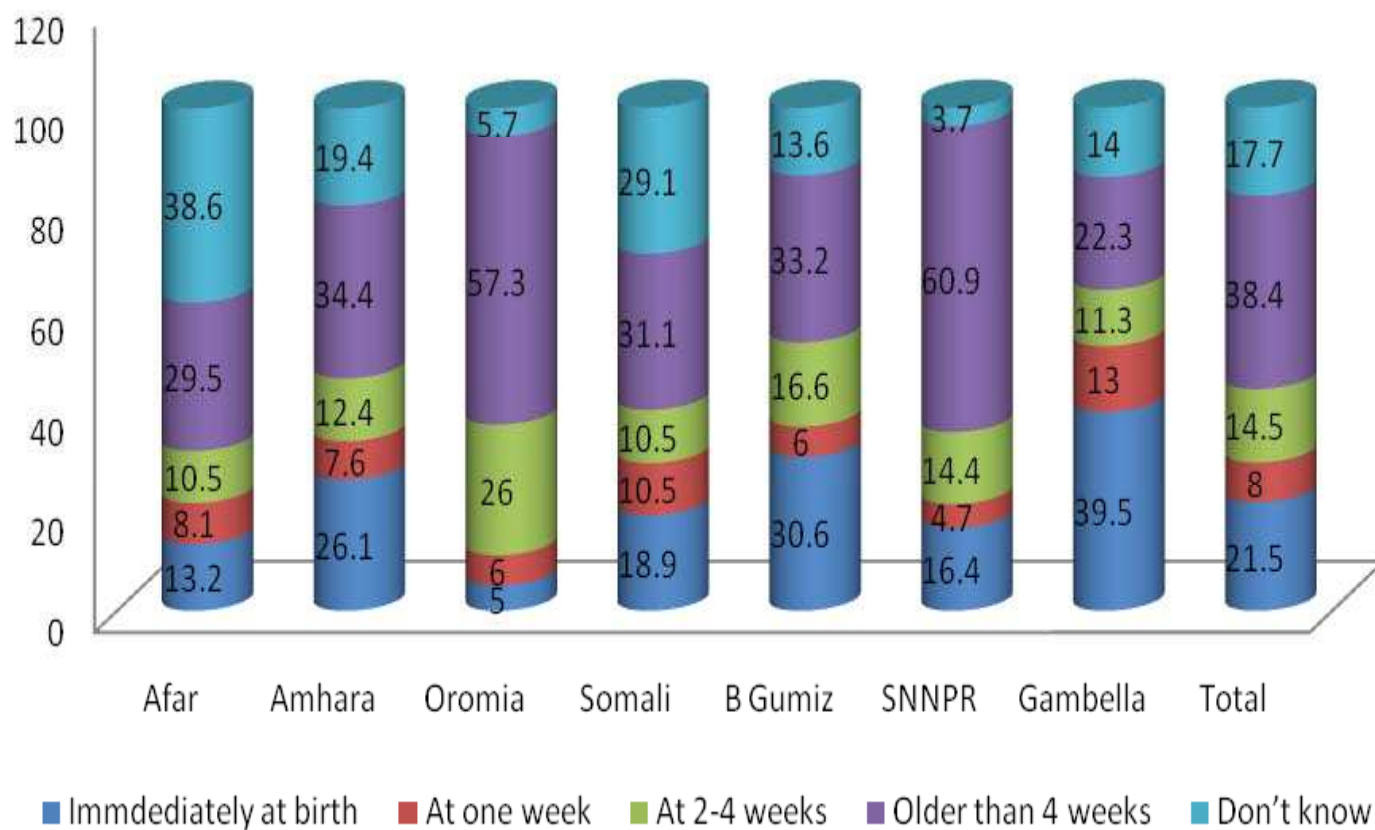
hurt by polio vaccination, 82.6%. Except in Somali Region (32.2%) in all the other Regions below 15% of the respondents believe that there are some children who should not be vaccinated or might be hurt by polio vaccination. Among these who believe, 37.5% mentioned that sick children should not receive polio vaccination followed by 28.6% who said rather newborns should not receive polio vaccination.

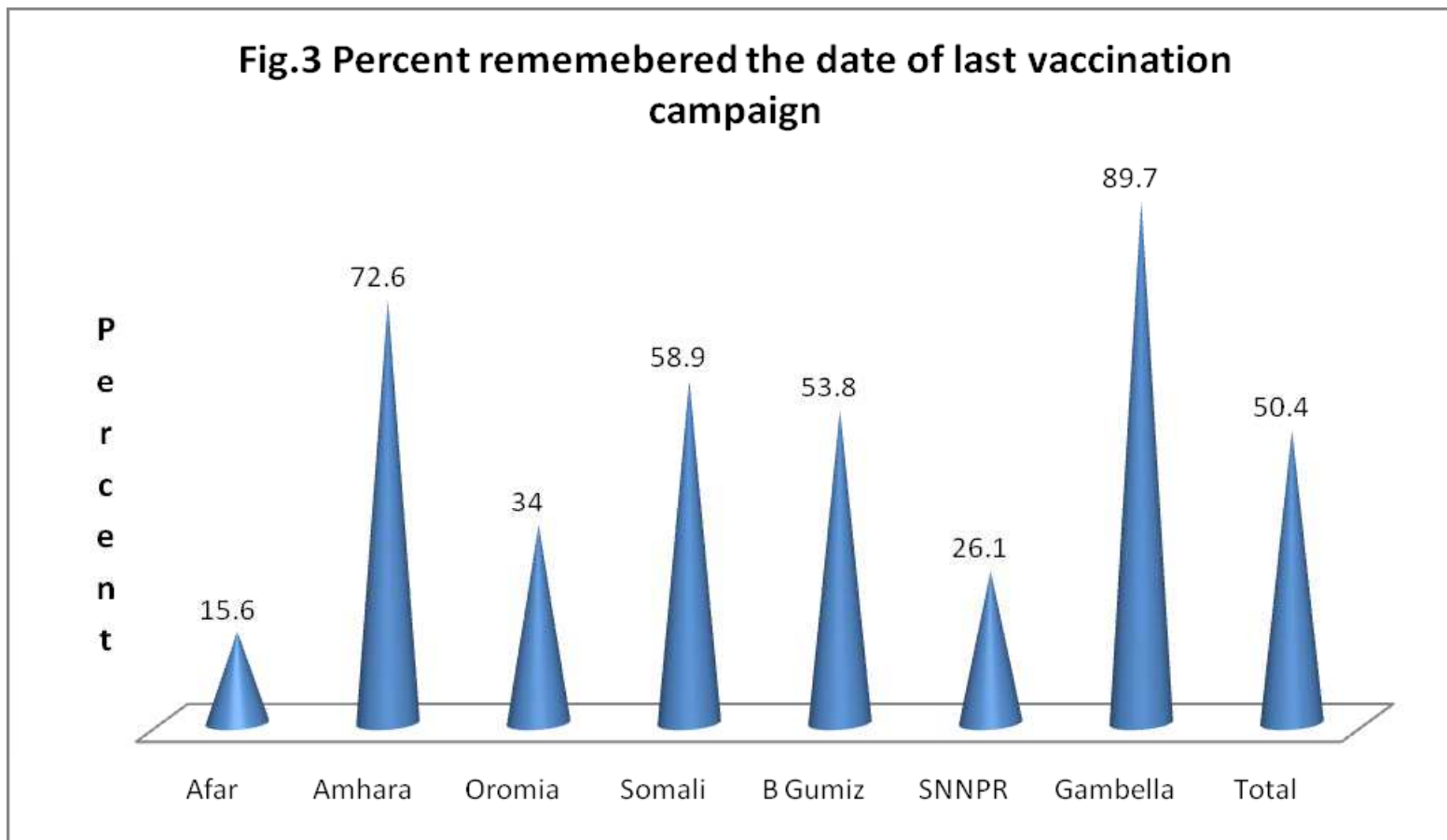
About 71.1% of the respondents have heard of acute flaccid paralysis, that is, sudden paralysis in children. But about one fourth of the respondents, 26.0%, said that they didn't ever hear of acute flaccid paralysis. The proportion is higher in Afar (37.7%), Benishangul Gumuz (34.0%) and Oromia (30.3%). Among who ever heard of acute flaccid paralysis, 68.2% explained that child stops walking/crawling to a child with paralysis followed by Limp limbs, 20.7%. About 11.1% reported other than the above two symptoms. Large majority, 80.0% said that they contact Clinic/Municipal authority/Hospital if a child has paralysis. Only about 7.5% mentioned that they contact Volunteers (CVSFPs) followed by Herbalists (5.1%) (Table 2).

**Table 2: Knowledge of respondents on Immunization**

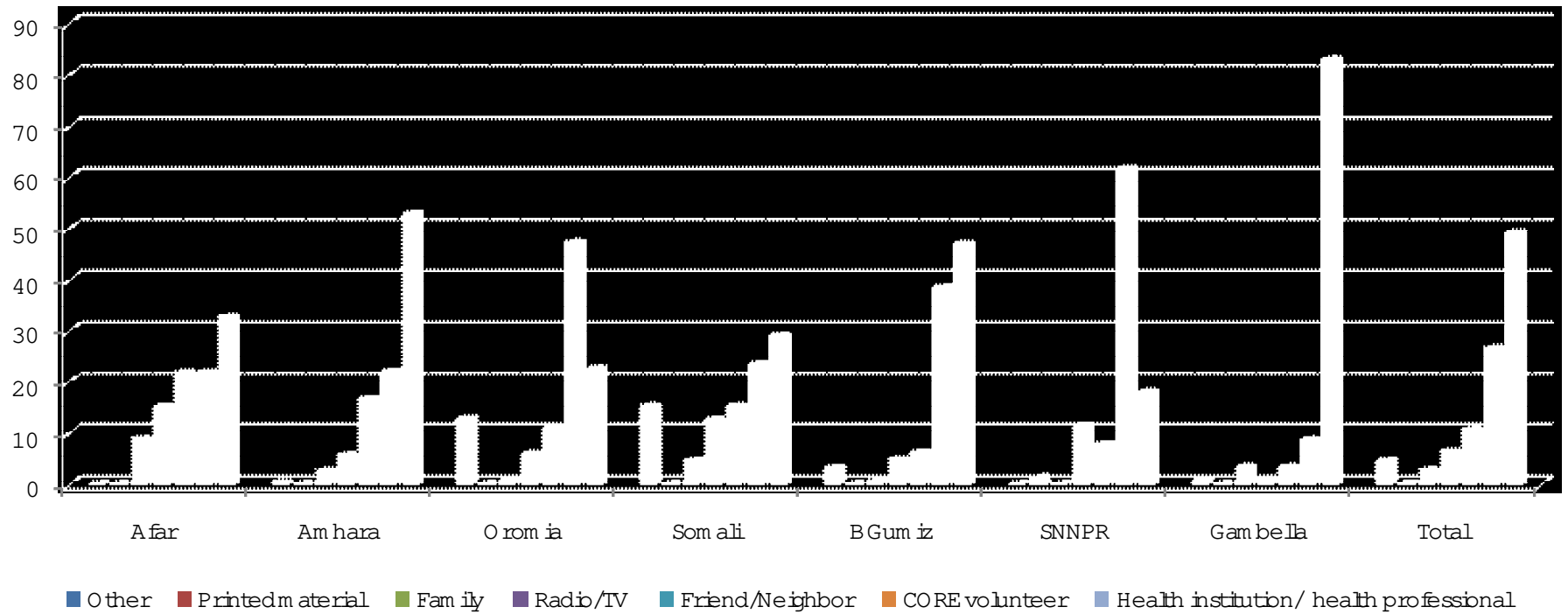
		Region							Total (%)
		Afar (%)	Amhara (%)	Oromia (%)	Somali (%)	Bgumiz (%)	SNNPR (%)	Gambella (%)	
No of Households in the survey		295	314	300	299	301	299	301	2109
<b>Knwoledge quesitions</b>									
The time a baby need to receive the first dose of polio vaccin is	Immmediately at birth	13.2	26.1	5.0	18.9	30.6	16.4	39.5	21.5
	At one week	8.1	7.6	6.0	10.5	6.0	4.7	13.0	8.0
	At 2-4 weeks	10.5	12.4	26.0	10.5	16.6	14.4	11.3	14.5
	Older than 4 weeks	29.5	34.4	57.3	31.1	33.2	60.9	22.3	38.4
	Don't know	38.6	19.4	5.7	29.1	13.6	3.7	14.0	17.7
Remember the date of last vaccination campaign	Remmeber the date	15.6	72.6	34.0	58.9	53.8	26.1	89.7	50.4
	Don't remember the date	84.4	27.4	66.0	41.1	46.2	73.9	10.3	49.6
Main Source of informamtion about the last campaign	Radio/TV	15.2	5.7	5.9	12.5	4.9	11.5	1.1	6.4
	Family	8.7	2.6	1.0	4.5	0.6	0.0	3.3	2.7
	Friend/Neighbor	21.7	16.7	10.8	15.3	6.2	7.7	3.3	10.5
	CORE volunteer	21.7	21.9	47.1	23.3	38.3	61.5	8.5	26.6
	Printed material	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.1
	Health institution/ health professional	32.6	52.6	22.5	29.0	46.9	17.9	83.0	49.2
	Other	0.0	0.4	12.7	15.3	3.1	0.0	0.7	4.5
Families visited by vaccinators during the recent NID/SNID (among those who remember the last vaccination date)	Yes	97.8	98.2	69.6	84.4	94.4	100.0	96.6	92.3
	No	2.2	1.8	30.4	11.0	5.6	0.0	3.0	6.8
	Don't know/Don't remember	0.0	0.0	0.0	4.6	0.0	0.0	0.4	0.9

**Fig.2 Time a baby need to receive the first dose of polio vaccin**





**Fig.4 Main source of information about the last campaign**



**Table 2: Knowledge of respondents on Immunization -continued**

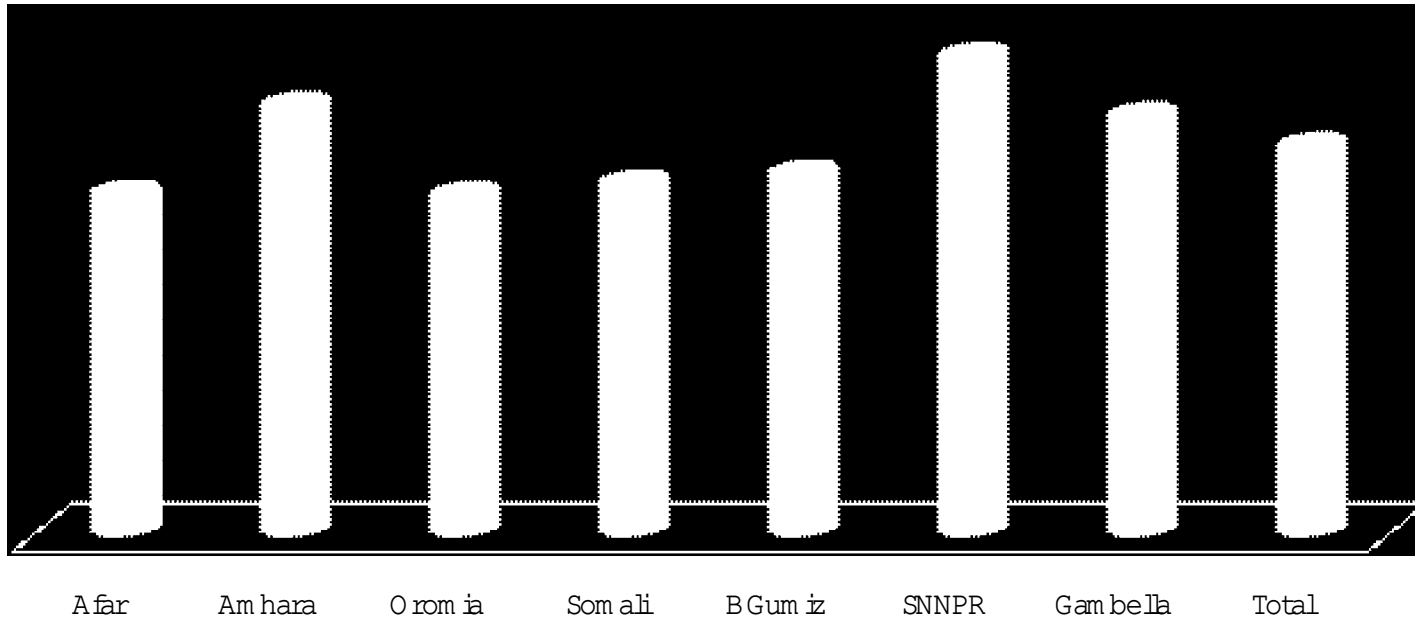
Knowledge questions		Region							Total (%)
		Afar (%)	Amhara (%)	Oromia (%)	Somali (%)	Bgumiz (%)	SNNPR (%)	Gambella (%)	
Believe children can receive polio vaccinations too often	Yes	82.4	95.5	93.0	76.1	97.7	95.7	93.0	90.6
	No	2.0	1.6	3.7	12.3	1.3	3.3	5.3	4.2
	Don't know/ Not sure	15.6	2.9	3.3	11.6	1.0	1.0	1.7	5.2
Believe that there are some children who should not be vaccinated or might be hurt by polio vaccination	Yes	7.1	2.2	13.0	32.2	8.3	5.7	14.3	11.8
	No	74.9	96.2	84.7	55.0	90.0	93.0	83.4	82.6
	Don't know/ Not sure	18.0	1.6	2.3	12.8	1.7	1.3	2.3	5.6
Children who shouldn't receive polio vaccine are (among those who said yes for the above question)	Newborns	28.6	42.9	28.2	32.3	8.0	23.5	32.6	28.6
	Sick children	14.3	42.9	33.3	51.0	32.0	23.5	30.2	37.5
	Physically handicapped children	19.0	14.3	12.8	10.4	16.0	0.0	4.7	10.5
	Other	38.1	0.0	25.6	6.3	44.0	52.9	32.6	23.4
Heard of acute flaccid paralysis, that is, sudden paralysis in children	Yes	62.3	78.6	62.0	64.2	66.0	87.6	76.7	71.1
	No	37.7	21.4	30.3	23.6	34.0	12.4	23.3	26.0
	Don't know/Don't remember	0.0	0.0	7.7	12.2	0.0	0.0	0.0	2.8
What happens to a child with paralysis	Child stop walking/crawling	60.1	80.2	67.1	59.4	59.9	73.6	76.4	68.2
	Limp limbs	22.9	14.9	19.8	30.2	25.6	13.7	18.6	20.7
	Other	17.1	5.0	13.1	10.3	14.5	12.7	5.1	11.1

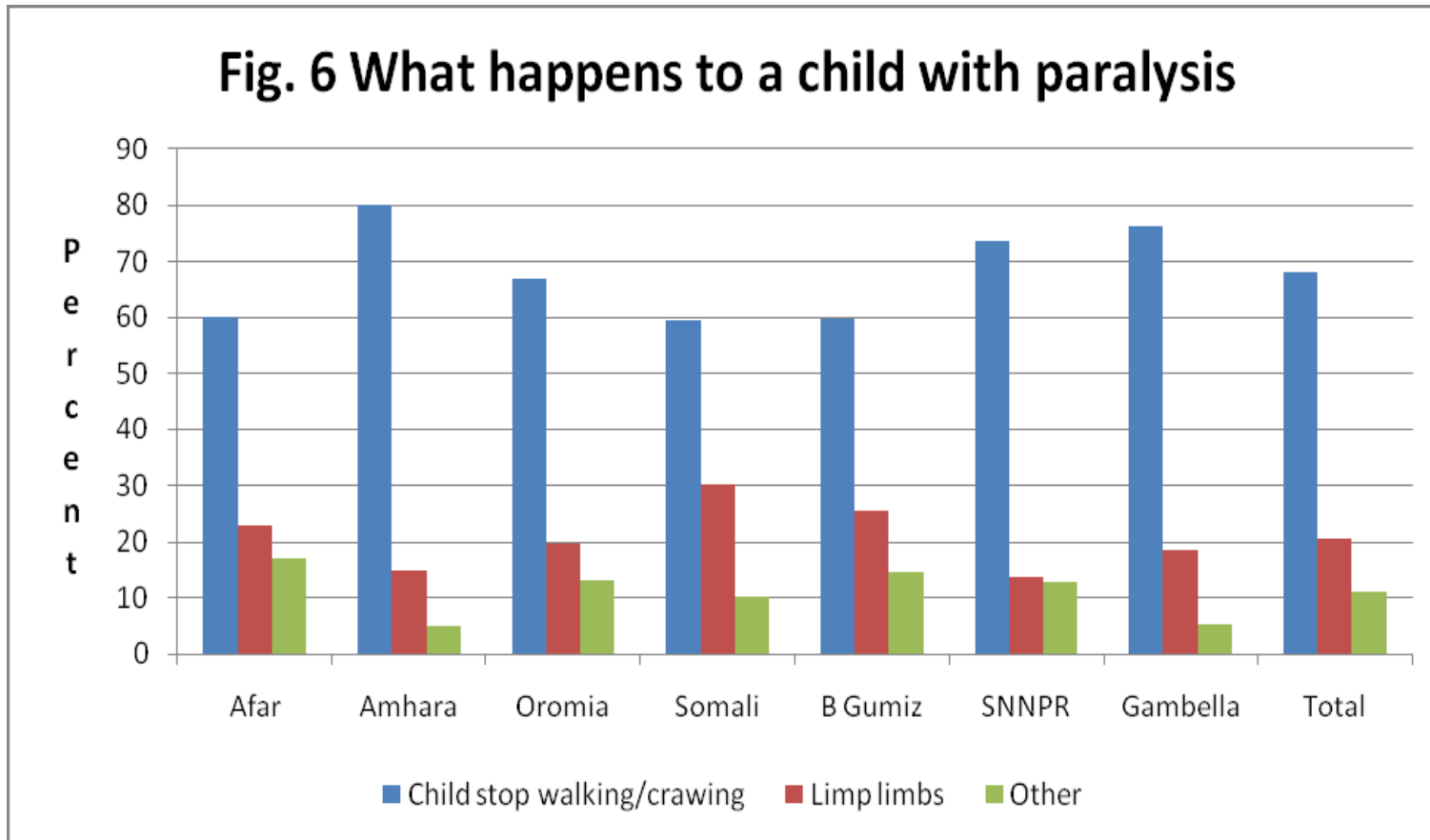


**Table 2: Knowledge of respondents on Immunization -continued**

		Regions							
		Afar (%)	Amhara (%)	Oromia (%)	Somali (%)	Bgumiz (%)	SNNPR (%)	Gambella (%)	Total (%)
Who would you contact if a child had paralysis, stopped being able to move his/her arm or leg (other than family)	Clinic/Municipal authority/Hospital	70.6	83.2	75.1	71.6	91.7	85.6	81.7	80.0
	Traditional healer	3.4	1.7	1.3	4.1	1.7	0.0	0.7	1.8
	Herbalist	12.6	4.0	12.1	2.4	3.7	0.3	0.7	5.1
	Volunteers (CVSFPs)	10.2	9.6	3.0	10.5	2.3	6.4	10.3	7.5
	Holly water	0.0	1.0	1.7	0.0	0.0	0.0	0.0	0.8
	Other	3.1	0.7	5.7	11.5	0.3	6.4	6.3	4.8

**Fig.5 Percent heard of acute flaccid paralysis**





### 4.3. Immunization coverage of children 12-23 months

Slightly more male children (53.1%) than female (46.9%) were included in the survey. In all of the seven Regions more male children were surveyed than female children.

In most of the Regions less than half of the children 12-23 months old could show vaccination card during the survey. Only in Amhara (50.0%) and SNNPR (50.3%) of mothers/care givers of children showed vaccination card. The smallest proportion was in Afar (14.6%) followed by Gambella (25.6%). In all Regions, except SNNPR (36.6%), less than 20 % of mother/care givers of the children reported that they have vaccination card but couldn't show for the survey team during data collection. Over all about 44.1% of the children don't have vaccination card. Large majority, 72.2%, of the children in Afar Region don't have vaccination card followed by Gambella (59.8%). Among those who don't have vaccination card during the survey, 43.7% of them ever had vaccination card. About 47.9% ever had no vaccination card and 8.4% couldn't remember. Majority of the children from Gambella (73.3%) ever had no vaccination card followed by Somali (69.5%) and Afar (53.8%).

Since less than half of the children could produce vaccination card, the vaccination coverage by card is found to be small. Moreover, institution delivery in Ethiopia is one of the lowest, which is about 6%. As a result OPV0 coverage by card is too small. The overall OPV0 coverage by card is 9.3%. The lowest OPV0 coverage by card is in Afar (0.7%) followed by Amhara (4.5%), Oromia (10.3%) and Benishangul Gumuz (10.6%). OPV1-OPV3 and PENTAVALENT vaccination coverage by card is improved compared to OPV0. The overall OPV1 coverage by card was found to be 32.1%. Again the lowest coverage being in Afar (10.5%) and the highest being in SNNPR and Amhara Region, 49.5% and 49.0% respectively. The total OPV2 and OPV3 vaccination coverage by card was found to be 29.1% and 25.9%, respectively. Still persistently the lowest coverage is in Afar and a better coverage is found in Amhara and SNNPR. OPV1, OPV2 and OPV3 vaccination

coverage of Regions Afar, Somali and Gambella are lower than the total coverage for all Regions. The pattern for pentavalent 1, pentavalent 2 and pentavalent 3 vaccination coverage by card is similar to that of OPV coverage. The total coverage for pentavalent 1 was 31.2%, for pentavalent 2 was 28.2% and for pentavalent 3 was 25.4%. The coverage for Afar, Somali and Gambella was found to be less than the above total coverage. Better coverage is found in Amhara and SNNPR. Vaccination coverage by card for BCG and Measles was too low, 1.2% and 0.7% respectively.

Polio Vaccination coverage during campaign is found to be very high, 90.5%. Except in Afar Region where the polio campaign coverage is 78.8%, and Oromia (80.7%) in all other Regions the coverage is above 91%. Among those who reported ever received polio vaccination the vaccination coverage during the last NID/SNID was also found to be high, 92.7%. In all Regions the last campaign coverage is above 84%. The highest coverage is found to be in Amhara Region (98.7%).

Reported routine polio vaccination coverage is found to be 70.0%. The smallest coverage was in Afar, which was only 28.2% followed by Somali (54.1%) and Gambella (55.1%). The highest reported polio routine immunization coverage was in SNNPR (98.0%) followed by Benishangul Gumiz (93.7%) and Amhara (91.1%). About one fifth of the mothers/care takers of children in Afar couldn't remember whether their child was vaccinated or not in the routine immunization program. This proportion is too small in all other Regions, ranging from 0.0% to 4.4%.

Almost half (48.3%) of the children received the first dose of polio vaccination both during polio campaign and routine immunization program after they are older than four weeks as reported by mothers/care givers. Only 14.1% of the children received the first dose of polio at birth. About 8.1% of the children received the first dose of polio after they are one week old. About one fourth (26.3%) of the children received polio vaccination four times followed by 22.9%

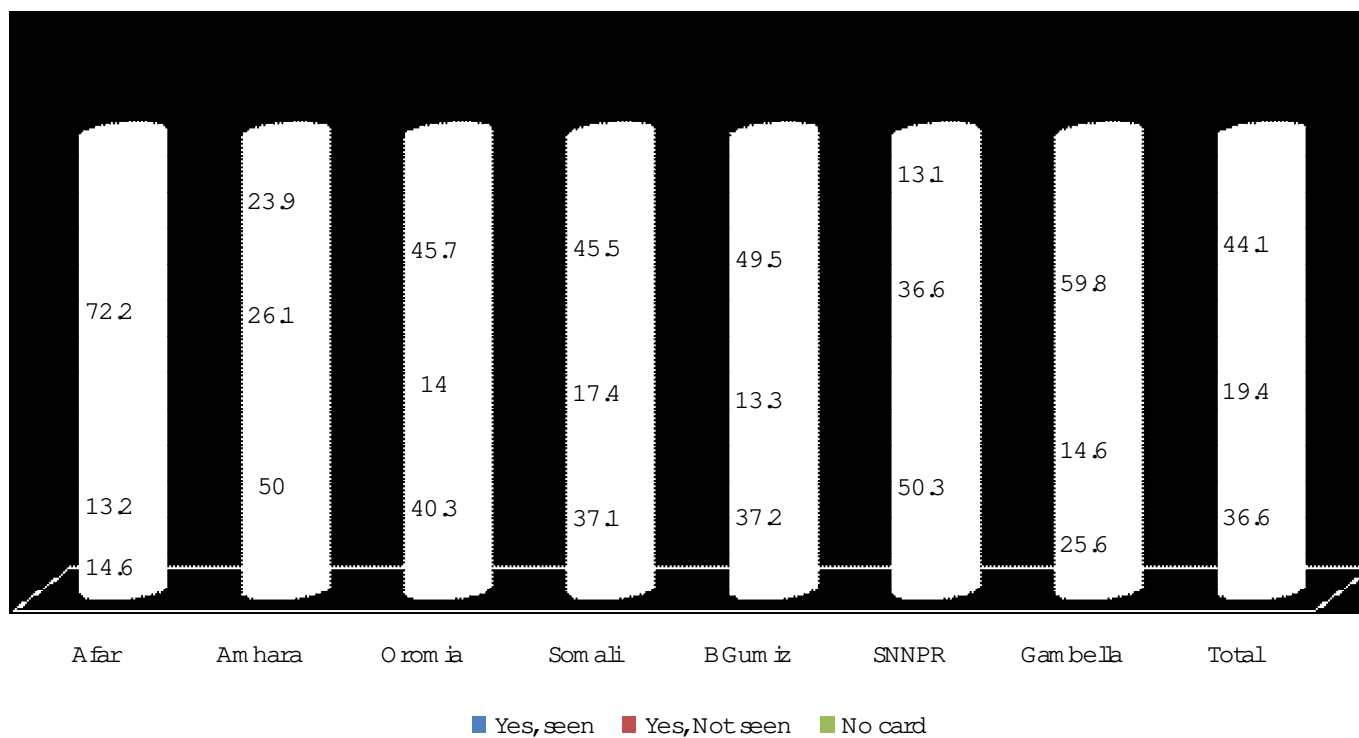
three times, 18.6% five times, 13.5% two times and 7.5% six times. About 4.4% of the children received more than seven times.

About 80% of the children received pentavalent vaccine sometime at the same time as polio vaccination given. The lowest coverage was reported from Afar (54.2%) followed by Gambella (60.1%). The highest coverage was reported from SNNPR (98.7%). Majority of the children (60.8%) received pentavalent vaccine three times. In Amhara and SNNPR 88.3% and 87.1% of the children received pentavalent vaccine three times respectively. Only 22.8% of children in Afar Region received three times pentavalent vaccine followed by 29.4% of children in Somali and 39.8% of children in Gambella Regions (Table 3).

**Table 3: Vaccination coverage by routine immunization and during campaigns among children 12-23 months old**

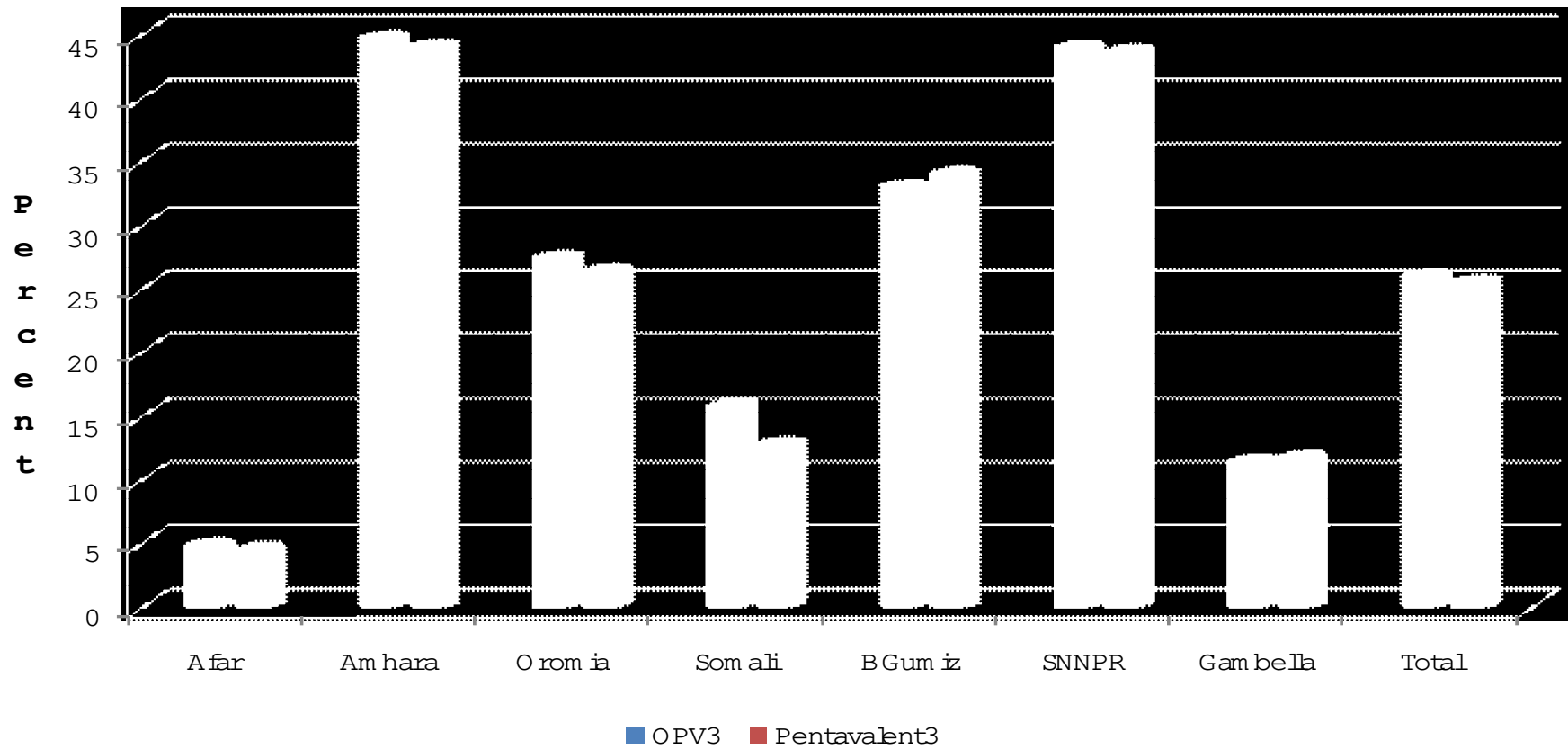
		Region							Total (%)
		Afar (%)	Amhara (%)	Oromia (%)	Somali (%)	B gumiz (%)	SNNPR (%)	Gambella (%)	Total (%)
No of Households in the survey		295	314	300	299	301	299	301	2109
Sex of the child	Male	53.5	55.2	51.7	55.4	53.6	51.7	50.3	53.1
	Female	46.5	44.8	48.3	44.6	46.4	48.3	49.7	46.9
Have vaccination card	Yes, seen	14.6	50.0	40.3	37.1	37.2	50.3	25.6	36.6
	Yes, Not seen	13.2	26.1	14.0	17.4	13.3	36.6	14.6	19.4
	No card	72.2	23.9	45.7	45.5	49.5	13.1	59.8	44.1
Ever have vaccination card (among No card for the above question)	Yes	28.3	58.1	59.3	22.1	77.2	87.2	22.8	43.7
	No	53.8	31.1	32.6	69.5	21.5	12.8	73.3	47.9
	Don't remember	17.9	10.8	8.1	8.4	1.3	0.0	3.9	8.4
Vaccinated by card	OPV0	0.7	4.5	10.3	13.7	10.6	12.4	13.3	9.3
	OPV1	10.5	49.0	34.7	27.4	36.2	49.5	15.9	32.1
	OPV2	7.1	48.1	32.3	21.1	33.9	46.8	13.3	29.1
	OPV3	4.7	44.6	27.3	15.7	32.9	43.8	11.3	25.9
	PENTVALENT1	8.1	49.7	34.7	25.8	35.9	48.5	14.6	31.2
	PENTVALENT2	6.4	48.1	28.7	18.1	34.9	46.5	13.3	28.2
	PENTVALENT3	4.4	43.9	26.3	12.7	33.9	43.5	11.6	25.4
	BCG	0.0	0.0	0.3	8.4	0.0	0.0	0.0	1.2
	Measels	0.0	0.0	1.7	3.3	0.0	0.0	0.0	0.7
Child ever received polio vaccination in a vaccination campaign	Yes	78.0	95.2	80.7	91.3	99.0	94.3	94.4	90.5
	No	12.2	3.2	16.0	7.4	0.7	3.0	4.3	6.6
	Don't know/Don't remember	9.8	1.6	3.3	1.3	0.3	2.7	1.3	2.9

**Fig.7 Children 12-23m onthsw ho have vaccination card**





**Fig. 8 OPV3 and Pentavalent3 vaccination coverage by card**



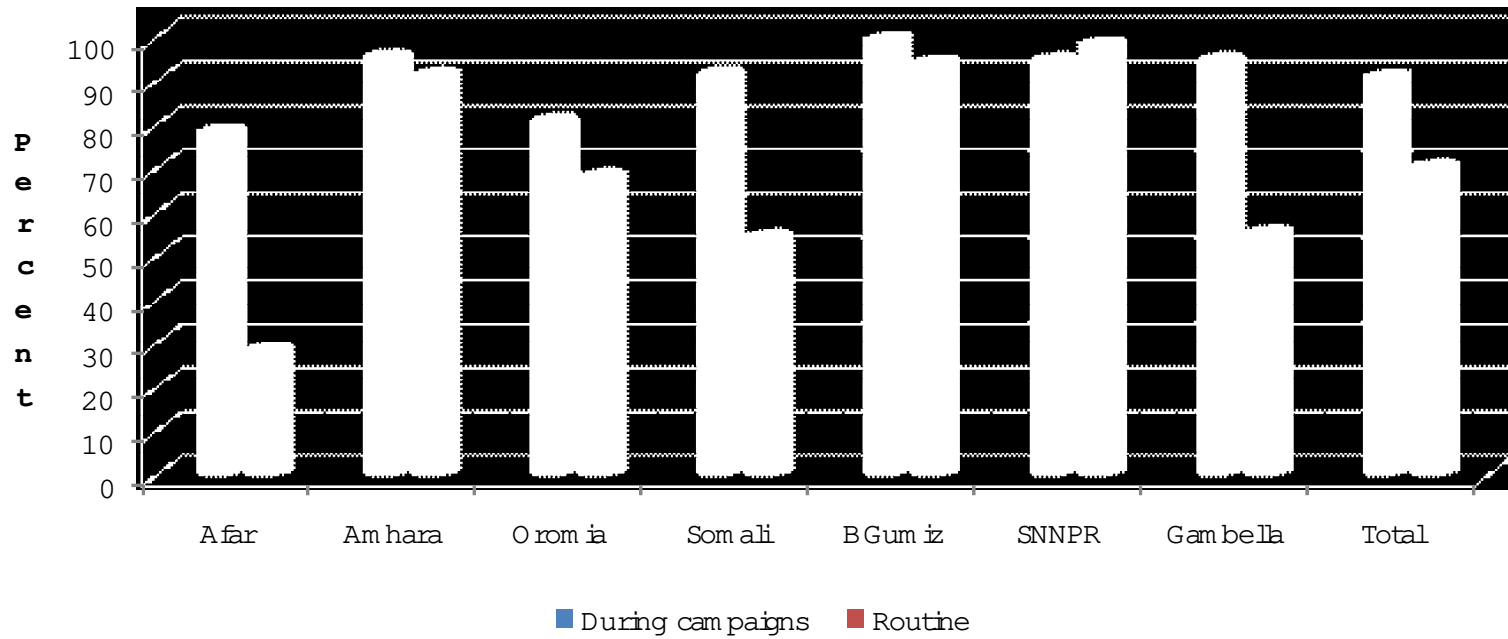
**Table 3: Vaccination coverage by routine immunization and during campaigns among children 12-23 months old-Continued**

		Region							Total (%)
		Afar (%)	Amhara (%)	Oromia (%)	Somali (%)	Bgumiz (%)	SNNPR (%)	Gambella (%)	
Child received polio vaccination during the last NID/SIND (among those children who ever received polio vaccination)	Yes	84.2	98.7	89.6	89.3	97.3	91.1	96.1	92.7
	No	7.9	0.0	6.6	7.4	2.0	1.8	3.2	3.9
	Don't know/Don't remember	7.9	1.3	3.7	3.3	0.7	7.1	0.7	3.4
Child received polio vaccination at time other than campaigns (routine)	Yes	28.2	91.1	67.9	54.1	93.7	98.0	55.1	70.0
	No	51.4	7.3	28.8	41.6	6.3	2.0	43.2	25.6
	Don't know/Don't remember	20.4	1.6	3.3	4.4	0.0	0.0	1.7	4.4
If received vaccination (both during campaign or routine) time of first dose of polio vaccination	Immediately at birth	7.0	15.5	3.8	14.4	15.9	9.2	30.7	14.1
	At 1 week	6.6	5.8	7.2	10.6	10.8	5.4	10.1	8.1
	At 2-4 weeks	13.5	12.0	22.0	13.6	22.0	15.3	18.1	16.7
	Older than 4 weeks	42.8	52.2	61.0	47.3	41.9	61.0	31.7	48.3
	Don't know	30.1	14.4	6.1	14.0	9.5	9.2	9.4	12.8
Number of times polio vaccine received both during campaign or routine	0	0.00	0.00	0.00	1.50	0.00	0.00	0.00	0.2
	1	20.30	0.70	2.7	21.40	0.30	0.30	4.70%	6.6
	2	26.00	4.10	13.3	29.50	5.70	1.00	19.80	13.5
	3	28.20	6.40	33.1	23.20	20.60	24.00	27.30	22.9
	4	17.60	40.90	36.5	15.10	18.60	34.50	18.30	26.3
	5	4.40	40.50	12.2	4.80	17.20	32.10	13.30	18.6
	6	3.10	6.40	1.1	1.80	23.00	7.80	6.80	7.5
	≥7	0.40	1.00	1.2	2.50	14.50	30.00	9.70	4.4

**Table 3: Vaccination coverage by routine immunization and during campaigns among children 12-23 months old-Continued**

		Region							Total (%)
		Afar (%)	Amhara (%)	Oromia (%)	Somali (%)	Bgumiz (%)	SNNPR (%)	Gambella (%)	
Child received any pentavalent vaccination sometime at the same time as polio	Yes	54.2	91.7	77.7	77.6	95.0	98.7	60.1	79.4
	No	35.9	4.5	18.6	18.1	4.7	1.3	38.2	17.2
	Don't know/ Don't remember	9.8	3.8	3.7	4.3	0.3	0.0	1.7	3.4
No of times received pentavalent vaccine	0	0.00	0.00	0.4	4.80	0.00	0.00	0.00	0.7
	1	41.10	4.30	12.4	31.60	4.60	1.40	21.50	14.1
	2	32.30	7.50	25.6	23.40	18.90	6.10	17.10	17.4
	3	22.80	88.30	55.1	29.40	70.90	87.10	39.80	60.8

**Fig. 9 Reported polio vaccination coverage for 12-23 months**



#### 4.4. Reasons for not receiving any polio vaccine

Reasons for not receiving any polio vaccines were asked for those children who didn't receive any vaccination yet. For the total, 28.2% reported as a reason for not immunization health workers did not come and give vaccine at the village followed by lack of awareness about vaccination (25.9%), absence of health facility in the locality (19.1%), vaccination is of no use (7.7%), and vaccination hurts children (5.0%). About 13.6% mentioned other reasons other than listed above. The reasons for not immunization vary from Region to Region. The main reason mentioned in Afar was health workers did not come and give vaccine at the village (31.9%), and lack of awareness about vaccination (45.5%) in Amhara, absence of health facility in the locality (30.6%) in Oromia, health workers did not come and give vaccine at the village (42.9%) in Somali, lack of awareness about vaccination in Benishangul Gumiz and SNNPR , (57.1%) and (75.0%) respectively and absence of health facility in the locality (36.0%) as well as health workers did not come and give vaccine at the village (36.0%) in Gambella.

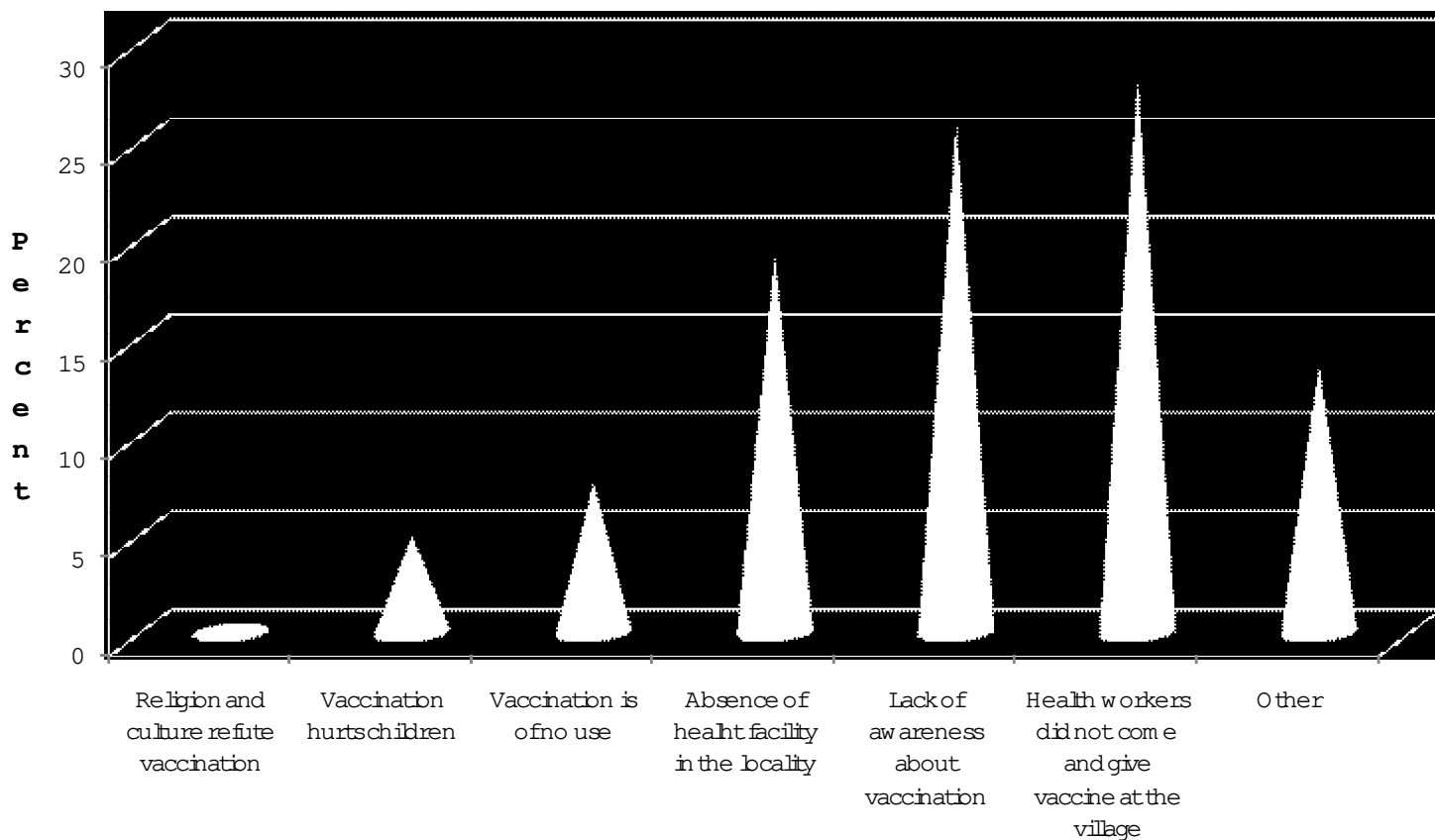
Regarding reasons for defaulting, 23.8% reported absenteeism of vaccinators as main reason followed by vaccination time is inconvenient (18.7%), lack of awareness on the importance of vaccination (15.2%) and vaccination site is far away (10.9%), not knowing whether to come back for second and third vaccination (9.8%).

Reasons for not receiving any polio vaccine and defaulting for under five children were the same as for children 12-23 months (Table 4).

**Table 4: Reasons for not receiving vaccination and defaulting**

		Region							Total (%)
		Afar (%)	Amhara (%)	Oromia (%)	Somali (%)	Bgumiz (%)	SNNPR (%)	Gambella (%)	
Reasons for not receiving any polio vaccine (If not received any vaccine yet)	Absence of health facility in the locality	16.5	0.0	30.6	20.0	0.0	0.0	36.0	19.1
	Health workers did not come and give vaccine at the village	31.9	27.3	8.3	42.9	0.0	0.0	36.0	28.2
	Vaccination is of no use	3.3	22.7	13.9	8.6	0.0	0.0	4.0	7.7
	Vaccination hurts children	8.8	0.0	2.8	0.0	14.3	25.0	0.0	5.0
	Religion and culture refute vaccination	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.5
	Lack of awareness about vaccination	24.2	45.5	19.4	17.1	57.1	75.0	20.0	25.9
	Other	14.3	4.5	25.0	11.4	28.6	0.0	4.0	13.6
Reasons for defaulting (if the child is defaulter)	Vaccination site is far away	10.5	2.2	9.2	7.7	1.8	0.0	18.8	10.9
	Vaccination time is inconvenient	16.0	32.6	43.0	17.8	10.7	20.0	6.0	18.7
	Absenteeism of vaccinators	7.0	2.2	11.3	39.1	0.0	0.0	45.7	23.8
	Lack of awareness on the importance of vaccination	22.0	23.9	11.3	14.2	5.4	20.0	12.8	15.2
	Not knowing vaccination time and site	7.5	13.0	5.6	2.4	30.4	0.0	4.7	7.1
	Not knowing whether to come back for second and third vaccination	11.5	13.0	13.4	14.8	7.1	30.0	1.7	9.8
	Child was sick after vaccination	2.5	2.2	0.7	0.0	0.0	20.0	0.9	1.3
	Other	23.0	10.9	5.6	4.1	44.6	10.0	9.4	13.3

**Fig. 10 Reasons for not receiving any polio vaccin**



## 4.5. Immunization status of under five children

A total of 2666 under five children were included in the baseline survey, of which 2109 were children 12-23 months. Among the total 2109 households included in the survey about 506 had at least two children under five and 51 of them had three under five children in one house. The sex ration for male to female under five children was obtained to be 1.11:1.00. In all Regions more male under five than female children were included in the survey.

Of the total children only 29.6% of them could produce their vaccination card to the data collectors. One fifth of them reported that they do have a vaccination card but not at their hand during the survey. About half (50.1%) of the children do not have card. Comparing the various Regions, majority of the children (74.4%) in Afar do not have vaccination card followed by 66.6% in Gambella and 57.8% in Somali. Smaller proportion of children (26.8%) from Amhara do not have vaccination card. Among these children who don't have card, 43.0% reported that they ever had card.

The large majority (89.8%) of under five children have ever received polio vaccination in a vaccination campaign. In almost all Regions, except in Afar where the coverage is 77.4% and in Oromia (79.6%), the reported coverage was found to be more than 89%. Only 3% of the mothers/care givers couldn't remember whether a child received polio vaccination or not. This was found a bit higher in Afar Region where 10.7% couldn't remember. Among those children who reported ever received polio vaccination the majority (92.0%) have been vaccinated during the last NID/SNID. In all Regions the coverage is above 82%. The highest being in Amara Rerion (98.3%).

About 66.5% of under five children have received polio vaccination at time other than campaigns. The proportion of children received polio vaccination other than campaigns largely varies across the Regions. Only 27.1% of under five children in Afar Region have got polio vaccination followed by 48.3% in Somali,



50.0% Gambella and 63.6% in Oromia. Larger proportion of children (96.4%) from SNNPR, 93.3% from Benishangul Gumiz and 91.1% from Amhara have got polio vaccination at time other than campaign.

About half (48.4%) of under five children have got the first dose of polio vaccination when they were older than four weeks. Only 13.2% of under five reported to receive the first dose of polio immediately at birth. According to the mothers/care givers report, 13.2% of under five children received polio vaccination two times, 21.1% three times, 24.8% four times, 18.2% five times, 8.7% six times and 7.2% seven and more times.

About 76.7% of under five children have received any PENTAVALENT vaccination some time same time as polio. A bit higher than half of the children (54.0%) from Afar Region have got PENTAVALENT vaccination followed by 55.1% from Gambella, 70.7% from Somali, 76.8% from Oromia, 91.7% from Amhara, 93.8% from Benishangul Gumiz and 97.0% from SNNPR. More than half (60.0%) of under five have got PENTAVALENT vaccination three times (Table 5).

**Table 5: Vaccination coverage by routine immunization and during campaigns among under-five children**

		Region							Total (%)
		Afar (%)	Amhara (%)	Oromia (%)	Somali (%)	Bgumiz (%)	SNNPR (%)	Gambella (%)	
No of under five children		363	363	402	397	376	357	386	2666
Sex of the child	Male	53.4	54.3	50.7	54.9	50.5	52.7	51.9	52.6
	Female	46.6	45.7	49.3	45.1	49.5	47.3	48.1	47.4
Have vaccination card	Yes, seen	12.1	44.4	32.6	26.7	30.8	41.4	20.5	29.6
	Yes, Not seen	13.5	28.8	15.4	15.5	14.9	40.6	13.0	20.0
	No card	74.4	26.8	52.0	57.8	54.3	18.0	66.6	50.5
Ever have vaccination card (among those who don't have currently)	Yes	27.1	64.3	58.0	21.1	77.2	85.0	23.3	43.0
	No	50.9	24.5	34.3	69.4	21.4	13.3	73.2	47.9
	Don't remember/ Don't know	21.9	11.2	7.7	9.5	1.5	1.7	3.5	9.1
Child ever received polio vaccination in a vaccination campaign	Yes	77.4	95.3	79.6	88.4	99.2	95.2	93.5	89.8
	No	11.8	3.0	16.7	9.6	0.5	2.5	5.4	7.2
	Don't know/Don't remember	10.7	1.7	3.7	2.0	0.3	2.2	1.0	3.0

**Table 5: Vaccination coverage by routine immunization and during campaigns among underfive children-Continued**

		Region							Total (%)
		Afar (%)	Amhara (%)	Oromia (%)	Somali (%)	Bgumiz (%)	SNNPR (%)	Gambella (%)	
Child received polio vaccination during the last NID/SIND (among those children who ever received polio vaccination)	Yes	82.4	98.3	90.3	87.5	96.8	91.5	95.3	92.0
	No	7.9	0.0	6.3	8.8	2.4	1.5	3.9	4.3
	Don't know/Don't remember	9.7	1.7	3.4	3.7	0.8	7.1	0.8	3.7
Child received polio vaccination at time other than campaigns (routine)	Yes	27.1	91.1	63.6	48.3	93.3	96.4	50.0	66.5
	No	50.3	7.3	32.2	46.0	6.7	3.6	47.7	28.3
	Don't know/Don't remember	22.7	1.7	4.2	5.7	0.0	0.0	2.3	5.2
If received vaccination (both during campaign or routine) time of first dose of polio vaccination	Immediately at birth	5.7	14.2	4.3	15.4	13.7	8.2	28.2	13.2
	At 1 week	6.8	6.4	6.9	10.2	11.2	4.8	9.1	7.9
	At 2-4 weeks	13.3	11.5	18.4	11.8	22.6	13.8	16.4	15.5
	Older than 4 weeks	42.3	53.3	62.4	44.6	41.9	63.8	30.3	48.4
	Don't know	31.9	14.5	8.0	17.9	10.6	9.3	16.1	15.0
Number of times polio vaccine received both during campaign or routine	0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.2
	1	20.7	0.6	2.3	18.5	0.8	0.3	5.2	6.5
	2	26.1	4.2	11.0	29.3	6.0	1.1	17.5	13.2
	3	25.4	6.8	28.2	22.4	19.4	22.0	25.2	21.1
	4	15.9	39.5	36.6	16.0	16.7	32.4	18.9	24.8
	5	5.4	41.1	15.9	6.1	16.7	31.3	12.6	18.2
	6	3.6	9.4	3.5	1.9	21.9	12.1	8.0	8.7
	≥7	2.9	7.1	2.6	4.7	18.6	0.8	12.6	7.2

**Table 5: Vaccination coverage by routine immunization and during campaigns among underfive children-Continued**

		Region							Total (%)
		Afar (%)	Amhara (%)	Oromia (%)	Somali (%)	Bgumiz (%)	SNNPR (%)	Gambella (%)	Total (%)
Child received any pentavalent vaccination some time same time as polio	Yes	54.0	91.7	76.8	70.7	93.8	97.0	55.1	76.7
	No	35.7	4.1	18.4	24.6	5.9	3.0	42.9	19.5
	Don't know/ Don't remember	10.2	4.1	4.8	4.7	0.3	0.0	2.1	3.8
No of times received pentavalent vaccine	0	0.0	0.0	0.3	8.3	0.0	0.0	0.0	1.3
	1	43.5	3.8	10.0	29.4	4.0	1.4	19.3	13.7
	2	29.0	7.2	23.3	21.4	18.5	5.7	20.8	16.9
	3	21.8	89.1	58.6	28.4	70.2	86.9	38.7	60.0

## V. Conclusions

- Smaller proportion of respondents has ever attended formal school. In Somali and Oromia Region less than 20% of the respondents have visited school. Among those who attended formal school the large majority, three fourth, have attended only primary school.
- Majority of the respondents lived in the area since birth and don't work outside home.
- In almost all Regions the main means of income is farming.
- Older child are taking care of children in the absence of mother/care giver.
- Majority of the respondents believe the first dose of polio vaccin should be given to a baby when he/she is older than four weeks. Only one fifth mentioned immediately at birth.
- Only half of the respondents could remember the date of the last vaccination campaign. The problem is worse in Afar Region.
- Main sources of information mentioned are health institutions/health professionals and CORE volunteers.
- More than 90% of the households have been visited by vaccinators during the recent NID/SNID.
- Large proportion of respondents, more than 90%, believes that children can receive polio vaccinations too often.
- About 70% of the respondents heard of acute flacid paralysis.
- Majority of the respondents know symptoms for a child with paralysis.
- Health seeking behaviour of the respondents for polio is good. More than 80% reported that they would contact clinic/municipal authority/Hospital if a child had paralysis.
- Small proportion of respondents could produce vaccination card during the survey.
- Vaccination coverage for 12-23 months old children by card is found to be low for all antigens and too low for BCG, Measels and OPV0. Coverage for the other antigens is above 25%.

- Vaccination coverage by card for 12-23 months is very low in Afar, Somali and Gambella.
- The survey indicated that the campaigns were very successful in immunizing the target children. The reported polio coverage for 12-23 months old children is found to be very high, above 90% during campaign and 70% during routine immunization program. The routine immunization coverage is lower compared to what could be achieved during the campaign. Improved access during campaigns could be the reason for achieving high coverage. Moreover, routine reported polio coverage for Afar, Somali and Gambella is relatively much lower than the other Regions and gave a lower coverage for the total.
- More children 12-23 months received the first dose of polio vaccine when they were older than four weeks.
- About one fourth of children 12-23 months have received polio vaccination four times.
- Only 4.4 % have received more than seven times polio vaccination.
- Only very few proportion, 0.7% have received pentavalent vaccination more than seven times.
- Main reasons mentioned for not immunizing children are health workers did not come and give vaccine at the village, lack of awareness about vaccination and absence of health facility in the locality.
- Less than 30% of children under five years could produce vaccination card during the survey.
- Larger proportion of under five, 90%, have received polio vaccination in a vaccination campaign.
- About two third of under five children have received polio vaccination at time other than campaign.
- Again about half of the under five have received the first dose of polio vaccine when they were older than four weeks.
- One fourth of under five have received polio vaccine four times and about 7% more than seven times.

- Reasons for not immunizing for under five are found to be same as for children 12-23 months.

## VI. Recommendations

Based on the findings of the survey the following are recommended:

- Full and active participation of the local health authorities and stakeholders must be solicited to be successful in future immunization programmes.
- Sustained efforts are needed to strengthen routine immunization for polio and other antigens.
- Special attention and frequent high level advocacy should be given for Afar, Somali, Gambella and Benishangul Gumuz Regions.
- Emphasis should be given on expansion of static and outreach sites to increase routine immunization coverage.
- Social/resource mobilization activities need to be strengthened.
- Monitoring and evaluation of the immunization program must be strengthened
- Periodic coverage survey must be conducted to supplement the routine reports
- Health education on immunization shall be strengthened with due emphasis on interpersonal communication
- Training on data recording, reporting and analysis should be given to increase the quality of recording and keeping immunization service/program data.



## **List of data collection coordinators**

### Name

1. Markos Libsework
2. Sr. Bezunesh Rhogie
3. Endale Zewdu
4. Anteneh Zewdie
5. Ahimed Hussen
6. Dereje Bisrat
7. Aregahegn Wondemu

## VII. Annex

Questionnaire used for the baseline survey.

**Questionnaire**

**Interview Number:**

### Baseline Survey

Women or caretakers with at least one child between 21 and 23 months (children who have turned one year old, but not yet turned two years old)

#### IDENTIFICATION OF INTERVIEW

NAME AND SIGNATURE OF THE INTERVIEWER: \_\_\_\_\_

DATE OF THE INTERVIEW: \_\_\_\_/\_\_\_\_/\_\_\_\_

REGION: \_\_\_\_\_

WOREDA: \_\_\_\_\_

KEBELE: \_\_\_\_\_

ZONE: \_\_\_\_\_

PVO/NGO: \_\_\_\_\_

HOUSE NUMBER: \_\_\_\_\_

NAME AND SIGNATURE OF SUPERVISOR: \_\_\_\_\_

NAME AND SIGNATURE OF COORDINATOR: \_\_\_\_\_

DATE REVIEWED \_\_\_\_/\_\_\_\_/\_\_\_\_

Hello. My name is \_\_\_\_\_, and I work with CORE and the Ministry of Health. We are conducting a baseline survey on the polio project and we would like your participation, in order to learn more about the vaccination status of your children. This should last no more than 15 minutes. The information that you volunteer will help CORE and the Ministry of Health to improve vaccination services, and it will be completely confidential and your information will not be shared with anyone else.

Would you like to ask any questions about this interview?

Respondent agrees to be interviewed \_\_\_\_\_

## DEMOGRAPHIC MODULE

No.	Question	Coding	Go to...
1	Have you ever attended school?	Yes.....1 No.....2	If yes, 2; if no, 4
2	What is the highest level of school you have attended: primary, secondary or higher?	Primary.....1 Secondary.....2 TVET.....3 Higher.....4	
3	What is the highest grade/level/year you completed at that level	Grade/form/year _____	
4	What language do you feel most comfortable speaking?	Amharic.....1 English.....2 Oromiffa.....3 Somali.....4 Afar.....5 Other.....6	
5	How long have you lived continuously in NAME PLACE OF CURRENT RESIDENCE? IF LESS THAN A YEAR, ENTER 00	Number in years _____ Always.....95 Visitor.....98	
6	How old are you?  Sex	Response in years _____  M__1 F__2	
7	Do you work outside the home?	Yes.....1 No.....2	If yes, 7.1; if no, 8
7.1	Where you do work/what is your means of living?	Business/shop/office.....1 Other home.....2 Farming.....3 Selling in street/market.....4 Pastoral.....5 Other.....98	
8	Who takes care of your child when you are not at home?	Respondent's mother.....1 Respondent's mother-in-law.....2 Husband/partner.....3 Older children.....4 Neighbors/friends.....5 Other.....98	
9	What is your religion?	Coptic Christian.....1 Other Christian.....3 Muslim.....4 None.....5 Other.....6	

## IMMUNIZATION MODULE

No.	Question	Coding (circle the number chosen)	Go to...
1	When does a baby need to receive the first dose of polio vaccine, that is, drops in the mouth?	Immediately at birth.....1 At 1 week.....2 At 2 - 4 weeks.....3 Older than 4 weeks.....4 Don't know.....99	
2	When was the last vaccination campaign?	RECORD DATE ____/____/____ DD / MM / YYYY Don't know/don't remember.....99	→If the response is 99, go to 5
3	How did you find out about the last campaign? (Circle all responses)	Radio/TV.....1 Family.....2 Friend/Neighbor.....3 CORE volunteer.....4 Printed materials.....5 Health institution/health professional.....6 Other.....7	
4	Was your family visited by vaccinators during the vaccination campaign on DATES OF MOST RECENT NID/SNID?	Yes.....1 No.....2 Don't know/don't remember.....99	
5	Do you believe children can receive polio vaccinations too often?	Yes.....1 No.....2 Don't know/not sure.....99	
6	Do you believe that there are some children who should not be vaccinated or might be hurt by polio vaccination?	Yes.....1 No.....2 Don't know/not sure.....99	If the response is 2 or 99, go to 7
6.1	Which children should not receive polio vaccination?	Newborns.....1 Sick children.....2 Physically handicapped children..3 Other.....4	

7	<p>ASK THE MOTHER HOW MANY CHILDREN LIVE IN THE HOUSE. (If there are two or three children) record below the ages of the children beginning with the youngest one, even if they are not siblings but live in the same house.</p> <p>1. Child - complete the questions about the 1<sup>st</sup> child (of at least 12 mos. of age) in the house                  2. ASK THE AGE OF THE YOUNGEST CHILD (of at least 12 mos. of age) AND WRITE IN THE FIRST COLUMN                  3. ASK THE CHILD'S DATE OF BIRTH AND SEX                  4. ASK THE MOTHER FOR THE CHILD'S VACCINATION CARD AND TRANSFER THE INFORMATION FROM THE CARD TO THE SURVEY. THEN ASK THE MOTHER TO RECALL THE CHILD'S VACCINATION HISTORY. IF THE MOTHER DOES NOT HAVE A VACCINATION CARD, SIMPLY ASK HER TO RECALL THE VACCINATION HISTORY.</p> <p>When finished asking questions pertaining to the first child, continue to the second child in age and repeat the same questions asked of the first child</p>							
			Youngest child in the house (of at least 12 mos.)	NEXT YOUNGEST CHILD (older than the 1 <sup>st</sup> child)		THIRD YOUNGEST CHILD (older than the 2 <sup>nd</sup> child)		
What is the name of this child?		NAME_____		NAME_____		NAME_____		
Date of birth		____/____/____ DD MM YYYY		____/____/____ DD MM YYYY		____/____/____ DD MM YYYY		
Sex?		M=1      F=2		M=1      F=2		M=1      F=2		
(FILL OUT THE VACCINATION INFORMATION FOR THE FIRST CHILD COMPLETELY BEFORE BEGINNING TO COLLECT THE VACCINATION OF THE NEXT CHILD IN AGE, IF ANY EXIST.)								
7.1	Do you have a vaccination card for NAME?  IF YES, May I please see it?	Yes, seen.....1	→8	Yes, seen.....1	→8	Yes, seen.....1	→8	
		Yes, not seen....2	→8.1	Yes, not seen....2	→8.1	Yes, not seen....2	→8.1	
		No card.....3	→7.2	No card.....3	→7.2	No card.....3	→7.2	
7.2	Did you ever have a vaccination card for NAME?	Yes.....1	→8	Yes.....1	→8	Yes.....1	→8	
		No.....2	→8.1	No.....2	→8.1	No.....2	→8.1	
		Don't know/don't remember.....3	→7.2	Don't know/don't remember.....3	→7.2	Don't know/don't remember...3	→7.2	
8	1) COPY VACCINATION DATE FROM CARD FOR EACH VACCINATION DATE 2) WRITE 44 IN DAY COLUMN IF CARD INDICATES THAT VACCINATION WAS GIVEN BUT DOES NOT INDICATE DATE							

		M	M	D	D	Y	Y	Y	Y	M	M	D	D	Y	Y	Y	Y	M	M	D	D	Y	Y	Y	Y
	OPV0 OPV1 OPV2 OPV3 PENTVALENT1 PENAVALENT2 PENTVALENT3																								
8.1	Has NAME ever received polio vaccination, that is, drops in the mouth, in a vaccination campaign?	Yes.....1 No.....2 Don't know/don't remember.....99	<b>If response is 2 or 99, go to 8.3</b>		Yes.....1 No.....2 Don't know/don't remember...99	<b>If response is 2 or 99, go to 8.3</b>		Yes.....1 No.....2 Don't know/don't remember...99	<b>If response is 2 or 99, go to 8.3</b>																
8.2	Did NAME receive polio vaccination, that is, drops in the mouth, during the vaccination campaign on DATES OF LAST NID/SNID?	Yes..... 1 No.....2 Don't know/ don't remember.....99	Yes..... 1 No.....2 Don't know/ don't remember.....99	Yes..... 1 No.....2 Don't know/ don't remember.....99																					
8.3	Did NAME receive any polio vaccinations at times other than campaigns?	Yes..... 1 No.....2 Don't know/ don't remember.....99	Yes..... 1 No.....2 Don't know/ don't remember.....99	Yes..... 1 No.....2 Don't know/ don't remember.....99																					
8.4	<b>If response for 8.1 and /or 8.3 is YES, ask this question</b>  When did NAME receive the first dose of polio vaccine?	Immediately at birth....1 At 1 week.....2 At 2 - 4 weeks.....3 Older than 4 weeks...4 Don't know.....99	Immediately at birth...1 At 1 week.....2 At 2 - 4 weeks.....3 Older than 4 weeks...4 Don't know.....99	Immediately at birth...1 At 1 week.....2 At 2 - 4 weeks.....3 Older than 4 weeks...4 Don't know.....99																					
8.5	<b>If response for 8.1 and /or 8.3 is YES ask this question</b>  How many times was the polio vaccine received?	NUMBER_____	NUMBER_____	NUMBER_____																					
8.6	Did NAME receive any pentavalent vaccinations, that is a shot in the thigh or the buttock, sometimes at the same time as polio?	Yes..... 1 No.....2 Don't know/don't remember.....99	Yes..... 1 No.....2 Don't know/don't remember.....99	Yes..... 1 No.....2 Don't know/don't remember.....99																					
8.7	How many times did NAME receive pentavalent vaccine?	NUMBER_____	NUMBER_____	NUMBER_____																					
8.8	What are the reasons for NAME not receiving any polio vaccine? (if NAME has not received any vaccine yet)	<ul style="list-style-type: none"> <li>• Absence of health facility in the locality....1</li> <li>• Health workers did not come and give</li> </ul>	<ul style="list-style-type: none"> <li>• Absence of health facility in the locality....1</li> <li>• Health workers did not come and give</li> </ul>	<ul style="list-style-type: none"> <li>• Absence of health facility in the locality....1</li> <li>• Health workers did not come and give</li> </ul>																					

		vaccine at our village....2 • Vaccination is of no use..... 3 • Vaccination hurts children..... 4 • Religion and culture refute vaccination...5 • Lack of awareness about vaccination... 6 • Others.... 7	vaccine at our village....2 • Vaccination is of no use..... 3 • Vaccination hurts children..... 4 • Religion and culture refute vaccination..5 • Lack of awareness about vaccination.. 6 • Others.... 7	vaccine at our village....2 • Vaccination is of no use..... 3 • Vaccination hurts children..... 4 • Religion and culture refute vaccination..5 • Lack of awareness about vaccination..6 • Others.... 7
8.9	What are the reasons for NAME defaulting? If NAME is a defaulter)	• Vaccination site is far-away... 1 • Vaccination time is inconvenient...2 • Absenteeism of vaccinators...3 • Lack of awareness on the importance of vaccination... 4 • Not knowing vaccination time and site... 5 • Not knowing whether to come back for second and third vaccination...6 • Others...7	• Vaccination site is far-away... 1 • Vaccination time is inconvenient...2 • Absenteeism of vaccinators...3 • Lack of awareness on the importance of vaccination... 4 • Not knowing vaccination time and site... 5 • Not knowing whether to come back for second and third vaccination...6 • Others...7	• Vaccination site is far-away... 1 • Vaccination time is inconvenient...2 • Absenteeism of vaccinators...3 • Lack of awareness on the importance of vaccination... 4 • Not knowing vaccination time and site... 5 • Not knowing whether to come back for second and third vaccination...6 • Others...7
9.	Have you heard of acute flaccid paralysis, that is, sudden paralysis in children?	Yes..... 1 No.....2 Don't know/don't remember.....99		
10.	Please explain what happens to a child with paralysis.	Child stops walking/crawling .....1 Limp limbs.....2 Other..... 99		
11.	Who would you contact besides your family if NAME had paralysis, that is, stopped being able to move his/her arm or leg?	Clinic/Municipal Authority/Hospital.....1 Traditional healer.....2 Herbalist.....3 Voluntario*.....4 OTHER (PLEASE SPECIFY).....99 ----- *Voluntario, CMC, FCHV, etc.		

Thank the mother for her participation





3











