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Regional Distribution of Acute Flaccid Paralysis Cases in Ethiopia in 2000-2002

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The polio eradication initiative in Ethiopia started in 1996. We examined the performance of acute flaccid paralysis (AFP) surveillance in Ethiopia by region. The criteria of good AFP surveillance are the detection of at least one AFP case per

100,000 children under 15 years of age, timely collection of stool specimens from AFP patients, and timely transport of specimens on ice to a laboratory for diagnosis.

Table 1 shows the total number of AFP cases reported by

Table 1. AFP surveillance indicators, 2000 - 2002

Region	No. of zones	Year	Expected AFP cases	Reported AFP cases	AFP detection rated	Case classification		
						Pending	Discarded	Compatible
TIGRAY	5	2000	18	21	1.67	2	7	12
		2001	19	48	2.53	0	46	2
		2002	20	72	3.60	0	71	1
AFAR*	5	2000	6	1	0.67	0	0	1
		2001	6	10	1.67	0	5	5
		2002	6	8	1.33	0	7	1
AMHARA	11	2000	72	99	1.38	9	49	41
		2001	74	124	1.68	0	113	11
		2002	80	118	1.48	0	111	7
OROMIA	12	2000	98	114	1.16	12	53	49
		2001	101	180	1.78	0	166	14
		2002	110	157	1.43	0	143	14
SOMALI*	9	2000	16	8	0.50	1	3	4
		2001	17	25	1.47	0	21	4
		2002	18	39	2.17	0	34	5
BENISHANGUL*	5	2000	2	3	1.50	0	1	2
		2001	2	4	2.00	0	3	1
		2002	2	7	3.50	0	7	8
SNNPR	14	2000	54	67	1.24	7	26	34
		2001	57	122	2.16	0	114	8
		2002	61	94	1.54	0	86	0
GAMBELLA*	2	2000	1	4	4.00	0	3	1
		2001	1	8	8.00	0	7	1
		2002	2	7	3.50	0	7	0
HARARI	1	2000	1	1	1.00	1	0	0
		2001	1	2	2.00	0	2	0
		2002	1	1	1.00	0	1	0
ADDIS ABABA	6	2000	11	26	2.36	3	14	9
		2001	11	27	2.45	0	27	0
		2002	12	32	2.67	0	32	0
DIRE DAWA	1	2000	1	2	2.00	0	0	2
		2001	1	2	2.00	0	1	1
		2002	1	4	4.00	0	4	0
NATIONAL	71	2000	280	346	1.24	35	156	155
		2001	290	552	1.91	0	505	47
		2002	313	539	1.72	0	503	36

Clinical classification of AFP cases was conducted under the old scheme for the year 2000 and under the new scheme for years 2001 and 2002.

*Remote areas with low routine OPV immunization coverage.

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Table 2. Frequency of residual paralysis among late detected AFP cases, 2000-2002

Region	2000		2001		2002	
	Specimen not in time* (%)	Residual paralysis** (%)	Specimen not in time* (%)	Residual paralysis** (%)	Specimen not in time* (%)	Residual paralysis** (%)
TIGRAY	10/21 (48)	8 (80)	20/48 (42)	6 (30)	12/72 (17)	3 (25)
AFAR	1/1 (100)	1 (100)	7/10 (70)	0 (-)	4/8 (50)	1 (25)
AMHARA	51/99 (52)	14 (27)	67/124 (54)	11 (16)	34/118 (29)	12 (35)
OROMIA	64/114 (56)	11 (17)	102/180 (57)	22 (22)	56/157 (36)	26 (46)
SOMALI	6/8 (75)	0 (-)	14/25 (56)	4 (28)	19/39 (49)	4 (21)
BENISHANGUL	0/3 (-)	0 (-)	2/4 (50)	0 (-)	3/7 (43)	2 (67)
SNNPR	37/67 (55)	26 (70)	67/123 (54)	16 (24)	33/94 (35)	17 (52)
GAMBELLA	3/4 (75)	2 (67)	5/8 (63)	2 (5)	2/7 (29)	2 (100)
HARARI	0/1 (-)	0 (-)	0/2 (-)	0 (-)	0 (-)	0 (-)
ADDIS ABABA	15/26 (58)	8 (53)	9/27 (33)	3 (33)	5/32 (16)	3 (60)
DIRE DAWA	0/2 (-)	0 (-)	1/2 (50)	0 (-)	0 (-)	0 (-)
NATIONAL	192/346 (55)	70 (36)	294/553 (53)	64 (22)	168/539 (31)	70 (42)

*:Cases in which specimen collection was not conducted within 14 days after onset of paralysis/total AFP cases.

**.:Residual paralysis/cases in which specimen collection was not conducted within 14 days after onset of paralysis.

region in 2000-2002. All the regions satisfied the detection rate criteria in 2001 and 2002. Polio-compatible cases in most regions sharply decreased in 2001, and remained at the same level in 2002. This reflects a switch from clinical to virological case classification (1). Under the new scheme, cases with no or inadequate stool specimens, no follow-up, or with residual paralysis on 60-day follow-up, are reviewed by an Expert Group for the purpose of classification. The Expert Group classifies such cases as polio-compatible or cases to be discarded.

Table 2 shows the frequency of cases in which stool specimens were collected more than 14 days after the onset of paralysis and the frequency of residual paralysis among such cases. A large variation among regions was noted. In general, in 2002 data, stool specimens were not collected in time in 15-50% of the total AFP cases, and in 20-100% of such cases,

residual paralysis developed, suggesting that in adequate stool specimen collection is a potential problem in Ethiopia.

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