

AFP Surveillance – 2006

Poliomyelitis was made a notifiable disease in Sri Lanka in 1944. Immunization with OPV was initiated island wide in 1964. The largest outbreak in the country was reported in 1962 and every 6 years thereafter however with decreased severity. The last case of confirmed polio from the country was reported in 1993, in a female child aged 2 years from Kataragama in the DPDHS Division of Moneragala. Polio virus (P1 wild) was isolated and it was found that the child had been immunized with only 2 doses of OPV.

In 1990 Acute Flaccid Paralysis (AFP) was gazetted as a notifiable disease and individual case based surveillance of AFP was commenced in 1991. The case definition of an AFP case cited such a case as any child under 15 years of age presenting with acute onset flaccid paralysis or a person of any age highly suspected of poliomyelitis.

Epidemiological Unit is the central co-ordinating agency for the National AFP Surveillance programme under the Poliomyelitis Eradication Initiative, receiving information about AFP cases from Medical officers in curative institutions where the patients seek treatment and also from Medical Officers of Health (MOOH).

In addition to the routine surveillance, active surveillance is carried out in the premier Children's Hospital in Colombo (Lady Ridgeway Hospital). An Epidemiologist from the Central Epidemiological Unit visits the hospital at least three days a week and checks the wards for cases of AFP. In addition, 55 sentinel surveillance sites have been set up since 1996 in major hospitals in every DPDHS Division where Consultant Paediatricians are in place. Regional Epidemiologists are expected to visit their respective sentinel sites in the regions at least once a week. A monthly report of cases of AFP including a nil report is received from the Regional Epidemiologists at the Epidemiological Unit in Colombo.

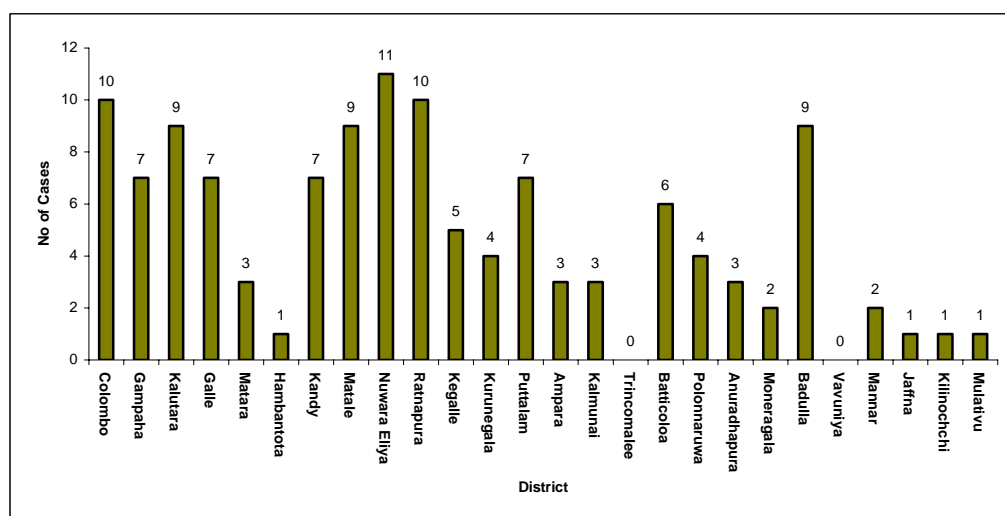
Weekly reports of AFP cases including zero or nil reports from the 55 sentinel sites in the entire country are being monitored at the Central Epidemiological Unit. Infection Control Nurses (ICN) of each sentinel site are responsible for sending this weekly return.

As a measure to counteract the threat posed from the neighbouring countries that report polio cases, MOOH in every district in northern and eastern provinces, Puttalam district and Nuwara Eliya district, carry out immunization of children less than 15 years of age who return to Sri Lanka from South India with an extra dose of OPV. A register of these South Indian returnees is maintained and updated regularly in each such MOH office. A monthly return summarizing the number of children under 15 years of age among the returnees, their OPV immunization coverage etc is sent to the relevant Regional Epidemiologist who sends a consolidated district report to the Epidemiological Unit monthly.

Geographical Distribution of AFP cases 2006

A total of 125 AFP cases were reported for the year 2006 (Fig.1). The highest number of cases, 11 (9%) was reported from Nuwara Eliya DPDHS Division. Ten cases each were reported from Colombo DPDHS Division and Ratnapura DPDHS division. Kalutara, Matale and Badulla DPDHS Divisions reported 9 cases each. Highly populated Western and Central provinces accounted for 26 (21%) and 27 (22%) cases respectively. Most DPDHS divisions had reported more than the expected number of AFP cases during the year. However Colombo, Gampaha, Matara, Hambantota, Kandy, Kurunegala, Jaffna and Anuradhapura had less than the required number and a non polio AFP rate below 2 per 100,000 under 15 year old population. Trincomalee and Vavuniya had not reported a single case for the year.

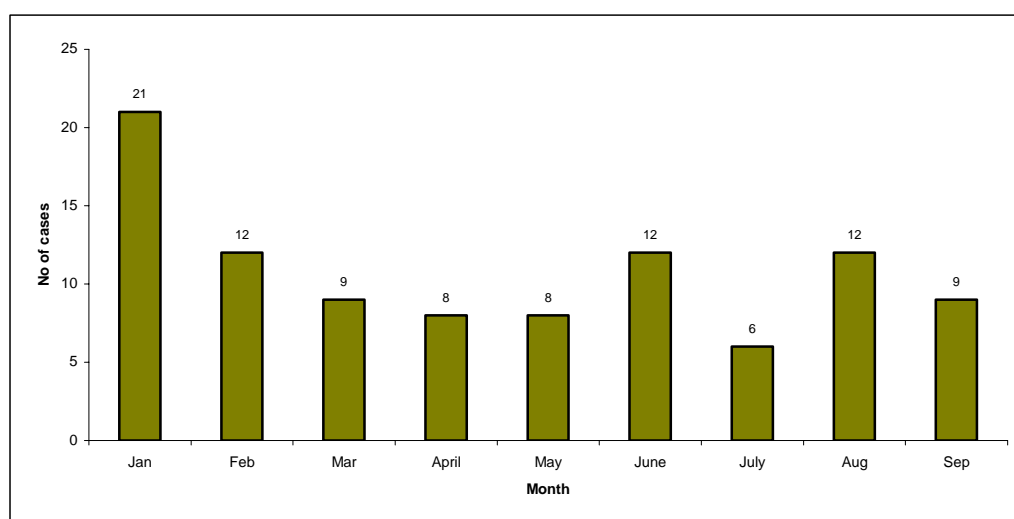
Fig. I Geographical distribution of AFP cases



Seasonal Distribution of AFP Cases 2006

January recorded the highest number of cases for the year. The number reported was 21 (17%). Thirteen cases were reported in October and 12 cases each were reported in February, June and August. Lowest number of cases (06) each were seen in July and November. The figure II below shows the distribution of AFP cases for the year 2006 (Fig. II).

Fig. II Distribution of AFP Cases 2006

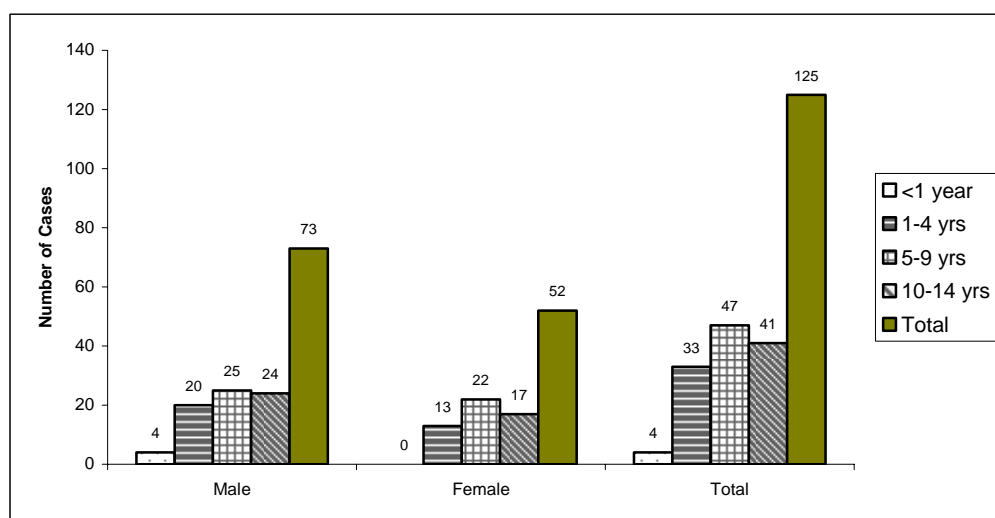


Age and Sex Distribution of AFP Cases 2006

There were more male AFP cases than female AFP cases reported in 2006. Out of the total of 125 AFP cases, 73 (58%) were males and 52 (42%) were female children. This is in contrast to the trend observed last year where female cases were more than male cases.

In 2006, this male predominance was observed in all age groups. A majority (38%) of the cases (47) were 5 – 9 years old. Forty one children (33%) were between 10 – 14 years of age and 37(30%) were less than 1 year of age (Fig.III).

Fig. III Age and Sex Distribution of AFP Cases 2006



Immunization Status of AFP Cases Reported in 2006

All AFP cases (100%) reported during the year 2006 were age appropriately immunized with OPV. Data supporting the immunization status of the children had been obtained from the Child Health Development Record (CHDR) by the medical officers treating the patients or by the Medical Officer of Health (MOH) team.

Final Classification of AFP Cases 2006

In 2006 all 125 cases reported were assigned a final classification. A majority of the cases (110) were classified as Guillan Barre syndrome (GBS) by the respective clinicians who reported these cases. This amounted to 88% of the total caseload in the year. This trend has been observed in the surveillance programme of the country throughout the recent years.

There were 4 cases (3%) each of Transverse Myelitis and post infective viral myositis. Table 1 below shows the final classification of the AFP cases for the year.

Table 1. Distribution of Final Classification of AFP Cases 2006

Diagnosis	Number of AFP Cases (%)
Guillan Barre Syndrome	110 (88%)
Transverse Myelitis	4 (3.2%)
Periodic Paralysis	2 (1.6%)
Viral Myositis	2 (1.6%)
Brachial Neuritis	1(0.08%)
Tetanus	1(0.08%)

Suspected syringomyelia	1(0.08%)
Viral Myalgia	1(0.08%)
Investigated for Sudden onset weakness	1(0.08%)
Investigated for Unsteady Gait	1(0.08%)
Limb Girdle Dystrophy	1(0.08%)
Total	125

Feedback Information on AFP Cases

Feed back information on AFP cases reported from institutions is sent to the respective clinicians once the cases are discarded with a final classification. This has proved to be an effective method of obtaining their cooperation for the surveillance programme. Copies of these feedback forms are sent to the respective Regional Epidemiologists and MOH.

Apart from this case based individual feedback, information is sent routinely to all the Deputy Provincial Directors of Health Services (DPDHS), Regional Epidemiologists (RE), MOH, Heads of Health Institutions and all the clinicians through the Weekly Epidemiological Report (WER). The Epidemiological Unit has been publishing the WER since 1973 with the objective of providing a quick feedback in the form of a weekly statement on the notifiable diseases reported on the Weekly Return on Communicable Diseases from the Medical Officer of Health (MOH) areas.

In addition to the feedback sent through these two methods, Quarterly Epidemiological Bulletin published by the Epidemiological Unit provides summary information on AFP surveillance activities for each quarter.

Indicators of AFP Surveillance and Laboratory performance 2006

Performance of an AFP surveillance programme is considered to be of adequate standard if a number of performance criteria were achieved. Firstly the system should detect at least one case of non-polio AFP for every 100,000 population of children aged less than 15 years. Secondly two adequate diagnostic stool specimens (2 stools specimens collected at least 24 – 48 hours apart within 14 days of onset of paralysis and received in good condition at the laboratory) should be collected from at least 80% of AFP cases reported. The other criteria are based on the performance of the laboratory processing the specimens, monitoring mechanisms in place to streamline the reporting system and the clinical investigation procedures involved.

1. Non polio AFP rate in children < 15 yrs. of age (Target $\geq 1/100,000$)

Sri Lanka achieved a non-polio AFP rate (Number reported/number expected) of 2.2 during the year 2006. This exceeds the expected rate of 2 per 100,000 population of under 15 year old children. This rate is an improvement compared to the non-polio AFP rate of 2.1/100,000 under 15 year old population reported in 2005.

In the year 2006 most of the districts in the country have reported the expected number or more AFP cases. The AFP rate is monitored for each district and surveillance is strengthened in those districts where the AFP rate has been low during the previous year.

2. Completeness of reporting

2.1 Weekly reporting of Notifiable Diseases

All Medical Officers of Health (MOOH) send a weekly return of notifiable diseases to the Epidemiological Unit. Completeness (number received/number expected) of these returns and their timeliness are monitored by the Epidemiological Unit. The returns are expected to be received within a week to be timely.

In the previous year the completeness of weekly notifiable disease reporting was 95%.

2.2 Weekly reporting of AFP cases from institutions

Fifty five hospitals around the country have been identified as sentinel sites (compared to 50 sites in 2004) which routinely report on AFP cases from the respective institutions. These weekly returns are monitored centrally for their completeness and the timeliness.

In 2006 the completeness of weekly reporting of AFP cases from those institutions was 82%.

2.3. Monthly reporting of AFP cases by Regional Epidemiologists (REE) (Target >90%)

Regional Epidemiologists in all 26 districts send a monthly return on AFP to the Epidemiological Unit. Completeness and timeliness of these returns are monitored centrally. In the previous year the completeness of monthly reporting was 78%.

3. Timeliness of reporting

3.1 Weekly reporting of Notifiable Diseases

The weekly reports from MOH on notifiable diseases received within a week from the due date are considered as timely. During the year 2006 the timeliness of reporting was 72%.

3.2 Weekly reporting of AFP cases from institutions

During the year 2006 the timeliness of weekly reporting of AFP was extremely poor at 38%. Steps have been taken to educate the infection control nurses who are responsible for this activity in sentinel sites with repeated supervisions by the central as well as the regional level authorities.

3.3 Monthly reporting of AFP cases by REE (Target > 80%)

Monthly reports received from REE before the 20th of the following month are considered as timely. Timeliness of monthly reporting in 2006 was 66%.

4. Reported AFP cases investigated within 48 hrs of reporting (Target >= 80%)

All AFP cases notified should be examined and investigated by an epidemiologist (at central or regional level) within 48 hrs of notification. In the year 2006, 98% of the AFP cases reported were investigated by an epidemiologist within 48 hours of notification.

5. Reported AFP cases with 2 stools specimens collected within 14 days of onset of paralysis (Target > 80%)

All cases of AFP reported should have two stool samples collected within 14 days of onset of the paralysis. Eighty percent of cases should have two such timely stool samples to fulfill the criteria stipulated by the WHO.

In 2006, 2 samples of stools were collected for virology within 14 days of the onset of paralysis from 98 cases (78%) of the 125 cases reported. Samples of stools have been collected from 124 out of the 125 cases reported, irrespective of the timeliness.

Stool samples from contacts

Following notification, stools samples are collected from 3 to 5 contacts of all AFP cases during the outbreak response activities carried out by the respective MOH. The contact stool sampling was satisfactory during the previous year and samples of stools were collected from contacts of 114 (91%) AFP cases of the 125 cases reported in 2006.

6. Reported AFP cases with a follow-up examination at 60 days after onset of paralysis to verify the presence of residual paralysis or weakness (Target $\geq 80\%$)

All the reported AFP cases should be followed up at 60 days of onset of paralysis by an epidemiologist at central or regional level for presence of residual paralysis. In 2006, 113 cases out of the 125 cases reported were followed up after 60 days of onset of paralysis with 4 cases still pending. It therefore achieved 94% follow up rate.

7. Specimens of stools arriving at National Laboratory (MRI) within 03 days of being collected (Target > 80%)

In the year 2006, 38 samples out of the total of 278 samples collected have been received after 3 days of being collected. This amounts to a 86.3% of the samples of stools being received timely.

8. Specimens of stools arriving at the National Laboratory in good condition (Target >80%)

In 2006, out of the 278 samples of stools collected from 125 AFP cases and 262 samples were in 'good' condition (94.2%) on arrival at the laboratory.

Good condition means that upon arrival:

- a) There is ice in the container
- b) Specimen volume is adequate
- c) There is no evidence of leakage or desiccation
- d) Appropriate documentation is complete

9. Specimens of stools with a turn around time <28 days (Target>80%)

In the previous year out of the 278 samples of stools collected and sent, results of all 278 specimens of stools were reported within 28 days. This achieved the target with a percentage of 100%.

10. Stool specimens from which non-polio enterovirus was isolated (Target>10%).

Non polio enterovirus was isolated from samples of stools of 29 cases out of the total 125 cases (10.5%). This is just above the expected target of 10%. Wild poliovirus was not isolated at the MRI during 2006.

National Polio Expert Committee Meetings 2006

The National Polio Expert Committee consists of experts from fields of paediatrics, virology, epidemiology, clinical neurology and neurophysiology. The expert committee meets once every quarter to discuss AFP cases that could not be discarded on laboratory results. In 2006, 12 such AFP cases were presented to the committee for deliberations. Ten of these cases had late stools and 2 cases had only one stool sample collected each. All of them were reviewed and discarded by the Expert committee as non Polio AFP cases with diagnosis of Guillain Barre' Syndrome in 11 of the cases and Transverse myelitis in the other case.

