

## **AFP Surveillance – 2005**

Poliomyelitis was made a notifiable disease in Sri Lanka in 1944. A standard case definition of a suspected case of Poliomyelitis was circulated among the medical profession in 1988 as a strategy for polio eradication. This definition cited a suspected case of Poliomyelitis as a case of Acute Flaccid Paralysis occurring in a child under 15 years age. 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.

Epidemiological Unit is the central co-ordinating agency for the National Poliomyelitis programme, receiving information about AFP cases from Medical officers in curative institutions where the patients seek treatment as well as 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 Epidemiologist at the Epidemiological Unit in Colombo.

In addition 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.

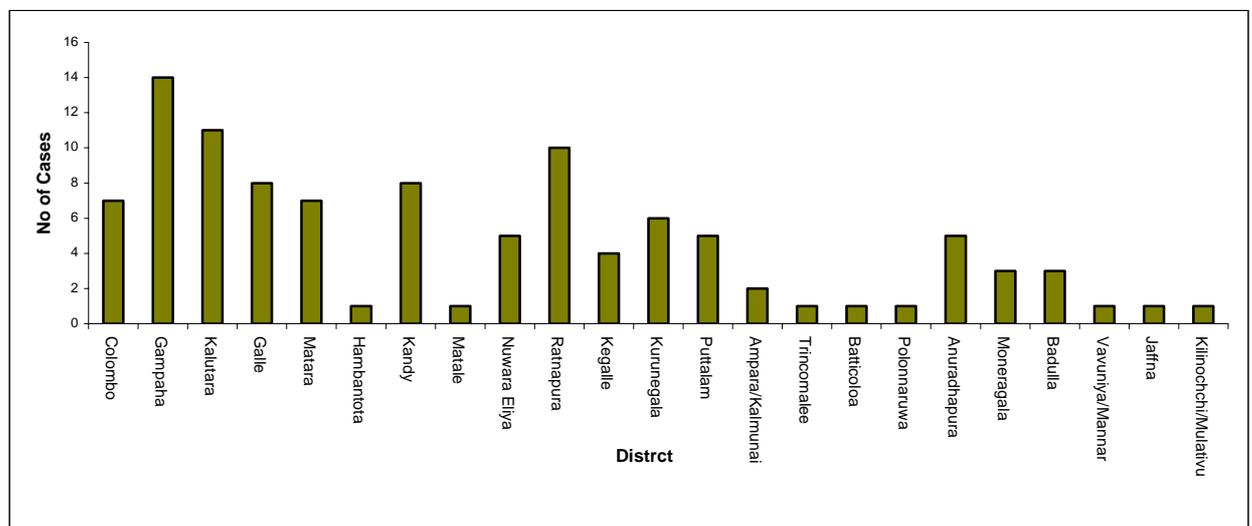
As a measure to counteract the threat posed from the neighbouring countries that report polio cases, MOOH in every district in northern and eastern provinces, Puttalam district and Nuwara Eliya district, carry out immunization of the children less than 15 years of age who return to Sri Lanka from South 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 2005

A total of 110 AFP cases were reported for the year 2005 (Fig.1). The highest number of cases, 14 was reported from Gampaha DPDHS Division. Eleven cases were reported from Kalutara DPDHS Division. Ratnapura DPDHS division reported 10 AFP cases. Eight cases each were reported from Galle and Kandy DPDHS Divisions while 7 cases were reported from Colombo and Matara. All the DPDHS divisions had reported expected number or more cases of AFP during the year 2005.

Fig. I Geographical distribution of AFP cases

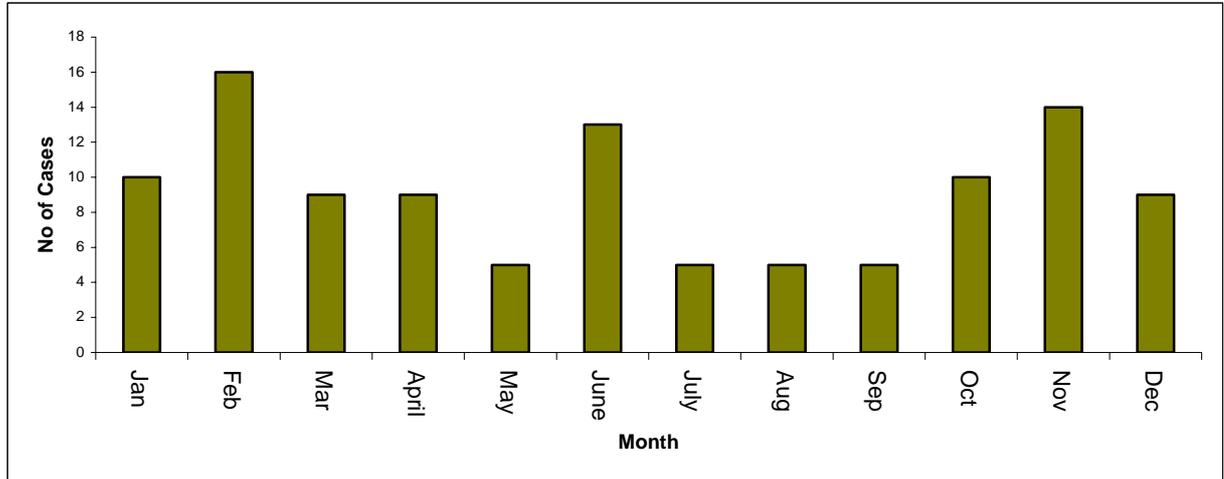


### Seasonal Distribution of AFP Cases 2005

February recorded the highest number of cases for the year. The number reported was 16. Fourteen cases were reported in November and 13 cases were reported in June. Ten cases each were reported in the months of January and October. There were 9 cases each in the months of March, April and December. Least number of

cases (05) each were reported in May, July August and September. The figure II below shows the distribution of AFP cases for the year 2005(Fig. II).

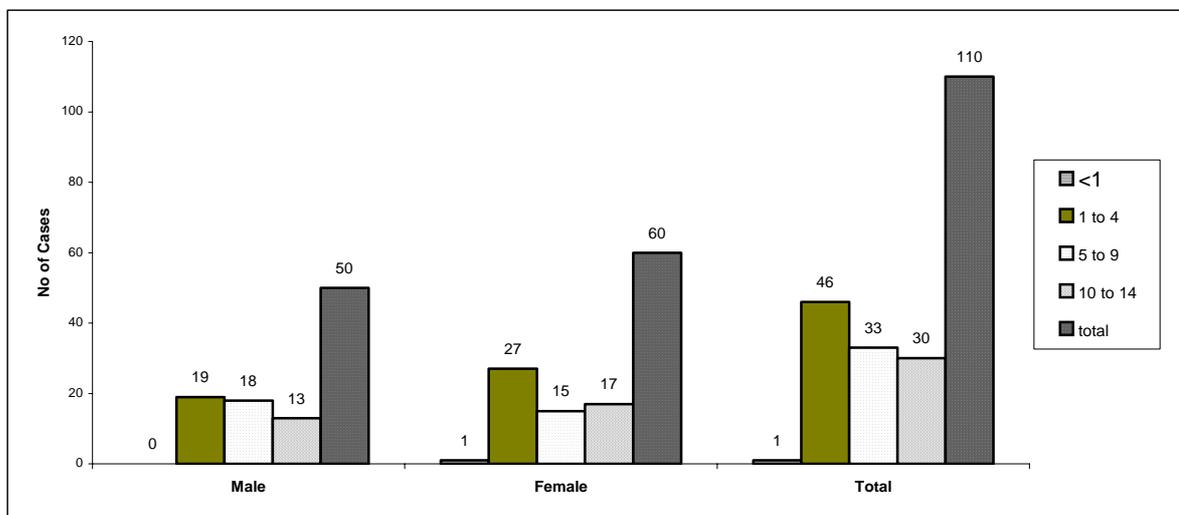
**Fig. II Distribution of AFP Cases 2005**



**Age and Sex Distribution of AFP Cases 2005**

There were more female AFP cases than male AFP cases reported in 2005. Out of the total of 110 AFP cases, 50 (45%) were males and 60 (55%) were female children. There were 47 (63%) children less than 5 years of age and 33 (30%) AFP cases were between 5 – 9 years of age. Thirty (27%) children were between 10 – 14 years of age (Fig.III).

**Fig. III Age and Sex Distribution of AFP Cases 2005**



## Immunization Status of AFP Cases Reported in 2005

All AFP cases (100%) reported during the year 2005 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 Diagnosis of AFP Cases

In 2005 all 110 cases reported were assigned a final diagnosis. A majority of the cases were diagnosed as Guillan Barre syndrome (GBS) by the respective clinicians who reported these cases. This amounted to 89% 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 3 cases (3%) of Transverse Myelitis and Viral encephalitis each. Two (2%) cases were diagnosed as Acute Cerebellitis and there was one case each from Muscle Wasting due to Lipotrophy, Cerebral Abscess, Aseptic Meningitis and Proximal Myopathy.

**Table 1. Distribution of final diagnosis of AFP cases 2005**

| <b>Diagnosis</b>                 | <b>Number of AFP Cases (%)</b> |
|----------------------------------|--------------------------------|
| Guillan Barre Syndrome           | 98 (89)                        |
| Transverse Myelitis              | 03 (3)                         |
| Viral Encephalitis               | 03 (3)                         |
| Acute Cerebellitis               | 02 (2)                         |
| Muscle Wasting due to Lipotrophy | 01 (0.9)                       |
| Cerebral Abscess                 | 01 (0.9)                       |
| Aseptic Meningitis               | 01 (0.9)                       |
| Proximal Myopathy                | 01 (0.9)                       |
| <b>Total</b>                     | <b>110</b>                     |

## Feedback Information on AFP Cases

Feed back information on AFP cases reported from institutions are sent to the respective clinicians once the cases are discarded with a final diagnosis. 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 2005**

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 2.1 during the year 2005. This exceeds the expected rate of 1 per 100,000 population of under 15 year old children. This rate is an improvement compared to the non-polio AFP rate of 2/100,000 under 15 year old population reported in 2004.

In the year 2005 all 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 92%.

### **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 2005 the completeness of weekly reporting of AFP cases from those institutions was 69%.

### **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 83%.

## **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 2005 the timeliness of reporting was 63%.

### **3.2 Weekly reporting of AFP cases from institutions**

During the year 2005 the timeliness of weekly reporting of AFP was extremely poor at 35%. 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%)**

The monthly reports received from REE before the 20<sup>th</sup> of the following month are considered as timely. Timeliness of monthly reporting in 2005 was 65%.

## **4. Reported AFP cases investigated within 48 hrs of reporting (Target $\geq$ 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 2005, 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 2005, 2 samples of stools were collected for virology within 14 days of the onset of paralysis from 90 cases (82%) of the 110 cases reported. Samples of stools have been collected from 107 out of the 110 cases reported, irrespective of the timeliness.

The target (80%) for the above indicator has been achieved for the previous year.

### **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 94 (85%) AFP cases of the 110 cases reported in 2005.

**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 2005, 108 cases (98%) out of the 110 cases reported were followed up after 60 days of onset of paralysis.

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

In the year 2005, 25 samples out of the total of 238 samples collected have been received after 3 days of being collected. This amounts to a 89.5% of the samples of stools being received timely. Twenty samples (8.4%) were received within 7 days of being collected and a further 5 (2.1%) samples were late for more than 7 days.

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

In 2005, out of the 238 samples of stools collected from 110 AFP cases and 220 samples were in 'good' condition (92.4%) 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 238 samples of stools collected and sent, results of 236 specimens of stools were reported within 28 days. This achieved the target with a percentage of 99.2%. Results of the other 2 samples were reported between 28-42 days.

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

Non polio enterovirus was isolated from samples of stools of 16 cases out of the total 110 cases (14.5%). This is well above the expected target of 10%. Wild poliovirus was not isolated at the MRI during 2005.

**National Polio Expert Committee Meetings 2005**

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 2005, 7 such AFP cases were presented to the committee for deliberations. Five of these cases had late stools and 2 cases had no stool samples collected. All of them were reviewed and discarded by the Expert committee as non Polio AFP cases with diagnosis of Guillain Barre' Syndrome in 5 of the cases, Dengue Fever in 1 case and Acute Cerebellitis in the other case.