

Volume 48
April - June
2007



Epidemiological Bulletin

SRI LANKA

Second Quarter
2007

Epidemiology Unit
Ministry of Health

<http://www.epid.gov.lk>

Contents :

1. Surveillance of Poliomyelitis
2. Surveillance of Cholera
3. Surveillance of Tetanus
4. Surveillance of Measles
5. Surveillance of Leptospirosis
6. Surveillance of Human Rabies
7. Surveillance of Enteric Fever
8. Surveillance of Viral Hepatitis
9. Surveillance of Dysentery
10. Surveillance of Japanese Encephalitis
11. Surveillance of Malaria
12. Surveillance of Dengue Fever (D.F.) & Dengue Haemorrhagic Fever (D.H.F.)
13. Surveillance of Tuberculosis
14. Surveillance of Adverse Events Following Immunization (AEFI)
15. Surveillance of Leprosy
16. Surveillance at Sea Port
17. Surveillance at Air Port
18. Bacteriology Report
19. Sexually Transmitted Diseases
20. Surveillance Report of Leptospirosis 2006
21. Surveillance Report of Human Rabies 2006
22. Summary of Notifiable Diseases – 2nd Quarter 2007

1. POLIOMYELITIS

Twenty five(25) Acute Flaccid Paralysis cases were notified to the Epidemiology Unit during the 2nd quarter 2007. In comparison during the 2nd quarter of 2006 and 2005, 28 and 27 AFP cases were reported respectively. The reported number of cases at completion of the 2nd quarter 2007 does not reach the expected number of AFP cases to be reported at this point which is 28 according to WHO surveillance criteria. One hundred and twelve (112) AFP cases are expected for a year, to make up a non-polio AFP rate of 2 per 100,000 children under 15-year.

Notification of AFP Cases from Hospitals

Lady Ridgeway Children's Hospital (LRH), Colombo, has reported the majority of cases (4, i.e.16%). LRH, the main sentinel site for AFP, is a tertiary care centre which receives referrals from other hospitals in the country. The other hospitals that notified the AFP cases in the 2nd quarter are as follows:

| Hospital | No. of cases |
|---|--------------|
| LRH | 4 |
| TH Peradeniya | 2 |
| TH Kandy | 2 |
| GH Ratnapura | 2 |
| GH Matara | 2 |
| GH Chilaw | 2 |
| GH Anuradhapura | 1 |
| GH Badulla | 1 |
| TH Batticaloa | 1 |
| BH Mawanella | 1 |
| TH Kurunegala | 1 |
| Sri Jayawardanapura General Hospital | 1 |
| GH Trincomalee | 1 |
| BH Matale | 1 |
| BH Diyatalawa | 1 |
| BH Homagama | 1 |
| Sirimavo Bandaranayke Children's Hospital | 1 |

Distribution of AFP Cases by Provinces, Districts & MOH Areas

Kandy district in the Central Province had reported the highest number of AFP cases (6 i.e.24%) for the quarter. Colombo of Western Province reported 3 cases (12%). Batticaloa district and Trincomalee district in the Eastern Province reported 1 AFP case each within the quarter. There were no cases reported from the Northern Province. The complete list of

distribution of AFP cases according to the province, district and MOH area is given in Table 1.

Table 1

GEOGRAPHICAL DISTRIBUTION OF AFP CASES

| Province | District | MOH Area | Number of AFP | | |
|---------------|-----------------|----------------|---------------|--------------|-----------|
| Western | Colombo | CMC | 1 | | |
| | | Hanwella | 1 | | |
| | | Homagama | 1 | | |
| | | Gampaha | Biyagama | 1 | |
| | | Mahara | 1 | | |
| Southern | Matara | Hakmana | 1 | | |
| | | Kekanadura | 1 | | |
| | | Central | Kandy | Wattegama | 1 |
| Gampola | 1 | | | | |
| | | Kadugannawa | 1 | | |
| | | Hatara Liyedda | 1 | | |
| | | Hasalaka | 1 | | |
| | | Kundasale | 1 | | |
| | | Matale | Yatawatta | 1 | |
| | | Nuwara Eliya | Nuwara Eliya | 1 | |
| | | Sabara gamuwa | Ratnapura | Embilipitiya | 1 |
| | | | | Godakawela | 1 |
| | | | | Kegalle | Mawanella |
| | | North Western | Kurunegala | Mahawa | 1 |
| Puttalam | Arachchikattuwa | | | 1 | |
| | | Anamaduwa | 1 | | |
| | | Eastern | Batticaloa | Kattankudi | 1 |
| Trincomalee | Seru Nuwara | 1 | | | |
| North Central | Anuradhapura | Mihintale | 1 | | |
| Uva | Badulla | Haputale | 1 | | |

Seasonal Distribution of AFP Cases

During the 2nd quarter 2007, the highest number of AFP cases were reported in the month of June (10 cases i.e.40%). Eight (8 i.e. 32%) cases were reported in April, and 7 cases were reported in May .

Distribution of AFP Cases by Age and Sex

Majority of AFP cases(10 i.e.40%) reported in the 2nd quarter 2007 were among those who were between 1-4 years of age. In comparison the majority of AFP cases reported in the corresponding quarter of 2006 were between 10-

14 years of age and only one case was aged less than 1 year.

Over half (56%) of the AFP cases (14) in the 2nd quarter 2007 were females. This is in contrast to the 2nd quarter 2006 where the majority of the cases were males (55%). In two of the age groups considered namely 1-4 and 10-14 year age groups, the number of males and females reported were similar. Table 2 shows the age and sex distribution of AFP cases in 2nd quarter 2007.

Table 2

DISTRIBUTION OF AFP CASES BY AGE AND SEX 2ND QUARTER 2007

| Age Group | Sex | | Total |
|----------------|------|--------|-------|
| | Male | Female | |
| <1 year old | 0 | 1 | 1 |
| 1-4 year old | 5 | 5 | 10 |
| 5-9 year old | 3 | 5 | 8 |
| 10-15 year old | 3 | 3 | 6 |
| Total | 11 | 14 | 25 |

Laboratory Surveillance of AFP Cases

Two stool samples collected within 14 days of the onset of paralysis are required at the Medical Research Institute for polio virology. According to WHO criteria these samples should be of 'good condition' as well as timely. Being of correct quantity (8-10g), being sent in a leak proof container with no evidence of spillage or leakage and presence of ice in the container on receipt are the criteria to make the samples of 'good condition'.

All 25 AFP cases (100%) reported in the 2nd quarter 2007 had at least one stool sample sent to MRI for polio virology. Medical Research Institute received at least one timely stool sample from all 25 cases (100%) in this quarter for polio virology and 23 cases (92%) had two timely stool samples sent for polio virology. This is higher than the timely collection rate (83%) achieved out of 42 AFP cases recorded in the respective quarter of 2006.

2. CHOLERA

No confirmed cases of cholera were reported to the Epidemiology Unit during the 2nd quarter 2007 or the corresponding quarter of 2006.

3. TETANUS

During the 2nd quarter 2007, 10 tetanus cases were notified to the Epidemiology Unit. This is in comparison to 9 cases reported during the previous quarter and 20 cases reported during the corresponding quarter of 2006.

Three cases notified during the current quarter, were investigated and confirmed as tetanus. A

child aged 2 years from the MOH area Chilaw in the Puttalam district, who had not received DPT was among the confirmed cases. The other two were adults over 50 years and one case had been fatal.

Table 3

SELECTED CHARACTERISTICS OF CONFIRMED CASES OF TETANUS – 2ND QUARTER 2007

(N = 03)

| | | |
|---------------------|---------------|---|
| Sex | Male | 2 |
| | Female | 1 |
| Age group | < 1 | 0 |
| | 1-5 | 1 |
| | > 5 | 2 |
| District | Puttalam | 1 |
| | Kalmunai | 1 |
| | Kurunegala | 1 |
| Immunization status | Immunized | 0 |
| | Non immunized | 3 |

4. MEASLES

During the 2nd quarter 2007, 24 cases of measles were notified to the Epidemiology Unit compared to 17 cases notified during the previous quarter and 10 cases in the corresponding quarter of last year.

Six cases notified during the 2nd quarter 2007, were investigated and 04 were confirmed as measles (Table 4).

Table 4

SELECTED CHARACTERISTICS OF CONFIRMED CASES OF MEASLES – 2ND QUARTER 2007

(N = 04)

| | | |
|---------------------|---------------|-----|
| Sex | Male | 4 |
| | Female | 0 |
| Age group | < 1 | 1 |
| | 1-5 | 1 |
| | >5 | 2* |
| District | Kegalle | 2 |
| | Ratnapura | 1 |
| | Badulla | 1 |
| Immunization status | Immunized | 1** |
| | Non immunized | 3 |

* two children aged 7 years and 9 years

** a child aged 9 years who had received one dose of measles vaccine

5. LEPTOSPIROSIS

In the 2nd quarter 2007, 330 leptospirosis cases were notified to the Epidemiology Unit compared to 418 cases in the previous quarter (1st quarter 2007) and 475 cases during the corresponding quarter of the previous year. During the current quarter majority of the cases were reported from the districts of Matara (57 cases i.e. 17%) and Gampaha (49 cases i.e. 15%). Among the

reported cases 112 were confirmed as leptospirosis. This includes 78 cases and 3 deaths reported from the 15 hospitals identified as sentinel sites in the high endemic areas.

Analysis of special investigations received from sentinel sites showed that around 20% of them were in the age group 45-49 years and male female ratio was 7:1.

6. HUMAN RABIES

Eleven (11) cases of human rabies were notified to the Epidemiology Unit in the 2nd quarter 2007, compared to 16 cases in the previous quarter and 15 cases in the corresponding quarter of year 2006. Distribution of cases by district is given in Table 31

Animal Rabies

During the quarter 172 dogs were reported positive for rabies compared to 183 in the previous quarter and 164 in the corresponding quarter of 2006. In addition the following animals were also reported positive;

Cat-15, Wild animals- 01, Domestic ruminants-03

Rabies Control Activities*

Dog vaccination – A total of 234517 dogs were immunized during the 2nd quarter 2007 when compared to 281005 in the previous quarter and 236571 in the corresponding quarter of last year.

Stray dog elimination – No stray dogs were eliminated during the 2nd quarter 2007.

Birth Control Activities—20283 free roaming female dogs were injected with Progesterone and 726 female dogs were sterilized by surgical method. In comparison Progesterone injection was administered to 21701 female dogs during the previous quarter .

*Source – Director/PHVS

7. ENTERIC FEVER

In the 2nd quarter 2007 , a total of 372 cases of enteric fever were notified to the Epidemiology Unit, compared to 606 cases in the previous quarter and 533 cases in the corresponding quarter of 2006. The districts of Jaffna (74), Nuwara Eliya (53) and Badulla (32) reported the highest number of cases (Table 31).

The MOH areas Walapone (34) and Telippalai (22), notified a large number of cases during the quarter under review.

8. VIRAL HEPATITIS

In the 2nd quarter 2007 , 2247 cases of viral hepatitis were reported to the Epidemiology Unit, compared to 750 cases in the previous quarter and 743 cases in the corresponding quarter of 2006. Among the reported cases, 209 were investigated and confirmed as viral hepatitis. RDHS area Kandy notified the highest number of cases (1272) accounting for 57% of the total case load followed by Batticaloa (314 cases

i.e.14%) and the MOH areas Gampola (724), Hindagala (214 cases), Kurunduwatta (148 cases) in the Kandy district and Batticaloa(129 cases) reported the highest number of cases.

9. DYSENTERY

In the 2nd quarter 2007 , 2358 cases of dysentery were notified to the Epidemiology Unit, compared to 1266 cases in the previous quarter and 1554 cases in the corresponding quarter of 2006.

The MOH areas Kalavanchikudi(178), Mutur (72), Batticaloa(66), Welimada(58) and Panadura(57) notified the highest number of cases.

10. JAPANESE ENCEPHALITIS (J.E.)

During the 2nd quarter 2007 , 53 cases of Encephalitis were reported to the Epidemiology Unit.

Among the reported cases, 11 cases were investigated and 3 were found to be clinically confirmed as JE. One death was reported during the quarter.

This is in comparison to 20 cases and one death reported during the previous quarter and 8 cases and no deaths in the corresponding quarter of 2006.

Table 5

DISTRIBUTION OF JAPANESE ENCEPHALITIS CASES BY RDHS DIVISION - 2ND QUARTER 2007

| RDHS Area | MOH Area | Cases | Deaths |
|--------------|------------|----------|----------|
| Matara | Dikwella | 1 | 0 |
| Batticaloa | Batticaloa | 1 | 1 |
| Kurunegala | Bingiriya | 1 | 0 |
| Total | | 3 | 1 |

11. MALARIA

During the 2nd quarter 2007 , there was a significant reduction in the incidence of malaria in comparison to the same period of 2006 as seen in Table 6. Distribution of malaria cases by districts is shown in Table 7.

Source : Anti Malaria Campaign

12. DENGUE FEVER (D.F.) DENGUE HAEMORRHAGIC FEVER (D.H.F.)

During the 2nd quarter 2007 , 905 cases of DF/DHF and 3 deaths were reported (CFR 0.33%) when compared to 1499 cases and 9 deaths (CFR 0.37%) reported during the previous quarter and 2058 cases and 12 deaths (CFR 0.58%) reported during the corresponding quarter of last year.

Table 8 shows the distribution of DF/DHF cases and deaths in the RDHS divisions during the quarter.

Table 6

RESULTS OF BLOOD SMEAR EXAMINATION FOR MALARIA PARASITES - 2ND QUARTER 2006/2007

| | 2 nd Quarter 2006 | 2 nd Quarter 2007 |
|--------------------------------|------------------------------|------------------------------|
| No. of blood smears examined | 246,946 | 249,292 |
| No. of positives | 94 | 65 |
| No. of <i>P. vivax</i> | 88 | 65 |
| No. of <i>P. falciparum</i> | 4 | 0 |
| No. of mixed infections | 2 | 0 |
| No. of infant positives | 2 | 0 |
| Slide positivity rate (S.P.R.) | 0.04% | 0.03% |
| P.v. : P.f. ratio | 22:1 | 65:0 |
| Percentage of infant positives | 2.13% | 0.0% |

Table 7

RESULTS OF BLOOD SMEAR EXAMINATION - 2ND QUARTER 2007

| RDHS Division | Blood smears | Positives | P.v. | P.f./ Mixed |
|---------------|---------------|-----------|-----------|-------------|
| Colombo | 16687 | 0 | 0 | 0 |
| Gampaha | 8501 | 4 | 4 | 0 |
| Kalutara | 3181 | 1 | 1 | 0 |
| Kandy | 6694 | 0 | 0 | 0 |
| Matale | 2940 | 0 | 0 | 0 |
| Nuwara Eliya | 122 | 0 | 0 | 0 |
| Galle | 127 | 0 | 0 | 0 |
| Matara | 3285 | 1 | 1 | 0 |
| Hambantota | 9333 | 0 | 0 | 0 |
| Jaffna | 24808 | 0 | 0 | 0 |
| Kilinochchi | 5309 | 0 | 0 | 0 |
| Mannar | 2268 | 0 | 0 | 0 |
| Vavuniya | 9991 | 8 | 8 | 0 |
| Mullativu | 3799 | 0 | 0 | 0 |
| Batticaloa | 13190 | 0 | 0 | 0 |
| Ampara | 7639 | 1 | 1 | 0 |
| Trincomalee | 16802 | 43 | 43 | 0 |
| Kurunegala | 18455 | 1 | 1 | 0 |
| Maho | 9106 | 1 | 1 | 0 |
| Puttalam | 10324 | 0 | 0 | 0 |
| Anuradhapura | 27903 | 2 | 2 | 0 |
| Polonnaruwa | 13847 | 1 | 1 | 0 |
| Badulla | 5391 | 0 | 0 | 0 |
| Moneragala | 11653 | 0 | 0 | 0 |
| Ratnapura | 4845 | 1 | 1 | 0 |
| Kegalle | 1266 | 0 | 0 | 0 |
| Kalmunai | 11826 | 1 | 1 | 0 |
| TOTAL | 249292 | 65 | 65 | 0 |

P.v.- *Plasmodium vivax*P.f.- *Plasmodium falciparum*

Table 8

MORBIDITY AND MORTALITY DUE TO DF/DHF - 2ND QUARTER 2007

| RDHS Division | Cases | Percentage | Deaths |
|---------------|------------|------------|----------|
| Colombo | 218 | 24.1 | 1 |
| Gampaha | 102 | 10.9 | 0 |
| Kalutara | 54 | 6.0 | 0 |
| Kandy | 53 | 5.9 | 0 |
| Matale | 9 | 1.0 | 0 |
| Nuwara Eliya | 8 | 0.9 | 0 |
| Galle | 9 | 1.0 | 0 |
| Hambantota | 8 | 0.9 | 0 |
| Matara | 34 | 3.8 | 0 |
| Jaffna | 16 | 1.8 | 0 |
| Kilinochchi | 1 | 0.1 | 0 |
| Mannar | 0 | 0 | 0 |
| Vavuniya | 1 | 0.1 | 0 |
| Mullativu | 0 | 0 | 0 |
| Batticaloa | 52 | 5.7 | 0 |
| Ampara | 2 | 0.2 | 0 |
| Trincomalee | 14 | 1.5 | 2 |
| Kurunegala | 101 | 11.2 | 0 |
| Puttalam | 15 | 1.7 | 0 |
| Anuradhapura | 53 | 5.9 | 0 |
| Polonnaruwa | 21 | 2.3 | 0 |
| Badulla | 6 | 0.7 | 0 |
| Moneragala | 5 | 0.6 | 0 |
| Ratnapura | 66 | 7.3 | 0 |
| Kegalle | 56 | 6.2 | 0 |
| Kalmunai | 1 | 0.1 | 0 |
| TOTAL | 905 | 100 | 3 |

During the 2nd quarter 2007, 08 blood samples were tested using Ig M capture ELISA test and Haemagglutination Inhibition test at the Department of Virology, MRI and 03 samples were confirmed as positive. (Table 9)

Table 9

DHF STATISTICS FROM DEPARTMENT OF VIROLOGY, MRI - 2ND QUARTER 2007

| Month | Clinically Suspected | Serologically confirmed |
|-------|----------------------|-------------------------|
| April | 4 | 1 |
| May | 1 | 1 |
| June | 3 | 1 |
| Total | 8 | 3 |

12.1 ENTOMOLOGICAL SURVEILLANCE OF DENGUE VECTORS

Results of the entomological surveillance carried out by the Medical Research Institute and Entomological Unit, Western Province, in selected MOH areas of Colombo and Gampaha districts, for the 2nd quarter 2007 are given in Table 10.

Surveillance activities were carried out in locations identified as 'high-risk' by the respective MOH and action was taken to eliminate the breeding sites detected.

Breteau Index

$$= \frac{\text{No. of Positive containers} \times 100}{\text{No. of premises inspected}}$$

Table 10

Aedes LARVAL DENSITIES (BRETEAU INDEX) IN COLOMBO AND GAMPAHA DISTRICTS - 2ND QUARTER 2007

| Area | April | | May | | June | |
|------------|-------|------|------|-------|------|------|
| | A | B | A | B | A | B |
| Nugegoda | 7.4 | 10.2 | 4.0 | 4.0 | 6.0 | 9.5 |
| Maharagama | 4.0 | 4.0 | 4.6 | 11.4 | 5.5 | 10.1 |
| Moratuwa | 6.6 | 0.6 | 3.2 | 1.6 | 2.4 | 4.8 |
| Kaduwela | 7.4 | 12.5 | 12.0 | 22.0 | 6.0 | 16.0 |
| Kelaniya | 1.5 | 24.0 | 6.1 | 9.4 | 5.4 | 11.4 |
| Ragama | 0 | 14.2 | 1.9 | 10.6 | 1.5 | 11.0 |
| Ja-Ela | 2.3 | 12.0 | 9.0 | 19.5 | 2.8 | 10.9 |
| Wattala | 2.5 | 13.8 | 10.5 | 20.6 | 05 | 6.0 |
| Dompe | - | - | 0 | 15.0 | 0 | 25.0 |
| Gampaha | - | - | 1.9 | 37.8 | 1.0 | 31.6 |
| Mahara | - | - | 2.5 | 21.80 | 1.0 | 17.0 |

(A) = *Aedes aegypti* Number of premises examined per area = 300
(B) = *Aedes albopictus*

13. TUBERCULOSIS

A total of 2125 tuberculosis patients were registered for 2nd quarter 2007 by the National Programme for Tuberculosis Control and Chest

Diseases. Of this total, 1662 suffered from pulmonary disease, while the balance, 463 patients from non-pulmonary disease. One thousand one hundred and eighty two (1182) of these patients were bacteriologically confirmed with a bacteriological confirmation rate of 71.1%. During the quarter 1065 TB patients and 1256 other patient were hospitalized.

The distribution of tuberculosis patients by districts is given in Table 11.

B.C.G. vaccination

A total of 92009 B.C.G. vaccinations were carried out during the quarter with 97.2% coverage.

Table 11.

TUBERCULOSIS PATIENTS BY RDHS DIVISIONS - 2ND QUARTER 2007

| RDHS DIVISION | PTB | OTB | Total | Pulmonary Direct Smear | |
|---------------|-------------|------------|-------------|------------------------|-------------|
| | | | | No. +VE | % |
| Colombo | 389 | 99 | 488 | 318 | 81.7 |
| Gampaha | 159 | 44 | 203 | 131 | 82.3 |
| Kalutara | 119 | 53 | 172 | 86 | 72.2 |
| Kandy | 100 | 33 | 133 | 49 | 49 |
| Matale | 28 | 08 | 36 | 12 | 42.8 |
| Nuwara Eliya | 49 | 10 | 59 | 24 | 48.9 |
| Galle | 82 | 27 | 109 | 62 | 75.6 |
| Hambantota | 31 | 05 | 36 | 19 | 61.2 |
| Matara | 51 | 15 | 66 | 38 | 74.5 |
| Jaffna | 75 | 12 | 87 | 24 | 32.0 |
| Vavunia | 14 | 03 | 17 | 07 | 50.0 |
| Kilinochchi | 10 | - | 10 | 08 | 80.0 |
| Mannar | 14 | 02 | 16 | 09 | 64.2 |
| Mullativu | 05 | 04 | 09 | 05 | 100.0 |
| Ampara | 18 | 02 | 20 | 12 | 66.7 |
| Batticaloa | 37 | 12 | 49 | 29 | 78.3 |
| Trincomalee | 20 | 02 | 22 | 06 | 30.0 |
| Kurunegala | 92 | 32 | 124 | 76 | 82.6 |
| Puttalam | 27 | 02 | 29 | 19 | 70.3 |
| Anuradhapura | 51 | 18 | 69 | 40 | 78.4 |
| Polonnaruwa | 33 | 06 | 39 | 23 | 69.6 |
| Badulla | 51 | 26 | 77 | 38 | 74.5 |
| Monaragala | 15 | 07 | 22 | 13 | 86.6 |
| Kegalle | 84 | 20 | 104 | 66 | 78.5 |
| Ratnapura | 41 | 20 | 61 | 34 | 82.9 |
| Kalmune | 67 | 01 | 68 | 34 | 50.7 |
| Total | 1662 | 463 | 2125 | 1182 | 71.1 |

PTB-Pulmonary Tuberculosis
OTB-Other Tuberculosis
Data from Central TB Register

14. ADVERSE EVENTS FOLLOWING IMMUNIZATION (AEFI)

In the second quarter of 2007, almost 93% of the monthly AEFI returns were received from MOOH, of which 48% were NIL returns. Twenty districts have sent more than 90% of monthly returns while 3 districts (Ratnapura, Kilinochchi and Mullaitivu) have forwarded less than 80% of monthly MOH returns. All the Monthly AEFI returns for the quarter have been sent from Kalutara, Hambantota, Moneragala, Jaffna, Vavuniya and Kalmunai districts.

Forty percent of the total returns received during the current quarter were NIL returns. A smaller number of NIL returns were received from Colombo (10%), Gampaha (16%), Kalutara (30%) and Puttalam (0%) whereas Kilinochchi (86%), Jaffna (100%), Mannar (82%), Vavunia (83%) and Mullaitivu (100%) have forwarded higher number of NIL returns.

The timeliness of the MOH monthly AEFI returns was satisfactory in Badulla (65%), Kegalle (59%), Moneragala (57%) and Puttalam (52%). However, Jaffna, Killinochchi and Mullaitivu have

not sent any single report on time.

Higher incidence rate of AEFI was reported from Hambantota (192/100,000) Colombo (161/100,000), Badulla (158/100,000) and Polonnaruwa (158/100,000). However, a large number of AEFI was reported in Colombo (254), Gampaha (155), Kandy (142) and Badulla (107). (Table 12)

There was a death following DPT vaccination in Wellimada MOH area in the Badulla District. Post mortem had been carried out and confirmed that the death was due to milk aspiration and was categorized as a co-incidental event of AEFI. As serious adverse events seizures were reported for DPT (56), DT (3) and MR vaccine (2) and BCG lymphadenitis (2) were reported from the country. High fever was the commonest AEFI followed by abscess and severe local reaction which followed DPT vaccination (Table 13)

Both the highest number (1118) and the rate (322/100,000) of AEFI were related to DPT vaccine while the lowest number (10) and rate (2/100,000) of AEFI were for OPV. The total reported number of AEFI in the country was 1360 with the incidence rate of 86.98 per 100,000 immunizations (Table 14).

Table 12.

REPORT ON MONTHLY RETURN OF AEFI BY DISTRICTS – 2ND QUARTER 2007

| RDHS DIVISION | % Completeness | % Timeliness | % Nil Returns | No. of AEFI | AEFI Rate (/100,000 doses) |
|---------------|----------------|--------------|---------------|-------------|----------------------------|
| Colombo | 92.9 | 33.3 | 10.3 | 254 | 160.5 |
| Gampaha | 95.6 | 41.9 | 16.3 | 155 | 93.7 |
| Kalutara | 100.0 | 33.3 | 30.3 | 60 | 70.2 |
| Kandy | 92.4 | 31.2 | 37.7 | 142 | 132.5 |
| Matale | 94.4 | 29.4 | 47.1 | 43 | 97.8 |
| Nuwara Eliya | 90.5 | 31.6 | 47.4 | 29 | 50.9 |
| Galle | 95.8 | 39.1 | 69.6 | 26 | 33.6 |
| Hambantota | 100.0 | 27.3 | 30.3 | 92 | 192.2 |
| Matara | 95.8 | 50.0 | 56.5 | 34 | 58.4 |
| Jaffna | 100.0 | 0 | 100.0 | 0 | 0 |
| Kilinochchi | 58.3 | 0 | 85.7 | 4 | 33.1 |
| Mannar | 91.7 | 45.5 | 81.8 | 3 | 44.3 |
| Vavuniya | 100.0 | 33.3 | 83.3 | 7 | 42.2 |
| Mullaitivu | 66.7 | 0 | 100.0 | 0 | 0 |
| Batticaloa | 87.9 | 41.4 | 75.9 | 17 | 29.6 |
| Ampara | 95.2 | 10.0 | 80.0 | 8 | 38.9 |
| Trincomalee | 85.2 | 43.5 | 65.2 | 19 | 59.5 |
| Kurunegala | 92.6 | 36.0 | 36.0 | 59 | 46.2 |
| Puttalam | 85.2 | 52.2 | 0 | 93 | 154.2 |
| Anuradhapura | 93.0 | 35.9 | 56.9 | 47 | 66.8 |
| Polonnaruwa | 95.2 | 15.0 | 35.0 | 45 | 157.5 |
| Badulla | 95.6 | 65.1 | 41.9 | 107 | 157.8 |
| Moneragala | 100.0 | 56.7 | 46.7 | 25 | 67.4 |
| Ratnapura | 77.1 | 35.1 | 54.1 | 22 | 27.5 |
| Kegalle | 97.0 | 59.4 | 25.0 | 55 | 86.6 |
| Kalmunai | 100.0 | 38.5 | 74.4 | 17 | 40.3 |
| Sri Lanka | 92.6 | 37.4 | 47.5 | 1363 | 87.2 |

Table 13.

SELECTED ADVERSE EVENTS BY ANTIGENS - 2ND QUARTER 2007

| Vaccine | Seizure | Allergy | Abscess | Severe local reaction | High fever | Lymphadenitis | Encephalopathy | Shock | Arthralgia | Death | Total |
|---------|---------|---------|---------|-----------------------|------------|---------------|----------------|-------|------------|-------|-------|
| BCG | 0 | 1 | 7 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 12 |
| DPT | 56 | 103 | 180 | 114 | 259 | 0 | 0 | 0 | 9 | 1 | 722 |
| OPV | 0 | 1 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 9 |
| Measles | 0 | 10 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 13 |
| DT | 3 | 2 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 8 |
| TT | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Rubella | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| JE | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| ATd | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| MR | 2 | 10 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 14 |
| Hep | 0 | 1 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 4 |
| Others* | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |

Table 14.

REPORTED AEFI BY ANTIGEN - 2ND QUARTER 2007

| Vaccine | No of AEFI | Rate (/ 100,000 doses) |
|---------|------------|------------------------|
| BCG | 22 | 24.0 |
| DPT | 1118 | 322.4 |
| OPV | 10 | 2.3 |
| Measles | 57 | 63.4 |
| DT | 35 | 42.2 |
| TT | 15 | 17.0 |
| Rubella | 19 | 29.6 |
| ATd | 18 | 28.7 |
| MR | 46 | 50.9 |
| Hep | 14 | 6.4 |
| Others* | 6 | |
| Total | 1360 | 87.0 |

* Hib and TAB vaccine

15. LEPROSY

QUARTERLY RETURN OF LEPROSY STATISTICS - 2ND QUARTER 2007

Table 15.

1. National

| | At the end of the quarter | | | Cumulative for end of the quarter | | |
|-----------------------|---------------------------------|---------------------------------|-----------|-----------------------------------|------|-----------|
| | 2 nd quarter 2007 | 2 nd quarter 2006 | Diff. (%) | 2007 | 2006 | Diff. (%) |
| New patients detected | 470 | 419 | 12.1 | 856 | 813 | 5.3 |
| Children | 42 | 34 | 23.5 | 83 | 76 | 9.2 |
| Grade 2 Deformities | 25 | 25 | 0 | 51 | 47 | 8.5 |
| Multi-Bacillary | 207 | 191 | 8.4 | 386 | 345 | 11.9 |
| Females | 212 | 183 | 15.8 | 377 | 355 | 6.2 |

2. Districts

| District | New patients | Deformities | Child | MB | Females |
|----------------------|--------------|-------------|-----------|------------|------------|
| Colombo | 87 | 02 | 13 | 26 | 40 |
| Gampaha | 69 | 05 | 05 | 25 | 32 |
| Kalutara | 69 | 05 | 10 | 28 | 34 |
| Western | 225 | 12 | 28 | 79 | 106 |
| Galle | 05 | 0 | 0 | 03 | 02 |
| Matara | 23 | 0 | 03 | 07 | 14 |
| Hambantota | 11 | 01 | 0 | 05 | 04 |
| Southern | 39 | 01 | 03 | 15 | 20 |
| Kandy | 05 | 0 | 0 | 01 | 0 |
| Matale | 07 | 0 | 02 | 04 | 04 |
| Nuwara Eliya | 01 | 0 | 0 | 0 | 01 |
| Central | 13 | 0 | 02 | 05 | 05 |
| Anuradhapura | 20 | 02 | 01 | 11 | 06 |
| Polonnaruwa | 19 | 0 | 02 | 07 | 08 |
| North Central | 39 | 02 | 03 | 18 | 14 |
| Kurunegala | 29 | 0 | 01 | 16 | 15 |
| Puttalam | 25 | 0 | 0 | 12 | 13 |
| North Western | 54 | 0 | 01 | 28 | 28 |
| Kegalla | 08 | 0 | 0 | 07 | 0 |
| Ratnapura | 31 | 03 | 0 | 24 | 09 |
| Sabaragamuwa | 39 | 03 | 0 | 31 | 09 |
| Badulla | 10 | 0 | 0 | 04 | 02 |
| Moneragala | 03 | 01 | 0 | 01 | 02 |
| Uva | 13 | 01 | 0 | 05 | 04 |
| Trincomalee | 05 | 02 | 01 | 04 | 04 |
| Batticaloa | 16 | 01 | 0 | 09 | 08 |
| Ampara | 10 | 01 | 02 | 07 | 07 |
| Kalmunai | 12 | 01 | 02 | 04 | 06 |
| Eastern | 43 | 05 | 05 | 24 | 25 |
| Jaffna | 01 | 0 | 0 | 01 | 0 |
| Vavuniya | 02 | 0 | 0 | 0 | 0 |
| Mannar | 0 | 0 | 0 | 0 | 0 |
| Mullativu | 02 | 01 | 0 | 01 | 01 |
| Kilinochchi | 0 | 0 | 0 | 0 | 0 |
| Northern | 05 | 01 | 0 | 02 | 01 |
| Sri Lanka | 470 | 25 | 42 | 207 | 212 |

Source : Anti Leprosy Campaign

16. SURVEILLANCE AT SEA PORT

Surveillance activities carried out by the Port Health Office at Colombo Sea Port during the 2nd quarter 2007, is given below.

| | |
|--|--------------|
| 1. Yellow Fever Vaccination | Total |
| Total number vaccinated | - 79 |
| 2. Granting Pratique to Vessels | |
| Number issued | - 1111 |
| 3. Deratting Certification | |
| Number issued | - 80 |

Details of the vaccinations carried out by the Assistant Port Health Office, Colombo 8, during the 2nd quarter 2007, is given below.

| | |
|-----------------------------|--------------|
| | Total |
| a. Yellow fever | 663 |
| b. Meningococcal meningitis | 291 |

17. SURVEILLANCE AT AIRPORT

Surveillance activities carried out at the International Airport, Katunayake during the 2nd quarter 2007 is given below.

1. Airport Sanitation

| | |
|--|------|
| a. No. of sanitary inspections carried out including food establishments | - 20 |
| b. No. of food samples taken under Food Act | - 4 |
| c. No. found defective | - 0 |
| d. No. of court cases/prosecuted | - 0 |
| e. No. of water samples tested | - 9 |

2. Release of human remains

| | |
|-------------------------------------|------|
| No. of human remains released | - 83 |
| No. referred to JMO for post-mortem | - 07 |

18. BACTERIOLOGY REPORT - 2ND QUARTER - 2007 - MEDICAL RESEARCH INSTITUTE

Table 16.

| | April | May | June |
|-------------------------------------|-------|-----|------|
| (A) CHOLERA | | | |
| No. of stool specimens examined | - | - | 05 |
| No. of EI. for cholera | - | - | - |
| Ogawa | - | - | - |
| Inaba | - | - | - |
| Cholera 0139 | - | - | - |
| (B) SALMONELLA | | | |
| No. of Blood specimens examined | 20 | 30 | 49 |
| No. positive S. typhi | - | - | - |
| S. paratyphi | - | 01 | - |
| No. of stool specimens examined | 139 | 182 | 128 |
| No. positive S. typhi | - | - | - |
| S. paratyphi A | - | - | - |
| Others | 02 | 03 | 02 |
| (C) SHIGELLA | | | |
| No. of specimens examined | 139 | 182 | 128 |
| No. positive Sh. flexneri 1 | - | - | - |
| Sh. flexneri 2 | 02 | 01 | - |
| Sh. flexneri 3 | - | - | - |
| Sh. flexneri 4 | - | - | - |
| Sh. flexneri 5 | - | - | - |
| Sh. flexneri 6 | 01 | 02 | - |
| Sh. sonnei | 08 | 15 | 10 |
| Sh. dysenteriae | - | - | - |
| (D) ENTEROPATHOGENIC E. COLI | | | |
| No. of specimens examined | 37 | 70 | 47 |
| No. positive Group A | 02 | 04 | - |
| (E) CAMPYLOBACTER SPECIES | | | |
| | 02 | 02 | - |

19. SEXUALLY TRANSMITTED DISEASES

Table 17.

NEW EPISODES OF STD/HIV/AIDS REPORTED OR TREATED AT STD CLINICS IN SRI LANKA* - 2ND QUARTER 2007

| Disease | New cases or new disease episodes during the quarter | | | Total new cases or new episodes for the calendar year up to end of the quarter ** | | |
|--|--|--------|-------|---|--------|-------|
| | Male | Female | Total | Male | Female | Total |
| HIV positives ¹ | 15 | 9 | 24 | 29 | 19 | 48 |
| AIDS | 7 | 4 | 11 | 12 | 5 | 17 |
| Early Syphilis ² | 21 | 11 | 32 | 42 | 22 | 64 |
| Syphilis | 73 | 63 | 136 | 143 | 132 | 275 |
| Congenital Syphilis ⁴ | 0 | 0 | 0 | 0 | 0 | 0 |
| Gonorrhoea ⁵ | 89 | 38 | 127 | 223 | 83 | 306 |
| Ophthalmia neonatorum ⁶ | 2 | 3 | 5 | 3 | 3 | 6 |
| Non specific cervicitis/urethritis | 129 | 220 | 349 | 253 | 400 | 653 |
| Chlamydial Infection | 1 | 22 | 23 | 8 | 32 | 40 |
| Genital Herpes | 156 | 247 | 403 | 343 | 503 | 846 |
| Genital Warts | 173 | 79 | 252 | 328 | 200 | 528 |
| Chancroid | 0 | 0 | 0 | 0 | 0 | 0 |
| Trichomoniasis | 1 | 38 | 39 | 4 | 69 | 73 |
| Candidiasis | 198 | 305 | 503 | 407 | 646 | 1053 |
| Bacterial Vaginosis | 0 | 215 | 215 | 0 | 434 | 434 |
| Other sexually transmitted diseases ⁷ | 57 | 53 | 110 | 136 | 150 | 286 |
| Non-venerial ⁸ | 751 | 560 | 1311 | 1659 | 1257 | 2916 |

* - Central STD clinic Colombo and peripheral STD clinics of National STD/AIDS Control Programme of Sri Lanka

** - includes adjustments for revised diagnosis, reporting delays or any other amendments

1 - includes AIDS cases

2 - diagnosed within 2 years of infection and considered to be infectious

3 - diagnosed after 2 years of infection and considered to be non-infectious

4 - includes both early and late cases

5 - includes presumptive gonorrhoea

6 - includes both gonococcal and chlamydial conjunctivitis in neonatal period

7 - includes Lympho granuloma venerium, Granuloma inguinalae, Molluscum contagiosum, Scabies, Tinea, Hepatitis B etc.

8 - number of STD clinic attendees who were not having sexually transmitted diseases.

20. LEPTOSPIROSIS SURVEILLANCE REPORT 2006

The number of leptospirosis cases notified to the Epidemiology Unit in 2006 was 1582. This is just a 2% increase, when compared to the 1550 cases reported in 2005. Out of the notified cases, only 1192 (75.4%) were confirmed by the MOOH.

It is an endemic disease in many parts of Sri Lanka, and occurs throughout the year. During the last decade, there has been an increase in the number of leptospirosis cases reported in the country (Figure 1). This increase may be due to the occurrence of outbreaks of leptospirosis in some districts and also due to the improved case detection. The actual incidence of leptospirosis is likely to be more than the hospital admission figures, as a large number of patients with mild form of the disease do not seek treatment at all or are being treated at the OPD or by private practitioners, resulting in the cases not being reported to the Epidemiology Unit.

The highest number of cases (230) as well as the highest incidence (36.0/100,000 population) were reported from Kegalle district. The incidence rate for the country was 8.1/100,000 population (Table 18). The other DPDHS areas where high numbers of leptospirosis cases reported were; Colombo (143 cases, 6.2/100,000 population), Gampaha (211 cases, 9.9/100,000 population), Kalutara (139 cases, 12.7/100,000 population), Matara (175 cases, 22.0/100,000 population), and Kandy (102 cases, 7.7/100,000 population). No cases were reported from RDHS areas Kilinochchi and Mullaitivu. The possibility of under reporting of cases in some RDHS divisions cannot be ruled out.

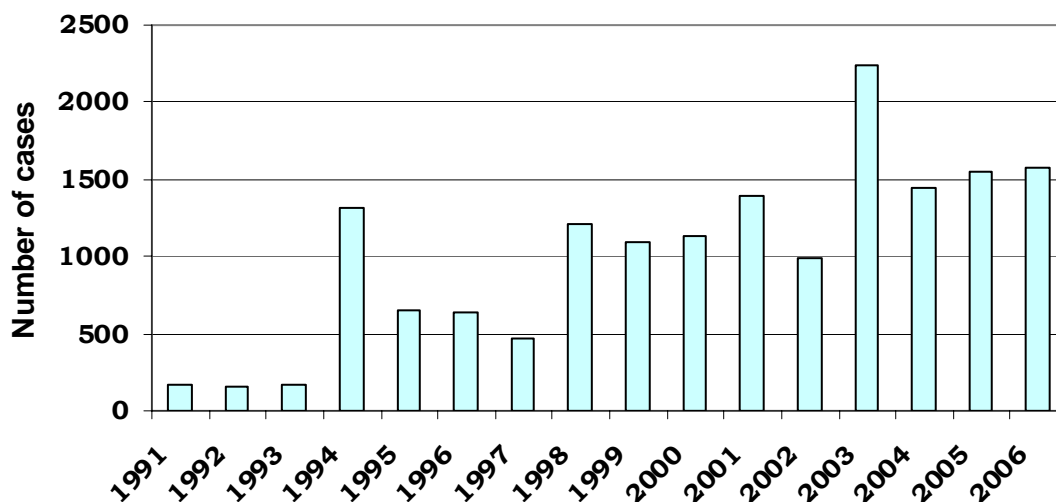
The disease occurrence had increased during March – June and the latter part of the year (Figure 2). In 2006 an endemic pattern of the diseases was observed in the country. However in the previous years, marked seasonality was observed and these seasonal trends were important particularly in targeting preventive activities. Paddy cultivation takes place in most of these endemic areas at the divisional level and the peak incidence is associated with the paddy harvesting seasons. During this period, there is an increase in the rodent population in and around the fields. Majority of the cases (36.7%) had been exposed in the paddy fields, indicating occupational exposure among the farmers, while another 34% had been exposed in muddy or marshy lands indicating the vulnerability among other occupational groups working in the outdoor settings (Figure 3).

The analysis of 648 investigated cases of leptospirosis at sentinel sites in 2006 shows that the male to female sex ratio is around 5.6:1, which shows an increasing vulnerability among the males (Table 19 Figure 4). This further highlights the evidence of occupation related nature of the disease. As in the past years possible increased risk among working and physically active groups was observed. Most of the affected cases were in the age group of 20-44 years (44.9%). Also a substantial number was reported from the age group of 45-64 years (29.3%) (Table 20).

Leptospirosis is one of the notifiable diseases in Sri Lanka. The earliest available evidence of leptospirosis having been diagnosed in Sri Lanka was in 1953. Over 19 leptospiral serovars belonging to over 7 sero-groups have been isolated and incriminated as the causative agent for leptospirosis in man and/or animals in Sri Lanka. It is important to note that the laboratory surveil-

Figure 1.

LEPTOSPIROSIS CASES REPORTED 1991-2006



lance of Leptospirosis needs to be improved as over 90% of these cases were based only on the clinical diagnosis. There is no ongoing national programme for prevention and control of leptospirosis and only ad-hoc programmes are carried out by the interested MOOH at the divisional level. However, Epidemiology Unit has already instructed Regional Epidemiologists in RDHS areas where the disease is endemic to develop district plans for year 2007-2008. These biennial district plans will be focused more on the improved disease surveillance, public awareness, improved clinical management including laboratory surveillance and chemoprophylaxis.

Sentinel site surveillance for leptospirosis was started in 2004 in order to strengthen prevention and control strategies in the affected areas. Initially these activities will be carried out in the areas where the incidence is high considering them as models. The final objective of this is to introduce an effective and sustainable prevention and control programme for the country. Thirteen medical institutions were identified as the sentinel sites and the focal point was the Infection Control Unit / Nurses in the respective medical institutions. Regional Epidemiologists in the respective areas monitored this activity at the district level, while the Epidemiology Unit closely monitored the programme at the national level. As a result, the surveillance activities at these sentinel sites have improved remarkably (Table 21 and 22).

These sentinel sites reported 953 cases of leptospirosis, showing 60.2% coverage of the total reported cases in the country. This indicates the appropriate selection of sentinel sites and their representative nature to cover the prevention and control activities. In 2005, sentinel sites covered only 56%, and this shows that the sentinel sites gradually increased its influx of cases in the country. Out of 40 deaths reported from sentinel sites, 17 were from GH Matara and 13 were from TH Ragama. Increasing number of deaths due to Leptospirosis indicates the importance of early detection of cases and a need for an audit of clinical management of cases of leptospirosis. The case investigation rate at sentinel sites was 93%. GH Ragama, BH Panadura, and BH Karanella had shown 100% investigation rate, indicating the good practice by the Infection Control Nurses designated for the sentinel site surveillance at these institutions.

Table 18.

DISTRIBUTION OF REPORTED AND CONFIRMED CASES OF LEPTOSPIROSIS BY DPDHS -2006

| RDHS | No. Notified | No. Confirmed | Reporting Rate/100,000 |
|--------------|--------------|---------------|------------------------|
| Colombo | 143 | 86 | 6.2 |
| Gampaha | 211 | 150 | 9.9 |
| Kaluthara | 139 | 98 | 12.7 |
| Kandy | 102 | 83 | 7.7 |
| Matale | 32 | 30 | 7.0 |
| Nuwara Eliya | 12 | 10 | 1.7 |
| Galle | 78 | 57 | 7.6 |
| Hambantota | 53 | 46 | 9.8 |
| Matara | 175 | 138 | 22.0 |
| Jaffna | 3 | 3 | 0.5 |
| Kilinochchi | 0 | 0 | 0 |
| Mannar | 1 | 1 | 1.0 |
| Vavuniya | 2 | 2 | 1.3 |
| Mulativu | 0 | 0 | 0 |
| Batticaloa | 6 | 5 | 1.1 |
| Ampara | 15 | 10 | 6.1 |
| Kalmunai | 3 | 3 | 0.8 |
| Trincomalee | 3 | 0 | 0.8 |
| Kurunegala | 75 | 53 | 5.0 |
| Puttalama | 21 | 18 | 2.9 |
| Anuradhapura | 47 | 40 | 6.1 |
| Polonnaruwa | 22 | 14 | 5.9 |
| Badulla | 39 | 23 | 4.8 |
| Moneragala | 31 | 33 | 7.5 |
| Ratnapura | 79 | 59 | 7.6 |
| Kegalle | 290 | 230 | 36.0 |
| SRI LANKA | 1582 | 1192 | 8.1 |

Table 19.

DISTRIBUTION OF LEPTOSPIROSIS CASES BY SEX 2006

| | Number of Cases | % |
|--------|-----------------|------|
| Male | 549 | 84.7 |
| Female | 99 | 15.3 |

Figure 2.

DISTRIBUTION OF LEPTOSPIROSIS CASES BY MONTHS 2003-2006

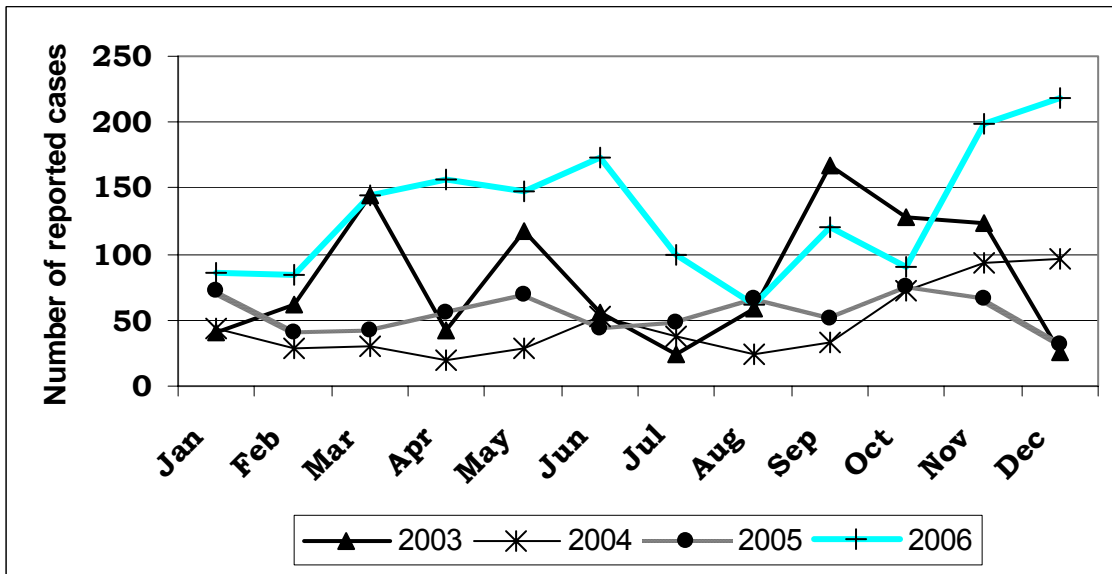


Figure 3.

EXPOSURE PLACE –CASES REPORTED IN 2006

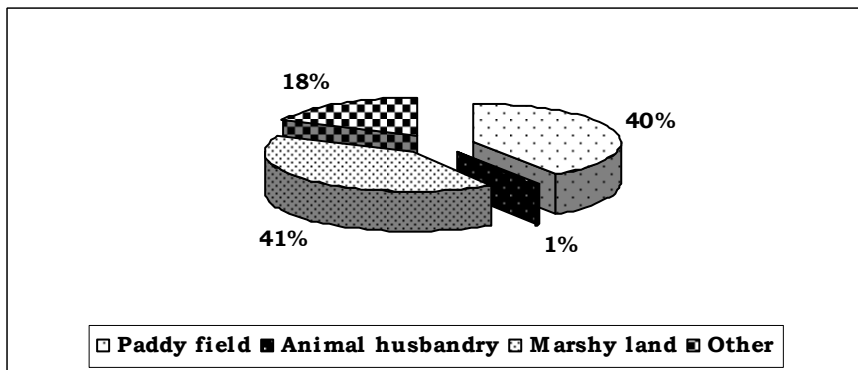


Figure 4

DISTRIBUTION OF LEPTOSPIROSIS CASES BY AGE AND SEX 2006

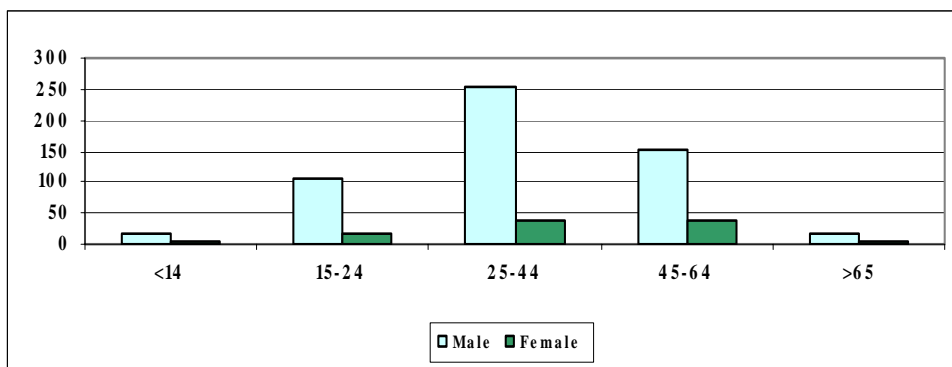


Table 20.

DISTRIBUTION OF LEPTOSPIROSIS CASES BY AGE –2006

| Age Group (Years) | Number of Cases | % |
|-------------------|-----------------|------|
| Below 1 | 0 | 0 |
| 1 – 14 | 23 | 3.5 |
| 15 – 19 | 124 | 19.1 |
| 20 – 44 | 291 | 44.9 |
| 45 – 64 | 190 | 29.3 |
| 65 or above | 20 | 3.2 |

Table 21.

LEPTOSPIROSIS SENTINEL SITE SURVEILLANCE— 2006

| | Total No. Re- ports Received (%) N=24 | Total No. Nil Reports (%) | Number of cases reported | Number of cases investi- gated (Investigation rate %) | Number of deaths reported |
|-----------------|--|---------------------------------|-----------------------------|---|------------------------------|
| BH Avissawella | 22 (92%) | 3(14%) | 99 | 96 (97%) | 0 |
| BH Homagama | 22 (92%) | 13 (59%) | 15 | 1 (7%) | 0 |
| GH Ragama | 24 (100%) | 1 (4%) | 134 | 134 (100%) | 13 |
| BH Watupitiwala | 23 (96%) | 12 (52%) | 48 | 46 (96%) | 0 |
| BH Horana | 23(96%) | 11 (48%) | 27 | 25 (93%) | 2 |
| BH Panadura | 24 (100%) | 11 (46%) | 17 | 17 (100%) | 0 |
| GH Kandy | 1 (4%) | 1 (100%) | 0 | 0 (0%) | 0 |
| TH Karapitiya | 23 (96%) | 5 (22%) | 78 | 66 (85%) | 4 |
| GH Matara | 23 (96%) | 0 (0%) | 181 | 168 (93%) | 17 |
| GH Kurunegala | 23 (96%) | 2 (9%) | 63 | 59 (94%) | 4 |
| GH Kegalle | 24 (100%) | 1 (4%) | 214 | 206 (96%) | 0 |
| BH Karawanella | 18 (75%) | 14 (78%) | 7 | 7 (100%) | 0 |
| BH Mawanella | 22 (92%) | 5 (23%) | 70 | 64 (91%) | 0 |
| Total | 274 (95%) | 81 (30%) | 953 | 889 (93%) | 40 |

Table 22:

SENTINEL SITE SURVEILLANCE BY REGIONAL EPIDEMIOLOGISTS—2006

| Regional Epidemiologist | Total No. Reports Received (n=12) | Total No. Reports re- ceived on time | Timeliness % |
|-------------------------|---------------------------------------|---|--------------|
| Colombo | 12 | 2 | 17% |
| Gampaha | 12 | 8 | 67% |
| Kalutara | 12 | 12 | 100% |
| Kandy | 8 | 7 | 88% |
| Kurunegala | 12 | 6 | 50% |
| Kegalle | 11 | 2 | 18% |
| Matara | 12 | 11 | 92% |
| Galle | 7 | 1 | 14% |

21. HUMAN RABIES SURVEILLANCE REPORT – 2006

Human rabies is a notifiable disease in Sri Lanka. The number of human rabies deaths declined from 377 in 1975 to 68 in 2006 (Table 23 and 29). Seventy four (74) cases of human rabies were reported through the routine notification system and 68 cases had been confirmed as human rabies (Table 23). The distribution of notification and confirmed cases of human rabies cases by RDDHS divisions is given in Table 24. In 2006, the highest number of 07 cases was notified in RDDHS divisions Gampaha and Jaffna. The RDDHS divisions Matara (06), Puttalam (05), Galle (05), Badulla (04) and Kurunegala (04) also notified a higher number of cases. The highest rate of human rabies cases was reported from the district of Kilinochchi (2.11/100,000 population).

Age and Sex Distribution

The age distribution of investigated / confirmed cases of rabies for the year 2006 is given in Table 25. The highest percentage of cases 32 (47%) occurred in the age group 20-59 years. The next highest percentage of 26.4% (18 cases) occurred in age group 5-19 years followed by the elderly population (>60yrs) with 23.5% (16 cases). No cases were reported in children less than 1 year of age. Similar pattern of age distribution was shown during 2000 – 2005, where the age group 20-59 years was the most affected. Reported male: female ratio of 4:1 (approximately) highlights the increased susceptibility of males. (Table 26)

Exposure Information

According to data analyzed through confirmed rabies cases 41.2% (28 cases) human rabies were due to stray dogs. The dog (85.3%- 58 cases) is the main reservoir as well as the transmitter of rabies in the country. (Table 27 & 28)

Since the National Rabies Control Programme (NRCP) commenced in 1975, animal vaccination and elimination activities were strengthened to a greater extent; dog vaccination has increased significantly from 1975 to 2004, but in 2005 there was a slight drop (Table 29). In 2006 the vaccination increased again. It is important to maintain the dog vaccination strategy as a control measure. At least around one third of human rabies cases were due to household / neighbours' animals, which show high susceptibility and poor vaccination practices among household animals and the lack of responsibility by the dog owners. Routine dog vaccination is essential. It not only protects the animal, but also makes the public less susceptible. It also helps to arrest the transmission of virus among the animal too. However, partial and ad hoc dog vaccination practice may lead to an increase in

the risk of rabies, particularly due to the false trust on the safety of the animal. Epidemiological investigation has revealed that in some cases post exposure treatment (PET) was not taken or not given assuming that the animal was immunized, but actually the animal has not been vaccinated completely and thereby not protected. Though the public support for the dog vaccination is remarkable, there is a tendency of resistance for dog elimination, particularly from the animal lovers. Similar to dog vaccination, stray dog elimination has increased steadily from 1975 to 2001. But in years 2002-2005 some local government authorities have completely stopped the dog elimination activities and as a result dog elimination declined by 10% in 2006 compared to the year 2001 (Table 29). As a result of this decision, the stray dog population may have increased in these areas posing an increased exposure risk to the public.

Table 30 shows the Positivity rate of human brains tested for rabies at the laboratory of the Medical Research Institute, Colombo.

Rabies Control Programme

The Public Health Veterinary Services (PHVS) Unit is the body to control and prevent human and animal rabies in the country. The Epidemiology Unit is the national centre for disease surveillance and carries out all surveillance activities related to human rabies in the country through its wide network at the regional and divisional levels. Strategies of rabies control in Sri Lanka are; surveillance of rabies, promotion of responsible dog ownership, immunization of domestic, community and stray dogs against rabies, birth control for dogs, destruction of stray dogs suspected of incubating the rabies virus, post-exposure treatment, training and health education, enforcement of rabies control legislation and promotion of multi-sectoral co-operation and community participation.

Ministry of Health has appointed the National Task Force for rabies elimination in 2004. This Task Force will develop a national action plan for the elimination of rabies and at present sub committees are developing and piloting the prevention and control strategies. The Task Force is focusing on the implementation of most of these activities through the local government authorities with the cooperation of the MOOH. The necessary legislations have been developed.

Most of the lives would have been saved, if they had received the PET as recommended. Public awareness on PET should be strengthened. Also the rational post exposure treatment practices at the hospital should be reviewed regularly as a part of the clinical audit for PET. This is the most expensive single item among the drug allo-

cations of the Ministry. Exposure opportunities are to be minimized by integrated activities of control of dog population and vaccination. Periodical review of the efficacy of dog vaccination is another aspect for future research. Strengthening present regulations and creating community responsibility, particularly in dog ownership are equally important in rabies control activities in the country.

Table 23.

MORTALITY AND NOTIFICATION OF HUMAN RABIES CASES – 1991- 2006

| Year | Cases Confirmed | | No. of suspected cases notified ■ |
|------|-----------------|-------|-----------------------------------|
| | Number | *Rate | |
| 1991 | 136 | 0.79 | 133 |
| 1992 | 112 | 0.64 | 112 |
| 1993 | 98 | 0.55 | 104 |
| 1994 | 105 | 0.58 | 122 |
| 1995 | 124 | 0.68 | 178 |
| 1996 | 110 | 0.59 | 195 |
| 1997 | 135 | 0.72 | 150 |
| 1998 | 111 | 0.59 | 123 |
| 1999 | 110 | 0.58 | 194 |
| 2000 | 109 | 0.56 | 132 |
| 2001 | 83 | 0.43 | 105 |
| 2002 | 64 | 0.33 | 78 |
| 2003 | 76 | 0.39 | 86 |
| 2004 | 98 | 0.5 | 97 |
| 2005 | 55 | 0.3 | 55 |
| 2006 | 68 | 0.37 | 74 |

Source : ■ Rabies Control Programme
 ■ Epidemiology Unit (H399 & H411 and Special Investigation forms).
 * Rate per 100,000 population.

Table 24.

NUMBER OF CONFIRMED CASES OF HUMAN RABIES BY RDHS DIVISIONS– 2006

| RDHS Division | Number of Cases confirmed | % of Cases confirmed | Rate / 100,000 |
|---------------|---------------------------|----------------------|----------------|
| Colombo | 3 | 4.4 | 0.12 |
| Gampaha | 7 | 10.3 | 0.33 |
| Kalutara | 1 | 1.5 | 0.09 |
| Kandy | 1 | 1.5 | 0.07 |
| Matale | 1 | 1.5 | 0.20 |
| Nuwara Eliya | 2 | 2.9 | 0.27 |
| Galle | 5 | 7.4 | 0.48 |
| Hambantota | 1 | 1.5 | 0.18 |
| Matara | 6 | 8.8 | 0.74 |
| Jaffna | 7 | 10.3 | 1.18 |
| Vavuniya | 0 | - | - |
| Ampara | 2 | 2.9 | 0.75 |
| Batticaloa | 2 | 2.9 | 0.36 |
| Trincomalee | 3 | 4.4 | 0.76 |
| Kalmunai | 1 | 1.5 | 0.28 |
| Kurunegala | 4 | 5.9 | 0.26 |
| Puttalam | 5 | 7.4 | 0.67 |
| Anuradhapura | 3 | 4.4 | 0.38 |
| Pollonnaruwa | 1 | 1.5 | 0.26 |
| Badulla | 4 | 5.9 | 0.48 |
| Moneragala | 0 | - | - |
| Kegalle | 2 | 2.9 | 0.25 |
| Ratnapura | 2 | 2.9 | 0.19 |
| Kilinochchi | 3 | 4.4 | 2.11 |
| Mannar | 1 | 1.5 | 1.00 |
| Mullativu | 1 | 1.5 | 0.69 |
| SRI LANKA | 68 | 100.0 | 0.34 |

Table 25.

AGE DISTRIBUTION OF CONFIRMED HUMAN RABIES CASES, 2000-2006

| Age Group | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
|---------------|------|------|------|------|------|------|------|
| <1 year | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 - 4 years | 3 | 8 | 2 | 6 | 3 | 0 | 2 |
| 5 - 19 years | 30 | 17 | 15 | 19 | 17 | 11 | 18 |
| 20 - 59 years | 39 | 31 | 29 | 48 | 46 | 30 | 32 |
| 60 & Over | 23 | 10 | 10 | 3 | 16 | 9 | 16 |

Source - Epidemiology Unit

Table 26.

SEX DISTRIBUTION OF CONFIRMED HUMAN RABIES CASES, 2000-2006

| Sex | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
|--------|------|------|------|------|------|------|------|
| Male | 70 | 51 | 38 | 58 | 59 | 38 | 54 |
| Female | 25 | 15 | 18 | 18 | 22 | 12 | 14 |

Source - Epidemiology Unit

Table 27.

DISTRIBUTION OF HUMAN RABIES CASES BY TYPE OF BITING ANIMAL, 2000 – 2006

| Type of animal | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
|----------------|------|------|------|------|------|------|------|
| Household Pet | 23 | 34 | 29 | 18 | 13 | 11 | 13 |
| Neighbors' Pet | 9 | 6 | 4 | 9 | 7 | 8 | 11 |
| Stray | 41 | 16 | 18 | 35 | 36 | 24 | 28 |
| Unknown | 22 | 10 | 5 | 14 | 24 | 7 | 16 |

Source - Epidemiology Unit

Table 28.

DISTRIBUTION OF HUMAN RABIES CASES BY TYPE OF BITING ANIMAL, 2000 – 2006

| Animal | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
|---------|------|------|------|------|------|------|------|
| Dog | 67 | 49 | 36 | 63 | 69 | 42 | 58 |
| Cat | 8 | 5 | 5 | 4 | 2 | 1 | 1 |
| Other | 6 | 3 | 15 | 4 | 2 | 0 | 2 |
| unknown | 14 | 9 | 6 | 5 | 7 | 7 | 7 |

Source - Epidemiology Unit

Table 29.

RABIES CONTROL ACTIVITIES AND NUMBER OF HUMAN DEATHS FROM RABIES, 1975 – 2006

| Year | Vaccination of dogs | Elimination of dogs | Heads examined at MRI | | Human rabies deaths | |
|------|---------------------|---------------------|-----------------------|------------|---------------------|---------------|
| | | | Number | % Positive | Number | Rate /100,000 |
| 1975 | 42,252 | 1,610 | 456 | 64.7 | 377 | 2.7 |
| 1980 | 120,143 | 36,845 | 420 | 52.5 | 209 | 1.4 |
| 1985 | 268,561 | 58,238 | 344 | 55.5 | 113 | 0.7 |
| 1990 | 412,586 | 63,233 | 963 | 70.2 | 154 | 0.9 |
| 1995 | 452,828 | 106,862 | 1,217 | 69.7 | 124 | 0.7 |
| 2000 | 657,597 | 117,790 | 559 | 88.5 | 109 | 0.6 |
| 2001 | 770,375 | 119,761 | NA | NA | 83 | 0.4 |
| 2002 | 797,565 | 117,790 | NA | NA | 64 | 0.3 |
| 2003 | 664,493 | 84,350 | NA | NA | 76 | 0.4 |
| 2004 | 844,123 | 89,530 | NA | NA | 98 | 0.5 |
| 2005 | 818,162 | 62,693 | NA | NA | 55 | 0.3 |
| 2006 | 964,242 | 12,091 | - | - | 68 | 0.3 |

Source - Rabies Control Programme (PHVS)

Table 30.

HUMAN BRAINS TESTED FOR SUSPECTED RABIES DEATHS, 2003-2006

| Year | No. brains tested | No. brain positive | Rate (%) |
|------|-------------------|--------------------|----------|
| 2003 | 33 | 15 | 45 |
| 2004 | 42 | 24 | 57 |
| 2005 | 28 | 20 | 71 |
| 2006 | 44 | 31 | 70 |

Source - MRI

Table 31

22. SUMMARY OF NOTIFIABLE DISEASES –2ND QUARTER 2007

| Health Region | Cholera | Acute Flaccid Paralysis (AFP) | Dysentery | Dengue Haemorrhagic Fever | Encephalitis | Enteric Fever | Food Poisoning | Human Rabies | Leptospirosis | Measles | Simple Contd. Fever | Tetanus | Typhus Fever | Viral Hepatitis |
|---------------|----------|-------------------------------|-------------|---------------------------|--------------|---------------|----------------|--------------|---------------|-----------|---------------------|-----------|--------------|-----------------|
| Colombo | 0 | 3 | 142 | 218 | 4 | 14 | 3 | 0 | 30 | 0 | 4 | 0 | 0 | 43 |
| Gampaha | 0 | 2 | 146 | 102 | 6 | 19 | 1 | 2 | 49 | 0 | 1 | 1 | 3 | 31 |
| Kalutara | 0 | 0 | 216 | 54 | 0 | 15 | 7 | 2 | 27 | 0 | 4 | 0 | 0 | 6 |
| Kandy | 0 | 6 | 108 | 53 | 0 | 18 | 2 | 0 | 11 | 0 | 2 | 0 | 17 | 1272 |
| Matale | 0 | 1 | 56 | 9 | 3 | 4 | 0 | 0 | 15 | 3 | 2 | 0 | 0 | 32 |
| Nuwara Eliya | 0 | 1 | 111 | 8 | 2 | 53 | 0 | 0 | 2 | 7 | 0 | 1 | 9 | 191 |
| Galle | 0 | 0 | 47 | 9 | 2 | 4 | 1 | 2 | 12 | 0 | 1 | 1 | 2 | 6 |
| Hambantota | 0 | 0 | 21 | 8 | 3 | 9 | 11 | 1 | 16 | 1 | 0 | 0 | 14 | 2 |
| Matara | 0 | 2 | 98 | 34 | 6 | 8 | 6 | 0 | 57 | 1 | 3 | 0 | 36 | 10 |
| Jaffna | 0 | 0 | 50 | 16 | 0 | 74 | 5 | 0 | 0 | 0 | 7 | 2 | 5 | 8 |
| Kilinochchi | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mannar | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| Vavuniya | 0 | 0 | 15 | 1 | 2 | 3 | 9 | 0 | 0 | 1 | 0 | 0 | 0 | 2 |
| Mullativu | 0 | 0 | 4 | 0 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| Batticaloa | 0 | 1 | 270 | 52 | 5 | 2 | 8 | 1 | 0 | 3 | 0 | 0 | 22 | 314 |
| Ampara | 0 | 0 | 30 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 |
| Trincomalee | 0 | 1 | 109 | 14 | 2 | 4 | 5 | 0 | 4 | 2 | 0 | 0 | 3 | 53 |
| Kurunegala | 0 | 1 | 182 | 101 | 2 | 21 | 13 | 1 | 6 | 1 | 1 | 1 | 4 | 21 |
| Puttalam | 0 | 2 | 38 | 15 | 1 | 22 | 3 | 0 | 10 | 1 | 1 | 2 | 4 | 19 |
| Anuradhapura | 0 | 1 | 29 | 53 | 1 | 3 | 10 | 1 | 8 | 0 | 0 | 0 | 6 | 11 |
| Polonnaruwa | 0 | 0 | 11 | 21 | 0 | 3 | 3 | 0 | 7 | 0 | 0 | 0 | 0 | 11 |
| Badulla | 0 | 1 | 219 | 6 | 1 | 32 | 0 | 0 | 13 | 1 | 0 | 0 | 57 | 86 |
| Moneragala | 0 | 0 | 132 | 5 | 2 | 20 | 10 | 0 | 18 | 0 | 0 | 0 | 15 | 15 |
| Ratnapura | 0 | 2 | 148 | 66 | 4 | 14 | 2 | 1 | 16 | 1 | 19 | 0 | 8 | 22 |
| Kegalle | 0 | 1 | 110 | 56 | 3 | 15 | 1 | 0 | 28 | 2 | 3 | 1 | 7 | 59 |
| Kalmunai | 0 | 0 | 66 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 20 |
| TOTAL | 0 | 25 | 2358 | 905 | 53 | 372 | 100 | 11 | 330 | 24 | 48 | 10 | 212 | 2247 |

No polio cases. (from AFP surveillance system).

The Bulletin is compiled and distributed by the:

Epidemiology Unit, Ministry of Health, 231, De Saram Place, Colombo 10.

Telephone : 2695112, FAX No : 2696583, E-mail: chepid@slt.net.lk

This document is available on the internet www.epid.gov.lk.

Figures given may be subject to revision.

The editor welcomes accounts of interesting cases, outbreaks or other public health problems of current interest to health officials.

Such reports should be addressed to:

The Editor, Quarterly Epidemiological Bulletin
Epidemiology Unit, P.O. BOX 1567, Colombo, SRI LANKA.

ON STATE SERVICE

Dr. M. R. N. ABEYSINGHE
EPIDEMIOLOGIST
EPIDEMIOLOGY UNIT
231, DE SARAM PLACE
COLOMBO 10