1 Study on Hospital Surveillance

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1.1 Hospital based surveillance system for diarrhoeal diseases

Institutional Project:

This project is continuous hospital based systematic surveillance (every 5th patient on two randomly selected days per week) of diarrhoeal diseases at Infectious Diseases Hospital, Kolkata. The main objective of this study is to monitor changes in disease patterns including drug sensitivity, to create a database on diarrhoeal diseases, to provide regular report to the Government and other relevant agencies, also to develop an early weaning system for forecasting an epidemic and to furnish information to be applied for improvement in patient care and better preventive measure.

During the period under study a total of 1265 diarrhoea patients were enrolled in the surveillance system. Month wise collection of samples are shown in Fig.1.1.1. The isolation of different enteropathogens are depicted in the Table 1.1.1.

Antimicrobial susceptibility

Vibrio cholerae 01 strains are resistant to ampicillin, co-trimoxazole, furazolidone, nalidixic acid and streptomycin. Reduced susceptibility was observed for chloramphenicol, ciprofloxacin and neomycin. Strains were sensitive to gentamycin, norfloxacin and tetracycline. *Vibrio cholerae* 0139 strains were resistant to ampicillin,furazolidone and nalidixic acid. Strains were sensitive to chloramphenicol, gentamycin, neomycin, norfloxacin and tetracycline.

Vibrio cholerae non 01 non 0139 strains were found resistant to ampicillin and furazolidone. They were sensitive to gentamycin, tetracycline, chloramphenicol, ciprofloxacin and reduced susceptibility was found against neomycin. *Shigella dysenteriae* strains were uniformly resistant to ampicillin, co-trimoxazole, tetracycline, nalidixic acid, chloramphenicol and reduced susceptibility to norfloxacin, ciprofloxacin and ofloxacin. *Shigella boydii* and *Shigella sonnei* were totally resistant to co-trimoxazole, tetracycline and nalidixic acid.

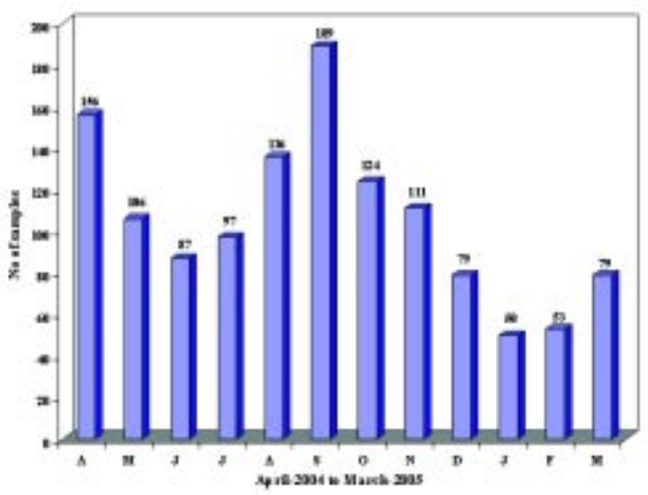

Fig. 1.1.1 Month wise collection of stool samples in the surveillance programme during April 2004 to March 2005

Table 1.1.1 Enteropathogens detected in Hospital Based surveillance system during April 2004 to March 2005 at ID Hospital, Kolkata.

Enteropathogens	Number tested	Number identified	Percentage
Bacteria			
Vibrio spp.	1265	322	25.5
Vibrio cholerae O1	1265	235	18.6
Vibrio cholerae O139	1265	4	0.3
Vibrio cholerae nonO1 nonO139	1265	68	5.4
Vibrio parahaemolyticus	1265	15	1.2
Shigella spp.	1265	2	0.2
Non typhoidal *Salmonella* spp.	1265	3	0.2
Diarrhoeagenic *Escherichia coli*			
Enterotoxigenic *Esch.coli*	402	14	3.4
Enteropathogenic *Esch.coli*	402	9	2.2
Enteroaggregative *Esch.coli*	402	35	8.7
Virus			
Rotavirus	382	58	15.1
Protozoa and Helminth			
E. histolytica	355	14	3.9
G.lamblia	355	10	2.8
C.parvum	355	13	3.7
Ascaris	355	22	6.2
H.nana	355	8	2.2
T.trichuria	355	11	3
T.homonis	355	8	2.2
Hookworm	355	6	1.7