

## Outbreak of Chikungunya Disease in Kerala in 2007

**C**hikungunya disease is an acute arboviral illness characterized by sudden onset of fever, skin rashes and incapacitating arthralgia(1). Kerala state had the first outbreak of Chikungunya during June-July 2006 along the coastal areas of Alleppey, Quilon, and Trivandrum districts and again during May-August 2007 in Pattanamthitta, Kottayam and Idukki districts. We report the incidence, clinical presentation and outcome of Chikungunya disease in children during the epidemic outbreak in 2007 from Kerala. Chikungunya disease was diagnosed according to the case definition by Ministry of Health, Malaysia(2). A suspected case was defined as a child with sudden onset of high fever, polyarthrititis, and/or maculopapular rashes, during an epidemic of Chikungunya disease. A suspected case is confirmed by either isolation of Chikungunya virus, or a detection of antichik IgM in serum with a two fold rise in its titres, or by detection of CHIK nucleic acids in the serum by RT-PCR. Children between 1 month and 15 years, admitted with sudden onset high grade fever(>102°F) were included; those <1 month and >15 years of age and those with proven bacterial Infections or with a definite cause for fever, and other clinical features like rashes or circulatory failure were excluded. Antibody assay was done for CHIKV, Dengue and Leptospira in all feasible cases.

A total of 392 children aged between 35 days and 15 years were suspected of Chikungunya disease, and they were classified into 4 age groups as less than 6 months [57(14.5%)], 6 months to 1 year [83(21%)], 1 to 5 years [133 (34%)] and above 5 years [119(30%)]. There was no sex predilection in any age group. Admissions steadily rose from May (37) to June (147) to July (185) and had a sharp decline in August (23). In infants <6 months, circulatory failure was the major symptom (57%) and its association with a suspected case of Chikungunya was highly significant ( $P<0.001$ ). Between 6 to 12 months and 1 to 5 years, febrile seizure was the major symptom (80%) and its

**TABLE I** CLINICAL FEATURES OF CONFIRMED CASES OF CHIKUNGUNYA ( $n=35$ )

Fever	35 (100%)
Skin manifestations	35 (100%)
Circulatory Failure	6 (17%)
Polyarthralgia	6 (17%)
Encephalitis	1 (2.8%)

association with a suspected case of Chikungunya was very high ( $P<0.0001$ ). Maculo-papular rashes, vesiculobullous lesions, pigmentary changes and erythema were more commonly seen in <5 years (84.3%), which was also highly significant ( $P<0.001$ ). In above 5 years category, encephalitis (81%) ( $P<0.0001$ ) and polyarthralgia (59%) ( $P<0.001$ ) were the major manifestations. One hundred and fifty suspected cases were subjected to antibody studies and 35 were confirmed as Chikungunya infection. Their clinical features are shown in **Table I**. Two boys died due to profound shock and cardiorespiratory failure. Residual symptoms were seen only for skin manifestations (up to 4 weeks) and for arthralgia (up to 12 weeks).

As on October 28 2006, 13,92,027 cases suspected of chikungunya fever have been reported from several parts of the country of which only 1985 are confirmed. From Kerala there are 70,731 suspected and only 43 confirmed cases(3). There are no reports regarding specific clinical features in different pediatric age groups. Our study had few limitations. Only admitted cases were included in the study and this may represent only one-third of the cases detected in the out patient clinic. All cases suspected could not be submitted to antibody testing due to time and financial constraints. Few initial cases of vesiculobullous lesions in infants were diagnosed and treated as staphylococcal scalded skin syndrome, which retrospectively can be considered as due to Chikungunya disease.

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## Online Health Information Needs of Unmet Young People

We present a descriptive analysis of 963 queries obtained through e-mails from unmet young people regarding their health needs. Boys had more queries on sexuality and masturbation while queries from girls were related more to psychosocial issues, particularly depression and loneliness.

**Keywords:** Adolescent, Information, Internet, Questions.

Young people frequently use internet as it offers anonymity, privacy and confidentiality. Online counseling, by email and chat for young people, has been tried in some centers with success(1,2).

The author's monthly column named 'Understanding Adolescence' in a National daily since December 2003 dealt with one topic each month as an article. It is not a question-answer column. Readers communicated with the author through email about their health information needs. A checklist of common adolescent complaints and concerns was developed after initial analysis of hundred queries. This was used to record the data from the emails.

Of the 1544 e-mails received during the study period of 26 months, 718 e-mails were excluded and

963 queries from the remaining 826 e-mails formed the subject of the current study.

Queries from boys (722; 75%) and girls (241; 25%) were related to sexuality, body image, psychosocial issues, relationships, academics, career and medical issues. Girls, in addition, had queried about menstrual disorders. Older adolescents raised queries regarding enhancement of academic skills and choice of career.

When compared with girls, boys had asked significantly more questions on sexuality ( $P<0.001$ ) and masturbation ( $P<0.001$ ). More girls queried about psychosocial issues ( $P=0.007$ ), particularly depression and loneliness ( $P<0.001$ ) (Table I). While 19% of the boys were concerned about fear of losing potency and fertility, 6% of the girls were concerned about the chances of urinary tract infection following masturbation. About 8% of the boys sought help on how to control their sexual thoughts. Though, 13% girls reported sexual activity, none of them sought advice on contraception. This

**TABLE I** COMPARISON OF BOYS AND GIRLS ON QUERIES ON SEXUALITY AND PSYCHOSOCIAL ISSUES

	Boys (n=722)	Girls (n=241)	Odds ratio (95%CI)	P value
Queries on sexual issues	308(43%)	52(22%)	2.7(1.9-3.9)	0.001
Masturbation	138(19%)	14(6%)	3.8(2.1-7.1)	0.001
Psychosocial issues	35(5%)	23(10%)	0.5(0.3-0.9)	0.007
Depression	14(2%)	15(6%)	0.3(0.1-0.7)	0.001