

Clinico- Epidemiological Profile of Chikungunya Cases Attending Urban Health Center, Dr.Vaishampayan Memorial Government Medical College Solapur.

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ABSTRACT

It is a longitudinal study. All the cases of acute onset fever with arthritis attending OPD during the study period are included. From 40 pts selected randomly blood samples were sent to 'NIV Pune'. Houses of the pts were visited for other household cases, environmental information. All the cases followed at monthly interval to study duration of all the symptoms. Results- Community study revealed similar sex incidence. The occurrences of cases were high during July –August (69.61%). (91.83%) had involvement of both, large & small joints. Arthritis lasted for 2 months in (59%). Other symptoms were –backache (84.13%), nausea (84%), headache (71.15%), cutaneous rash (7.21%), subcutaneous bleeding(7.21%). 78% pts. consulted private practitioners of them (43%) were admitted. Only (8.33%) were admitted at govt.health posts .Out of 962 population surveyed, (58.11%) had similar disease. Environmental study revealed mosquito breeding places in (94.23%) households.

Conclusion-. Most affected age-20-60yrs (73.32%) involving both sexes equally.The disease is acute onset involving mainly both small & large joints, starting with fever, chills, nausea, body ache .Treatment from private practitioners was preferred. NIV reports are positive for Chikunguniya in 21 out of 40 samples sent.

Key words-Clinico-epidemiological cases,profile,Urban Health center,arthralgia,arthritis,NIV.

INTRODUCTION:

Chikunguniya fever was first recognized in 1952 after an outbreak on the mokonde plateau Tanganyika Territory (1), small country part of Tanzania. The word Chikunguniya is from a local Swahili dialect which means “that which bends up” due to the stooped posture often seen in patients with severe arthralgia (2). The disease is characterized by sudden onset of fever, rash, muscle and joint pain(2). In India, the disease first appeared in 1963-64 in Kolkata and subsequently in Chennai in 1965. The epidemic of Chikunguniya was reported in 1973 in Barshi, Solapur district, Maharashtra State (3).

The disease reappeared and the outbreak of Chikunguniya fever started in India Ocean Islands in early 2005 (4). In India, it was first noticed in Andhra Pradesh in February 2006 and later it spread to Tamil Nadu in April 2006 and to Karnataka and Kerala in May 2006. The western state of Gujarat also reported cases in April. Later

it affected central Indian states of Maharashtra and Madhya Pradesh (5,6). Now there are sporadic cases followed by the epidemic. The health personelles should keep in mind of 'Chikungunya'fever for timely diagnosis and management.

The cases of fever and joint pain were seen to be progressively increasing in number from May 2006 in the Urban Health Centre, catchment area declining by November 2006.

The rise was significant as compared to previous years. Hence, the present study was undertaken to study the outbreak of the disease as Chikunguniya fever having similar complaints was rampant in many parts of the country at that time.After the epidemic, the cases still found in the country as sporadic outbreaks, or cases. Hence it has become important to share the experiences of chikungunya from various regions.

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Aims & objectives-

1. To study various host & environmental factors.

2. To study symptomatology & their persistence.

Materials & Methods

The present study was undertaken in Urban Health Centre(U.H.C.)catchment area Patients with complaints of acute fever and arthritis / arthralgia attending U.H.C during the period 1st May 2006 to 30th April 2007 were included in the study. Pre-tested, structured & semi-open ended proforma was used to record all necessary information. Clinical examination & treatment history was recorded. The houses of the patients were surveyed for domestic& environmental conditions. At U.H.C. the patients were given symptomatic and followup visits upto six months to know persistence of the symptoms.

Results:-

TABLE 1: AGE AND SEX WISE DISTRIBUTION OF PATIENTS ATTENDING UHC (N=208)

Sex / Age	0-4	5-9	10-14	15-19	20-44	45-60	>60	Total
Male	0	1	4	4	31	24	12	76 (36.54%)
Female	0	0	2	9	65	37	19	132 (63.46%)
Total	0	1	6	13	96	61	31	208

TABLE 2: AGE AND SEX WISE DISTRIBUTION OF THE CASES IN THE COMMUNITY. **Attack Rate = 58.11%**

Sex / Age	0-4	5-9	10-14	15-19	20-44	45-60	>60	Total
Male	3	8	21	76	99	33	29	269 (48.12%)
Female	2	10	15	92	110	38	23	290 (51.88%)
Total	5	18	36	168	209	71	52	559

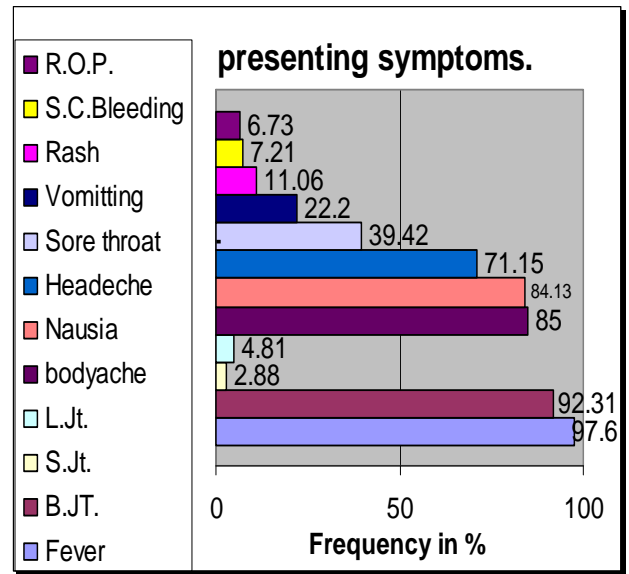


Fig1. Presenting symptoms of the patients.

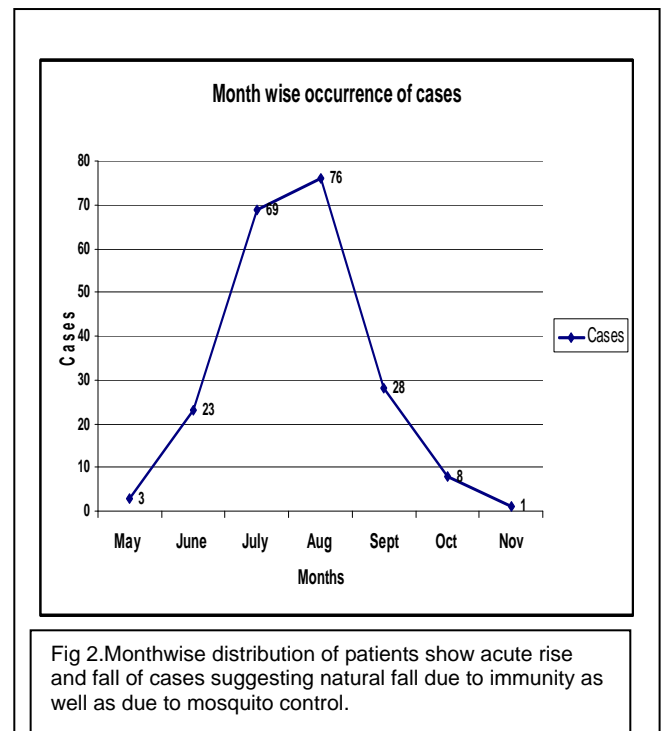


Fig 2.Monthwise distribution of patients show acute rise and fall of cases suggesting natural fall due to immunity as well as due to mosquito control.

TABLE 3. PERSISTENCE OF SYMPTOMS-

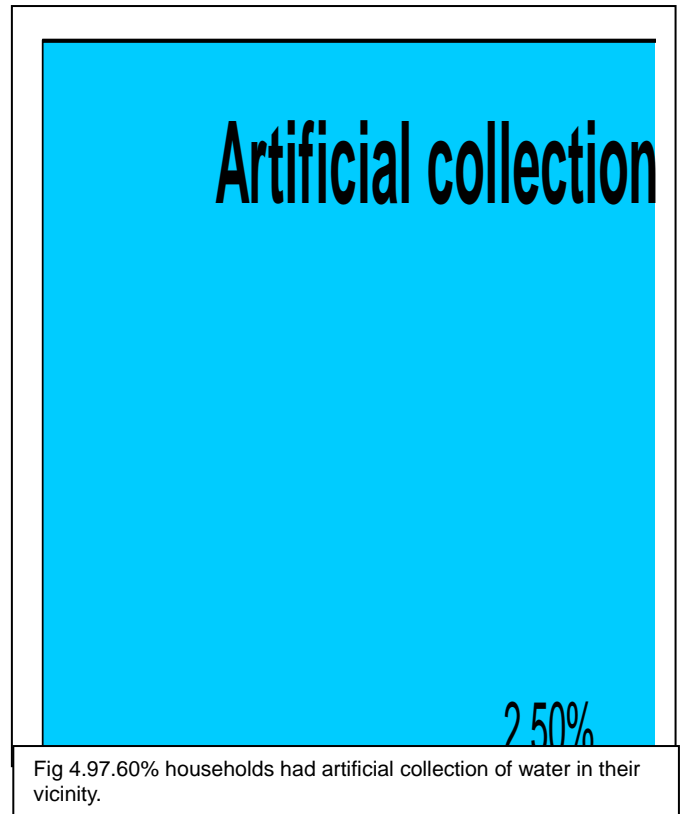
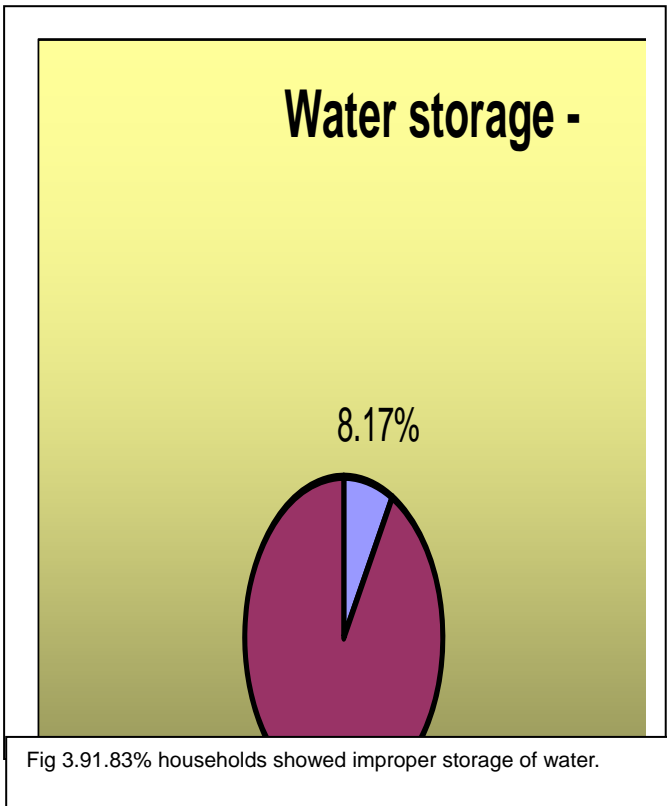
	< 1 month	1 month	2 months	3 months	4 months	5 months	6 months
Fever	184 90.64 %	19 9.36 %					
Joint Pain	4 1.92%	9 4.33 %	123 59.13 %	38 18.29%	19 8.17%	8 3.84%	7 2.67 %
Nausea	175 100%	0	0	0	0	0	0
Rash	15 100%	0	0	0	0	0	0
SC Bleed	15 100%	0	0	0	0	0	0
ROP	14 100%	0	0	0	0	0	0
Sore Throat	84 100%	0	0	0	0	0	0
Head ache	148 100%	0	0	0	0	0	0
Body ache	134 100%	0	0	0	0	0	0

TABLE 4: TREATMENT SEEKING BEHAVIOR OF THE PTS. PATIENTS TREATED ON O.P.D. BASIS.

Sex	Government Health Facility		Private Health Facility		Total	%
	No.	%	No.	%		
Males	10	4.80	27	12.98	37	17.78
Females	23	11.06	46	22.11	69	33.18
Total	33	15.87	73	35.10	106	50.96

TABLE 5: PATIENTS ADMITTED FOR TREATMENT.

Sex	Government Health Facility		Private Health Facility		Total	%
	No.	%	No.	%		
Males	1	0.48	38	16.90	39	18.74
Females	2	0.96	61	29.33	63	30.28
Total	3	1.44	99	47.59	102	49.03



Discussion :-

A total of 208 cases reporting to UHC OPD were studied. 132 (63.46%) were females and 76 (36.54%) were males. Thus female patients were significantly more ($p < 0.05$) than male patients reporting to OPD. However the female preponderance was not seen in the community when household cases were studied. The painful joints especially of fingers and wrist affected the culinary and household work of females like rolling of chapattis, cutting the vegetables etc., hence they might have sought the treatment promptly by reporting to OPD. Female preponderance was also reported by TS Selvainyagam in Vellore [7]. Kirte et al did not find any sex preponderance in hospital admissions of cases of fever with arthritis in Latur [8]. The age group of 20-60 yrs was the most commonly affected age-group (75.48%) in cases reporting to OPD. (S.E.Prop. $p, 0.05$) TS Selvarinayagam [7] observed 16-45 yrs as the most commonly affected age group. Kirte et al [8] from Latur reported 16-60 yrs as the most commonly affected age group.

In our study total population surveyed was 962; and 559 out of them reported with fever and joint pain and associated symptoms. Thus an attack rate of 58.11% was seen in our study. In some areas, the reported attack was 45% [9].

Our study showed peak incidence of the disease in the months of July and August 2006 ($x^2 p < 0.05$) and it declined by November 2006. In Gujarat also the disease reached its peak in August. In most studies of India the outbreak declined by October 2006 [5, 6].

The most important presenting complaints were joint pain (100%), fever (97.6%) Body ache (85%) and Headache (71%). The findings are comparable with studies at other places by various research fellows [7, 8, 11].

No case fatality was seen in our study. The vellore study also reports no case fatality [7]. D. Mavlankar et al reported case fatality of 11.9% in their study at Ahmadabad 1194 deaths due to Chikungunya are estimated in India since the virus re-emerged in Dec 2005 [12].

Hospitalization was significantly more in private treatment centers (47.59%) than in Govt. health posts (1.44%). ($p < 0.05$) The study in Vellore by T.S. Salverinayagam [7] mentioned that only antipyretics, analgesics and mild exercises were mainstay of the treatment.

The study being a follow-up study, the patients were followed up to get information on persistence of symptoms. In majority of cases i.e. 136 (65.38%) the joint pain was relieved within three months. In 7(2.67%) cases the joint pain persisted for more than six months in others the relief of Joint pain was seen at a variable period between three and six months. All the other symptoms subsided within a period of one month. Kennedy A. C. [15] et al observed in their study, that in most of the patients with Chikunguniya, joint pain / stiffness / swelling persisted for at least four

months. Various studies have reported the persistence of joint pains for several weeks or months [13, 14].

Residential survey revealed that areas where cases were clustered, people lived in ill-ventilated and kutcha type of houses. The water storage was improper, i.e. in open containers with infrequent cleaning. Artificial collection of water in ditches, thrown waste materials near water sources like common municipal water taps, hand pumps was seen in 97.60% of houses, indicating abundance of vector breeding places and easy man vector contact. Similar findings were seen in other studies also [8,16].

Conclusions

The disease outbreak was at peak during the months of July-August.

Both the sexes were equally affected and the most common age group was 20-60 yrs.

Predominant symptoms were Joint pains, Fever, Body ache, followed by nausea, sore throat, skin rash, bleeding in the form of petechae, gingival bleedings.

Joint pain lasted for two months in majority of patients.

The epidemic was laboratory confirmed Chikunguniya epidemic based on presence of virus specific IgM antibodies in blood/serum samples.

High attack rate of (58%) suggests mosquitoes acting as efficient vectors & community susceptibility.

People opted for treatment from private practitioners because of fulfillment of their felt need of I.V. infusion etc.

Environmental conditions favored mosquito breeding, even though measures against mosquito were taken.

It is outbreak of "Chikunguniya," because "NIV, Pune" confirmed the epidemic by serological tests.

Recommendations

Vector borne arborvital disease like Chikunguniya need to be kept under surveillance to foresee & prevent future outbreaks.

Artificial collections of water to be avoided for prevention of vector breeding.

Man-Mosquito contact to be avoided by use of repellent creams and use of insecticide impregnated nets.

Behavior Change Communication (BCC) activities to be conducted in the community for prevention and control of Chikunguniya disease.

ACKNOWLEDGMENT

The authors wish to thank all the staff of urban health training centre for their help and to the corporation of solapur, through whom we could send the samples of blood to 'NIV'. Pune. Staff of 'NIV' Pune, and all the participating patients.

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