# A SURVEY REGARDING AWARENESS ABOUT VARIOUS ASPECTS OF CHICKENGUNYA AMONG DOCTORS

AROOJ FATIMA NAQVI, MUBASHIR AHMED, NIDA ABBAS, SYED RAZI HAIDER ZAIDI
*Department of Community Medicine, Ameer ud Deen Medical College-Postgraduate Medical Institute, Lahore*

## ABSTRACT

**Introduction:** Chickengunya is an arboviral disease caused by an alpha virus of togaviridae family which is an RNA virus.(1) This disease has caused a lot of morbodity and some mortaltity.As it is a remerging infection and was not reported in Pakistan before 2016 it was pertinent to conduct a survey amongst doctors regarding its awareness so that special training and awareness workshops may be arranged for doctors to update their knowledge and awareness regarding diagnosis, treatment and prevention of this disease.

**Methodology:** 50 doctors from two medical teaching institutes of Lahore were surveyed and interviewed regarding various aspects of chickengunya.

**Results:** Mean age of the doctors included in the survey was 34+/- 4.5 years.22 out of 50(44%) were enrolled in postgraduation training program while 28(56%) were teaching at various cadres in the basic sciences departments of the medical colleges. 19(31%) were doing clinical practice in evening .When the doctors were asked about the disease agent only 22(44%) identified that it. Only 13(26%) knew that the disease is spread through bite of infected mosquitoOnly 13(26%) correctly told about the clinical presentation which was fever and arthralgia. 10(20%) doctors interviewed correctly told that this disease can be diagnosed with serology and only 20(40%) told that treatment is supportive while 30(60%) said they do not know about the treatment. 13(26%) knew correctly that this disease can be prevented by prevention from mosquito bite. When asked whether awareness sessions in the form of workshops is required to fill the gaps in knowledge about the disease all particpants, 50(100%) answered it as yes.

**Conclusion:** Knowlegw regarding various aspects of chickengunya was found inadequate amongst doctors and it was pertinent to arrange workshops to increase their capacity to diagnose and treat the disease.

**Keywords:** Chickengunya, doctors, knowledge

## INTRODUCTION

Chickengunya is an arboviral disease caused by an alpha virus of togaviridae family which is an RNA virus.[1] This disease has caused a lot of morbodity and some mortaltity. After an incubation of 2-7 days its symptoms comprises mainly of high grade fever more than 39.C with severe debilitating arthralgia involving multiple joints in addition to headache, conjunctivitis and petechial rash over the limbs and trunk.[2,3,4,5,6,7] The disease itself is usually self limiting and extreme prostration is of the duration of 7-10 days but arthralgia may persist for months and even years. In younger population patient recover in 5-15 days, in middle age in 1 to 2.5 months while it takes longer in elderly. It is disgnosed through serological testing of IgM antibodies against it or through real time PCR while treatment remains symptomatic.[8]

Disease is transmitted through aedes aegypti mainly but through mutation in virus it has adapted to aedes albopictus [9,10] as well which increased its incidence as the former vector was found in tropics and subtropics while the later is found in temperate regions and is more resistant to decrease in temperatures.[11] Chickengunya is a remerging infection when it was prevelant in Hong Kong and India in 1970s, and than remerged in 2004 in Kenya spread to Indian ocean islands like Maldives, Mauritius and LA Union island . In 2007 its cases were reported in France and Italy and then to the Brazil Argentina Cuba Mexico and United States of America. It was was seen in Pacific Ocean countries namely Philippine , Cambodia, Hong Kong, Sri Lanka and India in 2015.[12,13,14,15,16,17,18,19,20] In Pakistan , cases of chickengnua were seen for the first time in end of 2016 and since than the toll has risen. National institute of Health reported has confirmed 1000 cases while upto 30000 cases has been reported by other authorities till march 2017.[21]

As it is a remerging infection and was not reported in Pakistan before 2016 it was pertinent to conduct a survey amongst doctors regarding its awareness so that

special training and awareness workshops may be arranged for doctors to update their knowledge and awareness regarding diagnosis, treatment and prevention of this disease as it was done during the 2011 dengue epidemic when government of Punjab arranged workshops for doctors around the province both abroad and than developed mastertrainers for rest of doctors, which lead to better patient traige, improved care, reduced treatment costs, decrease in morbidity, and hence improved outcome.[22]

## METHODOLOGY

50 doctors working in two medical teaching institutes of Lahore namely Ameer ud Din Medical College and King Edward Medical Unversity, were interveiwed about chickengunya fever in May 21017. They were asked about type of agents, Its spread, its clinical presentation, its diagnostic tests, treatment and prevention of this disease. If they answered correctly it was recorded and all others answers were recorded as 'wrong answer' or 'did not the correct answer'.

## RESULTS

Mean age of the doctors included in the survey was 34+/- 4.5 years.22 out of 50(44%) were enrolled in postgraduation training program while 28(56%) were teaching at various cadres in the basic sciences departments of the medical colleges. 19(31%) were doing clinical practice in evening while 31(68%) were not doing clinical practice. (Table 1)

When the doctors were asked about the disease agent only 22(44%) identified that it was a viral illness while 28(56%) out of 50 could not correctly indentify the agent. Only 13(26%) knew that the disease is spread through bite of infected mosquito while 37(74%) did not know about the spread of this disease. Furthermore none of the participant could correctly tell which mosquito spreads this infection. Only 13(26%) correctly told about the clinical presentation which was fever and arthralgia while a big majority 37(74%) did not know about the clinical presentation of this disease. 10(20%) doctors interviewed correctly told that this disease can be diagnosed with serology and PCR while 40(80%) did not know how to diagnose it. Only 20(40%) told that treatment is supportive while 30(60%) said they do not know about the treatment. 13(26%) knew correctly that this disease can be prevented by prevention from mosquito bite while 37(74%) did not know about how the disease can be prevented. When asked whether awareness sessions in the form of workshops is required to fill the gaps in knowledge about the disease all particpants, 50(100%) answered it as yes.

**Tables 1:** Profile of doctors n = 50

| Profile of participants | | Frequency | Percentage (%) |
|---|---|---|---|
| Gender | Males | 27 | 54 |
| | Females | 13 | 26 |
| Enrolled in postgraduate training | Yes | 22 | 44 |
| | No | 26 | 56 |
| Doing private practice | Yes | 19 | 38 |
| | No | 31 | 62 |

**Table 2:** Knowledge about various aspects of chickengunya fever n = 50

| | | | |
|---|---|---|---|
| Knowledge about agent | virus | 22 | 44 |
| | Wrong answer | 28 | 56 |
| Knowledge about spread of disease | Mosquito borne | 13 | 26 |
| | Wrong answer | 37 | 54 |
| Knowledge of clinical presentation | Correctly knew signs/symptoms | 13 | 26 |
| | didnot know the signs/symptoms | 37 | 54 |
| Knowledge about tests to diagnose the disease | Knew the tests | 10 | 20 |
| | Did not know the tests | 40 | 80 |
| Knowledge about treatment | Supportive treatment | 20 | 40 |
| | Did not know treatment | 30 | 60 |
| Knowledge about prevention | Prevention of mosquito bite | 13 | 26 |
| | Wrong answer | 37 | 54 |
| Need of training workshops | yes | 50 | 100 |
| | no | 0 | 0 |

## DISCUSSION

Chicken gunya is a remerging infecton .[12-20] Its epidemics were not seen from 1970 till early 2000. So the doctors around the globe has become less suspicious about the diagnosis of chickengunya if a case with similar presentation comes, as epidemiological data did not support it. Now when the disease has reemerged it is the call of the day to look for the fact that how many doctors are aware of this re merging infection. Our study found that a vast majority of doctors were quite unaware of the disease agent, presentation, clinical presentation, diagnosis, treatment and prevention. Despite the fact that they all worked in a medical teaching institute and nearly half of them were enrolled in postgraduate programs there knowledge about various aspect of the disease was not adequate. It is interesting to note that Pakistan had seen the cases of this disease in late last year and was still receiving the cases in the current year in Karachi and media was constantly reporting the cases even than the doctors were not aware about this infection.[21]

When a new disease emerges in some region of the country, how doctors manage them defines the reduction in morbidity and mortality in any community. It was seen during the time of dengue fever epidemic that during initial years cases went undiagnosed and when the diagnosis were made no treatment guidelines were present and doctors were not aware of the latest update on how to effectively treat patients which lead to poor patient triage, increased burden on health care facilities, economic strain alongside much preventable increased morbidity and mortility and picture improved with training of doctors.[22]

Similarly chickengunya is a new infection in our country and our findings denote that doctors require workshops and seminars to fill in the gaps in their knowledge and to make them acquire skills to effectively manage the cases of this disease. When they were questioned about the need of seminars/workshops they all said unanimously that it was required like in the time of dengue fever when all doctors in Punjab province were made to do mandatory workshops regarding dengue fever.[22]

## CONCLUSIONS AND RECOMMENDATION

It was concluded from the results that a large majority of doctors have inadequate knowledge about the agent, spread and clinical presentation of chickengunya fever. .Only some correctly know how to diagnose and treat it. As the disease has emerged in Pakistan and currently limited only to Karachi but vector is abundantly present in Punjab so it is pertinent that doctors serving in Punjab should be aware about this disease and should have necessary skills to diagnose and treat the patients. So it is highly recommended that workshops or seminars should be arranged at government levels which may help bridge gaps in knowledge and impart necessary skills for effective management of chickengunya cases.

## REFERENCES


1. Jupp PG, McIntosh BM. Monath TP. Chikungunya virus disease, The arboviruses: epidemiology and ecology vol. II , 1988Boca Raton, FLCRC Press(pg. 137-57)
2. Queyriaux B, Simon F, Grandadam M, Michel R, Tolou H, Boutin JP. Clinical burden of chikungunya virus infection, Lancet Infect Dis , 2008, vol. 8 (pg. 2-3)
3. Retuya TJA, Ting DL, Dacula BD, et al. . Chikungunya fever outbreak in an agricultural village in Indang, Cavite, Philippines, Philippine J Microbiol Infect Dis , 1998, vol. 27 (pg. 93-6)
4. Sissoko D, Moendandze A, Malvy D, et al. . Seroprevalence and risk factors of chikungunya virus infection in Mayotte, Indian Ocean, 2005–2006: a population-based survey, PLoS ONE , 2008, vol. 3 pg. e3066
5. Deller JJJr, Russell PK. Chikungunya disease, Am J Trop Med Hyg , 1968, vol. 17 (pg. 107-11)
6. Halstead SB, Udomsakdi S, Singharaj P, Nisalak A. Dengue and chikungunya virus infection in man in Thailand, 1962–1964. III. Clinical, epidemiologic, and virologic observations on disease in non-indigenous white persons, Am J Trop Med Hyg , 1969, vol. 18 (pg. 984-96)
7. Simon F, Parola P, Grandadam M, et al. . Chikungunya infection: an emerging rheumatism among travelers returned from Indian Ocean islands. Report of 47 cases, Medicine , 2007, vol. 86 (pg. 123-37)
8. De Ranitz CM, Myers RM, Varkey MJ, Isaac ZH, Carey DE. Clinical impressions of chikungunya in Vellore gained from study of adult patients, Indian J Med Res , 1965, vol. 53 (pg. 756-63)
9. Chhabra M, Mittal V, Bhattacharya D, Rana U, Lal S . Chikungunya fever: a re-emerging viral infection. Indian J Med Microbiol. 2008;26(1):5–12.[Web of Science ®], [Google Scholar]
10. Tolle MA . Mosquito-borne diseases. Curr Probl Pediatr Adolesc Health Care. 2009;39(4):97–140. [Google Scholar]

11. de Lamballerie X, Leroy E, Charrel RN, Ttsetsarkin K, Higgs S, Gould EA . Chikungunya virus adapts to tiger mosquito via evolutionary convergence: a sign of things to come? Virol J. 2008;5:33. [Google Scholar]
12. Tsetsarkin KA, Weaver SC . Sequential adaptive mutations enhance efficient vector switching by chikungunya virus and its epidemic emergence. PLoS Pathog. 2011;7(12):e1002412. [Google Scholar]
13. Schaffner F, Medlock JM, Van Bortel W . Public health significance of invasive mosquitoes in Europe. Clin Microbiol Infect. 2013. [published online ahead of print].[Web of Science ®], [Google Scholar]
14. Medlock JM, Avenell D, Barrass I, Leach S . Analysis of the potential for survival and seasonal activity of Aedes albopictus (Diptera: Culicidae) in the United Kingdom. J Vector Ecol. 2006;31(2):292–304.[Web of Science ®], [Google Scholar]
15. Takumi K, Scholte E-J, Braks M, Reusken C, Avenell D, Medlock JM . Introduction, scenarios for establishment and seasonal activity of Aedes albopictus in The Netherlands. Vector Borne Zoonotic Dis. 2009;9(2):191–6.[Web of Science ®], [Google Scholar]
16. Ditsuwan T, Liabsuetrakul T, Chongsuvivatwong V, Thammapalo S, McNeil E . Assessing the spreading patterns of dengue infection and chikungunya fever outbreaks in lower southern Thailand using a geographic information system. Ann Epidemiol. 2011;21(4):253–61.[Web of Science ®], [Google Scholar]
17. Delatte H, Dehecq JS, Thiria J, Domerg C, Paupy C, Fontenille D . Geographic distribution and developmental sites of Aedes albopictus (Diptera: Culicidae) during a chikungunya epidemic event. Vector Borne Zoonotic Dis. 2008;8(1):25–34.[Web of Science ®], [Google Scholar]
18. Bagny L, Delatte H, Elissa N, Quilici S, Fontenille D . Aedes (Diptera: Culicidae) vectors of arboviruses in Mayotte (Indian Ocean): distribution area and larval habitats. J Med Entomol. 2009;46(2):198–207.[Web of Science ®], [Google Scholar]
19. Neteler M, Roiz D, Rocchini D, Castellani C, Rizzoli A . Terra and Aqua satellites track tiger mosquito invasion: modelling the potential distribution of Aedes albopictus in north-eastern Italy. Int J Health Geogr. 2011;10:49. [Google Scholar]
20. Roiz D, Neteler M, Castellani C, Arnoldi D, Rizzoli A . Climatic factors driving invasion of the tiger mosquito (Aedes albopictus) into new areas of Trentino, northern Italy. PloS ONE. 2011;6(4):e14800. [Google Scholar]
21. Rauf M, Zahra F, Manzoor S, Mehmood A, Bhatti S.Outbreak of chikungunya in Pakistan. The Lancet infectious diseases.2017.17;3:258
22. GOP. Dengue epidemic prevention, control and management program, http://prmp.punjab.gov.pk/depcam