



## A STUDY TO ASSESS THE KNOWLEDGE OF ADULTS REGARDING PREVENTION OF CHIKUNGUNYA IN SELECTED RURAL AREA OF JAIPUR

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**Abstract:** Chikungunya is an emerging, epidemic-prone, vector-borne disease, of considerable significance and prevalence in India and various countries. Although not a killer disease, high morbidity rates and prolonged polyarthritides leading to considerable disability in a section of the affected population due to Chikungunya fever can cause substantial socioeconomic impact in affected countries. This study is a quasi experimental study. It consists of one group pre test-post test design was to evaluate the knowledge of 60 adults regarding prevention of Chikungunya. The structured questionnaire schedule was used to collect the data from the adults. The pre test was followed by implementation of structured teaching programme and post test was conducted after STP, to evaluate the effectiveness of teaching programme. The present study indicates the overall mean knowledge score percent in the pre test is 43.08% which is slightly less. This shows that there is lack of knowledge among adults regarding prevention of Chikungunya.

**Index Terms - Chikungunya, Structured Teaching Programme (STP), Knowledge, Prevention.**

### I. INTRODUCTION

The science and art of preventing disease, prolonging life and promoting health through organized community efforts for the sanitation of the environment, the control of vector-borne infections, the education of the individual in personal hygiene and the organization of medical and nursing services for early diagnosis and preventive treatment of the disease and the development of social machinery to ensure for every individual a standard of living adequately for the maintenance of health, so organizing these benefits as to enable every citizen to realize his birth right of health and longevity. Mosquitoes are the non-arthropod flies and the member of nematocid flies. Over 3,500 species of mosquitoes have identified from various part of the world. Some mosquitoes do not affect any ill effect on the human being but some of the mosquitoes bites human are vector for a number infectious disease. The name Chikungunya derived from the root verb in the kimakonde language means "that which bend up" or the stooped appearance of sufferer with arthralgia. In early i.e., in 1824 in India epidemics of fever, rashes and arthralgia assembling Chikungunya fever were recorded, however the virus was first isolated on 1952-53 from both man and mosquito during an epidemic of fever that was considered clinically indistinguishable from dengue in Tanzania. Chikungunya fever is primarily transmitted by *Aedes Aegypti* and *Aedes albopictus* or 'THE ASIA TIGER MOSQUITO' by a human-mosquito-human transmission cycle. Reservoir of Chikungunya virus is the human during epidemics period and monkeys, rodents, birds and other during the inter-epidemic period. Incubation period from the infected bite can be 3-12 days, but is usually 3-7 days. And the inter-epidemic periods of 4-8 year (some times as long as 20 years). Chikungunya have no specific treatment and vaccines and it can be treated symptomatically. Starting in February 2005, a major outbreak of Chikungunya occurred in islands

of the Indian Ocean. A large number of imported cases in Europe were associated with this outbreak, mostly in 2006 when the Indian Ocean epidemic was at its peak. A large outbreak of Chikungunya in India occurred in 2006 and 2007. Several other countries in South-East Asia were also affected. In 2007 transmission was reported for the first time in Europe, in a localized outbreak in north-eastern Italy. The WHO regional office for the south-east Asia has reported 151 districts in 8 states/provinces of India affected by Chikungunya fever. There is no specific treatment or vaccine available to cure the disease, every country has to develop and implement various rational strategies to control and prevention of Chikungunya depending up on the socio-economic status, technical and financial resources, political issues, epidemiology and burden of the disease etc,...with that objectives the world health organization has formulated various strategies to prevent the disease. The geographic, ecological factors and season are mainly responsible for the spread of Chikungunya. The incidence and prevalence of Chikungunya is more in Western Ghats costal region of south India and Raining season is the favorable season for the growth of larva of the mosquitoes', this season provide suitable and favorable environment to increase their magnitude. The Aedes mosquitoes that transmit Chikungunya breed in a wide varieties of which are common around human dwellings. These containers collect water, and include discarded tyres, flowerpots, old oil drums, animal water troughs, water storage vessels, and plastic food containers. Lack of public health infrastructure and all factors that promote uncontrolled mosquito breeding are conducive to outbreaks of Chikungunya. The present study was conducted to spread awareness about prevention of Chikungunya among the adults for which various rural settings of Jaipur District, Rajasthan were chosen to collect data through survey.

## II. REVIEW OF LITERATURE

Many researchers have conducted studies to encourage adults and members of their community to improve knowledge and health care among themselves. Some of the studies are summarized as below:

**C Jairaj Kumar, C Arvind Baboo (2007)** conducted a cross-sectional, hospital-based study of 3 541 consenting patients from three states in South India with clinically confirmed Chikungunya during the epidemic from February to August 2006.

**Usavadee Thavara, Apiwat Tawatsin, (2009)** conducted a study was on outbreak of Chikungunya fever in Thailand and virus detection in field population of vector mosquitoes, Aedes Aegypti and aedes albopictus skuse.

**Dehecq JS, Baville M,(2009)** conducted a prospective observational study was in per-urban area of Andaman and Nicobar island, in this area total 533 water holding container were searched for aedes larva both indoor (35.3%) and outdoor (64.7)% of this 109 container were found to be larva of aedes.

**Dumont Y, Chiroleu F. (2010)** conducted a study was on vector control for the Chikungunya disease in France.

**Niraj pandith, yogesh patel, (2010)** conducted a study was to assess the awareness and practices of mosquito bite prevention methods among households of Central Gujarat district Vadodara. Total 311 families have participated in the study.

**Anish Ts, Vijayakumar K, (2011)** conducted a cross-sectional survey in Thiruvananthapuram (rural) district during November 2007 with the aim of the study was to highlight the various domestic and environmental factors of the families affected by Chikungunya.

**Chaithanya buthula laxmi, Ganesh K, (2011)** conducted a study cross section was to assess the knowledge and attitude about Chikungunya among the residents of puducherry survey was undertaken recruiting 100 samples by convenience sampling method.

**Anish T S, Vijay Kumar K, (2011)** conducted a cross-sectional survey to highlight the various domestic and environmental factors of the families affected by Chikungunya in 2007 in Thiruvananthapuram district of Kerala.

## III. METHODOLOGY

Rural area in Jaipur District, Rajasthan were selected for the present study because of availability of samples, feasibility of conducting study, and ethical clearance. The sample for the present study were 60 adults of rural area, Jaipur District, Rajasthan, who meets inclusion criteria for the study. The following criteria are used in the present study to select samples.

Inclusive criteria:

- Adults who are willing to participate and available during the period of data collection.

- Adults between 21 to 35 years of age group.
- Adults who are able to understand Hindi and English Language.

Exclusive criteria:

- Adults who are not willing to participate and not available during the period of study.
- Adults who are below 21 year and above 35 years of age group.

A blueprint was prepared prior to the construction of the structured Questionnaire on assessment of knowledge of adults regarding prevention of Chikungunya. It shows the distribution of items according to the content areas. The structured Questionnaire included three domains that are knowledge, comprehension and application. Tools comprises following two sections:-

SECTION-I: Demographic Performa with 10 items. which include the characteristics of samples regarding age, gender, educational status, occupation, type of family, type of house, drainage system, storage of water, protective measures adopted against mosquitoes and sources of health information regarding Chikungunya.

SECTION-II: Structured Questionnaire for assessing the knowledge of adults regarding the prevention of Chikungunya. Total item were 27 with 27 total score.

Formal permission was obtained for conducting the study from the Block Health Educator. Prior to the interview the investigator explained the purpose of the study to the adults at their level of understanding. consent from the adults before conducting the study.

#### IV RESULT AND OBSERVATION

Table 1 shows the overall mean pre test knowledge score of 43.08% with standard deviation of 2.371. The highest mean knowledge score (53.33%) found in the aspects of treatment and vaccine; followed by 52.5% in Diagnosis and complication; 45.5% in Knowledge on Chikungunya, etiology and epidemiology; 43.33% in Signs and symptoms; 38.70% in prevention & control of Chikungunya.

**Table – 1**

**Aspect wise Pre Test Mean Knowledge Score of sample regarding prevention of Chikungunya:**

**N=60**

S.No	Aspects	Maximum Score	Range Score	Mean Score	Knowledge Score (%)	
					Mean	SD
1	Knowledge on Chikungunya, etiology and epidemiology	10	1-9	4.55	45.5	1.545
2	Signs and symptoms	3	0-3	1.30	43.33	0.808
3	Diagnosis and complication	2	0-2	0.70	52.5	0.696
4	Treatment and vaccine	3	0-3	1.60	53.33	0.701
5	Prevention & Control of Chikungunya	9	1-6	3.48	38.70	1.112
	<b>Combined</b>	27	6-16	11.633	43.08	2.371

Table 2 shows the overall mean pre test knowledge score of 76.14% with standard deviation of 3.126. The highest mean knowledge score (80.55%) found in the aspects in Control and prevention of Chikungunya. followed by 79.33% in treatment and vaccine; 77.66% in Signs and symptoms; 63% in diagnosis and complication and 59.5% in Knowledge on Chikungunya, etiology and epidemiology.

Table – 2

Aspect wise Post Test Mean Knowledge Score of sample regarding prevention of Chikungunya.

N=60

S.No	Aspects	Maximum Score	Range Score	Mean Score	Knowledge Score (%)	
					Mean	SD
1	Knowledge on Chikungunya, etiology and epidemiology	10	3-8	5.95	59.5%	1.333
2	Signs and symptoms	3	0-3	2.33	77.66%	0.728
3	Diagnosis and complication	2	0-2	1.26	63%	0.709
4	Treatment and vaccine	3	1-3	2.38	79.33%	0.666
5	Prevention & Control of Chikungunya	9	4-9	7.25	80.55%	1.397
	<b>Combined</b>	27	12-26	20.56	76.17%	3.126

## V. DISCUSSION

This study is a quasi experimental study. It consists of one group pre test-post test design was to evaluate the knowledge of 60 adults regarding prevention of Chikungunya. The structured questionnaire schedule was used to collect the data from the adults. The pre test was followed by implementation of structured teaching programme and post test was conducted on 8th day after STP, to evaluate the effectiveness of teaching programme. In the present study indicates the overall mean knowledge score percent in the pre test is 43.08% which is slightly less. This shows that there is lack of knowledge among adults regarding prevention of Chikungunya. The present study shows the overall mean pre test knowledge score of 43.08% with standard deviation of 2.371. The highest mean knowledge score (53.33%) found in the aspects of treatment and vaccine; followed by 52.5% in Diagnosis and complication; 45.5% in Knowledge on Chikungunya, etiology and epidemiology; 43.33% in Signs and symptoms; 38.70% in prevention & Control of Chikungunya. Regarding to mean post test knowledge score of 76.14% with standard deviation of 3.126. The highest mean knowledge score (80.55%) found in the aspects in prevention and Control of Chikungunya. followed by 79.33% in treatment and vaccine; 77.66% in Signs and symptoms; 63% in diagnosis and complication and 59.5% in Knowledge on Chikungunya, etiology and epidemiology. The findings of the study demonstrated significant increase in post test knowledge and practice scores in all the aspects. This confirms STP approach is effective teaching strategy .

These findings of the study are consistent with the study of Niraj pandith, yogesh patel, (2010) who conducted study to assess the awareness and practices of mosquito bite prevention methods among households of Central Gujarat district Vadodara. The pilot pre-tested structure Questionnaire was used to collect the data. Study respondents were 57% male and 43% female. Almost 99% had knowledge about breeding places of mosquito, but poor knowledge about biting time (20%).

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