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Impact of health education intervention regarding the awareness of chikunguniya

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ABSTRACT

Background

Chikungunya fever is caused by an alpha-virus that is transmitted to humans through mosquito bites. The success of preventive strategies depends on social factors such as knowledge, attitudes, and perceptions of the disease.

Methods

This study was a prospective educational interventional study conducted from September to December 2014 in Krishna nagar area, Bhopal, Madhya Pradesh done by pre-designed and pre-tested interviewer questionnaire. The participant who was willing to participate in the study was given the questionnaire proforma and was asked to fill the questionnaire before and after the educational intervention and the results were analyzed.

Results

The study involved a total of 105 families who successfully answered all the baseline and follow up questionnaire. A total of 62 % males and a total of 38% females participated in our study and a total of 20.45 % increase in knowledge regarding chikungunya was reported after the post intervention.

Conclusion

This study concludes that health education is an effective tool for improving knowledge, attitude and practice regarding prevention and control of chikungunya.

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INTRODUCTION

Chikungunya fever is caused by an alpha-virus that is transmitted to humans through mosquito bites. It is characterized by a non-specific illness including high fever, severe joint pain, muscle pain, headache, nausea, fatigue, and rash in infected individuals. Most of the patients recover from the acute illness in 1–2 weeks, and some individuals continue to suffer from chronic joint pain which can persist for months to years following infection.[1, 2]

Historically, chikungunya virus (CHIKV) has circulated in Africa, Asia, and the Indian and Pacific Ocean Islands.[2] In 2013, the virus spread to the Americas and caused outbreaks in countries that harbor the vectors, *Aedes aegypti* and *Aedes albopictus.*[2-4] In India epidemic of Chikungunya fever was reported during 60s & 70s; 1963 (Kolkata), 1965 (Pondicherry and Chennai in Tamil Nadu, Rajahmundry, Vishakapatnam and Kakinada in Andhra Pradesh; Sagar in Madhya Pradesh and Nagpur in

Maharashtra) and 1973 (Barsi in Maharashtra). Subsequently in 2008, 2009, 2010, 2011 and 2012, 95091, 73288, 48176, 20402 and 15977 suspected Chikungunya fever cases with nil death were reported. During 2013, 18840 suspected Chikungunya cases were reported.[5]

Chikungunya is an important public health concern as the virus continues to emerge into previously non-endemic areas. Most of the intervention strategies have focused on mosquito control and mosquito bite prevention as there is currently no treatment or vaccine for CHIKV infection in humans.[6] actually success of these intervention strategies depends on social factors such as knowledge, attitudes, and perceptions of the disease.

The Government of India has initiated several public health measures to control the epidemic of chikunguniya, including IEC/Behavior Change Communication activities through print, electronic media, inter-personal communication, and outdoor publicity as well as an inter-sectoral collaboration with civil society organizations such as non-governmental organizations.[7]

It is important to understand how affected populations are educated regarding its transmission cycle and the importance of control measures to determine what prevention strategies are likely to be successful.

Knowledge assessment of people will also be helpful in determining how to allocate optimally, the limited resources available for chikungunuya and vector control, and in evaluating the impact of such activities globally.

World Health Organization (W.H.O.) focuses on priority areas for research in Chikungunya and Dengue and has recommended an evaluation of social, cultural and community behavioral practices leading to disease transmission, including Knowledge Attitude and Practices studies.[8] As very few studies have been done in central India on role of health education in chikungunya, therefore the present study was carried out to assess impact of health education intervention regarding the awareness of chikunguniya.

MATERIAL AND METHODS

This study was a prospective educational interventional study conducted from September to December 2014 in Krishnanagar area, Bhopal, Madhya Pradesh done by pretested and pre-designed interviewer questionnaire. Before the conduction of the interviews, informed consent was obtained from the parents or attendants of all participants. The interviewee who was willing to participate in the study was given the questionnaire proforma and was asked to fill the proforma before and after the educational intervention. The following points were covered under the headings:

a) General information
b) Knowledge about Chikunguniya
c) Preventive practices against Chikunguniya
d) Management of Chikunguniya.

Data from the questionnaire were coded and entered into a computerized data base, and results were analyzed. The data collected was documented in both hardcopy and in electronic database created in Microsoft access 2007 for easy retrieval of the data. Development of KAP questionnaire: Validated KAP questionnaire was used in the study.

Designing and Validation of Educational Material

The educational material was designed by the project team and it includes the basic introduction about the Chikunguniya fever, information regarding how it is transmitted, the major signs and symptoms, the diagnosis procedure, complications of Chikunguniya fever, treatment available and prevention and control measures against Chikunguniya fever. The English version of educational material was translated to Hindi. The concurrent validation of English and Hindi educational material was done by a clinical physician.

RESULTS

The study involved a total of 105 families who successfully answered all the baseline and follow up questionnaire. A total of 62% males and 38% females were present in our study. Our study showed a total of 20.45% increase in knowledge after the post intervention questionnaires.

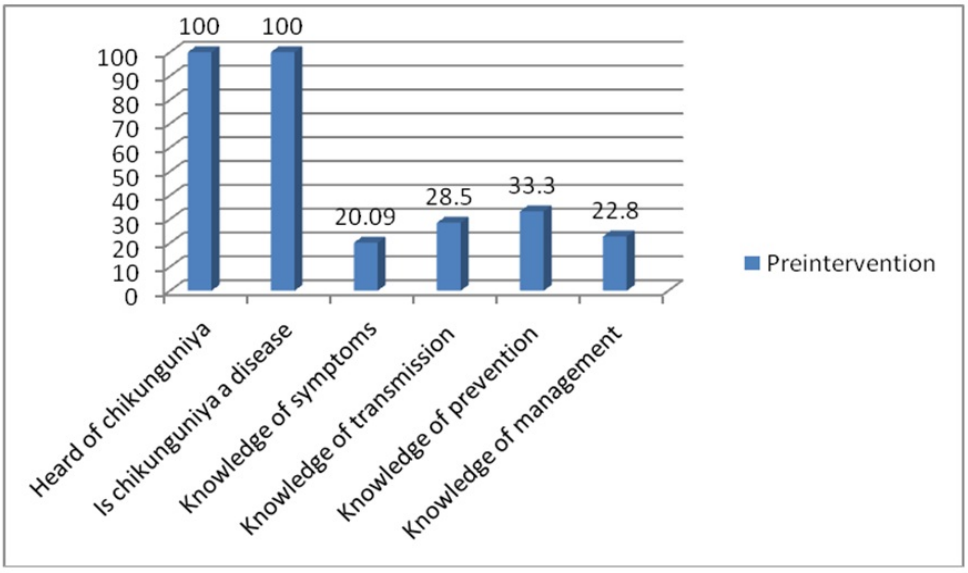

Fig 1 Pre Intervention Result

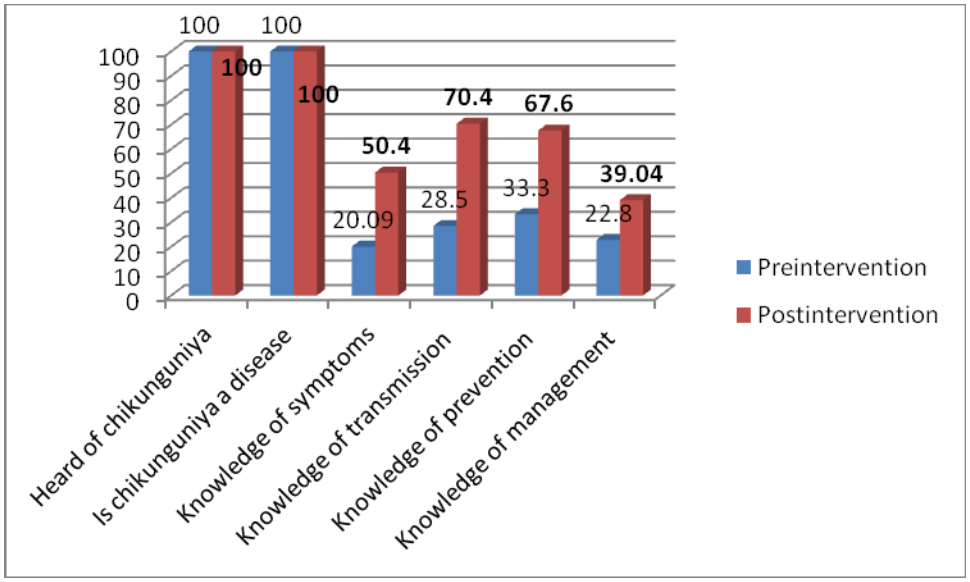

Fig 2 Post Intervention Result in Respect with Pre Intervention

Figure no. 1 and 2 and table no. 1 showing different variables and responses in pre and post intervention period. In this study after education intervention a total of 100 % of the participants have heard about chikungunya and knew that it was a disease. There was a total of 30.31 % increase in knowledge about symptoms of chikunguniya, while a 41.9% increase in the knowledge of transmission of chikunguniya infection. About the knowledge of prevention of chikunguniya disease, there was an increase of 34.3% and an increase of 16.24% was seen in relation to the knowledge about management of Chikunguniya.

Table 1 Variables and Responses in Pre and Post Intervention Period

Variables	Pre test, n(%)	Post test, n(%)	P value
Heard of Chikunguniya?	105(100)	105(100)	1
Is Chikunguniya a disease?	105(100)	105(100)	1
Knowledge of symptoms?	22(20.09)	53(50.4)	0.0001
Knowledge of transmission	30(28.5)	74(70.4)	0.0001
Knowledge of prevention	35(33.3)	71(67.6)	0.0001
Knowledge of management	24(22.8)	41(39.04)	0.016

DISCUSSION

Chikunguniya is a self-limiting viral disease with recovery as the expected outcome but in some cases persistent joint pain requires long duration of treatment. *Aedes* mosquito breeding in artificial collection of water (water holding containers, tyres, broken shells and disposed off items that hold water) is the principal vector. No specific treatment or vaccine is available for chikunguniya so mosquito control measures comprise the main stay of management. The present study focussing on the importance of health education in prevention of chikunguniya reported a significant increase in scientific knowledge of symptoms, transmission, prevention and management post intervention which could bring forth changes in attitude and behavior for improved health and environment thereby reducing the prevalence of chikunguniya. In this study all of the respondents had heard about chikunguniya and knew it was a disease, however, less than one third of the participants knew about its symptoms, spread, treatment and prevention. Similar findings can be reported in studies done by Rashid Md HO, et. al., Cherry CC, et. al., and Malhotra G, et. al., done nationally and internationally.[9-10] Though there was a significant increase in knowledge post intervention but due to unavailability of similar study in Indian context no comparisons could be made but this does not undermines the importance of impact of health education in reducing the risk of chikunguniya in a community.

CONCLUSION

Integrated vector management by elimination of breeding sites, use of anti-adult and anti-larval measures and personal protection comprise of the mainstay in control of chikunguniya epidemic. For this community mobilization and empowerment is of utmost importance. The general population should be sensitized about the mechanisms of transmission, symptoms, prevention and management of the disease. This study concludes that health education is an effective tool for improving knowledge, attitude and practice regarding prevention and control of chikunguniya. Therefore, it is recommended that future campaigns should involve more aggressive IEC/BCC activities pertaining to symptoms, transmission, management and prevention of chikunguniya should be done in schools and colleges and in local communities so that the knowledge is translated into practice and the likelihood of infection is reduced to a level where it no longer remains a public health problem.

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