ORIGINAL ARTICLE

Knowledge, attitude and practices about Dengue Fever transmission and prevention in a rural community

Raj Shekhar[1], Shivani Shenoy K[2], Chythra Rao[3]

[1,2]Final MBBS, Kasturba Medical College, MAHE, Manipal, [3] Associate Professor, Department of Community Medicine, Kasturba Medical College, MAHE, Manipal

ABSTRACT:
Background: Dengue fever is an emerging disease occurring in tropical and subtropical areas. The present study was conducted to assess the knowledge, attitude and practices regarding transmission and prevention of dengue fever and to determine the association between knowledge and practice. **Materials & Methods:** The present study was conducted on 366 subjects of both genders. A pre-tested, semi-structured questionnaire was used as the data collection tool. It contains questions regarding knowledge about Dengue fever and the mode of disease transmission and modalities of prevention and treatment of the same. The attitude questions pertained to issues such as, disease carriers as source of infection and usage of preventive measure and disease curability. **Results:** out of 366 patients, males were 181 and females were 185. Age group 18-30 years had 217. 31-45 years had 103 and 46-65 years had 46 patients. The difference was significant (P< 0.05). Maximum number of subjects (356) heard about dengue fever from colleagues. 366 subjects were aware of transmission of dengue from mites. 263 subjects knew that dengue can be prevented with coils. 137 subjects knew that dengue spreads through mosquito larvae. **Conclusion:** Mosquito coils were the most popular preventive measure employed. Presence of the vectors was also noted in a third of the households.

Key words: Dengue, Mosquito coils, Vector

Corresponding author: Dr Raj Shekhar, Final MBBS, Kasturba Medical College, MAHE, Manipal

INTRODUCTION

Dengue fever is an emerging disease occurring in tropical and subtropical areas. Prevention of infection depends on good knowledge, attitudes and practices of communities towards the disease and its control measures.[1] The incidence of dengue has grown dramatically around the world in recent decades. The actual numbers of dengue cases are underreported, and many cases are misclassified. One recent estimate indicates 390 million dengue infections per year of which 96 million manifests clinically.[2] The World Health Organization (WHO) estimates that 40% of the world's population lives in areas endemic to dengue virus. The clinical spectrum of the disease varies from asymptomatic infection to severe conditions. Dengue infection is a serious public health problem both because of the spread of the disease, on a worldwide scale, and because of the increase in severe cases and deaths.[3] In 2009, the WHO issued the revised dengue classification: dengue without warning signs, dengue with warning signs (abdominal pain, persistent vomiting, fluid accumulation, mucosal bleeding, lethargy, restlessness, liver enlargement, increasing hematocrit with decreasing platelets) and severe dengue (severe plasma leakage, severe bleeding or organ

failure.[4] The present study was conducted to assess the knowledge, attitude and practices regarding transmission and prevention of dengue fever and to determine the association between knowledge and practice.

MATERIALS & METHODS

The present study was conducted on 366 subjects of both genders. The institutional ethics committee permission was sought before commencing the study. Consenting subjects of either gender above 18 years of age, from the rural field practice area of Dept. of Community Medicine were included.
A pre-tested, semi-structured questionnaire was used as the data collection tool. It contains questions regarding knowledge about Dengue fever and the mode of disease transmission and modalities of prevention and treatment of the same. The attitude questions pertained to issues such as, disease carriers as source of infection and usage of preventive measure and disease curability. The practice questions assessed whether the participants practice personal protective measures at home.

61

The houses were identified with the help of ANMs. Only 1 member per house was interviewed. KAP about dengue fever & gaps in knowledge & practice will be assessed. The data collected was entered and analyzed using SPSS 15.0. Chi-square test was used. P value <0.05 was considered to be statistically significant.

Results

Table I Distribution of patients

| Total- 366		
Gender	**Males**	**Females**
Number	181	185

Table I shows that out of 366 patients, males were 181 and females were 185.

Table II Age wise distribution of patients

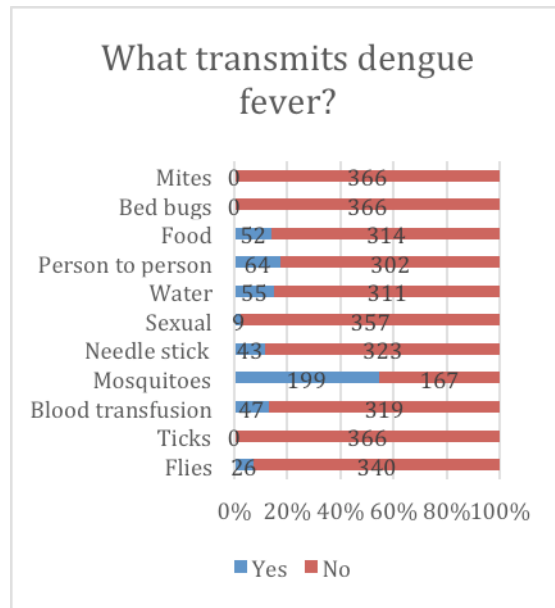| Age group	Number	P value
18-30	217	0.02
31-45	103	
46-65	46	

Table II shows that age group 18-30 years had 217. 31-45 years had 103 and 46-65 years had 46 patients. The difference was significant (P< 0.05).
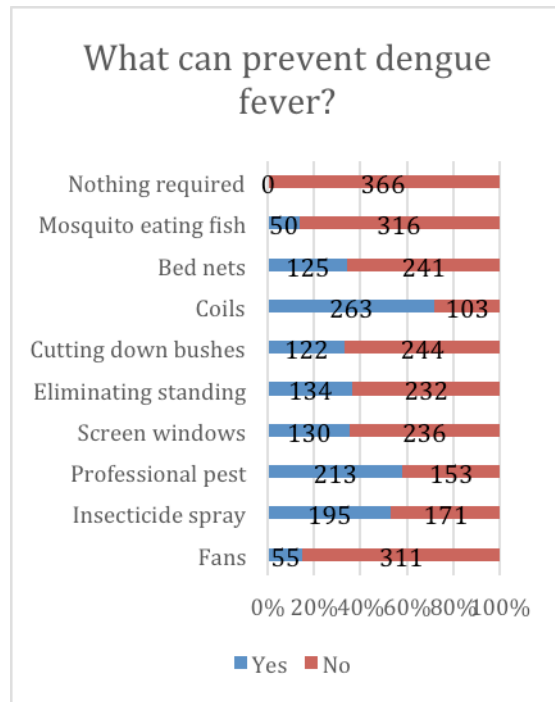
Graph I Have you heard about dengue fever?
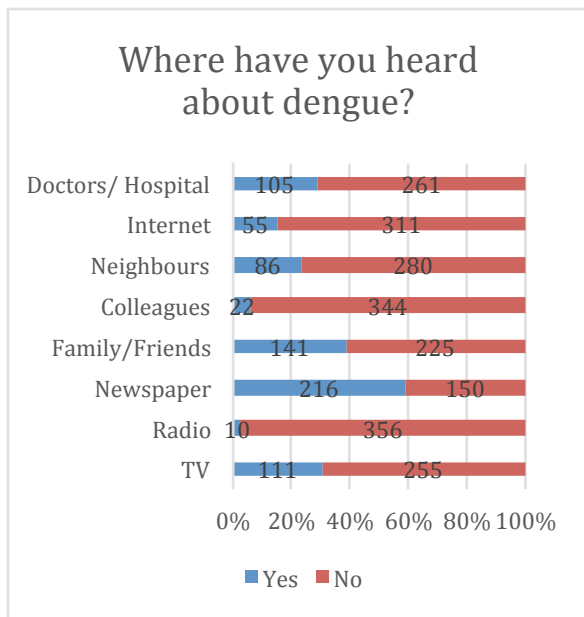
Graph I shows that maximum number of subjects (356) heard about dengue fever from colleagues.

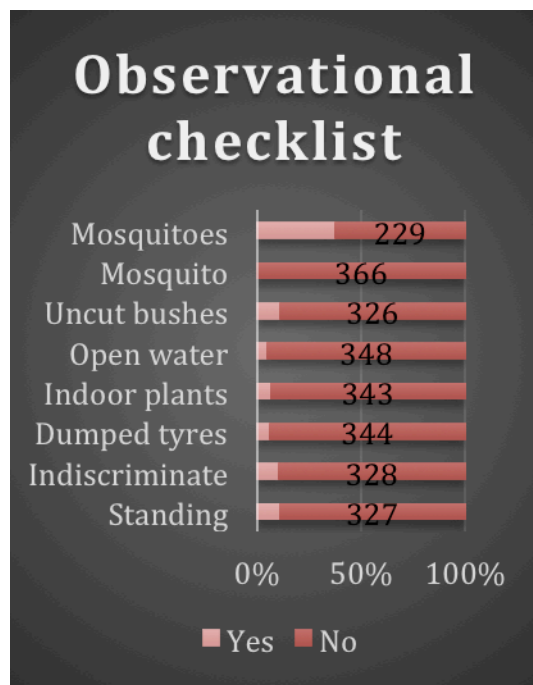**Graph II Knowledge of transmission**

Graph II shows that 366 subjects were aware of transmission of dengue from mites.

Graph III Knowledge about prevention

Graph III shows that 263 subjects knew that dengue can be prevented with coils.

Graph IV Observational checklist

Graph IV shows that 137 subjects knew that dengue spreads through mosquito larvae.

DISCUSSION

Dengue is the most extensively spread mosquito-borne disease, transmitted by infected mosquitoes of Aedes species. Dengue infection in humans results from four dengue virus serotypes (DEN-1, DEN-2, DEN-3, and DEN-4) of *Flavivirus* genus. As per the WHO 1997 classification, symptomatic dengue virus infection has been classified into dengue fever (DF), dengue haemorrhagic fever (DHF) and dengue shock syndrome (DSS).[5] The revised WHO classification of 2009 categorizes dengue patients according to different levels of severity as dengue without warning signs, dengue with warning signs (abdominal pain, persistent vomiting, fluid accumulation, mucosal bleeding, lethargy, liver enlargement, increasing haematocrit with decreasing platelets) and severe dengue.[6] Dengue fever is endemic in more than 100 countries with most cases reported from the Americas, South-East Asia and Western Pacific regions of WHO.[7] The present study assessed the knowledge, attitude and practices regarding transmission and prevention of dengue fever and to determine the association between knowledge and practice. In this study, out of 366 patients, males were 181 and females were 185. We found that age group 18-30 years had 217. 31-45 years had 103 and 46-65 years had 46 patients. Beatty et al[8] found that the total number of cases was 77, out of which 67 were non-severe dengue and 10 were severe dengue according to WHO guidelines. There were 49 (63.6%) males and 28(36.4%) females. Severe dengue was seen more in females than males and vice versa for non severe dengue. The maximum number of cases, 36 (46.7%) was seen in the group above 10 years of age. The mean age of hospitalized patients was 8.96 yrs. 59.7% of patients were admitted in the hospital for 3-6 days. The mean duration of hospitalization was 5.04 days. The mean delay in admission after appearance of fever was 3.66 days. We found that maximum number of subjects (356) heard about dengue fever from colleagues. 366 subjects were aware of transmission of dengue from mites. 263 subjects knew that dengue can be prevented with coils.137 subjects knew that dengue spreads through mosquito larvae. Gonçalves et al[9] of the 2285 identified articles on dengue, they included 233 in the analysis wherein 180 reported prevalence of laboratory confirmed dengue infection, seven reported seroprevalence as evidenced by IgG or neutralizing antibodies against dengue and 77 reported case fatality. The overall estimate of the prevalence of laboratory confirmed dengue infection among clinically suspected patients was 38.3% (95% CI: 34.8%–41.8%). The pooled estimate of dengue seroprevalence in the general population and CFR among laboratory confirmed patients was 56.9% (95% CI: 37.5–74.4) and 2.6% (95% CI: 2–3.4) respectively. There was significant heterogeneity in reported outcomes (p-values<0.001). Donalisio et al[10] found that more than half of the parents (54%) had good knowledge about signs, symptoms, and modes of transmission of dengue. Approximately 47% considered dengue to be a serious but preventable disease to which they are vulnerable. Nevertheless, a majority (77%) did not use effective dengue preventive methods such as screening of homes and 51% did not use bed nets. Educational attainment was positively associated with knowledge of dengue. There was no correlation between knowledge about dengue and preventive practices (p=0.34). Radio and TV were the predominant sources of information about dengue fever.

CONCLUSION

Mosquito coils were the most popular preventive measure employed. Presence of the vectors was also noted in a third of the households.

REFERENCES

1. Gupta N, Srivastava S, Jain A, Chaturvedi UC. Dengue in India. Indian J Med Res. 2012;136(3):373-90.
2. WHO. Dengue guidelines for diagnosis, treatment, prevention and control. New edition. 2009. Available at http://www.who.int/tdr/publications/documents/den gue-diagnosis.pdf
3. Ahmed S, Arif F, Yahya Y. Dengue fever outbreak in Karachi 2006- a study of profile and outcome of children under 15 years of age. J Pak Med Assoc. 2008;58(1):4-8.
4. Kalayanarooj S, Vaughn DW, Nimmannitya S. Early clinical and laboratory indicators of acute dengue illness. J Inf Dis. 1997;176(2):313-21.
5. Ratageri VH, Shepur TA, Wari PK, Chavan SC, Mujahid IB, Yergolkar PN. Clinical profile and outcome of dengue fever cases. Indian J Pediatr. 2005;72(8):705-6.
6. Chakravarti A, Kumaria R. Eco-epidemiological analysis of dengue infection during an outbreak of dengue fever, India. Virology Journal 2005;14:2–32.
7. Gupta P, Kumar P, Aggarwal O. Knowledge, attitude and practices related to dengue in rural and slum areas of Delhi after the dengue epidemic of 1996. Journal of Communicable Diseases 1998;30(2):107–12.
8. Beatty, M.; Biggerstaff, B.; Rigau, J.; Petersen, L. Estimated risk of transmission of dengue virus through blood transfusion in Puerto Rico. 5th International Conference on Emerging Infectious Diseases; 2006 March 19–22, 2006; Atlanta, Georgia, USA. 2006.

9. Gonçalves NV, Monteiro S, Gonçalves A, Rebêlo J. Public knowledge and attitudes concerning dengue in the Municipality of São Luís, Maranhão, Brasil, 2004. Cad Saude Publica 2006;22(10): 2191–200.

10. Donalisio M, Alves M, Vsockas A. A survey of knowledge and attitudes in a population about dengue transmission-region of campinas Sao Paulo, Brazil-1998. Rev Soc Bras Med, Trop 2001;34(2):197–201.