

Knowledge, Attitude and Practice Regarding Awareness of Malaria Infection among the Adult Population of Rural and Urban Areas.

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Received: July 2016

Accepted: August 2016

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ABSTRACT

Background: Malaria remains one of the most serious global health problems and is not only a major cause of suffering and death, but also the cause of many socioeconomic problems. The present study was done to study knowledge, attitude and practice of general public towards malaria infection. **Methods:** A total of 576 individuals had taken participation in this particular study. The study was done at SMBT medical college, Ghoti, Nashik. Out of these, 258 were from rural area and 318 from urban area. A total of 20 questionnaires were formulated for this study. Responses of all the participants were collected, tabulated and analyzed using IBM SPSS statistics version 20 using student's t test. **Results:** On comparison of the knowledge, attitude and practice scores of the urban and rural population, it was found that the scores of urban population was higher than that of the rural population and the difference was found to be statistically significant. (Student's t test, $p < 0.001$). **Conclusion:** The findings of this study indicate that rural communities have less knowledge on malaria transmission, symptoms, and preventive measures. There is also a need for district health departments to improve availability of information about malaria through rural dispensaries and primary health centers.

Keywords: Malaria infection, General public, Mosquito-borne diseases.

INTRODUCTION

In recent years, vector-borne diseases have emerged as a serious public health problem in countries of the South-East Asia Region, including India.^[1,2]

The mosquito borne diseases of public health importance are complex and their occurrence depends on the interaction of various biological, ecological, social and economic factors. The mosquito-borne diseases results in avoidable ill health and death which also has been emphasized in National Health Policy and Millennium Development Goals (MDGs) in India. National Vector Borne Disease Control Programme (NVBDCP) under the aegis of National Rural Health Mission (NRHM) is one of the most comprehensive and multifaceted public health activities in India including prevention and control of mosquito-borne diseases.^[2,3]

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During 2010, Gujarat state reported a total of 66,501 malaria cases including 13,729 plasmodium

falciparum cases and 71 deaths. From this, Rajkot district reported 2473 malaria cases including 463 plasmodium falciparum cases and 6 deaths and Rajkot Municipal Corporation reported total 499 malaria cases including 198 plasmodium falciparum cases and 1 death. In the same year Gujarat reported 2568 dengue cases with 1 death, among these Rajkot District reported 95 cases and Rajkot Municipal Corporation (RMC) reported 211 cases.^[2]

World Health Organization quotes that an estimated 300 million malaria infections occur each year, with 2 million deaths. They have identified malaria as one of the three major diseases of poverty along with HIV and tuberculosis. About 40% of the world's population is at risk. According to the World Health Organization (WHO), Dengue is the most rapidly spreading mosquito-borne viral disease in the world. It infects between 50 million and 100 million people annually, with 500,000 cases of the more severe infection 5 known as dengue hemorrhagic fever.^[4]

Malaria remains one of the most serious global health problems and is not only a major cause of suffering and death, but also the cause of many socioeconomic problems.^[5,6]

Proven effective options to reduce morbidity and mortality include early diagnosis, combined with prompt effective therapy and malaria prevention through reduction of human-vector contact,

Mane; Awareness of Malaria Infection

emphasizing the use of insecticide-treated nets (ITNs). However, incorrect beliefs or inappropriate behavior can interfere with the effectiveness of these control measures⁴. Understanding communities' perceptions of cause, symptoms, identification and treatment of malaria is an important step towards developing strategies aimed at controlling the disease.^[6,7]

The present study was done to study knowledge, attitude and practice of rural and urban general public towards malaria infection.

MATERIALS AND METHODS

A total of 576 individuals had taken participation in this particular study. Out of these, 258 were from rural area and 318 from urban area. The study was done at SMBT medical college, Ghoti, Nashik. A total of 20 questionnaires were formulated for this study, which were validated by doing pilot study. Questionnaires consisted of knowledge of malaria infection, its transmission, pathogenesis, prevention and treatment. Approval of the ethical committee

had taken before start of the study and informed consent was taken from all the participants. Each correct answer was given score 1, while wrong answer was given score zero. Responses of all the participants were collected, tabulated and analyzed using IBM SPSS statistics version 20 using student's t test.

RESULTS

Questionnaires were distributed to 675 individuals. Out of which only 576 had given their responses. On comparison of the knowledge, attitude and practice scores of the urban and rural population, it was found that the scores of urban population was higher than that of the rural population and the difference was found to be statistically significant. (Student's t test, $p < 0.001$) [Table 1, Figure 1].

General public living in rural areas had less knowledge, attitude and practice regarding the malaria infection than that in urban individuals.

Table 1: Comparison of the knowledge, attitude and practice scores of the urban and rural population.

| Group | Number (n) | Mean \pm SD | T value | P value |
|-------|------------|--------------------|---------|---------|
| Rural | 258 | 12.678 \pm 3.122 | 5.3422 | <0.001* |
| Urban | 318 | 14.324 \pm 2.232 | | |

* $p < 0.001$ = Statistically significant, SD = Standard deviation

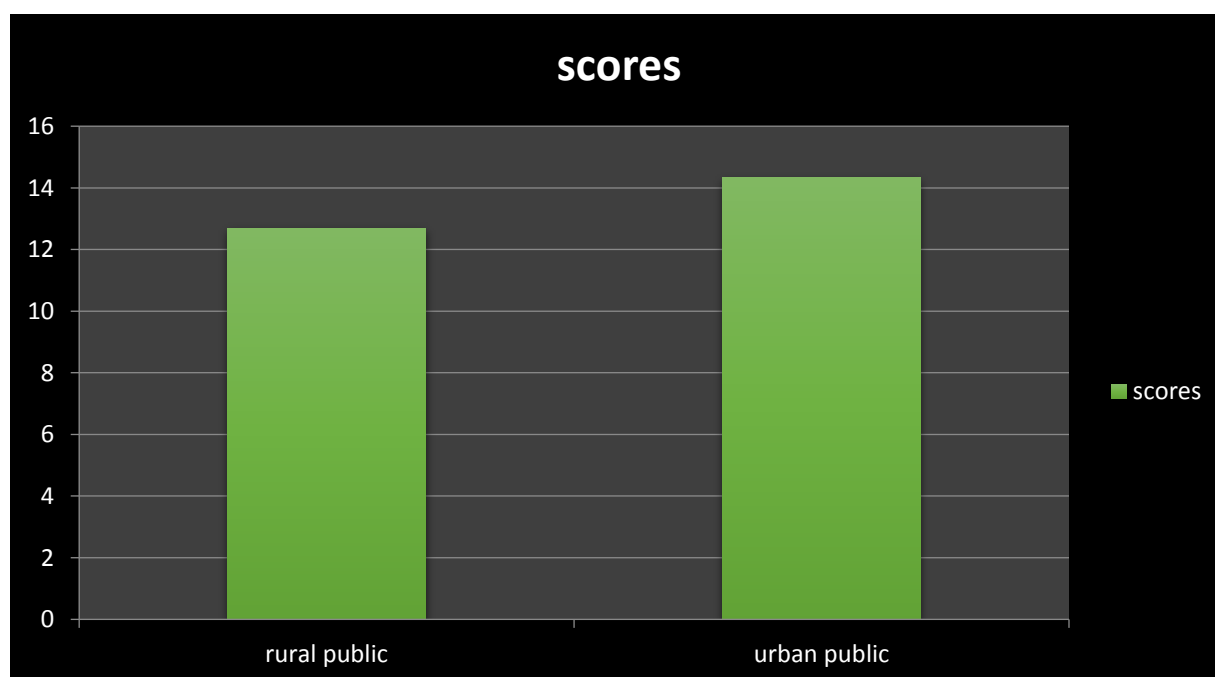


Figure 1: Graph showing comparison of the knowledge, attitude and practice scores of the urban and rural population.

DISCUSSION

Mosquito-borne diseases and pestiferous mosquito species are a major public health problem worldwide. Diseases such as West Nile disease, malaria, dengue fever and Chikungunya fever are

undergoing a resurgence and redistribution under global climate change. Mosquito-borne diseases are now being reported at high elevations in the highlands of Asia, Central Africa, and Latin America, and malaria could threaten major elevated urban centers such as Nairobi, Kenya. In China,

mosquito-borne diseases continue to be a serious public health problem and have caused substantial morbidity and mortality in recent years.^[8-11]

The mosquito borne diseases of public health importance are complex and their occurrence depends on the interaction of various biological, ecological, social and economic factors.^[12]

Malaria is still endemic in over 100 countries worldwide. There were 216 million cases of malaria in 2010 globally. In India, about 1.31 million malaria cases with 753 deaths were reported in the year 2011 out of which more than half cases were of *Plasmodium falciparum*; the actual number of cases may be much more than the number of confirmed cases reported by National Malaria Control Programme. Jharkhand and Bihar are malarious endemic states and under the Enhanced Malaria Control Project (EMCP) funded by the World Bank from 1997 and contributes about twelve percent of the total malaria cases. In India, Malaria is transmitted by six Anopheline mosquitoes which are primary vectors of malaria. There are some other mosquito species playing a limited role in malaria transmission and recognized as secondary vectors of malaria. The control of malaria and other vectors borne diseases mainly depends on application of insecticides. Indoor residual spray (IRS) and use of insecticide-treated bed nets (ITN) are the most widely practiced effective strategies to control malaria.^[13-16]

In the present study, on comparison of the knowledge, attitude and practice scores of the urban and rural population, it was found that the scores of urban population was higher than that of the rural population and the difference was found to be statistically significant. (Student's t test, $p < 0.001$) General public living in rural areas had less knowledge, attitude and practice regarding the malaria infection than that in urban individuals.

Government of India is working on the control of mosquito transmitted diseases. The National malaria control programme was launched in 1953; it has been renamed as National anti-malaria programme in 1999. In 2003, renaming of NAMP to National Vector Borne Disease Control Programme was done (Park, 2011).^[17]

Malaria control depends heavily on prompt, effective treatment and not knowing the correct dose may be a barrier to effective case management. Given these results, in an urban setting, public health interventions may best be focused on modifications in control programme which increase clinic attendance. This could be achieved by educational messages targeted, especially towards uneducated mothers and stressing the potential severe consequences of fever illness in children. Such a strategy would limit the improper use of self-administered anti-malarials which has become increasingly important with the spread of drug

resistance and the move to more complicated regimes like combination therapy.^[18]

CONCLUSION

The findings of this study indicate that rural communities have less knowledge on malaria transmission, symptoms, and preventive measures. However, low education was detected as a major drawback for effective control, and intervention measures and information campaigns should focus on this high risk group. There is also a need for district health departments to improve availability of information about malaria through rural dispensaries and primary health centers.

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How to cite this article: Mane ASR. Knowledge, Attitude and Practice Regarding Awareness of Malaria Infection among the Adult Population of Rural and Urban Areas. *Ann. Int. Med. Den. Res.* 2016; 2(5):ME09-ME12.

Source of Support: Nil, **Conflict of Interest:** None declared