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Original Research Article

A cross sectional study on knowledge, attitude and practices regarding vector borne diseases in the urban field practice area of a medical college

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ABSTRACT

Background: Vector borne diseases are more prevalent in third world countries and are on an upward trend. The objectives were to study the demographic profile of the study population and assess their knowledge, attitude and practices regarding vector borne diseases.
Methods: This is a cross sectional study done on 259 study subjects, conducted in July 2017 in the field practice area of the urban health centre of Malla Reddy Institute of Medical Sciences. A convenient sample of 250 was decided to be covered over a period of one month. A total of 259 subjects could be interviewed.
Results: Majority were educated up to high school (48.25). Majority of female subjects were homemakers (77.2%) and majority of the males were skilled workers (33.7%). A total of 207 study subjects were found to have mosquito breeding places in their surroundings. Majority (28.5%) had open garbage bins with stagnant water as the chief source of mosquitos. Majority (89.2%) could name at least one disease spread by mosquitos and they mostly got their information from TV and newspaper (77.9%). Most common preventive measures followed by was mosquito mesh and screens (53.5%).
Conclusions: Knowledge levels of the populations must be increased through various information, education and communication (IEC) campaigns.

Keywords: Vector borne diseases, Cross sectional study

INTRODUCTION

Vector-borne diseases are infections transmitted by the bite of vectors like mosquitoes, ticks, bugs, sandflies, and blackflies. These diseases are commonly found in tropical and sub-tropical regions and places where access to safe drinking-water and sanitation systems is problematic. The most prevalent vector borne diseases are Malaria, Dengue, Lymphatic Filariasis, Kala-azar, Japanese Encephalitis, Chikungunya.[1]

VBDs are endemic in more than 100 countries and are known to affect more than half of the world population. Death among children due to VBDs is very high in low-income countries. Besides, it is estimated that all low-income countries are affected by at least five VBDs, which are major killers of children under the age of five years.[2]

To address it's seriousness, World Health Organization declared "vector borne diseases" as the theme for the year 2014 on World Health Day to highlight the importance of measures for prevention and community-based action.[3]

The National Vector Borne Disease Control Programme (NVBDCP) is an umbrella programme for prevention and control of vector borne diseases viz. Malaria, Japanese Encephalitis (JE), Dengue, Chikungunya, Kala-azar and Lymphatic Filariasis. Out of these six diseases, two diseases namely Kala-azar and Lymphatic Filariasis have been targeted for elimination by 2015.[4]

The months of monsoon see a peak in these diseases as a result of water logging which offer mosquitos rich breeding places. With this rationale we endeavoured to study the demographic profile of the study population and to assess their knowledge, attitude and practices regarding vector borne diseases.

METHODS

This is a cross sectional study conducted in Subhash Nagar locality of Jeedimetla area in Hyderabad which is part of the field practice area of the urban health centre of Malla Reddy Institute of Medical Sciences. Study was conducted in the month of June 2017. The study included all adult residents of Subhash Nagar willing to participate in the study. A convenient sample of 250 was decided to be covered over a period of one month. A total of 259 subjects could be interviewed and they constituted the study population. All adult residents of Subhash Nagar who were willing to participate in the study were included as study subjects. Visitors of the residents, children below the 18 years and those unwilling to participate in the study were excluded from the study. A pre-designed questionnaire was used which includes questions regarding demographic profile, knowledge about vector borne diseases and questions to ascertain various preventive measures being followed by study population. Data obtained was entered in Microsoft Excel sheet. Microsoft excel was used to calculated percentages.

The study subjects were approached in the morning hours by house to house interview method. Nature of the study was explained to them and verbal consent for participation was obtained. Permission to inspect premises in and around the house for mosquito breeding areas was also obtained.

Permission to conduct the study was obtained by the institution's ethical committee of Malla Reddy Institute of Medical Sciences, Hyderabad.

RESULTS

A total of 259 subjects constituted the study population of which 167 (64.5%) were women and 92 (35.5%) were men.

The Table 1 indicates that majority of the study subjects (48.25%) were educated up to high school level. Among the study group 20.08% were illiterate.

Table 1: Distribution of study subjects according to educational attainment (n=259).

Education	Frequency	%
Illiterate	52	20.08
High school	125	48.25
Intermediate	45	17.4
Graduation	37	14.27
Total	259	100

Table 2: Distribution of study subjects according to type of employment (n=259).

Occupation	Males	Females	Total	%
Unemployed	2	3	5	1.9
Labour	15	8	23	8.9
Skilled workers	31	9	40	15.4
Employee at private firm	30	9	39	15.1
Own business	12	2	14	5.4
Homemaker	0	129	129	49.8
Student	2	7	9	3.5
Total	92	167	259	100

It was found that majority of female subjects were homemakers i.e. 129 (77.2%) and majority of the male subjects were skilled workers i.e. 31 (33.7%) by occupation.

Table 3: Distribution of study subjects based on income (n=259).

Monthly income	Frequency	%
<5000	10	3.9
5000–10,000	121	46.71
10,000–20,000	90	34.72
>20,000	38	14.67
Total	259	100

The above table shows that most of the subjects (46.71%) earn between Rs. 5000 and 10,000 per month and only a few (3.9%) earn less than Rs. 5000 per month.

Table 4: Distribution of study subjects based on type of mosquito breeding places present (n=207).*

Breeding place	Frequency	%
Open garbage bins with stagnant water	59	28.5
Flower pots	17	8
Old tyres	14	7
Open drainage	32	15.4
Stored water drums	25	12.1
Others	60	29
Total	207	100

*A total of 207 study subjects were found to have mosquito breeding places in their surroundings.

Most of the participants (28.5%) were found to have open garbage bins with stagnant water as the chief source of mosquitos. Others such as discarded plastic bottles, coconut shells etc constituted 29% of mosquito breeding places.

Table 5: Distribution of study subjects based on number of vector borne diseases that could be named by subjects (n=259).

Number of diseases that could be named by subjects	Frequency	%
One	120	46.33
Two	109	42.08
Three	2	0.77
None	28	10.8
Total	259	100

We found that most of the subjects were aware of at least one disease spread by mosquitos and only 10.8% have no knowledge about vector borne diseases at all.

When asked about symptoms, 52.5% i.e. 136 of the subjects could name at least one symptom and 47.5% had no knowledge of any symptoms.

Table 6: Distribution of study subjects based on source of information about vector borne diseases (n=259).

Source of information	Frequency	%
TV and newspaper	202	77.9
Family and neighbors	47	18.2
Internet	10	3.9
Total	259	100

Majority of the study subjects reported getting knowledge regarding vector borne diseases from TV and newspapers. Only 3.9% got their knowledge from sources such as internet.

Table 7: Distribution of study subjects based on preventive measures employed (n=259).

Source of information	Frequency	%
Mesh and screens	107	53.5
Mosquito coils	90	45
Insecticide sprays	3	1.5
Total	200	100

The most common preventive measures followed by the study population were mosquito mesh and screens (53.5%). A total of 214 study participants i.e. 82.7% thought that both government and people are responsible to prevent the disease while 45 participants i.e. 17.3% thought that it as government's responsibility alone.

DISCUSSION

A total of 259 subjects constituted the study population of which 167 (64.5%) were women and 92 (35.5%) were men. We found that majority of the study subjects (48.25%) were educated up to high school level. Among the study group 20.08% were illiterate. It was found that majority of female subjects were homemakers i.e. 129 (77.2%) and majority of the male subjects were skilled workers i.e. 31 (33.7%) by occupation. We found that most of the subjects (46.71%) earn between Rs.5000 and 10,000 per month and only a few (3.9%) earn less than Rs. 5000 per month.

A total of 207 (79.92%) study subjects were found to have mosquito breeding places in their surroundings. In a study done by Islam et al, in Bangalore it was found that the number of positive larvae samples was significantly correlated with domestic and peridomestic breeding sites.[5]

Most of the participants (28.5%) were found to have open garbage bins with stagnant water as the chief source of mosquitos. Others such as discarded plastic bottles, coconut shells etc. constituted 29% of mosquito breeding places.

We found that most of the subjects were aware of at least one disease spread by mosquitos and only 10.8% have no knowledge about vector borne diseases at all. In a study done by Alobuia et al, in Jamaica it was found that 97.5% of the population heard of dengue fever but only 45% could identify mosquitos as the cause.[6] In a study conducted by Sreedevi et al, in Kurnool found that only 32% of the population had knowledge about diseases spread by mosquitos.[7]

When asked about symptoms, 52.5% i.e. 136 of the subjects could name at least one symptom and 47.5% had no knowledge of any symptoms. In a study done by Shuaib et al, in Jamaica it was found that most respondents were not able to correctly relate the symptoms of dengue apart from a few who identified fever, an obvious symptom.[8]

Majority of the study subjects reported getting knowledge regarding vector borne diseases from TV and newspapers. Only 3.9% got their knowledge from sources such as internet. This was in agreement with study done by Shuaib et al, most participants reported that they had heard of dengue through the TV/radio (97.3%).[8] Where as a study done by Kumar et al, in Karnataka found that only 12.3% of urban and 0.8% of rural population had heard of dengue from TV.[9]

The most common preventive measures followed by the study population was mosquito mesh and screens (53.5%). In a study done by Alobuia et al, only 20% population used mosquito screen/mesh on the windows of their household, and approximately 31% report had

mosquito nets.[6] Regarding the use of mosquito coils/repellants among the respondents, only 16% reported using mosquito coils during the day while 52% use coils during the night. A similar percentage (16%) reported using mosquito repellants during the day but only 38% utilise mosquito repellants at night. In a study done by Sreedevi et al, it was found that 91% study population had awareness about some form of personal protective method.[7] A study done by Kumar et al, found that mosquito coils were the most common method of prevention used with 26.8% rural and 16.3% urban population using them.[10]

A total of 214 study participants i.e. 82.7% thought that both Government and People are responsible to prevent the disease while 45 participants i.e. 17.3% thought that it as government's responsibility alone. In a study done by Alobuia et al, 55% of the participants responded that both the government and the people in their communities are responsible for mosquito management and keeping their environment safe, approximately 20% of the subjects believed that the government was solely responsible to take measures to prevent the disease and its transmission; 23% of participants believed it was their responsibility.[6] Study done by Kumar et al, found that 28.6% study population thought that government was not doing enough to reduce mosquitos.[9]

CONCLUSION

The findings of this study can be used to instruct municipal authorities to undertake the task of working to reduce water logging during the monsoon season to prevent spread of epidemics. Knowledge levels of the populations must also be increased through various information, education and communication (IEC) campaigns.

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