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Perception Regarding Various Aspects of Mosquito Born Diseases among People Residing in Urban Field Practice Area, Gulbarga

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ABSTRACT

Introduction: Mosquito borne diseases is a growing urban problem because of unplanned urbanization, industrialization and excessive population growth coupled with rural to urban migration.

Objectives: This study was conducted to study demographic profile of study population and assessing their knowledge, attitude and practices regarding various aspects of mosquito born diseases.

Methodology: This observational cross sectional community based study was carried among people residing in urban area. House to house survey was conducted and total 263 families were included using convenience sampling method.

Results: 85% of study population has knowledge about disease transmitted by bite of mosquito. 77% respondents answered fever or fever with rigors, headache as symptoms of mosquito born diseases. 84% of study population consider drains or polluted dirty water as common breeding places. Only 17.5% people known that Water accumulated in Coconut shells, broken bottles, vehicle tires and clean water can be breeding places for mosquito. 63% of study population use repellents in various forms like coils, mats, liquidators and creams as a protective measure against mosquito bites.

Conclusion: Stringent efforts should be made to create public awareness and mobilize the community to promote various preventive measures against mosquito borne diseases.

Keywords: Perception, vector borne diseases, breeding places, prevention

INTRODUCTION

In recent years vector borne diseases (MBDs) have emerged as a serious public health problem particularly in India, mainly because of unplanned urbanization, industrialization & excessive population growth coupled with rural to urban migration.[1] Among these mostly dengue fever, Japanese encephalitis and malaria which occur in epidemic proportions almost on an annual basis causing considerable morbidity and mortality.[2]

Female Anopheles mosquito bites transmit malaria; Aedes aegypti bite transmits dengue, chicken guinea, yellow fever etc. Culex and Anopheles both transmit lymphatic filariasis. Transmission of vector borne disease in any particular area depends on frequency of man-vector contact along with other factors including vector density, biting time etc. mosquito density is directly related to water collection, clean or polluted, in which the mosquitoes breed.[3]

Government of India in 1952 launched National Malaria Control Programme for controlling transmission of vector borne diseases which was renamed as National Vector Borne Disease Control Programme in 2003which is one of the most inte-

grated as well as comprehensive and multipronged public health activity for effective prevention & control of mosquito borne diseases.[4]

Despite of several measures for VBD prevention and control are followed, yet the problem density is too high with 300–500 million cases and 1.1–2.7 million deaths due to malaria alone globally per year.[5] In India, 27% population live in malaria high transmission area.[6]

Therefore it is very important to study the existing knowledge of the population regarding the disease for designing evidence-based effective prevention strategies for VBD. Considering these factors this study was conducted in Urban Field Practice area Khaja Bazar in Gulbarga city.

MATERIAL & METHODS

Present community based cross sectional study was conducted in the Urban field practice area (Khaja Bazar) of Department of Community Medicine, Khaja Banda Nawaz Institute of Medical Sciences, Gulbarga, Karnataka. Convenience sampling method was used and total 263 families were included in this study. House to house survey was conducted and question regarding knowledge, attitude and practice of Vector Borne disease were asked to Head of the Family member if he was absent at the time of data collection then next elder person in the family was interviewed. The study period was from 1st April to 30th September 2015. After validation pre designed, pre tested questionnaire was prepared in English as well as local vernacular language and same used to collect data after obtaining their verbal consent. The questionnaire consists of question regarding sociodemographic profile of included families, family income, disease transmitted by mosquitoes and their sign and symptoms, breeding places of mosquitoes, source of knowledge regarding mosquito bite prevention, various methods used to prevent mosquito bite, health seeking behavior if said disease contracted. The study was approved by Institutional Ethical Committee.

Statistics: Percentages were calculated wherever required.

RESULTS

Out of 263 study participants majority 195 (74.14%) were between the age range of 30 to 50 years. In present study 105(39.92%) have completed their high school education. About 24(9.12%) study participants found illiterate. 89 (33.84%) respondents have involved in skilled type of work. Most 110(41.82%) study participants belonging to lower middle class followed by 84(31.94%) belonging to upper middle class.

As seen in table 2, most 224 (85.17%) of study participants have knowledge about disease transmitted by bite of mosquito and 39 (14.83%) were still unaware. Majority 207 (78.71%) answered that malaria and dengue was transmitted by bite of infected mosquito. About 213 (80.99%) identified that fever or fever with rigors as symptom of mosquito born diseases followed by 195 (74.14%) had known that headache also a symptom of mosquito born diseases. No any major difference found between knowledge of male and female in relation to mosquito born diseases.

Table 1: Sociodemographic profile of respondents

Variables	Respondent (n=263) (%)
Age	
20 to 30	39 (14.83)
30 to 40	103 (39.16)
40 to 50	92 (34.98)
Above 50	29 (11.03)
Education	
Illiterate	24 (9.12)
Primary school	47 (17.87)
Middle school	55 (20.91)
High school	105 (39.92)
Intermediate	29 (11.03)
Graduate	3 (1.14)
Occupation	
Unemployed	11 (4.18)
Unskilled worker	39 (14.83)
Semi – skilled	76 (28.9)
Skilled worker	89 (33.84)
Arithmetic skill jobs	24 (9.12)
Semi- professional	21 (7.98)
Professional	3 (1.4)
Socioeconomic class*	
Lower	16 (6.08)
Upper Lower	45 (17.11)
Lower Middle	110 (41.82)
Upper Middle	84 (31.94)
Upper	8 (3.04)
Total	263 (100)

* Families are classified as per revised Kuppuswamy classification socioeconomic status scale.

221 (84.03%) respondents had knowledge that drains or polluted dirty water acts as a breeding places of mosquito. Only 42 (15.97%) respondents answered that mosquito can breed in clean water also.

Among study participants major 179(68.06%) source of knowledge regarding breeding places of mosquitoes, their disease prevention and treatment were from television followed by news paper or radio 155(58.93%).

Table 2 Knowledge regarding various disease transmitted by mosquitoes and their sign and symptoms

Variables	Male (n=117)	Female (n=146)	Total (n=263)
Disease transmitted by mosquito bites			
Malaria	101 (86.32)	119 (81.51)	218 (82.89)
Dengue	89 (76.06)	108 (73.97)	197 (74.90)
Chikungunya	42 (35.90)	37 (25.34)	79 (30.04)
Filariasis / Japanese encephalitis	15 (12.82)	14 (9.59)	29 (11.03)
Don't know	20 (17.09)	19 (13.01)	39 (14.83)
Signs and symptoms of vector borne diseases			
Fever or fever with rigors	97 (82.91)	116(79.45)	213(80.99)
Headache	85 (72.65)	110 (75.34)	195 (74.14)
Bodyache, joint pains	65 (55.56)	74(50.68)	139 (52.85)
Jaundice	3 (2.56)	5 (3.42)	8 (3.04)
Don't know	17 (14.53)	17 (11.64)	34 (12.93)

(Multiple responses given by study participants; Figures in parentheses indicate percentages)

Table 3: Knowledge about various breeding places of mosquito

Breeding places	Male (n=117)	Female (n=146)	Total (n=263)
Drains / Polluted dirty water	97 (82.91)	124 (84.93)	221 (84.03)
Garbage	63 (53.85)	87 (59.59)	150 (57.03)
Water accumulated in Coconut shells, broken bottles, vehicle tires etc.	19 (16.24)	31 (21.23)	50 (19.01)
Clean water	16 (13.67)	26 (17.81)	42 (15.97)
Don't know	5 (4.27)	6 (4.11)	11 (4.18)

(Multiple responses given by study participants; Figures in parentheses indicate percentages)

Table 4: Source of knowledge regarding breeding places, various mosquito borne diseases, their prevention and treatment

Source of knowledge	Male (n=117)	Female (n=146)	Total (n=263)
Television	81 (69.23)	98 (67.12)	179 (68.06)
News paper / radio	75 (64.10)	80 (54.79)	155 (58.93)
Health personals	17 (14.53)	30 (20.55)	47 (17.87)
Friends / relatives	26 (22.22)	19 (13.01)	45 (17.11)
Announcement / Milking	9 (7.69)	25 (17.12)	34 (12.93)
Banners, posters, hoardings	15 (12.82)	14 (9.59)	29 (11.02)
Don't know	13 (11.11)	11 (7.53)	24 (9.12)

(Multiple responses given by study participants; Figures in parentheses indicate percentage)

Table 5: Regarding use of personal protective measures to prevent mosquito bites

Personal protective measures	Male (n=117)	Female (n=146)	Total (n=263)
Repellents - Mosquito coils, mats, liquidators, creams	74 (63.25)	92 (63.01)	166 (63.12)
Fans	60 (51.28)	69 (47.26)	129 (49.05)
Smokes and Dhoop	35 (29.91)	36 (24.67)	71 (27.00)
Mosquito bed nets	30 (25.64)	36 (24.67)	66 (25.09)
Screening of windows, doors	13 (11.11)	21 (14.38)	34 (12.93)
Use of full clothes, shoes	2 (1.71)	3 (2.05)	5 (1.90)
Don't use any measures	11(9.40)	7 (4.79)	18 (6.84)

(Multiple responses given by study participants; Figures in parentheses indicate percentages)

Table 6: Health seeking behavior of respondents after contracting any vector borne diseases

Health seeking behavior	Male (n=117)	Female (n=146)	Total (n=263)
Government hospital	92 (78.63)	95 (65.07)	187 (71.10)
Private hospital	66 (56.41)	87 (59.59)	153 (58.17)
Self medication	34 (29.06)	32 (21.92)	66 (25.09)
No action	3(2.56)	2 (1.37)	5 (1.90)

(Multiple responses given by study participants; Figures in parentheses indicate percentages)

Use of repellents in various forms like coils, mats, liquidators and creams to prevent mosquito bites were seen in 166 (63.12%) study participants followed by use of fan in 129 (49.05%).

Most 187 (71.10%) of the study participants prefer government hospital for seeking treatment after contracting any vector borne diseases followed by 153 (58.17%) went private hospital for the same.

DISCUSSION

In present study 85.17% (Malaria 82.89%, Dengue 74.90% and Chikungunya 30.04%) of study population have knowledge about vector borne diseases transmitted by bite of mosquito while 14.83% of study population was still unaware. Study conducted by Rajesh R Kulkarni & Mallikarjun K Biradar[7] found that 78.3% people have knowledge about vector borne diseases while 21.7% still unaware about VBD. Anand T, Kumar R, Saini V, Meena GS, Ingle GK[2] in their study observed that 65% of study population has knowledge about dengue, followed by 58% about malaria and 13% about Chikungunya. 7% of study population was still unaware about vector borne diseases

In present study 82.89% and 74.90% respondents have knowledge that malaria and dengue was transmitted by bite of infected mosquito respectively. Similar findings found by study conducted by Nanjesh Kumar et al[8] that was 89.5% thought that malaria was spread by mosquitoes followed by 76.5% for dengue.

77.56% respondents answered fever or fever with rigors, headache as symptoms of mosquito born diseases followed by 52.85% answered for bodyache, joint pains are the symptoms of mosquito born diseases. 12.93% study population still doesn't know what are the commonest symptoms of vector borne diseases? Rajesh R Kulkarni & Mallikarjun K Biradar[7] in their study found that 48.4 % people answered headache, body ache, and fever as symptoms of mosquito borne disease where as 19.4 % people were not aware of the symptoms. These findings were lower in percentage than our study.

In present study 84.03% of study population consider drains or polluted dirty water as common breeding places followed by 57.03% consider garbage also serve as a breeding place of mosquito. Very few 19.01% people known that Water accumulated in Coconut shells, broken bottles, vehicle tires and clean water can be breeding places for mosquito. Study conducted by Amul B Patel et al [9] observed that more than half, 54.2% of the study participants responded drains or polluted water, while 11.6% of people consider clean water collections serve as mosquito breeding place. Only some, 7.2% replied garbage or green plants acts as breeding places. Pravin N Yerpude et al[10] in his study found that 22% study participants have knowledge that garbage is the mosquito breeding site. Study conducted by Maumita De, Diptanshu Mukherjee, Shubhadeep Paul, Romy Biswas, Anima Halder[11] showed that 71.5% of study population have knowledge that drain acts as a breeding places for mosquitoes followed by 15.3% said that clean water also serve as a breeding place and 2.9% don't know about breeding places of mosquitoes. JS Poyyamozhi[12] in his study found that 47.3% of respondents have knowledge that dirty stagnant water acts as a breeding places for mosquitoes followed by 26.0% said that clean water also serve as a breeding place and 6.2% don't know about breeding places of mosquitoes

63.5% of study population has knowledge regarding breeding places, various mosquito borne diseases, their prevention and treatment through television and news paper or radio in present study.

Similar findings were observed by Rajesh R Kulkarni & Mallikarjun K Biradar[7] in their study, that 61.4% respondent's had source of information about various aspects of mosquito bone diseases was through TV & news papers. Study conducted by Misha Goranthla et al[13] found that 77.9% study subjects have source of information about vector borne disease through TV & news papers.

In present study 63.12% of study population use repellents in various forms like coils, mats, liquidators and creams followed by 49.05% use fans for prevention against mosquito bites.

Similar findings were observed by Amul B. Patel et al [9] in their study that 61.4% participants use repellents in various forms followed by 20.4% use fans for prevention against mosquito bites. Niraj Pandit et al[14] in their study observed that 53.7% respondents use mosquito coil followed by 38.9% use mosquito nets as a protective practice against mosquito bites.

Majority 71.10% of study participants consulted government hospital followed by 58.17% went to private hospital for seeking treatment after suffering from mosquito borne diseases.

Amul B. Patel et al [9]in his study found that majority 67.8% respondents consulted private hospital followed by only 13.6% consulted government hospital for seeking treatment. Study conducted by Nanjesh Kumar et al [8] found that 30% study participants consulted government hospital for seeking treatment while 70% went to private hospital, general practitioner.

CONCLUSION

Present study findings reveled that study participant's knowledge regarding disease transmitted by mosquito bites was largely limited to malaria and dengue. Majority of study participants knows about drains, polluted dirty water and garbage acts as breeding places of mosquito but there was less knowledge about other breeding places like artificial collections of water and even clean water also acts as a breeding places. Television, news papers and radio acts as a major source of information regarding various aspects of mosquito born diseases. Most of the study participants use repellents in different forms like coils, mats to protect themselves against mosquito bites.

RECOMMENDATIONS

The people should be made aware about other disease transmitted by mosquitoes which are equally important other than malaria and dengue.

Drains, polluted water and garbage are the main breeding places of mosquito according to response of study participants. Water accumulated in coconut shells, broken bottles and clean water also serve as a breeding place and this need to be addressed through IEC and mass media.

There should be need of increasing awareness among people about different vector borne disease and methods of its control and it should be our long term vector control strategy. Use of insecticidal treated bed nets and various forms of repellents should be promoted through strong social as well as commercial marketing.

Usage of television, mobiles, internet and news papers were better source of acquiring knowledge and information to achieve maximum effect of IEC activities.

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REFERENCES

1. Disha Mehta, Harsha Solanki, Payal Patel, Pooja Umat, Rahul Chauhan, Sanket Shukla, MP Singh; Study on Knowledge, Attitude & Practice Regarding Mosquito Borne Diseases in an Urban Area of Bhavnagar, Healthline Journal, July - December 2015, 6(2): 29-32
2. Anand T, Kumar R, Saini V, Meena GS, Ingle GK; Knowledge and Use of Personal Protective Measures Against Mosquito Borne Diseases in a Resettlement Colony of Delhi; Annals of Medical and Health Sciences Research, Mar-Apr 2014, 4(2):227-232
3. K.Park. Park's Textbook of Preventive and Social Medicine; Bhanot Publication,23rd Edition p-414
4. Kishor J. National Health Programmes of India, VI ed. New Delhi: Century Publication 2006; p.186.
5. Boratne AV, Datta SS, Singh Z, Purty A, Jayanthi V, Senthilvel V. Attitude and practices regarding mosquito borne diseases and socio-demographic determinants for use of personal protection methods among adults in Coastal Pondicherry. IJMS 2010;1:91-6.
6. Arepalli Sreedevi, Rutesh Vardhan Burru, Guthi Visweswara Rao, Padmasri Yalamanchili, Cynthia Subhaprada, Vijaya Kumari et al, International Journal of Medical Science and Public Health 2016; 5(9): 1803-1807.
7. Rajesh R Kulkarni , Mallikarjun K. Biradar International Journal of Community Medicine and Public Health 2017; 4(4): 1039-1042.
8. Nanjesh Kumar S, Rahul Hegde, Sanjeev Badiger, K. G. Kiran A study of mosquito borne diseases awareness, attitude and practices among the rural population in Karnataka, India, International Journal of Community Medicine and Public Health 2017; 4(11): 4178-4181.
9. Amul B. Patel, Hitesh Rathod, Pankil Shah, Viren Patel, Jignesh Garsondiya, Rasmi Sharma Perceptions regarding mosquito borne diseases in an urban area of Rajkot city, National Journal of Medical Research 2011; 1(2): 45-47.
10. Pravin N. Yerpude, Keerti S. Jogdand, Mohini Jogdand International Journal of Recent Trends in Science And Technology 2013; 8(2): 69-71.
11. Maumita De, Diptanshu Mukherjee, Shubhadeep Paul, Romy Biswas, Anima Halder. A Study on Knowledge and Practices Regarding Malaria among Adult Urban Population of Siliguri; IOSR Journal of Dental and Medical Sciences; Sep-2015;14(9):33-36
12. JS Poyyamozhi A study on knowledge and practices regarding mosquito borne diseases; The Journal of Community Health Management; July-September 2017; 4(3):106-108
13. Misha Gorantla, Sushma Katkuri, Prashant Kokiwar International Journal of Community Medicine and Public Health 2017; 4(12): 4452-4455.
14. Pandit N, Patel Y, Bhavasar B. Knowledge and practice about preventive method against mosquito bite in Gujarat. Health Line2010;1:16-20

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