

KNOWLEDGE AND PRACTICE OF GENERAL POPULATION REGARDING VECTOR BORNE DISEASES

Bushra Iftikhar, Nangial Bashirullah, Sunia Arif Khan, Asadullah Arif, Muhammad Ishtiaq

Department of Community Medicine, Khyber Medical College, Peshawar - Pakistan

ABSTRACT

Objective: To assess the knowledge, attitude and practice of general population of Peshawar about Vector Borne Diseases (VBD).

Material and Methods: This cross sectional study was conducted in Peshawar during January to June 2015. It includes 300 people of ages 11 and above, from the five urban areas of Peshawar. The study was conducted by selecting respondents randomly, including both male and females irrespective of socio-economic status. Structured questionnaire was used to collect data.

Results: Study results showed that 88% of the people from urban areas of Peshawar had knowledge about vector borne diseases. Regarding the prevention of different diseases; the following practices were observed in the general population i.e. 50% were using insect repellants, 19% used mosquito bed nets, 24.67% insecticidal sprays, and 39.34% other methods. Attitude was 66% while the practice of different preventive measures was only 54%.

Conclusion: It was concluded that knowledge was adequate and there was lacking in practice and attitude of respondents regarding vector borne diseases and thus positive attitude change along with measures were needed.

Key Words: Knowledge, Practice, Population, Vector Borne, Diseases, Awareness.

This article may be cited as: Iftikhar B, Bashirullah N, Khan SA, Arif A, Ishtiaq M. Knowledge and practice of general population regarding vector borne diseases in District Peshawar Pakistan. J Med Sci 2016; 24: (3) 185-189.

INTRODUCTION

Globally, vector-borne diseases are one of the biggest challenges to humans^{1,2} due to changes in public health policy, insecticide and drug resistance, shift in emphasis from prevention to emergency response, demographic and societal changes, and genetic changes in pathogens^{3,4,5}. In modern world, vector-borne diseases emerged as a potential risk to human health. The prevalence of VBDs are increasing in both developing and developed countries^{6,7,8}.

Vector-borne diseases used insects to transmit infection from one host to other and about 17% of world

wide disease burden⁹. Among the VBDs the most common are malaria and dengue fever¹⁰. VBDs pose many threats either due to transmission complexity; life cycle or scarce amount of entomological and biological data. Scientists have combined different series of diseases with etiology and pathogenesis, which had same mode of disease transmission into vector borne diseases and are transmitted by insects^{11,12}.

Vector-borne diseases are common among populations residing in tropical regions or are poor. The pathogens causing VBDs are protozoan parasites (plasmodium species etc) and bacteria, to worms (Nematodes in lymphatic filariasis) and viruses (e.g. Dengue, Yellow fever); and thus vectors contributing are mosquitoes (e.g. malaria and Dengue) and flies to kissing bugs and ticks (e.g. Lyme disease)¹³. In infectious borne diseases, the VBD contribute approximately 18% to productivity loss¹⁴, poverty, high health technology cost, and loss of working days. The prevention and control of VBD mainly rely on the management and

Dr. Bushra Iftikhar (Corresponding Author)

Professor

Department of Community Medicine & Public Health,
Khyber Medical College, Peshawar - Pakistan

Cell: 0333-9209590

Date Received: July 18, 2016

Date Revised: August 15, 2016

Date Accepted: September 2, 2016

treatment and thus a huge loss of working days along with financial resources. Vector control and prevention measures helped a lot in reducing and eliminating VBD from the affected communities¹⁵.

Due to the unique and complex epidemiology, VBD poses a great challenge to national and international health organizations¹⁶. VBD had severe impacts on tropical and subtropical countries and contribute to approximately 12% of mortality¹⁷. Due to vectors geographic distribution, climate change, migration, and emigration, the VBD are now becoming a serious concern for developed and developing countries^{18,19} or the accidental introductions of vectors or pathogens through increasing international migration and commercial exchanges^{20,21}. Dengue virus infection has become a major public health problem as the incidence of dengue fever has increased 35 times in the last three - four decades²², whereas in almost 120 countries the DF is now endemic^{23,24}.

Pakistan is a developing country and therefore has high prevalence of vector borne diseases, communicable and non communicable diseases. The vector borne diseases has a high rate of morbidity and mortality and thus this cross sectional study was conducted to highlight such problem; to assess knowledge, and practice of local people regarding vector borne diseases and to suggest measures for control and prevention and to increase awareness among the general population regarding vector borne diseases in Peshawar Pakistan.

MATERIAL & METHODS

This cross sectional study was conducted in the urban areas of Peshawar; Khyber Pakhtunkhwa, Pakistan, from January 2015 to May 2015; after approval from the ethical review committee of the Khyber medical college, Peshawar. Peshawar is a rapidly growing city, with a population of 2,982,816 in 199839 and a current population growth rate of 3.29% per year, a rate that is higher than the average of many other Pakistani cities. Study areas included people from the urban areas of Peshawar which has been divided into five different zones i.e. city area, Cantonment area, University Town, University of Peshawar and Hayatabad. Sample size of 300 of ages 15 and above, was selected i.e. 60 from each study area. The study was conducted by selecting respondents randomly after taking consent from individuals and explaining the purpose of the study. The participants include both male and females irrespective of their living conditions, monthly income and their marital status. Structured questionnaire was used to collect data regarding dependent and independent variables. Results were analyzed and presented in forms of tables.

RESULTS

The Demographic Features Of Respondents i.e. age and gender distribution, occupational status, education level and literacy level was shown in Table 1. The knowledge, attitude and practice among the study respondents were shown in Table 2, 3 & 4 respectively.

Table 1: Demographic features of respondents (n= 300)

Variables		Frequency & Percentages
Age in years	11-20	53(17.67%)
	21-30	85(28.33%)
	31-40	95(31.67%)
	41-50	64(21.33%)
	50 & above	3(1.00%)
Gender distribution	Male	162(54.00%)
	Female	138(46.00%)
Occupational status	Businessmen	63(21.00%)
	Govt service	68(22.67%)
	Housewife	79(26.33%)
	Students	70(23.33%)
	Other Occupations	20(6.67%)
Education status	Literate	285(95.00%)
	Illiterate	15(5.00%)
Literacy levels	Primary/ Middle	45(15.00%)
	Secondary	25(8.33%)
	Intermediate	55(18.33%)
	Graduation	160(53.33%)

Table 2: Knowledge of respondents (n= 300) regarding vector borne diseases

Variables	Response	Frequency & Percentages
Know Vector Borne Diseases	Yes	264(88.00%)
	No	36(12.00%)
Knowledge of Breeding Sites	Yes	217(72.33%)
	No	83(27.67%)
Know Preventive Measures	Yes	52(17.33%)
	No	248(82.67%)
Source of knowledge	Media	204(68.00%)
	Health Programs	53(17.67%)
	Friends/ Families	36(12.00%)
	Other Sources	7(2.33%)

Table 3: Attitude of respondents (n= 300) regarding vector borne diseases

	Response	Frequency & Percentages
Hazardous to Health	Yes	198(66.00%)
	No	41(13.67%)
	No Idea	61(20.33%)
Satisfied from Govt Activities	Yes	153(51%)
	No	147(49%)

Table 4: Practicing of preventive measures of respondents (n= 300) regarding vector borne diseases

	Response	Frequency & Percentages
Practicing Preventive Measures	Yes	162(54.00%)
	No	138(46.00%)
Type of Practice of Preventive Measures	Repellents	95(31.67%)
	Insecticidal Sprays	74(24.67%)
	Mosquito Nets	37(12.33%)
	Doors/Windows Screening	59(19.67%)
	Body Covering	47(15.67%)
	Electric Insect Killers	12(4.00%)

DISCUSSION

The results showed that 88% knew vector borne diseases and out of this population the source of 68% people was media because this is the main source of information to the general public; and 22.6%, 20%, 20.5%, 19% and 5.6% knew diseases among different occupational groups which include business, service, housewife, students and day workers respectively. Since the study group was limited to urban areas of Peshawar therefore education status was comparatively more as compared to other national and international studies. About 72.33% know the breeding places of vectors and 17.33% know the different preventive measures for prevention of vector borne diseases. In our study about 88% knew VBDs while in a study conducted internationally the prevalence was 99% and thus our study confirms and supported their findings; whereas our study results had much high knowledge as compared to studies having 19% and 7% prevalence respectively^{24,25}.

Regarding the attitude about vector borne diseases; 66% were considering it hazardous to health, 13.67% had negative attitude while 20.33% had no idea about vector borne diseases; whereas similar studies showed that approximately 75% of urban population considered VBDs diseases harmful^{26,27}. 51% were satisfied with the activities carried out by the government for the eradication and a similar study conducted by Faisal Hafeez showed that people living in the urban areas were also satisfied with the government attention for eradication²⁸. In a study, regarding attitude towards VBDs, the majority of participants (82%) were classified as having good attitude^{24,29}; whereas in our study the results showed 66%. In our study there was huge gap between knowledge and attitude of respondents and the similar findings were revealed internationally in study of Malaysia²⁴.

Regarding the practices; 31.67% were using insect repellants, 24.67% insecticidal sprays, 12.33% mosquito nets 19.67% screening of homes, 15.67% preferred body covering and only 4% practiced electric insects killer. A similar study showed that 78.2% were using mosquito nets as preventive measures followed by chemicals and bed nets²⁸.

Our study results showed high level of knowledge and overall less practice of preventive measures and these findings were in contrast to findings in a study conducted in Thailand; in which high knowledge was associated with good practice of preventive measures²⁷. Our findings on practice levels are contrary to those of other studies which reported high levels of knowledge but low levels of practice^{30,31}.

A significant association was observed between attitude and practice with education level and was significantly higher in respondents who had completed higher education²⁴, as was confirmed in study of Thailand³¹. Furthermore no association between socio-economic variables and practice level was found in our study as was observed in studies conducted in Malaysia and Jamaica^{26,30}.

CONCLUSION

Knowledge of the general population was adequate and there was lacking in attitude and practicing regarding various preventive measures of VBDs. Health education and positive attitude changing approaches were needed to change attitude and behavior of general population regarding prevention and control of vector borne disease.

RECOMMENDATIONS

The government and concerned departments should implement measures to reduce the morbidity and morbidity associated with vector borne diseases.

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CONFLICT OF INTEREST: Authors declare no conflict of interest

GRANT SUPPORT AND FINANCIAL DISCLOSURE NIL

AUTHOR'S CONTRIBUTION

Following authors have made substantial contributions to the manuscript as under:

- Iftikhar B:** Planned the study and gave final proof reading of the manuscript and critical review.
- Bashirullah N:** Data collection and follow up.
- Khan SA** Data collection and follow up.
- Arif A:** Data collection and follow up.
- Ishtiaq:** Statistical analysis and bibliography

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

The Journal of Medical Sciences, Peshawar is indexed with WHO IMEMR (World Health Organisation Index Medicus for Eastern Mediterranean Region) and can be accessed at the following URL.

<http://www.who.int/EMRJorList/details.aspx?docn=4468>