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Original Article

Sociodemographic Variables Associated With Knowledge Regarding Dengue Vector Control Among The Community Of Tehsil Sahiwal, Sargodha

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ABSTRACT

As dengue is a devastating disease, adequate steps by the community are essential for its control and prevention. Dengue fever is an important public health issue not only in Pakistan but also in developed countries. Insufficient basic infrastructure, rural-urban migration, water storage, rapid populace growth, and increase in solid waste volume. **Objective:** To access the knowledge of the community regarding dengue Vector Control and sociodemographic variables. **Methods:** The research was conducted in a community setting and was cross-sectional. The study took place in the Tehsil Sahiwal in the District of Sargodha. A total of 384 people took part in the study. **Results:** Among 384 respondents, 35 (9.1%) were government employees and majority (51.1%) were working in private firms while 153 (39.8%) respondent were housewives/jobless. **Conclusion:** Knowledge for dengue control program was found to be good (53.9%) in the selected population of Tehsil Sahiwal, Sargodha. However, people should be continued to be educated through television, newspapers, awareness campaigns.

INTRODUCTION

Dengue Virus infection is endemic in many countries especially in tropical and subtropical parts of the world including South-East Asia [1]. The facts and figures regarding the reporting of dengue infected cases are under reported as most of the patients experience mild to moderate symptoms and don't visit hospital. They prefer self-management. Many others remain undiagnosed [2].

Vector control is the most important strategy for the prevention of dengue. It requires the cooperation of entire communities, as it is not exclusively the responsibility of a government [3]. According to the World Health Organization (WHO), *Aedes aegypti's* control is mainly achieved by source reduction of the vector through the elimination of the mosquito breeding sites [4]. Due to *Aedes aegypti's* domestic ecological feature, their larvae preferably proliferate in small and artificial water-containers, placed inside or near human houses [5]. Therefore, community contribution is, undoubtedly crucial in dengue prevention and control [4]. Many awareness programs for the general publica to educate them about the elimination strategies of dengue vector are initiated from time to time these endemic areas. For this purpose, people are grouped as all of them donot have same level of education and awareness [6]. Cuba used these community based strategies for dengue vector control and successfully eradicated *Aedes aegypti* mosquitoes [7]. Community based control programs in addition to chemical control have proved to be more efficient in the eradication of dengue vector from Cuba [8-10]. These strategies are economical and most effective interventions [11].

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METHODS

The research was conducted in a community setting and was cross-sectional. The study took place in the Tehsil Sahiwal in the District of Sargodha. A total of 384 people took part in the study. The method utilized was a simple random sampling procedure. Residents of Tehsil Sahiwal, District Sargodha, between the ages of 18 and 60, both genders are eligible (Male and Female). SPSS (Statistical Package for Social Sciences) version 20.0 was used to enter, clean, and analyze data. For each potential variable, frequency tables were created. Mean and standard deviation was determined for quantitative data such as age and income, while occupation percentages were derived for qualitative variables such as sex and education. The researcher created a semi-structured questionnaire that was finalized following pre-testing. The researcher conducted interviews with inhabitants of Tehsil Sahiwal, District Sargodha, and recorded their comments on a questionnaire.

RESULTS

Among 384 respondents, 77 (20.1%) were 18-25 years old and 135(35.1%) were 26-40 years old while 172 (44.8%) respondents were 41-60 years old. The mean age of respondents was 37.35 ± 11.67 years (Table 1). Among 384 respondents, 35 (9.1%) were government employees and majority (51.1%) were working in private firms while 153 (39.8%) respondent were housewives/jobless Table 2). Result shows that among 384 respondents, 268 (69.8%) were males and 116 (30.2%) were females. Among 384 respondents, 35 (9.1%) were government employees and majority (51.1%) was working in private firms while 153 (39.8%) respondent were housewives/jobless (Table 2). Table demonstrates that out of 384 respondents, 239 (62.2%) had family monthly income less than 20,000 rupees while 145 (37.8%) respondents had family monthly income 20,000 rupees and above (Table 2). Table describes that among 384 respondents, 38 (9.9%) were illiterate, 85 (22.1%) had primary education (Grade-5) and 115 (29.9%) studied up to middle (Grade-8) while 146(38.1%) respondents were matric and above (Table 2).

Age	Frequency	Percentage (%)
18-25 years	77	20.1
26-40 years	135	35.1
41-60 years	172	44.8
Total	384	100.0
Mean ± SD	37.35 ± 11.67	

Table 1: Frequency Distribution of respondents according to age

Socio-demographic characteristics	Overall knowledge			P-value
	Good	Poor	Total	
Age (years)				
≤40	106 (27.6%)	106 (27.6%)	212 (55.2%)	0.634
>40	101 (26.3%)	71 (18.5%)	172 (44.8%)	
Total	207 (53.9%)	177 (46.1%)	384 (100.0%)	
Sex				
Male	146 (38.0%)	122 (31.8%)	268 (69.8%)	0.782
Female	61 (15.9%)	55 (14.3%)	116 (30.2%)	
Total	207 (53.9%)	177 (46.1%)	384 (100.0%)	
Education				
Illiterate	20 (5.2%)	18 (4.7%)	38 (9.9%)	0.463
Literate	187 (48.7%)	159 (41.4%)	346 (90.1%)	
Total	207 (53.9%)	177 (46.1%)	384 (100.0%)	
Occupation				
Employed	131 (34.1%)	100 (26.1%)	231 (60.2%)	0.003
Unemployed	76 (19.8%)	77 (20.0%)	153 (39.8%)	
Total	207 (53.9%)	177 (46.1%)	384 (100.0%)	
Family monthly income (Rs.)				
<20,000	127 (33.1%)	112 (29.1%)	239 (62.2%)	0.392
≥20,000	80 (20.8%)	65 (17.0%)	145 (37.8%)	
Total	207 (53.9%)	177 (46.1%)	384 (100.0%)	

Table 2: Correlation between sociodemographic characteristics and knowledge regarding dengue vector control

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Among 212 respondents who were up to 40 years old, 106 (27.6%) had overall good knowledge and 106 (27.6%) had poor knowledge. Among 172 respondents who were above 40 years old, 101 (26.3%) had overall good knowledge and 71 (18.5%) had poor knowledge. The result was found statistically insignificant (P=0.634). Among 268 respondents who were males, 146 (38.0%) had overall good knowledge and 122 (31.8%) had poor knowledge. Among 116 respondents who were females, 61 (15.9%) had overall good knowledge and 55 (14.3%) had poor knowledge. The result was found statistically insignificant (P=0.782). Among 38 respondents who were illiterate, 20 (5.2%) had overall good knowledge and 18 (4.7%) had poor knowledge. Among 346 respondents who were literate, 187 (48.7%) had overall good knowledge and 159 (41.4%) had poor knowledge. The result was found statistically insignificant (P=0.463). Among 231 respondents who were employed, 131 (34.1%) had overall good knowledge and 100 (26.1%) had poor knowledge. Among 153 respondents who were unemployed, 76 (19.8%) had overall good knowledge and 77 (20.0%) had poor knowledge. The result was found statistically significant (P=0.003). Among 239 respondents who had family monthly income <20,000 rupees, 127 (33.1%) had overall good knowledge and 112 (29.1%) had poor knowledge. Among 145 respondents who had family monthly income ≥20,000 rupees, 80 (20.8%) had overall good knowledge and 65 (17.0%) had poor knowledge. The result was found statistically insignificant (P=0.392) (Table 2).

Overall knowledge	Frequency	Percentage (%)
Good	207	53.9
Poor	177	46.1
Total	384	100.0

Table 3: Frequency distribution of respondents according to overall knowledge

Result shows that out of 384 respondents, 207 (53.9%) had overall good knowledge while 177 (46.1%) respondents had poor knowledge (Table 4). Among 207 respondents who had overall good knowledge, 199 (51.8%) had good attitude and 8 (2.1%) had poor attitude. Among 177 respondents who had overall poor knowledge, 24 (6.3%) had good attitude and 153 (39.8%) had poor attitude. The result was found statistically significant (P=0.000 (Table 4).

Overall knowledge	Overall Attitude			P-value
	Good	Poor	Total	
Good	199 (51.8%)	8 (2.1%)	207 (53.9)	0.000
Poor	24 (6.3%)	153 (39.8%)	177 (46.1%)	
Total	223 (58.1%)	161 (41.9%)	384 (100.0%)	

Table 4: Correlation between knowledge and attitude regarding dengue vector control

DISCUSSION

Dengue fever is an important public health issue not only in Pakistan but also in developed countries. Insufficient basic infrastructure, rural-urban migration, water storage, rapid populace growth, increase in solid waste volume, for example plastic containers as well as other discarded materials that provide larval habitats are some significant reasons regarding dengue vector spread in both rural and urban areas. During past more than twenty years, dengue is observed in Pakistan and rapid increase is seen gradually in spite of numerous measures like trash removal and sanitation etc. Hence, community participation is definitely significant in the prevention and control of dengue. Methods of vector control could be successful, if community is engaged. Therefore, keeping in mind the overwhelming issue of dengue, current study was carried out to assess the knowledge and attitude regarding dengue vector control among the community of Tehsil Sahiwal, Sargodha.It was found during study that most of the respondents (69.8%) were males and 30.2% were females.

A similar study carried out by Chinnakali and associates (2012) also confirmed that majority of respondents (78.3%) who participated in the study were males and 21.7% were females [12]. But the findings of a study conducted by Koenraadt and partners (2006) indicated that mainstream of respondents (82.0) were females and only 18.0% were males [13]. Education plays an imperative role to improve the knowledge and attitude of people. It is worth-mentioning here that only 9.9% respondents were illiterate while large numbers (90.1%) of respondents were literate. The results of our study are comparable but exhibited better scenario than the study conducted by Chinnakali and associates (2012) who reported that 14.8% respondents were illiterate and remaining proportion (85.2%) was of literate respondents [12]. During study the occupation of respondents was assessed. Study disclosed that most of the respondents (51.1%) were private employees, followed by housewives/jobless (39.8%) and government employees (9.1%).

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Almost similar results were reported by a study performed by Nagoor and collaborators (2017) who asserted that majority of respondents (52.0%) were private employees, followed by housewives/jobless (32.0%) and government employees (16.0%) [14]. As far as family monthly income of the respondents is concerned, study showed discouraging results that major proportion of respondents had family monthly income less than 20,000 rupees and only 37.8% respondents were earning 20,000 rupees or above. During study correlation between socio-demographic characteristics and overall knowledge and attitude was also assessed. Insignificant results (P>0.05) were found for age, sex, education and family monthly income while occupation showed significant result (P<0.05). Study also found significant association (P 0.000) between overall knowledge and overall attitude as the respondents with overall good knowledge had overall good attitude. A study conducted by Rehman and coworkers (2015) also showed significant association (P 0.000) between knowledge and attitude [15].
Dengue Vector control has been explored in many studies and they have emphasized to implement these strategies for the prevention of dengue virus infection [16-18]. Other countries such as Combodia [19] and Indonesia [20] have also conducted similar studies for the assessment of knowledge regarding dengue vector control in their villages but their knowledge was not observed to be as good as in the current study.

CONCLUSION

Most of the participants had good knowledge (53.9%) regarding the dengue vector control. Association of sociodemographic factors with knowledge regarding the dengue ventor control was insignificant.

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