

Online Questionnaire Based Evaluation of Knowledge, Attitude and Practices (KAP) Regarding Dengue Fever among Local People of Karachi, Pakistan

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ABSTRACT

Dengue fever is a very common viral disease in Pakistan. It is a major public health issue whose epidemiology and ecology is strongly related to human lifestyle and activities. Current study aimed at evaluation of knowledge, attitude and practices regarding dengue fever among people of Karachi, Pakistan. A questionnaire based cross sectional study was conducted between February-April 2022. Questionnaire was prepared and adapted from previous literature available and it was designed on google forms. This questionnaire was distributed randomly through various social media networks. Questionnaire had four sections which included socio-demographic data of all participants, questions about knowledge, attitude and practice of dengue fever. Data was evaluated statistically (descriptive statistics) using SPSS software version 25. A total of 140 respondents filled the google survey form. Out of 140 respondents or participants (42.9%) were male and (57.1%) were female. Majority of participants (80%) were between age group of 15 years-30 years. Participants have different educational status i.e. undergraduate participants were 57.1% and postgraduate were 32.9%. Majority of participants were single (72.1%) and students (70%). Ninety percent of people reported that they had heard about dengue fever. Dengue as a viral disease was reported by 72.1% but still 50.7% thought that antibiotics are used as treatment of dengue fever. Panadol reduces the intensity of dengue fever was reported by 49.3% respondents. Only 26.4% respondents participated in awareness programs related to dengue fever. Positive perception regarding visit to a physician after getting dengue fever was given by 74.3%. The knowledge about dengue fever was adequate in local community or people of Karachi, Pakistan, while the attitude and practices regarding life style modification requires immediate improvements. Good knowledge doesn't necessarily lead to good practice and positive perception. It is high time that awareness and educational campaigns on dengue fever should be designed by government to improve behavior and practices of prevention and control of dengue fever.

Keywords: Dengue fever; Knowledge; Attitude; Practice; Educational campaigns; Prevention and control

INTRODUCTION

Dengue fever is a mosquito borne viral disease and it is very serious health problem globally and also considered as major infectious disease [1,2]. Dengue fever caused a significant mortality in various countries of the world [3]. *Aedes aegypti* mosquito is a tropical mosquito involved in causing dengue fever [4]. Knowledge regarding dengue fever is poor in local

population of Pakistan, isolated knowledge on symptoms and prevention is adequate; with preventive measures mainly focused towards protection from mosquito bites [5]. Level of education is main parameter to access the knowledge of participants regarding dengue fever [6]. There were some confusion about vaccination and water storage for domestic use [7]. Currently there is a need for a nationally representative survey to assess the knowledge and attitudes regarding dengue and any

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misconception in the general population [8]. Many previous studies showed the low level of knowledge, attitude and practices behavior among all socioeconomic classes of people and it needs to be addressed adequately [9]. Gap should be minimized among people regarding the knowledge and practices of dengue fever [10]. In this current study we made a questionnaire which was adapted from previous literature available and it was designed using Google forms. This current study aimed at the estimation and evaluation of knowledge, attitude and practices regarding dengue fever among local people of Karachi, Pakistan.

MATERIALS AND METHODS

Study design

A questionnaire based cross sectional study was conducted between February-April 2022. Questionnaire was prepared and adapted from previous literature available and it was designed on Google forms. This form was filled by total 140 participants belonging from different socioeconomic and demographic characteristics.

Study sampling

This questionnaire was distributed online randomly (simple random sampling) through various social media networks among local population of Karachi, Pakistan.

Socioeconomic and demographic characteristics

Demographic data collected *via* questionnaire included age, gender, education, marital status, employment, living area.

Table 1: Questions regarding knowledge of dengue fever.

Knowledge variables regarding dengue fever	Frequency	Percentages
Have you heard of dengue fever?		
Don't know	2	1.4
Maybe	1	0.7
No	11	7.9
Yes	126	90
Is dengue a viral infection?		
Don't know	9	6.4
Maybe	11	7.9
No	19	13.6
Yes	101	72.1
Can dengue be transmitted by contaminated water?		
Don't know	6	4.3

Questionnaire had four sections which included socio-demographic data of all participants, questions about knowledge, attitude and practice of dengue fever.

Software used for statistical analysis

Data was evaluated statistically (descriptive statistics) using Statistical Package for the Social Sciences (SPSS) software version 25.

RESULTS AND DISCUSSION

A total of 140 respondents filled the google survey form. Out of 140 respondents or participants (42.9%) were male and (57.1%) were female. Majority of participants (80%) were between age group of 15 years-30 years. Participants have different educational status *i.e.* undergraduate participants were 57.1%and postgraduate were 32.9%. Majority of participants were single (72.1%) and among them 70% were students. Ninety percent of people reported that they had heard about dengue fever. Dengue as a viral disease was reported by 72.1% but still 50.7% thought that antibiotics are used as treatment of dengue fever. Panadol reduces the intensity of dengue fever was reported by 49.3% respondents. Only 26.4% respondents participated in awareness programs related to dengue fever. Positive perception regarding visit to a physician after getting dengue fever was given by 74.3%. Details of responses regarding knowledge of dengue fever given by participants are mentioned in Table 1 and details of responses regarding attitude and behavior among local people regarding dengue fever are illustrated in Table 2.

Maybe	16	11.4
No	39	27.9
Yes	79	56.4
Is vaccination available for dengue fever?		
Don't know	22	15.7
Maybe	16	11.4
No	44	31.4
Yes	58	41.4
Is dengue fever transmittable?		
Don't know	17	12.1
Maybe	21	15
No	57	40.7
Yes	45	32.1
Dengue fever is caused by bite of mosquito?		
Don't know	3	2.1
Maybe	4	2.9
No	3	2.1
Yes	130	92.9
Antibiotics are given in dengue fever?		
Don't know	17	12.1
Maybe	13	9.3
No	39	27.9
Yes	71	50.7

Table 2: Questions regarding attitude and practices of dengue fever.

Attitude and practice regarding dengue fever	Frequency	Percentages (%)
Do you think before that you get dengue fever?		
Maybe	10	7.1
No	107	76.4
Yes	21	15

Who would you first talk about dengue fever?		
Don't know	23	16.4
Friends	20	14.3
Parents	62	44.3
Physician/doctor	32	22.9
What would you first do when you found out that you get dengue?		
Do nothing	11	7.9
Home remedies	23	16.4
Visit physician	104	74.3
Do you believe that dengue fever is curable?		
Agree	85	60.7
Disagree	1	0.7
Don't know	8	5.7
Strongly agree	44	31.4
Do you think Panadol reduces chances to get dengue fever?		
Agree	69	49.3
Disagree	49	35
Strongly agree	14	10
Strongly disagree	6	4.3
Have you ever get dengue fever?		
Don't know	3	2.1
Maybe	6	4.3
No	114	82.9
Yes	12	8.6
Do you perform dengue test, if you suspected dengue?		
Don't know	7	5
Maybe	8	5.7
No	35	25
Yes	87	62.1
Do you use mosquito repellent?		
Maybe	12	8.6

No	34	24.3
Yes	89	63.6
Covering water containers can prevent breeding of mosquitoes?		
False	9	6.4
True	128	91.4
Do you use insecticide spray to kill mosquitoes?		
Maybe	6	4.3
No	22	15.7
Yes	109	77.9
Do you use bed nets to reduce mosquito bites?		
Maybe	7	5
No	47	33.6
Yes	82	58.6
Wearing long sleeves and long pants reduces chances to get dengue fever?		
False	13	9.3
True	123	87.9
Use of scent or wearing dark colors attract mosquitoes?		
False	34	24.3
True	102	72.9
Have you ever participated in health education related to dengue fever?		
Maybe	8	5.7
No	92	65.7
Yes	37	26.4

Current study found out the gap between knowledge and practice is a challenge for dengue control; this was also reported by one of the previous studies [11]. Previous KAP studies concerning dengue virus control showed the most common problem is the lack of knowledge about clinical features or control measures. Current study also reveals that there is lack of knowledge as many people said that dengue is spread from contaminated water and antibiotics are used to treat dengue which shows clear lack of knowledge [12]. Dengue is a viral disease and use of antibiotics might cause resistance among dengue patients [13]. Level of education also a key determinant regarding the attitude and practice of dengue fever but sometimes good knowledge doesn't necessarily lead to good practice and positive perception of dengue virus among local

people [14]. Efforts are needed to bring a positive attitude change among communities in order to fight dengue outbreaks [15]. Our study also indicated that if people are educated properly regarding knowledge through appropriate channels, they may eventually have good practices in preventing dengue fever [16].

CONCLUSION

Finally, it was evaluated in this study that the knowledge about dengue fever was adequate in local community or people of Karachi, Pakistan, while the attitude and practices regarding life style modification requires immediate improvements. Good knowledge doesn't necessarily lead to good practice and positive perception of dengue virus among local people. It is high time

that awareness and educational campaigns and seminars on dengue fever should be conducted by government for the improvement of behavior and practices of prevention and control of dengue fever.

DISCLOSURE

- There is no competing interest among all authors.
- No funding was taken.
- This study was done by undergraduate students for national poster presentation competition held at Karachi, Pakistan and all authors contributed equally.

ETHICAL APPROVAL

It was taken from Ethical Review Committee (ERC) of Sohail university, Karachi, Pakistan

REFERENCES

1. Abir T, Ekwudu OM, Kalimullah NA, Nur-A Yazdani DM, Al Mamun A, Basak P, et al. Dengue in Dhaka, Bangladesh: hospital-based cross-sectional KAP assessment at Dhaka north and Dhaka south city corporation area. *PLoS One*. 2021;16(3):e0249135.
2. Ibrahim NK, Al-Bar A, Kordey M, Al-Fakeeh A. Knowledge, attitudes, and practices relating to Dengue fever among females in Jeddah high schools. *J Infect Public Health*. 2009;2(1):30-40.
3. Shuaib F, Todd D, Campbell-Stennett D, Ehiri J, Jolly PE. Knowledge, attitudes and practices regarding dengue infection in Westmoreland, Jamaica. *West Indian Med J*. 2010;59(2):139.
4. Kenneson A, Beltran-Ayala E, Borbor-Cordova MJ, Polhemus ME, Ryan SJ, Endy TP, et al. Social-ecological factors and preventive actions decrease the risk of dengue infection at the household-level: Results from a prospective dengue surveillance study in Machala, Ecuador. *PLoS Negl Trop Dis*. 2017;11(12):e0006150.
5. Syed M, Saleem T, Syeda UR, Habib M, Zahid R, Bashir A, et al. Knowledge, attitudes and practices regarding dengue fever among adults of high and low socioeconomic groups. *J Pak Med Assoc*. 2010;60(3):243.
6. Diaz-Quijano FA, Martinez-Vega RA, Rodriguez-Morales AJ, Rojas-Calero RA, Luna-Gonzalez ML, Diaz-Quijano RG. Association between the level of education and knowledge, attitudes and practices regarding dengue in the Caribbean region of Colombia. *BMC Public Health*. 2018;18(1):1-0.
7. Zameer M, Ashraf A, Mukhtar N, Ahmad BM. Knowledge, attitudes and practices study of dengue viral infection and its association with environmental factors and health issues, Lahore Pakistan. *Afr J Environ Sci Tech*. 2013;7(7):711-717.
8. Itrat A, Khan A, Javaid S, Kamal M, Khan H, Javed S, et al. Knowledge, awareness and practices regarding dengue fever among the adult population of dengue hit cosmopolitan. *PLoS One*. 2008;3(7):e2620.
9. Dhimal M, Aryal KK, Dhimal ML, Gautam I, Singh SP, Bhusal CL, et al. Knowledge, attitude and practice regarding dengue fever among the healthy population of highland and lowland communities in central Nepal. *Plos One*. 2014;9(7):e102028.
10. Nguyen HV, Than PQ, Nguyen TH, Vu GT, Hoang CL, Tran TT, et al. Knowledge, attitude and practice about dengue fever among patients experiencing the 2017 outbreak in Vietnam. *Int J Environ Res Public Health*. 2019;16(6):976.
11. Humayun Mirza HR, Bashir R. Knowledge, attitude and perception of dengue among first year medical students. Ibrahim, NKR, Al-Bar, A., Kordey, M., Al-Fakeeh, AJJ oi, and health. 2009;7(1):30-40.
12. Ho TS, Huang MC, Wang SM, Hsu HC, Liu CC. Knowledge, attitude, and practice of dengue disease among healthcare professionals in southern Taiwan. *J Formos Med Assoc*. 2013;112(1):18-23.
13. Sandopa D, Nethi SK, Sreeram SC, Vijay NK, Biradavolu V, Kakimani JV. Prescribing antibiotics to pediatric dengue: Increasing risk of bacterial resistance. *Paediatrica Indonesiana*. 2018;58(1):53-58.
14. Alyousefi TA, Abdul-Ghani R, Mahdy MA, Al-Eryani SM, Al-Mekhlafi AM, Raja YA, et al. A household-based survey of knowledge, attitudes and practices towards dengue fever among local urban communities in Taiz Governorate, Yemen. *BMC Infect Dis*. 2016;16(1):1-9.
15. Selvarajoo S, Liew JW, Tan W, Lim XY, Refai WF, Zaki RA, et al. Knowledge, attitude and practice on dengue prevention and dengue seroprevalence in a dengue hotspot in Malaysia: A cross-sectional study. *Sci Rep*. 2020;10(1):9534.
16. Ahmed N, Taneepanichskul S. Knowledge, attitude and practice of dengue fever prevention among the people in Male, Maldives. *J Health Res*. 2008;22(1):33-37.