Knowledge Attitude and Practice towards Dengue Fever Prevention among Adult Population of Rural Area of Lahore Pakistan

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Abstract_ Introduction: **According to world health organization, Dengue is fast emerging pandemic-prone viral disease in many parts of the world. Dengue flourishes in urban poor areas, suburbs and the countryside but also affects more affluent neighborhoods in tropical and subtropical countries (who, 2010).** ***Methods:*** **a cross-sectional descriptive study was conducted to assess the knowledge, attitude and practices towards prevention of dengue fever among adult population 18year-65year of Hussain abad rural area of Lahore.** ***Results:*** **the findings of research revealed highly associations of respondents' demographic variables with knowledge of dengue fever and control measures of residents of Hussain abad to prevent dengue except education. This may be for the reason that mostly residents (47%) of Hussain abad are illiterate and this was represented by sample where 41(35.7%) respondents had primary level of education or less.** ***Conclusions:*** **the participant's gender, marital status, age and occupation have great association with knowledge and preventive practices of people towards dengue fever control. Education has no relationship with knowledge or better preventive behavior.**

Keywords**- knowledge, attitude, practice, dengue fever**

I. INTRODUCTION

According to World Health Organization, Dengue is fast emerging pandemic-prone viral disease in many parts of the world. Dengue flourishes in urban poor areas, suburbs and the countryside but also affects more affluent neighborhoods in tropical and subtropical countries (WHO, 2010). The virus which causes Dengue belongs to genus Flavivirus family of Flaviviridae (non-segmented, single-stand, RNA viruses. Dengue serotypes are four (DEN_1, DEN-2, DEN-3, and DEN-4). In humans dengue spread via two species of Aedes mosquitoes, Aedes aegypti, Aedes aldopictus. (Yboa & Labrague, 2013).

Dengue fever and dengue hemorrhagic fever are two types of dengue infection. Dengue disease with any of four Sero type produce flu-like symptoms which present with headache, high grade fever, and pain in eyes, backache, nausea, vomiting, muscle and joint pain as well as rash. It is also called hemorrhagic fever (Shuaib, Todd, Campbell-Stennett, Ehiri, & Jolly, 2010).

Moreover a study showed Dengue is a speediest re-developing arboviral disease on the world, which causes great financial burden on residents, families and patients. Without a compelling medication or antibody, the main vital alternatives by and by accessible are case administration to avoid demise and vector control to lessen viral transmission (Arunachalam et al., 2010).

Dengue is mosquito-borne human viral infection which is spread through mosquitoes. Dengue fever is leading reason of disease and death in tropic and subtropics areas in the world, mainly in urban and rural areas (Effler et al., 2005).

Dengue is a preventable disease in developing state such as Pakistan, which may cause many deaths. In spite magnitude of issue, there is no written proof available on mindfulness and preventive practices of population towards control dengue fever (Itrat et al., 2008).

Furthermore, a research study conducted on Knowledge, attitudes and practices regarding dengue fever in Westmoreland, Jamaica the findings of study propose that good knowledge towards dengue fever amongst populations of Westmoreland did not translate to adoption of preventive measures. There is need for peoples that plan Health program and specialists to identify and facilitate deduction of obstacles to change behavior regarding control dengue fever among the people. The families and individuals should educated to assume simple, low-cost protective actions, like, use of bed nets and screening of homes that treat insecticides (Yboa & Labrague, 2013).

AIMS OF THE STUDY

The aim of this study was to assess the knowledge, attitude and practice of people of Hussain Abad towards prevention of dengue.

RESEARCH QUESTION 1 – What is the knowledge of adult population (18year-65year) of Hussain Abad towards prevention of dengue?

RESEARCH QUESTION 2 – What is the attitude of adult population (18year-65year) of Hussain Abad towards prevention of dengue?

RESEARCH QUESTION 3 – What are the practices of adult population (18year-65year) of Hussain Abad towards prevention of dengue?

RESEARCH QUESTION 4 – What is the association of resident's (18year-65year) knowledge, attitude and practice towards dengue prevention?

SIGNIFICANCE OF THE STUDY

This study helps me to identify knowledge, attitude and practices of people of Hussain Abad community regarding prevention of dengue fever. The study will helpful to future researchers for further research. The participants aware of using preventive and control measures and then they know why dengue cases increasing and why the people were not recovering. Electronic Health Records (EHRs) are significance.

II. LITERATURE REVIEW

The campaigns that educate the community is recommended by World Health Organization and Centers for Disease Control and Prevention (CDCP) which focus on dropping vector breeding places, best way for dengue control. This reference is reinforced by many studies that suggested to educate the community population will be more active in controlling dengue vector breeding sites than chemicals alone (Yboa & Labrague, 2013).

A nearby report detailed frequency rate of 570/100,000 every year in 10 to 15 years age gathering. In 2011, 22,562 dengue cases were affirmed, with 363 passing's recorded in nation. In Sindh area alone, 952 cases were accounted for, with 18 deaths', of which 755 cases, including 15 passings, were from the Karachi city alone. In 2015, 3,212 cases identified in Karachi, with a rate of 35.6 for each 100,000 in the 9-milion populace(Siddiqui et al., 2016).

(Dhimal et al., 2014) directed research study In Nepal, Dengue Fever is expanding from south to north very rapidly from its geographical range. In 2004 dengue fever first incident reported in Japanese volunteer in 2004, and the first isolation of DENV (serotype 2) was also prepared from a Japanese tourist to Nepal.

Dengue fever is an extreme flu like infection that consequences for individuals of all ages and from time to time causes departure, yet in creating nations like Pakistan, dengue can possibly cause high mortality due to a dishonorable water framework and sanitation, a large number of refugees, uncontrolled urbanization, improper urban infrastructure, frequent natural disasters, and a lack of resources(Siddiqui et al., 2016).

A cross-sectional Survey was done in Wah Cantt from July to Dec 2011 on information and work on with respect to aversion of dengue fever.. Results: Mean age was 35.7±12.1 years. More members were male (64.5%). Male sex, maturity, work without particular capability and being guardians had critical relationship with the two levels of information and preventive practices. Level of information was profoundly connected with levels of training X2=79.1, df=9, p=0.000 and r=0.464 and p=0.000(Ramzan, Ansar, & Nadeem, 2015).

Since the principal significant flare-up of dengue Hemorrhagic fever (DHF) in Thailand in 1958, dengue has remained a genuine medical issue in this nation, with pestilences happening each three to five years (Koenraadt et al., 2006).

(Sayavong, Chompikul, Wongsawass, & Rattanapan, 2015) was directed an examination in Vientiane. This examination expected to decide the learning, states of mind and preventive practices (KAP) of grown-ups in connection to dengue vector control measures in the groups of Vientiane, the capital of the Lao PDR. An aggregate of 207 respondents were currently taking part in this cross-sectional elucidating study in 2011. This investigation proposes that positive wellbeing instruction through appropriated broad communications and group tidy up crusades ought to reinforce and energize group cooperation, especially as far as tending to mosquito hatchlings in ignored spots, for example, the members' own homes, for instance, in blossom vases and subterranean insect traps(Sayavong et al., 2015).

In current years dengue fever has revolved out to be universal worldwide general wellbeing worry as there has an emotional growth of instances of dengue in tropical and subtropical locales areas around the globe, prevalently in urban and semi-urban territories. As indicated by the World Health Organization, dengue fever in its severest frame is a main source of genuine ailment and demise among kids in some Asian and Latin American nations - is endemic in excess of 100 nations. It is evaluated that 50—500,000 instances of dengue fever happen around the world. Out of the 2.5 billion individuals in danger comprehensively; around 1.8 billion or more than 70 percent of them live in the Asia-Pacific district (Yboa & Labrague, 2013).

CONCEPTUAL FRAMEWORK

Dengue knowledge, preventive actions, and related statistic factors in connection to Health Belief Model (HBM) builds have never been investigated in the number of inhabitants in Hussain Abad rural area of Lahore, Pakistan. In this investigation, utilizing the HBM develops, we endeavored to discover people's

information, seen dengue danger and their family unit rehearses for the counteractive action and control of dengue. The HBM develops can be utilized to anticipate why individuals make a move to control or keep a specific sickness or illness. These develops are seen risk of a specific condition, saw advantages and obstructions, saw self-viability (capacity to keep away from dengue through preventive practices), and prompts to activity (measures that may build mindfulness and status in executing preventive practices). These variables could direct the outline of dengue-related focused on intercessions and the advancement of a compelling instructive/mindfulness program for the focused on population of Hussain Abad.

The concern of likelihood (susceptibility) and seriousness (severity) of disease and capacity of individual to accept desired behavior to control is basic aim of Health Belief Model (HBM). (Siddiqui et al., 2016).

III. METHODS

SETTING

The research was conducted in homes of Hussain Abad, a rural area of Lahore, Pakistan.

RESEARCH DESIGN

A cross-sectional descriptive study conducted to assess the knowledge, attitude and practices of adult population of Hussain Abad towards dengue fever prevention.

POPULATION

The target populations were all the population male female age 18 years- 65year rural areas of Lahore.

SAMPLING

Data was collected from convenient selected sample of 115 male and female age 18year to above 60 year residents of Hussain Abad Lahore by using a predesigned questionnaire.

RESEARCH INSTRUMENT

A well-structured questionnaire was used to collect the data with closed ended question. The questionnaire consist of questions related to knowledge, attitude and practice related dengue fever prevention. Which is based on evaluate and to assess the knowledge, attitude and practices of people of Hussain Abad about prevention of Dengue. The questionnaire consists of four sections.

DATA GATHERING PROCEDURE

Data was collected by convenient sampling. Data was collected by using a predesigned questionnaire which is adopted from previous study. The questionnaire was translated English into Urdu. Data was collected from a total of 115 respondents. The reliability and validity of the questionnaire was checked.

Data was entered and analyzed by using the Statistical Package for the Social Sciences (SPSS) Programme version 21.0. The results was considered statistically significant at P=0.05 0r P< 0.05. Data entry was completed by the primary investigator at.

STUDY TIMELINE

The data was collected from 4-5 months (September, 2017 to January, 2018)

ETHICAL CONSIDERATION

Ethical principle was performed during research study. Permission letter was get from Ethical committee of LSN department in University of Lahore. Approval was taken from stakeholders of Hussain Abad to conduct research study. Written consent was taken from participants. Before get the data all contributors informed about purpose of the research study. All peoples had open opportunity to participate in research. No one participant was forced to contribute in research. Confidentiality maintained only by a code number on the questionnaire. The information or data remained to the first researcher.

IV. RESULTS

This section presents the outcomes of the study. The study design was descriptive the outcomes of study only generalized to residents of Hussain Abad and not to other populations of area.

Out of 115 participants, all were response to the questionnaire. The majority of respondent 33.9% was age group 18year-24year The study showed that age of participants (n=115) varied from 18 to 65year. Most (33.9%) of the participants were in the age group 18-24 years. There were 64 males and 51 females. The questionnaire was structured and respondents had chosen between close ended choices which gives several aspects of knowledge and prevention. The outcomes of study presented great associations of demographic characteristics with knowledge of respondents and practices of respondents except education. This may be for the reason that mostly residents (47%) of Hussain Abad are illiterate and this was represented by sample where 41(35.7%) respondents had primary level of education or less.

These results was indistinguishable to results of KAP review was led in Male (21) and very surprising from the investigation done in Karachi and Jamaica which indicated exceedingly huge relationship of instruction with information (p=0.04 and 0.07 separately). KAP

S#		Statements	F	%
1.	No of participants	Female/male	115	100 %
2.	Gender of participants	Male	64	55.7
		Female	51	44.3
3.	Age group	18-24 years	39	33.9%
		25-31years	37	32.2%
		32-38years	28	24.3%
		39-46 years	6	5.2%
		47-53years	5	4.3%
		60-65years	0	0%
3	Marital status	Married	44	38.3%
		Unmarried	71	61.7%
		Divorced/ widow	0	0%
4	Qualification	Illiterate	47	40.9%
		Primary	41	35.7%
		Secondary	16	13.9%
		under graduate and above	11	9.6%
5	Occupation of the participants	Farmer	36	31.3%
		Service	18	15.7%
		Business	6	5.2%
		house wife	34	29.6%
		Student	5	4.3%
		Other	16	13.9%
6	Monthly Income Total	<15000	52	45.2%
		16000-25000	50	43.5%
		26000-35000	9	7.8%
		36000-45000	3	2.6%
		46000 or above	1	.9%

review in Thailand exhibited relationship between Sex, Age and instruction. Hole in the information was seen in the reactions in regards to rearing locales. There are four sections table.1consist of demographic characteristics that shows the no age, sex, marital status social status of respondents.

Table 1: Demographic Profile Of Participants

Table 1: shows the demographic characteristics of the respondents that are no of participants, gender of participants, age marital status, qualification and monthly income of the respondents. There were 115 respondents in this study.

Table 2: Knowledge Response Of Participants Regarding Dengue Prevention

S#	Statements	Yes	No	Don't know
1.	Fever is a symptom of Dengue Fever.	59 51.3 %	51.3 43.5 %	6 5.2%
2.	Headache is a symptom of Dengue Fever.	65 56.5%	35 27%	19 16%
3.	Joint pain is a symptom of Dengue Fever.	71 61.7%	42 36.5	02 1.7%
4.	Muscle pain is a symptom of Dengue Fever.	56 48.7%	42 36.8%	17 14.5%
5.	Pain behind the eyes is a symptom of Dengue Fever.	53 46.1%	47 40.9 %	15 13.0%
6.	Nausea/ Vomiting are symptoms of Dengue Fever.	46 40%	48 41.7 %	21 18.3%
7.	Rash is a symptom of Dengue Fever.	36 31.3%	54 47.0 %	25 21.7%
8.	Diarrhea is common in Dengue Fever.	39 33.9%	65 56.5%	11 9.6%
9.	Stomach pain is common in Dengue Fever.	48 41.7%	42 36.5%	25 21.7%
10.	All mosquitoes can transmit Dengue Fever.	51 44.3%	53 46.1%	11 9.6%
11.	Do the Aedes mosquitoes transmit Dengue Fever?	54 47%	46 40%	15 13%
12.	Do flies transmit Dengue Fever?	54 47%	38 33%	23 20%
13.	Do Bugs/Ticks transmit Dengue Fever?	49 42.6%	46 40	20 17.4%

14.	Does person to person contact transmit Dengue Fever?	41 35.7%	57 49.6%	17 14.8%
15.	Dengue Fever is transmitted through food and water.	39 33.9%	52 45.2%	24 20.9%
16.	Dengue Fever can be transmitted by blood transfusion.	42 36.5%	50 43.5%	23 20%
17.	Mosquitoes can breed in clear standing water	41 35.7%	50 43.5%	24 20.9%
18.	Window screen and bed net reduce mosquitoes	46 40%	23 37.4%	26 22.6%
19.	Insecticidal spray reduce mosquitoes	45 39.1%	51 44.3%	19 16.5%
20.	Tightly covering water containers reduce mosquitoes	42 36.5%	44 38.3%	29 25.2%
21.	Removal of standing water can prevent breeding	35 23.4%	55 47.8%	25 21.7%
22.	Mosquito repellents prevent mosquito bites	53 46.1%	46 40%	16 13.9%
23.	Can you identify Aedes mosquitoes?	36 31.3%	58 50.4%	21 18.3%

Table.2 shows the knowledge of respondents towards prevention of dengue fever. The residents' response Fever is a symptom of Dengue Fever 51.3% response yes and 5.2% response don't know. The residents' response towards Headache is a symptom of Dengue Fever 56.5% response yes 27% response no and 16% responses don't know. A great percentage of contributors (61.7%) knew that headache is a symptom of Dengue fever. but a few (17.5%) knew that Aedes mosquitoes transmit it. Majority of the participants have knowledge about the sign and symptoms of dengue fever. 44.3% participants knew all mosquitoes can transmit Dengue Fever but 47% knew Aeds mosquitos transmit dengue. Furthermore, 47% response yes from the fact that flies transmit dengue and 27% response don't know. Respondents had poor knowledge about those Bugs/Ticks and through person to person contact can transmit dengue. 33.9% response yes that Fever is transmitted through food and water and 20.9% don't know about it. 35.7% people aware of fact that Mosquitoes can breed in clear standing water. About 36.5% of the participants responded that tightly covering water containers reduce mosquitoes breeding. 46.1% respondents response yes that Mosquito repellents prevent mosquito bites.

Table 3; Attitude Response Of Participants Regarding Dengue Prevention

S.#	Statements	SA	A	NS	D
1.	Dengue Fever is a serious disease.	60 52.2%	27 23.5%	21 18.3 %	7 6%
2.	You are at risk of getting Dengue Fever.	29 25.2%	56 48.7%	14 12.2 %	16 13.9 %
3.	Dengue Fever can be treated at home.	29 25.2%	35 30.4%	31 27%	20 17.4 %
4.	Dengue Fever can be prevented.	21 18.3%	35 30.4%	38 33%	21 18.3 %
5.	Controlling the breeding places of mosquitoes is a good strategy to prevent dengue.	41 35.7%	40 34.8%	26 22.6 %	8 7.0%
6.	Do you think that stagnant water around the houses in discarded tyres, broken pots and bottles are breeding places of dengue mosquitoes?	34 29.6%	35 30.4%	41 35.7 %	5 4.3%
7.	Do you think it is only government responsibility to control mosquitoes?	41 35.7%	23 20.0%	34 29.6 %	17 14.8 %
8.	Do you think everybody should actively participate in controlling mosquitoes?	20 17.4%	51 44.3%	32 27.8 %	12 10.4 %

Table.3 shows the respondents attitude towards prevention of dengue fever. Most of them strongly agree 52.2% and 23.5% not sure that Dengue Fever is a serious illness. Thus, 48.7% of participants agree and 13.9% disagree that they are at risk of getting dengue. 13.3% of respondents strongly agree and 18.3% not sure about dengue can be prevented. 34.8% members agree and only 7% disagree that controlling the breeding places of mosquitoes is a good strategy to prevent dengue. Nearly

14.8% of participants disagree and 20% agreed to this proposition that control of mosquitoes is only governments' responsibility. The indicative fact that population is much responsible as 44.3% of them response agree and only 10.4% disagree that everybody should actively participate in controlling mosquitoes.

Table 4: Practices Of Respondents Towards Dengue Prevention

S#	Statement	Yes	No
1	Use mosquito net	76	39
		66.1%	33.9%
2.	Use insecticide sprays to reduce mosquitoes	66	49
		57.4%	42.6%
3.	Use screen windows to reduce mosquitoes	72	43
		62.6%	37.4%
4.	Eliminate standing water around houses to reduce mosquitoes	66	49
		57.4%	42.6%
5.	Cut down extra bushes in yard to reduce mosquitoes	72	43
		62.6%	37.4%
6.	Cleaning of garbage/ trash	64	51
		55.7%	44.3%
7.	Disposing water holding containers (Tyres, bottles etc.)	68	47
		59.1%	40.9%
8.	Use mosquito repellent equipment (electric/ coil)	84	31
		73%	27%
9.	Use mosquito repellent cream	71	44
		61.7%	38.3%
10.	Use mosquito repellent oil	69	46
		60%	40%
11.	Use smoke to drive away mosquitoes	71	44
		61.7%	38.3%
12.	Use fan to drive away mosquitoes	74	41
		64.3%	35.7%
13.	Covering body with clothes	67	48
		58.3 %	41.7 %
14.	Cover water containers at home	45	70
		39.1%	60.9%

Table 4**:** shows the practices of residents of Hussain Abad regarding prevention of dengue fever. There are good practices of residents of Hussain Abad towards prevention of dengue fever. 66.1% respondents use nets to prevent dengue. More than half of participants use insecticide sprays window screens to control mosquitoes. 62.6% participants cut down extra bushes in the yard to reduce mosquitoes. 51.7% residents Dispose water holding containers like tyres, bottles etc. Most of the residents use mosquito repellent equipment (electric/ coil), creams, mosquito repellent oil and use smoke, fan to drive away mosquitoes.

V. DISCUSSION

A study was conducted in Thailand revealed great associations between Sex, Age and education. Poor knowledge was seeing in respondents towards places of mosquitoes breeding. People had very little indication that collection of stagnant water, bath tubs, bottles and tires/coolers, can also act as potential breeding sites. This issue was likewise ineffectively known by the members of Puerto Rico, Jamaica and Tamil Nadu KAP research studies. This is a critical region to be tended to amid group mindfulness crusades. Information on different factors with respect to preventive measures against sicknesses extended from 44.4% for utilization of matt to 62.5% for changing water frequently. Half of investigation populace was ignorant of preventive practices which could protect them from Dengue Fever. KAP review done in Multan, Pakistan revealed the utilization of fan as a preventive measure by 81.5% participants.18 In Thailand information of this angle was very low. This is another region which ought to be engaged while giving wellbeing training to Hussain Abad Community. Preventive practices could have been investigated better if an entomological study was likewise directed yet the rare assets restricted the examination subject. Vector source depletion must accomplish through full group contribution which must picked up via raising group's mindfulness on the theme. Attention ought to be on the points distinguished as inadequate in future wellbeing training efforts. However more research is expected to affirm the above discoveries and improve comprehension of the socio-statistic elements' part in information picking up and preventive practices.

LIMITATIONS

The study has certain limitations that need to be acknowledged in the interpretation of the result.

1) This was a cross-sectional study, therefore inferences related to the causality of association could not be draw, however, case control and cohort studies should be conducted to establish causal relationship.

2) As the data was collected from only one setting, it has limited generalizability.
3) Convenient sampling was applied in data collection process whereas the probability sampling method can enhance the induction of different strata of the participants.
4) The study was limited to assess knowledge attitude and practice towards dengue fever prevention among adult population of rural area of Lahore.

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VI. CONCLUSION

The information and preventive practices of individuals are identified with their sexual orientation, conjugal status, age and occupation. Suddenly instruction has no relationship with information or better preventive conduct. Preventive practices show signs of improvement where information levels are all the more, underscoring the need of group training programs. Findings of this study are that knowledge is poor. The population of Husssain Abad should be educated about dengue infection and its prevention using all wellsprings of data utilizing broad communications, print and additionally electronic. Welfare division must expect a position of authority in such manner.

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RECOMMENDATIONS

The following recommendations for the future are the following

1) The study can be done in other rural area of Lahore.
2) The study can be done by increasing the period of time for the excellent research
3) A seminar or teaching session should be conducted on awareness and prevention of dengue fever.

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