

Knowledge regarding Dengue Fever among Adults

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Abstract: Dengue is a typical mosquito-borne tropical disease caused by the *Aedes aegypti*. The dengue is marked by the onset of sudden high fever, severe headache and pain behind eyeballs, pain in muscles and joints. In world more than 40% of the population, in more than 100 countries are at risk of dengue infection. **Objectives:** To assess the knowledge regarding dengue fever among adults residing in selected villages of district Bilaspur, (H.P) and to find out association of knowledge regarding dengue fever with selected demographic variables. **Methods:** The study adopted descriptive research design and was conducted at selected villages of district Bilaspur. A total of 60 adults in age range of 20-50 years were selected by non probability convenience sampling technique. A structured interview schedule was used to assess knowledge of adults regarding dengue fever. **Results:** Majority of adults 75% were having average knowledge, 13.33% of adults were having good knowledge and 11.66% of adults were having poor knowledge regarding dengue fever. Selected socio-demographic variables of adults that is educational status found statistical significance with the knowledge score at 0.05 error of significance. **Conclusion:** It was concluded that community awareness program can be planned to improve knowledge among people.

Keywords: Dengue, Adults, Knowledge.

1. Introduction

Dengue fever is an illness caused by infection with a virus transmitted by *Aedes* mosquito. Dengue fever is a common communicable disease characterized by occurrence by high fever, severe bodyache and intense headache. Dengue fever is also called 'breakbone' (haddi and bukhar) and 'dandy fever' as it makes people assume awkward poses due to the severe pain and aches.¹

Dengue is a typical mosquito-borne tropical disease caused by the dengue virus its symptoms begin three to fourteen days that is headache, vomiting, muscle, joint pain and a characteristic skin rash. Recovery generally take two to seven days in a small proportion of cases, the disease develops into a severe dengue also known as hemorrhagic fever, regulating in bleeding, low level of blood platelets and blood plasma leakage or into dengue shock syndrome where dangerously low blood pressure occurs. Dengue virus belongs to the flaviviridae family of virus that causes diseases in human. The mosquito bites most probably during day light hours.²

In World, more than 40% of the population, in more than 100 countries are at risk of Dengue infection. The most significant dengue epidemics in recent years have occurred in South East Asia, America's and Western pacific. Each year, an estimated 390 million dengue infection occur around the world out of these 500, 000 cases develop into dengue haemorrhagic fever, a more severe form of the disease, which result in upto 25, 000 death annually worldwide. In India, in 2015, Delhi, India recorded its worst outbreak since 2006 with over 1500 cases. For the past ten years, the number of dengue cases has gradually increased in India. Dengue is driven by complex interactions among host vector and virus that are influence by climatic factors. The study was focused on the extrinsic incubation period (EIP) and its variability in different climatic zone of India. The EIP was calculated by using daily and monthly mean temperature for the state of Punjab, Haryana, Gujarat, Rajasthan and Kerala.⁸ In Himachal, in 2016 the sign of dengue has been there for some time. Himachal Pradesh experienced 322 dengue cases in 2016 and 453 cases 2017 last year. But a seven fold increases severely impacting the

lower hill district has taken the health administration by surprise with the India council of medical research and National centre for diseases control rushing team to the hill state to understand the diseases dynamics. In 2018 two dead, over 1500 test positive with dengue in Himachal Pradesh. Himachal Pradesh health minister Vipin Singh Parmar informed the state assembly that Bilaspur remain the worst hit district, where 783 cases of dengue were recorded. Solan district recorded 681 cases of dengue followed by 91 cases in Mandi and 3 in Sirmour.⁹

2. Need and Significant

Dengue fever is a vector borne disease caused by infection in human of any of the four serotype [DENV 1, DENV2, DENV3, DENV4] of the dengue virus via the bite of the *Aedes* mosquito. In Bilaspur reported an added burden in health worker and health staff. Acc to WHO the viremic period of the diseases as the period during which dengue virus can be detected in the blood of an infected human¹⁰. As per the review of literature conducted by the investigator, the knowledge of adult are poor regarding the dengue fever, so there is a need to enhance the knowledge among adult regarding the dengue fever. Since early November 2013, dengue fever has received considerable media attention in India. Never the less, scientific evidence, entomological knowledge public information with regard to dengue fever. As such, our aim is to draw attention to need for rapid deployment of research and intervention in dengue fever in selected area district Bilaspur. (HP) In 2018, 783 positive cases were reported in distt Bilaspur. In HP [2018] Bilaspur is most affected area. The most cases were pouring from Bilaspur district native place of union health minister JP Nadda.¹¹

Problem statement

A Descriptive study to assess the knowledge regarding dengue fever among adults residing in selected villages of district Bilaspur (H.P)

Objectives

- 1) To assess the knowledge regarding dengue fever among adults residing in selected villages of district Bilaspur (H.P)

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- To find out association of knowledge regarding dengue fever with selected demographic variables..

Assumptions: The investigator assumes that:

- Adult will have some knowledge regarding dengue fever.
- Adult will sincerely answer the questions.

Delimitations of study

- The study was delimited to the knowledge aspect only.
- The study was delimited among adults of age group 20-50years.
- The study was delimited to selected villages Harnora, Jamthal, Barmana, Beri of district Bilaspur (HP)

3. Research Methodology

Research approach

It is the most significant part of any research .A non experimental quantitative research approach was adopted to assess the knowledge regarding dengue fever among adult.

Research design

Research design can be defined as a blue print to assess the knowledge regarding dengue fever among adult. A descriptive research design was adopted to assess the knowledge regarding dengue fever among adults in selected villages of district Bilaspur.

Variable

Research variable: Knowledge regarding dengue fever.

Research setting:

Selected villages of district Bilaspur (Himachal Pradesh)

Population

Target population

Adults residing in selected village of district Bilaspur (Himachal Pradesh)

Accessible population

Adults in the age group of 20-50 years residing in Selected villages Barmana, Jamthal and Berri of district Bilaspur(H.P.) who where available at the time of data collection.

Sampling

Sample

Adults in the age group of 20-50 years residing in selected villages Barmana, Jamthal and Berri of district Bilaspur (H.P.) who fulfil the inclusion criteria.

Sample size

The sample size for this research study was 60.

Sampling technique

In this research study, Non-probability convenience sampling technique was used.

Criteria for sample selection

For the selection of study subject include:

Inclusion criteria

- Adults in the age range of 20-50years.
- Adults who were willing to participate in the study.
- Adults who were present at the time of data collection.

Exclusion criteria

- All adults who were not present in the village at the time of data collection.

Development and description of the tools:-

The following steps were carried out in preparing the tools:

Review of literature was made in the area of selected knowledge of adult regarding dengue fever. Preparation of baseline data about adult .Expert opinion and suggestion were taken in developing items. The tools was developed into two sections:

List of tool

Section1-Socio demographic variables.

Section2- It consists of structured interview schedule on knowledge regarding dengue fever among adult.

Description of the tools

Section 1:

It consists of socio-demographic data of subject which include age, sex, marital status, educational status, family income, type of family, had suffered from dengue, source of information.

Section 2:

It consists of structured interview schedule to assess knowledge regarding dengue fever.

Scoring key:

Table 1: Scoring key to assess the knowledge regarding dengue fever among adults

Percentage	Level of knowledge
<50% (<7)	Poor
75-50% (7-16)	Average
>75% (17-22)	Good

Content validity of the tool

Content validity was established by obtaining the suggestion from the field validators. The tool was sent along with the research objectives and criteria checklist to 5 expert of similar fields to validate the tool necessary modifications were made as per the experts suggestion in relation to adequacy of the content.

Reliability of tool

Split half method was used to check the reliability of the structured interview schedule and was analyzed by using Karl Pearson's correlation coefficient formula.

$$r = 0.8$$

This shows that the tool was reliable for the study

Language validity

Language validity was determined by giving the tools to English language expert and the tool was found to be valid.

Ethical consideration

Written permission was obtained from Principal, Kol Valley Institute of Nursing. Permission was taken from CMO of selected villages of district Bilaspur to carry out study in the village. The written consent was obtained from each participant before starting data collection.

- 1) The researcher had explained the research to the participants.
- 2) A written informed content was obtained from each participant.
- 3) Participants were informed that they can withdraw from the study at any point.
- 4) The anonymity and confidentiality of the participants was protected throughout the study.
- 5) Professional norms were maintained.
- 6) Three principles which need to be followed in any research which is beneficence, respect of human dignity and justice were only considered in the study and practiced during the actual conduction of the study.

Pilot study

Pilot study was conducted prior to the data collection to check the feasibility of tool. It was conducted during month of May in village Harnora district Bilaspur (H.P) Total 10 participants were selected for pilot study by using non probability convenience sampling technique. No specific concern arises during pilot study and the study was found to be feasible.

Procedure for final data collection

Written permission was obtained from the Principal, Kol valley Institute of Nursing, Bilaspur (H.P). A formal permission was obtained from the CMO of the Barmana, Jamthal and Berri villages of district Bilaspur (H.P). Basic information was collected regarding each village. House to house survey was done and 60 participants who were fulfilling the criteria were selected as a sample by using non probability convenience sampling technique. Participants were informed about the purpose of the study and written consent was taken from each participant. Data was collected regarding socio-demographic variables and knowledge regarding dengue fever was assessed using structured interview technique providing around 30 minute to each participant.

Plan for data analysis

The data was analysed into two parts:

Descriptive statistics

Frequencies and percentage distribution was used to analyse the socio-demographic data of subjects. Frequency and percentage distribution of adults in terms of level of knowledge.

Inferential statistics

Chi-square test was used to find the association of knowledge score of adults regarding dengue fever with selected socio-demographic variables.

4. Analysis and Interpretation of Data

The analysis of data was organized and presented under the following sections:

- **Section A:** Socio-Demographic Data
- **Section B:** Knowledge regarding dengue fever.
- **Section C:** Association of knowledge scores with selected demographic variables.

Section A: Socio-Demographic Data of Adults

Table no 2: Frequency and percentage distribution of selected socio-demographic variables, N=60

Variable	Frequency(f)	%
Age		
20-30years	17	28.3
a. 31-40 years	21	35
b. 41-50 years	22	36.6
Gender		
a. Male	21	35
b. Female	39	65
Religion		
a. Hindu	60	100
b. muslim	0	0
c. sikh	0	0
d. christian	0	0
e. others	0	0
Marital status		
a. Married	48	80
b. Unmarried	9	15
c. Widow	2	3.3
d. Widower	1	1.6
e. Divorced	0	0
Educational status		
a. No formal education	2	3.3
b. Primary education	7	11.6
c. Secondary education	18	30
d. Higher education	22	36.6
e. Graduate or above	11	18.3
Family income		
a. <5000	19	31.6
b. 5001-10000	9	15
c. 10001-15000	13	21.6
d. 15001-20000	10	18.3
e. >20000	9	13.3
Type of family		
a. Nuclear family	33	55
b. Joint family	26	43.3
c. Extended family	1	1.6
Had suffered from dengue		
a. Yes	8	13.3
b. No	52	86.6
Source of information		
a. Mass media	28	46.6
b. Friends, relatives/neighbors	12	20
c. Health professional	20	33.3
d. Any other	0	0

Table No.2: Depicts that maximum of adults (36.6%) were in age group 41-50 years. Majority of adults (65%) female. All the adults (100%) were belonging to hindu religion. Majority of adults (80%) were married. Most of adults (36.6%) were having higher education. Majority of adults (31.6%) were having family income <5000. Majority of adults (86.6%) had not suffered from dengue and most of

adults (46.6%) were having source of information as mass media.

Section B: Knowledge Regarding Dengue Fever

Table 3: Distribution of sample based on level of knowledge about dengue fever among adults, N=60

Level of knowledge	Frequency (f)	%
Good	8	13.33
Average	45	75
Poor	7	11.66

Table no.3: depicts that majority of adults (75%) were having average knowledge, 13.3% of adults were having good knowledge and 11.66% of adults were having poor knowledge regarding dengue fever.

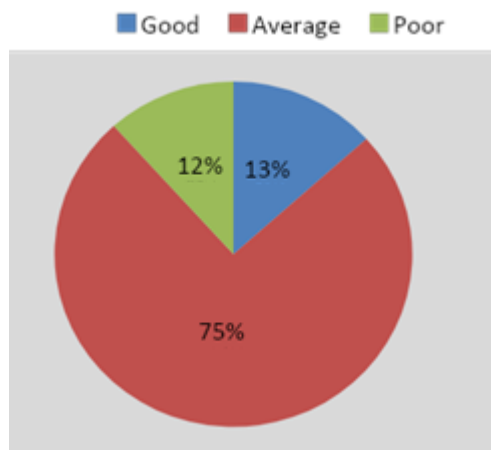


Figure 3: Distribution of knowledge scores regarding dengue fever among adults

Section C

Table 4: Association of knowledge with selected socio-demographic variables

S. no.	Variables	Calculated (χ^2)	df	Tabulated (χ^2)	Sig (0.05)
1)	Age	3.68	4	9.49	0.451
2)	Sex	0.81	2	5.99	0.667
3)	Marital status	6.08	8	15.51	0.638
4)	Educational status	37.20	8	15.51	0.000**
5)	Family income	14.02	8	15.51	0.081
6)	Type of family	2.21	4	9.45	0.697
7)	Had suffered from dengue	0.0097	2	5.99	0.995
8)	Source of information	2.77	6	12.59	0.837

Table no.4: data presented reveals that p value of educational status is less than 0.05 and value of calculate (χ^2) was more than tabulated (χ^2) value which indicated that there was association between educational status and level of knowledge at 0.05 level of significance.

5. Discussion, Summary, Major Findings, Conclusion, Implication, Limitation, and Recommendations

The objectives of the study are:

- To assess the knowledge regarding dengue fever among adults residing in selected villages of district Bilaspur (H.P)
- To find out association of knowledge regarding dengue fever with selected demographic variables.

5.1 Discussion

Objective 1: To assess the knowledge regarding dengue fever among adults residing in selected villages of district Bilaspur (H.P.)

Depicts that majority of adults (75%) were having average knowledge, 13.3% of adults were having good knowledge and 11.66% of adults were having poor knowledge regarding dengue fever which was partially consistent with the finding of the study conducted by south delhi and Chennai were classified with the finding of the study conducted as high, moderate or low level of knowledge on the basis of score 66% of participants have high knowledge about dengue, 30% have moderate knowledge and 14% have low level of knowledge regarding dengue fever.

5.2 Major findings

The finding regarding selected variables of adults

Depicts that maximum of adults (36.6%) were in age group 41-50 years. Majority of adults (65%) female. All the adults (100%) were belonging to hindu religion. Majority of adults (80%) were married. Most of adults (36.6%) were having higher education. Majority of adults (31.6%) were having family income <5000. Majority of adults (86.6%) had not suffered from dengue and most of adults (46.6%) were having source of information as mass media.

The finding regarding knowledge score of adults

Depicts that majority of adults (75%) were having average knowledge, 13.3% of adults were having good knowledge and 11.66% of adults were having poor knowledge regarding dengue fever.

Finding regarding association of selected demographic variables with knowledge score

Data presented reveals that p value of educational status is less than 0.05 and value of calculate (χ^2) was more than tabulated (χ^2) value which indicated that there was association between educational status and level of knowledge at 0.05 level of significance.

5.3 Conclusion

The present study was conducted to assess the knowledge regarding dengue fever among adults residing in selected villages of district Bilaspur. The study indicate that majority of adults 75% had average knowledge regarding dengue fever followed by 13.33% had good knowledge regarding dengue fever, 11.66% had poor knowledge regarding dengue fever. Selected socio-demographic variable of adults i.e. educational status was found statistical significance with the knowledge score at 0.05 level of significance and community awareness program can be planned to improve knowledge among adults .

5.4 Strength of the study

- 1) The problem area selected for research dengue fever is one of the major health problems of India
- 2) The design was appropriate for the study.
- 3) Sample for data collection is easily available.
- 4) The study was helped to assess the knowledge regarding dengue fever among adults.

5.5 Limitations of study

- 1) The study was confined to small group(60 adults).
- 2) The study was limited to selected villages of district Bilapur(H.P.).
- 3) The study was aimed to assessment only knowledge regarding dengue fever among adults.
- 4) The study findings can't generalize.

5.6 Recommendations

In the light of the above findings and personal experience of the investigator the following recommendation are offered.

- 1) A study can be conducted on assessing the prevalence of risk factors of dengue fever.
- 2) A similar study may be conducted to assess the knowledge, attitude and practices of adults regarding prevention of dengue fever.
- 3) Similar study can be done by using other teaching strategies like self-instructions/computer assisted instructions.
- 4) The study can be replicated on a large sample of students for generalizations of the findings.

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