

## A qualitative investigation about extensive issue of dengue: An awareness and prevention of dengue in Pakistan

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**Objective:** To identify the different actions taken by people of Pakistan to protect themselves and their family from dengue fever and to determine the different ways to raise awareness about the prevention of dengue fever.

**Methodology:** Data were collected through a social network "Face Book" as suggested by QSR International and written comment-based responses were obtained. Sample includes all social media (face-book) users of Pakistan. NVivo 10 software has been used for in-depth analysis. To find out the themes, thematic analysis was applied. To check the validity of different themes Tree Map was employed.

**Results:** Thirteen different actions or results were identified by respondents, which people take to protect themselves or their all ends from dengue

fever and eleven ways were identified to raise awareness about the prevention of dengue fever.

**Conclusion:** Use of mosquitoes repellents and anti-mosquito spray, cleanliness, prevention of stagnant water and other preventive measures were the most common actions taken by people for prevention. Media and awareness campaigns to schools, colleges, and universities even door to door visits are the best ways to raise awareness about dengue fever among citizens of Pakistan. Moreover, current study reflects the mind set of peoples of Pakistan toward measurable suggested actions. (Rawal Med J 201;41:148-152).

**Key words:** Dengue fever, prevention, awareness, NVivo.

### INTRODUCTION

Dengue fever characterizes a severe rising infectious and contagious disease that can have horrible results, including death. In 1998 epidemic, 56 countries reported to the WHO<sup>1</sup> about more than 1.2 million cases of dengue fever and dengue hemorrhagic fever (DHF). As a result, dengue has become a most important international health issue.<sup>2</sup> There may be 50 million dengue infections globally every year according to an estimation of WHO.<sup>3</sup>

The dengue virus is spreading in humans by the bite of an infected female Aedes mosquito. An infected mosquito has the ability of spreading the virus for the rest of its life (i.e. two weeks) after an incubation period of eight to 10 days. Major symptoms of the dengue fever are joint pains, high temperature, muscular pain, severe headache and rashes. A severe flu-like illness is also caused by this infection, and at a times potentially dangerous complication occur called dengue hemorrhagic fever.<sup>4</sup>

In 1994, the first case of dengue fever was reported in Karachi, Pakistan. Now almost after two decades,

the disease is quickly assuming the magnitude of an endemic, especially in central Punjab (a province of Pakistan) and its capital city of Lahore. In Lahore more than 131 people were reported dead in the month of September 2014. According to the Punjab Health Department, since January 2014, more than 12,000 people were infected and admitted in hospitals. Sindh (a second major province of Pakistan) also being affected by the dengue fever. Almost 400 people were infected with the dengue virus in the past few months. Out of which, 300 people were in Karachi only, main city of Sindh.

Numerous vaccine candidates are at diverse stages of pre-clinical and clinical development<sup>5</sup>. The best way to avoid dengue fever is to avoid being bitten by mosquitoes that carry the disease.<sup>6</sup> People could be made aware of how to find and get rid of mosquito breeding points, and can help to control the vector which ultimately control this disease.<sup>7</sup>

School-based educational campaigns and social mobilization for raising knowledge can be helpful.<sup>8</sup> Lack of knowledge about control measures is the

most common problem.<sup>9,10</sup>

Previous studies have shown that mosquito nets (65%), larval temephos (76%)<sup>11</sup>, mosquito coils (56.7%)<sup>12</sup> and mosquito repellents (59%)<sup>13</sup> were used as a preventive and controlling measures. A large former experience of the people of Khyber Pakhtunkhwa (3rd largest province of Pakistan) about dengue infection, highlights the risks of febrile illness due to the prospect of dengue virus.<sup>14</sup> Residential areas are developing frequently and poor planning leads to unhygienic conditions ultimately resulting to breeding of mosquitoes.<sup>15</sup> Essential precautions should be taken to avoid such situation, such as the use of insecticide-treated bed nets, face masks and mosquitoes' spray.<sup>16,17</sup>

The foremost objective of this study is to educate those peoples of Pakistan who may avoid or unaware about the serious effects of dengue in their lives. Second objective is to identify the different actions taken by the people of Pakistan to protect themselves from dengue fever and to find out the different ways to raise awareness about its prevention. For this purpose data has been collected through a social network from all over Pakistan. Qualitative research methods has been employed for draw out specific conclusion.

### METHODOLOGY

This study is based upon exploratory research analysis. Case study method has been employed in this study, which is qualitative in nature. Moreover, focus group discussion was also held amongst youngster and some affected recovered patients to know in depth coverage about symptoms plus suggested solutions. Figure 1 shows the conceptual model of this study.

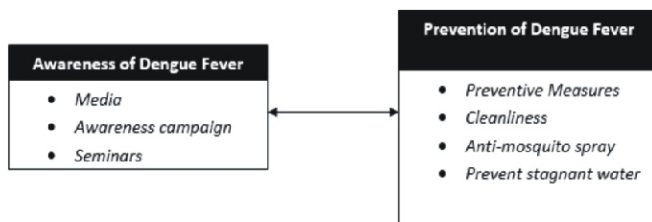
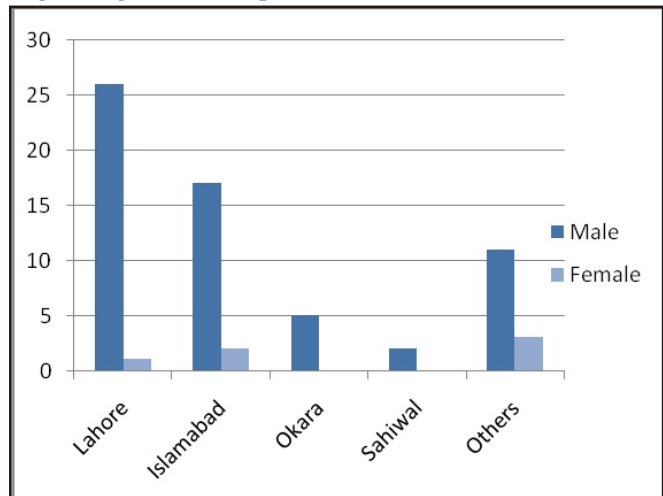


Figure 1: Conceptual Model

The sample includes all face book users of Pakistan as well as focus group. Out of this focus group 7 were youngsters (4 male, 3 female) and 3 were

recovered dengue patient (1 female, 2 male). Figure-2 shows the clustered column chart, which demonstrates the region wise respondents from Pakistan. It shows that male respondents are more as compared to female respondents. Moreover, it stated that respondents from Lahore responses more as compared to Islamabad; Sahiwal and other cities of Pakistan.

Fig. 2. Region-wise respondents.



Data were collected through written comment-based interviews, which were conducted using a social network of "Face Book" as suggested by QSR-International.<sup>18</sup> NVivo 10 "N Capture Option" has been used for arrangement and analysis of written comment-based interviews. For employing this method, a post has been developed containing a picture in which two questions are asked from focus group members and shared using a social group of Face Book. The questions are:

*What actions you will take to protect yourself and your family from dengue fever?*

*What is the best in your community to raise awareness about the prevention of dengue fever?*

Through focus group discussions a lot of effective and adorable information were recorded. Furthermore, within two weeks 81 different people wrote different prevention method and awareness ways about dengue fever.

Qualitative data analysis techniques were used with the help of NVivo 10 research software. Data were analyzed through thematic analysis, coding of data.<sup>19,20</sup>

## RESULTS

Figure 3 shows the word tree of the word "Dengue". Word tree generates from transcribed data, which demonstrates diverse pattern of discussion. In

this query, the central word is "dengue" which is linked with different words, phrases and sentences about prevention from dengue and how to raise awareness about dengue fever.

Figure 3: Word Tree of "Dengue"

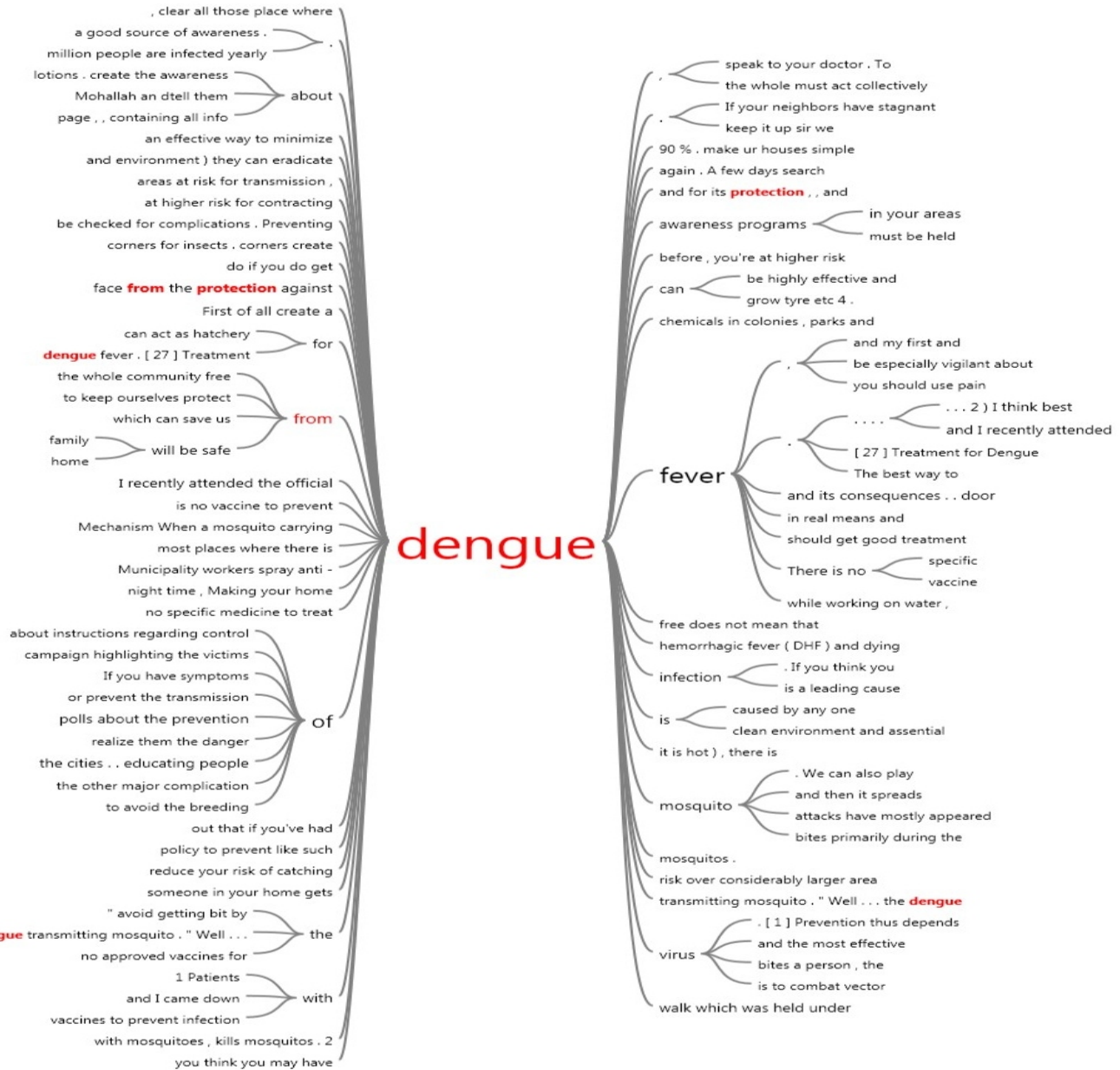


Figure 4 illustrate the tree map to categorize the coverage of different prevention and awareness methods of dengue fever. For prevention, mosquito repller, prevent stagnant water, anti-mosquito spray, cleanliness and different preventive measures were

found as more used by people to prevent themselves from dengue. For raising awareness about dengue, media especially electronic and social media, awareness and text message campaigns are considered to be better ways than other methods.

The scope or significant power of each theme is shown by tree map. Size or area of each rectangular box in tree map demonstrates the degree or the significant power of each factor. Those factors, which have big box size, are more important or

critical when compare to the factors having small box size. In tree map, those factors are more critical or important which are in big size rectangular box and the factors, which are in small size box are less important.

**Figure 4: Tree Map**



**DISCUSSION**

This study aims to identify the different actions taken by people of Pakistan to protect themselves and their families from dengue fever and to find out the different ways to raise awareness about the prevention of dengue fever. Majority of respondents belonged to Lahore. To check the validity of different themes, Tree Map have been used. Thirteen different actions have been identified by respondents, which they take to protect themselves from dengue fever and eleven ways are identified to raise awareness about the prevention of dengue fever.

In tree map, those factors are more critical or important which are in big size box and the factors which are in small size box are less important but not avoidable. Use of mosquito repellents and anti-mosquito spray, cleanliness, prevention of stagnant water and other preventive measures are the most

common actions taken by people for prevention. Media and awareness campaigns were the best ways to raise awareness about dengue fever. SMS campaign is also very important way to create awareness. It has been decided by Sindh Health Department to launch a SMS in order to create awareness among the general public for adopting preventive measures against the dengue fever in Pakistan in any season. According to a private news channel, the Health Department has required mobile phone numbers of the people from all the telecom companies so that they can send SMS informing them of ways and means to stay safe from the dengue fever. After the deadly consequences of this mosquito borne disease, the service is aimed at spreading awareness and the ways to control the virus in the Karachi and other areas of the province<sup>21</sup>. The dengue fever could only be prevented by adopting the safety measures. But the people have

to cover, keep clean the vases, cover the open water, containers of water, use mosquito net, cover the open water and keep the environment clean to prevent the spread of the disease.<sup>22</sup>

The public-private partnership was vital to make the dengue awareness campaign successful. It is the need of the hour for every segment of the society should play its due role in controlling dengue, which had claimed many innocent lives.

## CONCLUSION

We conclude the whole discussion in simple state line as "*Clean the Environment, save the precious Health*"

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