ABSTRACT

OBJECTIVE: To assess physician's knowledge regarding Dengue Haemorrhagic fever.

DESIGN: Descriptive cross sectional study.


METHODOLOGY: An appropriate questionnaire regarding origin, transmission, symptoms, treatment, prevention and vaccination for dengue fever was prepared and was filled by asking questions from two hundred physicians, after conducting approval for this study from the institutional review board of Dow University of Health Sciences, Karachi.

RESULTS: The results indicate that 100% of the doctors were aware about Dengue viral infection but lack knowledge about its diagnosis (72%) and management, while 50% of doctors want to isolate the patient.

CONCLUSION: The results concluded that more knowledge and training should be provided to doctors regarding dengue fever.

KEY WORDS: Dengue fever, Physicians knowledge, Prevention

INTRODUCTION

According to Health Department's report, the total number of dengue patients reported in Punjab from January 2011 to November 2011, have reached 21,275, out of which over 17,454 were diagnosed in Lahore alone, whereas number of confirmed dengue patients in Sindh have reached 987 during this year. In South Asia, Dengue and Dengue Haemorrhagic Fever (DHF) are declared endemic by The World Health Organization (WHO). It is an acute febrile illness with two or more of the following manifestations as headache, retro-orbital pain, myalgia, arthralgia, rash, haemorrhagic manifestation, leukopenia and supportive serology. The two basic methods for establishing a Laboratory diagnosis of dengue infection are detection of virus (e.g. culture) or detection of anti-dengue antibodies (serology). Most common hemorrhagic phenomenon is a positive tourniquet test, easy bruising and bleeding from various sites, thrombocytopenia and rise in haematocrit. “KAP” study measures the Knowledge, Attitude and Practices of a community. It serves as the educational diagnosis of the community. The main purpose of this study is to assess the knowledge regarding spread, prevention, diagnosis and treatment of dengue fever, so as to develop awareness among physicians regarding this disease and enhance their level of knowledge and skills.

METHODOLOGY

This study was conducted in Karachi from April 2011 to Nov, 2011. An appropriate questionnaire was designed, containing questions regarding origin, transmission, symptoms, treatment, prevention and vaccination for dengue fever. The study design was submitted to Institutional review board of Dow University of Health Sciences Karachi. After obtaining approval for this study, a verbal consent was taken from each participant. The questionnaires were filled by asking questions from two hundred physicians, working in government and private clinics and hospitals in Karachi (inclusion criteria), who were registered with Pakistan Medical and Dental Council (PMDC). House officers, general practitioners, post graduates related to all disciplines of medicine and surgery and consultant from all discipline were excluded.

The survey started from that have they ever seen a case of Dengue fever? If yes, they were asked about
its etiology, how it is transmitted, what are the species responsible in Pakistan, what is the identifying feature of that particular species and where does it live. Is there a vaccine available for prevention, does it require isolation, what is the treatment and major outcome, what drugs should be avoided, how breeding can be stopped and what are the preventive measures.

Data was compiled and SPSS version 15.0 was used for analysis. Appropriate calculations were made, where necessary.

RESULTS

The survey showed that almost all doctors (100%) knew that it is a viral illness. Its transmission and species were known to (90%). Serotype was known to (48%). Regarding prognosis (78%) were aware. Only (72%) knew how to diagnose it, what is Dengue Haemorrhage Fever and +ve tourniquet test etc. and (74%) knew that treatment is symptomatic. Whereas (76%) knew that drugs like Aspirin, Intramuscular injections etc should be avoided. While (84%) knew how to prevent breeding. Nearly (50%) wanted to isolate the patient.

Table I: Important questions asked regarding Dengue Haemorrhagic Fever.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Question asked</th>
<th>Correct response n=200</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Type of illness</td>
<td>200 (100%)</td>
</tr>
<tr>
<td>2</td>
<td>Transmission &amp; identification of species</td>
<td>180 (90%)</td>
</tr>
<tr>
<td>3</td>
<td>Serotype</td>
<td>96 (48%)</td>
</tr>
<tr>
<td>4</td>
<td>Diagnosis</td>
<td>144 (72%)</td>
</tr>
<tr>
<td>5</td>
<td>Treatment</td>
<td>148 (74%)</td>
</tr>
<tr>
<td>6</td>
<td>Major outcome of disease</td>
<td>156 (78%)</td>
</tr>
<tr>
<td>7</td>
<td>Drugs to be avoided</td>
<td>152 (76%)</td>
</tr>
<tr>
<td>8</td>
<td>How to prevent breeding</td>
<td>168 (84%)</td>
</tr>
<tr>
<td>9</td>
<td>Does it need isolation</td>
<td>100(50%)</td>
</tr>
</tbody>
</table>

DISCUSSION

It is serious mosquito-borne pathogen causing significant global disease burden. Currently there is no available licensed vaccine or antiviral for dengue. Mosquito control is the primary prevention. Personal protection consists of mosquito nets and repellents for protection of skin. It may be asymptomatic or may lead to undifferentiated fever, dengue fever or dengue hemorrhagic fever (DHF) with plasma leakage that may lead to hypovolumic shock (dengue shock syndrome, DSS)\(^9\). The results of our study indicate that there is a need to increase the knowledge level in doctors. This can be achieved by integrated teaching programme, more workshops on communicable diseases. An education campaign consisting of seminar, pamphlets and workshops would be useful in disseminating information.

In Pakistan only few researches have been done to assess the knowledge of dengue fever. A cross sectional survey was conducted in April – May 2000 among doctors and laboratory technicians in Quetta, Baluchistan. This study indicated the poor level of knowledge of doctors and health care workers regarding clinical presentation and mode of spread of disease\(^10\).

Similarly a survey was conducted in February 2001 among doctors, nurses and laboratory technicians of Jinnah Postgraduate Medical Centre and Civil Hospital Karachi regarding knowledge of viral haemorrhagic fever and surprisingly only 57% of doctors knew the common sign and symptoms of this disease\(^11\).

The clinical features of Dengue Fever frequently depend on the age of the patient. Infants and young children may have an undifferentiated febrile illness often with a maculopapular rash\(^12\). Older children and adults may have either mild febrile syndrome or classic incapacitating disease with high fever of abrupt onset. Sometimes with two peaks, severe headache, pain behind the eyes, muscles and bones or joint pains, nausea, vomiting and rash. There may be skin haemorrhage, leukopenia and thrombocytopenia\(^13,14\).

Regarding the Laboratory investigations, thrombocytopenia and haemoconcentration are constant findings. A drop in platelet count below 100,000 per mm cube is usually found on 3rd and 8th day of illness. An increase in hematocrit of 20% or more is a definitive evidence of increased vascular permeability and plasma leakage\(^15\). In most of the cases assay of coagulation or fibrinolytic factors show a reduction in fibrinogen, prothrombin, factor VIII, factor XII and anti thrombin III. In severe cases
with marked liver dysfunction, reduction is observed in the level of prothrombin factors that are vitamin K dependent such as factor V, VII, IX and X. Partial thromboplastin time and prothrombin time are prolonged in about ½ and 1/3 of Dengue Haemorrhagic Fever patient respectively. Other common findings are hypoproteinaemia and pleural effusion on chest examination. In shock bilateral effusion is a common finding.

Our study reveals that only a proportion of doctors knew about its transmission and prevention. As far as the diagnosis is concerned only 72% were aware that fever was the most common symptom followed by rash and bleeding from various sites commonly nose. Regarding treatment only 76% knew that the treatment is symptomatic and intramuscular injection and drugs like aspirin are to be avoided. The main aim of treatment is supportive therapy. Increased oral fluid intake is recommended to prevent dehydration and significant haemoconcentration. A platelet transfusion is indicated in rare cases if platelet level drops significantly (below 20,000) or if there is significant bleeding requiring platelets or red blood cell transfusion. It is important to avoid aspirin and non-steroidal anti-inflammatory medications as they aggravate the bleeding tendency.

Almost 100% doctors were aware that it is a viral illness and IgM and IgG, antibodies levels are to be done. No body knew that isolation of virus and detection of viral genome by PCR test is performed on multiple samples collected from each patient over a period of 30 days. Serological methods play important role in diagnosis as they are cost effective and easily available, especially in Dengue endemic countries. Once Dengue infection has been determined, a 2-D classifier based on common Dengue virus IgG kits can reliably distinguish primary and secondary Dengue infection.

All doctors were unaware about the genotype involved in the recent epidemic outbreaks in Pakistan (new serotype (DEN-3) and/or a genotype shift (DEN-2) are the probable factors in recent outbreak of DHF in this region). Our study was an awareness study. We not only interviewed but it was a knowledge imparting programme and all the readers will also acquaint with knowledge regarding various presentations of the disease through this paper, and will be able to handle such cases with confident in future.

**CONCLUSION**

It is essential that doctors must have adequate knowledge about the disease but only knowledge does not necessarily lead to good practice. Dengue awareness activity must be carried out for physicians. Training programmes should also be launched by the government free of cost. Establishment of Dengue surveillance cell in tertiary care hospitals can be very useful for management of complicated cases.

**REFERENCES**


