**PARENTS AWARENESS ABOUT DENGUE**

**FEVER/DENGUE HEMORRHAGIC FEVER**

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**INTRODUCTION**

Dengue Fever (DF) and Dengue Hemorrhagic Fever (DHF) are endemic in the Philippines. The biggest recorded epidemic in the Philippines occurred in 1996 in Metro Manila with a morbidity rate of 28 / 100,000 and a mortality rate of 0.7/100,000. DHF cases are increasing with the average 5 - year morbidity in 1979 to 1983. 1984 to 1988 and 1989 to 1993 were 1.54/100,000, 3.85/100,000 and 12.12/100,000, respectively. In 1998, nearly 32,000 cases and 500 deaths were reported from all regions, the over-all case fatality rate was 2%.

Dengue is the most important arthropod-borne viral disease of public health significance. Its geographic distribution includes more than 100 countries worldwide. The World Health Organization (WHO) estimates that more than 2.5 Billion people are at risk of dengue infection. As per estimate, over 50 million infections with about 400,000 cases of Dengue Hemorrhagic Fever (DHF) are reported annually which is a leading cause of childhood mortality in several Asian countries. Affecting mostly children, the case fatality rates range from less than 1% to 10%.

According to the National Epidemiology Center (NEC) - Department of Health (DOH), 3,771 cases of Dengue Fever has been reported since April 2005. The country has reached its epidemic threshold in January and February this year.

Since 1998, as part of the national government's thrust to control Dengue epidemics, DOH has initiated Community clean-up operations. Public information campaigns have been launched. Most notable of the government's aggressive campaign is the launching of the "Four o'clock Habit" which mobilizes the communities and schools to clean their environment every 4:00 PM.

But despite these initiatives by the Philippine government, Dengue remains to be an important cause of pediatric admission. Much needs to be done in finding effective strategies for behavior change of the community toward dengue. Since prevention and early recognition are important in decreasing morbidity and mortality, the knowledge, attitude and practices of parents are important factors to be evaluated.

**OBJECTIVES**

* To determine the extent of parental knowledge regarding Dengue Fever and Dengue;
* Hemorrhagic Fever, its manifestations, ways of transmission, treatment and preventive measures;
* To identify the signs and symptoms parents commonly associate DF and DHF with;
* To assess parental knowledge regarding its treatment;
* To determine the effectiveness of knowledge dissemination by health workers.

**METHODOLOGY**

This is a descriptive study of the knowledge, beliefs and practices of parents of patients who were met by the researcher during his practicum in the community and in the rural health units of Nueva Vizcaya.

All parents or guardians of patients were asked to answer a pre-tested questionnaire in Filipino consisting of three parts, namely profile of respondents, knowledge, practices and belief about the transmission, signs and symptoms and treatment of Dengue infection and source of knowledge about the disease.

**RESULTS AND DISCUSSION**

A total of 204 parents / guardians of children who were known to suffer from dengue from August to October were able to answer the questionnaire.

One hundred forty (70.0%) of the respondents are females. Ninety five (47.5 %) of them are mothers. One hundred seventy seven (88.5%) are married. Majority (39.5%) have ages between 31-40 years. One hundred fifty seven (78%) are Catholics. Eighty nine (44.5%) are high school graduates. One hundred ten (55%) did not state their average monthly income, however, for those who did, 54 (27%) had incomes less than P5, 000.00 per month.

Dengue virus infection may be asymptomatic or may cause undifferentiated febrile illness (viral syndrome), dengue fever (DF), or dengue hemorrhagic fever (DHF) including dengue shock syndrome (DSS).

In DF, various non-specific, undifferentiated prodromes such as generalized malaise, headache and fever may develop. One hundred forty eight (74%) parents and guardians in this study associated dengue with the presence of headache. Fever in dengue is usually 39 - 40°C and may be lasting 5-7 days. All of the respondents knew correctly that dengue virus infection is accompanied by fever. Other common symptoms include anorexia, abdominal pain and pain in the muscles /joints. This study showed that 127 (63.5%) believed that anorexia is one of the symptoms in dengue infection. 93 (46.5%) identified abdominal pain as another symptom and only 8 (4%) respondents stated that muscle pain may be associated with dengue. One hundred nine (54.5%) respondents thought that skin rashes appear in dengue patients. These rashes associated with dengue may appear as diffuse flushing or pinpoint eruptions in the face, neck and chest. Towards the end of the febrile period the generalized rash fades and localized cluster of petechiae may appear over the dorsal aspect of the feet, legs, hands and arms.

The critical stage occurs most frequently from 24 hours before to 24 hours after the temperature falls to or below normal. During this time, hemorrhagic manifestations usually occur. The most common hemorrhagic manifestation are skin hemorrhages in the form of petechiae but nose bleeds, bleeding gums, gastrointestinal hemorrhages and bloody urine can occur. In this study, bleeding manifestations which the respondents believed to be associated with dengue included epistaxis (148 = 67%), hematemesis (89 = 44.5%), melena / hematochezia (77 = 38.5%).

Dengue viruses are members of the genus Flavivirus and Flaviviridae. It is an arbovirus, carried and transmitted by a mosquito, the *Aedes aegypgti* and *albopticus.* These are not communicable and person to person transmission does not occur. This study shows that parents are generally (191 = 95.5%) aware that dengue is transmitted via a mosquito bite. It has been found out in this study that there are still those who incorrectly believe that dengue infection can occur other than thru the bite of an infected mosquito. Forty four (24%) believed that disease transmission was possible by using the same utensils of an infected person. Other misconceptions included ingestion of contaminated water (40 = 20%), droplet infection and salivary transmission (34 = 17%) and ingestion of contaminated food (32 = 16%).

Treatment of dengue virus infection is essentially symptomatic and supportive. Patients with mild dengue fever can be given oral rehydration solution and should be encouraged to increase oral fluid intake. In this study, only 2 (1%) respondents were aware that hydration is essential in the management of dengue. Antipyretics are required to control the fever. Paracetamol was the preferred antipyretic. Aspirin or any salicylate should be avoided since these preparations may not only cause gastritis but may also exacerbate hemorrhagic manifestations. However, this study revealed that some parents / guardians gave antipyretics other than paracetamol such as aspirin (30 = 15%), ibuprofen (28 = 14%), and mefenamic acid (22 = 11%).

Although 16 (8%) of the parents / guardians believed that there was no treatment for dengue, majority (184 = 92%) still thought that a medical consult was essential for dengue patients.

Dengue infection may occur at any age but it is common among school children with the peak at 4 to 6 years. One hundred seventy two (86%) of the respondents thought that dengue can occur in children aged 2 to 12 years old while 115 (57.5%) also thought that infants (0 - 1 y.o.) can also be infected.

There is, however, increasing incidence of DHF among older age groups. Studies in Asia using surveillance data report showed increasing age of infected patients. In Indonesia, surveillance data from 1975 to 1984 showed an increase in incidence rates among young adults. During the 2000 epidemic of dengue in Bangladesh, a hospital-based surveillance study showed that the highest population of cases occurred in the 18 to 33 year age group. It is important that the public be made aware of the shift in modal age since a diagnosis of dengue may be missed in pediatric patients belonging to the older age group because initial studies done regarding dengue tended to pinpoint to the school-age population as the more common victims of this disease, consequently this will have major implications for health services.

In this study, 147 (73.5%) believed that dengue can occur in patients aged 13 -19 years and 129 (64.5%) thought that individuals aged 20 and older can also be infected.

There are no vaccines currently available against the disease as a preventive measure and yet 81 (40.5%) of the respondents falsely thought that vaccines for dengue were available and may be administered.

Without a vaccine, dengue prevention depends on two important measures: avoiding bites by the dengue-carrying mosquito and eliminating or drastically reducing the source - the mosquitoes and their habitats. Larval reduction is an effective way of mosquito control. These larvae can be found in places which are dank and moist, thus, it is very important to rid the environment of these insects' habitats. Majority (195 = 97.5%) of the respondents in this study are aware that a clean environment helps prevent dengue. This is a significant number since community mobilization plays an integral part in the control of dengue. Insecticides and defogging, according to the Department of Health (DOH) of the Philippines, were only temporary measures. They may kill the adult mosquito but leave behind the eggs and larvae which hatch and mature in 2 to 3 days. This study showed that 169 (84.5%) respondents relied on insecticides as an effective control of dengue infection.

Mosquito nets and window and door screens can help decrease the chances of being bitten by the infected mosquito. One hundred seventy three (86.5%) of the parents and guardians in this study believed that indeed a mosquito net can help prevent mosquito bites while 157 (78.5%) thought that putting window screens could do the same.

Repellants are a common measure of personal protection against mosquitoes and other biting insects. In this study, 161 (80.5%) of parents / guardians believed that repellants were effective agents to deter mosquito bites, thus controlling dengue transmission.

There are 4 dengue virus serotypes, DEN-1, DEN-2, DEN-3, and DEN-4 (3). It is these serotypes which makes dengue re-infection possible. Infection with any one serotype confers lifelong immunity to that virus serotype and short-lasting immunity to heterogeneous serotype. Six months or more following infection with a single dengue serotype, humans are fully susceptible to infection with a different serotype. Such infection is referred to as a secondary infection. For this study 156 (78%) of the respondents knew that dengue re-infection can occur, 30 (15%) thought that recurrence does not happen while 14 (7%) were either unsure or unaware of re-infection.

Most (165 = 82.5%) of the respondents claimed that their knowledge on dengue came from doctors, nurses and other health workers. This being the case, interventional programs for dengue should include regular information and educational campaign about updates on the prevention and management of dengue cases for these health professionals / workers. This study reveals that media continues to play an important role in information dissemination as 72% (144) of the respondents claimed that they obtained information about dengue from the media. Other sources of information came from campaigns in schools (78 = 39%), from their relatives (72 = 36%), friends (70 = 35%) and at the workplace (10 = 5%). About 7 (3.5%) respondents also identified their own experiences with dengue as their source of knowledge in dengue. Correction of these misconceptions is important so that prevention can be attained realistically.

**CONCLUSION**

As to the level of knowledge of the respondents on Dengue, this study showed that there was good parental knowledge on the common signs and symptoms of dengue infection. Although most parents were aware that the infection was transmitted via a mosquito bite, there were still misconceptions as to its transmission. Significant to note was their level of knowledge regarding the management of the disease. Only a few were aware that hydration played a vital part especially so that mild cases of dengue can be managed on an out-patient basis with just plain hydration and supportive care. Some parents still used other anti-pyretic aside from paracetamol (e.g. Aspirin) since they were not aware of the effects of these drugs on the bleeding parameters. Almost half of the respondents believed that dengue vaccine can prevent the infection but they are not aware that it was not yet available at the moment.

As to the attitudes and practices of the respondents, this study showed that majority of parents / guardians sought medical consultation when they see signs of dengue, which was a very good practice, for prevention of further complications of dengue. They were also well aware of the different methods of prevention and most of them already practiced such.

Overall knowledge of respondents on Dengue came from health workers and the media. It is however notable that despite aggressive media campaign and even information dissemination from health workers, some parents still had misconceptions about disease transmission and therapeutic interventions for dengue.