Study of the Knowledge and Awareness of Physicians about Dengue Infection, Treatment and its Control in Dhaka

By

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Abstract

The knowledge and awareness test study of physicians in Dhaka about dengue infection, its treatment and control revealed that although DF/DHF was not a major health problem in Bangladesh, the physicians were, to a great extent, conversant with the clinical knowledge but lacked epidemiological comprehensions. A test study brought out the fact that 77.37% of the physicians were aware of the causative agent, 73.16% about diagnostic tools and 61.58% knew about appropriate treatment of dengue fever. About epidemiological comprehensions, the physicians lagged behind. The study highlighted the need for orientation of physicians to the epidemiological aspects of DF/DHF in order to create epidemic preparedness in the country.

Introduction

Dengue fever and dengue haemorrhagic fever has so far not posed any problem in Bangladesh. The first outbreak of dengue fever along with Chikungunya virus was reported in 1964 as "Dhaka fever". DEN-3 virus was isolated as the aetiological agent. Subsequently, a few cases of dengue fever were reported from other parts of Bangladesh. A serological survey of schoolchildren carried out in Dhaka during 1982-83 showed 278 positive cases for DEN-1 infection out of 2 465 schoolchildren examined. Both *Aedes aegypti* and *Aedes albopictus* were detected in the old and new parts of the city.

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Although the density of *Aedes aegypti* was low, the presence of the vectors as well as the dengue virus and the large two-way migration of people to and from the adjoining endemic countries pose a serious threat of DF/DHF outbreak in Bangladesh.

In order to assess the physicians' preparedness to meet any challenge, a study to test their knowledge about dengue infection, its spread, treatment, prevention and control was organized in Dhaka during September-October 1996. The findings are presented in this paper.

Methods and materials

A total of 200 physicians practising paediatrics and medicine were drawn from different sectors of the Dhaka metropolis. Of the total respondents, 63 were drawn from autonomous health care facilities, 56 from government hospitals, 47 were private clinicians and 34 were from semi-autonomous hospitals. Among these, 130 were male and 51 were female specialists. A pre-tested questionnaire was provided for on-the-spot ticking of probable answers.

Results

The questions were framed to bring out information on the following aspects of dengue infection and its control.

1. In-service training on vector-borne or arbovirus diseases

Only 9.47% of the respondents had formal training on vector-borne viral diseases whereas 90.53% had no such exposure.

2. Information exchange with others on dengue infection

When asked if they had learnt about dengue infection from others, only 4.21% replied in the affirmative, 94.74% answered 'no' and 1.05% did not respond.

3. Dengue as a communicable disease

A total of 76.32% replied 'yes' while 9.47% said 'no' and 14.21% did not know.

4. Causative agent of dengue infection

When asked to name the causative agent of dengue infection, 77.37% confirmed virus aetiology, 11.58% identified it as a bacterial disease while 11.05% did not know.

5. About the transmission agent

Replies to the questionnaire are included in Table 1 below.

Table 1.

Name of the vector	% Ticked
Rodents	2.11
Flies	24.74
Mosquitoes	50.00
Ticks	10.54
Not known	12.61

From the above table it is evident that 50% of the respondents replied correctly; the rest either linked it to ticks (10.54%), flies (24.74%) and rodents (2.11%). 12.61% did not know at all.

6. Areas receptive to dengue infection

The results are included in Table 2.

Table 2. Percentage of areas receptive to dengue infection

Name of areas	%
Urban	17.37
Rural	16.32
Forest	29.47
Hilly	18.95
Everywhere	03.68
Other combination	04.21
Not known	10.00

Only 33.69% of the respondents replied correctly that it occurs in both urban and rural areas. Ten per cent did not know about its occurrence.

7. Linkages with spread of dengue infection

When asked about linkages, 30% linked it with water supply and drainage, 22.11% with discarded tins and tyres, 2.63% with latrines, and a good percentage (45.26%) could not specify.

8. Seriousness of dengue infection

When asked if dengue caused epidemics and heavy case fatality in the community, 93.68% said 'yes' and 2.63% replied in the negative. 3.69% did not specify.

9. Disease manifestation of dengue infection

The responses on disease manifestation are included in Table 3.

Table 3. Most common set of manifestations of DI

Name of the set	% penned
a	61.58
b	03.68
c	04.22
d	14.74
Not known	15.78

Set (a) : High fever, petechial rash, myalgia, arthralgia
Set (b) : Diarrhoea, hypovolumic shock, lymphadenopathy
Set (c) : Fever, neck rigidity, blurring of vision, malena
Set (d) : High fever, conjunctivitis, hepatoslenomegali, vomiting

An analysis of the responses indicates that only 61.58% could give correct manifestations.

10. Dengue affection by age groups

Responses to age group affection by dengue fever is given in Table 4.

Table 4. Dengue affection by age group

Affected age group	Supporting %
1-5 years	3.16
6-15 years	16.32
16-30 years	10.00
>30 years	5.79
All ages	40.00
Not known	24.73

Physicians were not very clear about age-group affection, so much so that 24.73% showed near ignorance of the subject.

11. Laboratory diagnosis

(a) Availability of facilities: When asked about existence of laboratory facilities for diagnosis of dengue infection in Bangladesh, only 3.16% of the physi-cians confirmed about the existence and 91.58% said that these facilities did not exist.

(b) Diagnosis: The responses of physi-cians to different methods of diagnosis of dengue fever are given in Table 5.

Table 5. Methods of dengue diagnosis

DI can be diagnosed by Investigation	% supported
X-ray	00.00
Serology	73.16
Routine blood test	04.74
Stool routine test	01.05
Blood + Serology	03.68
Not known	15.26

A majority, i.e. 73.16%, correctly described serological methods for confirming the cases of dengue infection.

12. Treatment of dengue cases

Responses to the question about treatment of dengue fever are included in Table 6.

Table 6. Treatment of dengue cases

Method	% supported
Specific antibiotics	00.53
Only general measures	38.95
Antibiotics plus general measures	42.63
Not known	17.89

While 42.63% were in favour of anti-biotics plus general measures, 38.95% expressed in favour of antibiotics only. 17.89% did not specify.

13. Control of dengue fever

Responses to various options for control of dengue fever are given in Table 7.

Table 7. Control methods for dengue fever

Strategy	% checked out
a. Using vaccine	04.74
b. Mass awareness programme	26.32
c. Preventive measures	28.95
d. Mosquito-impregnated nets	05.26
Combination of b & c	12.11
Combination of c & d	10.00
Not known	12.62

A majority of the physicians were not clear about dengue prevention and control strategies.

14. Anti-dengue vaccines

When asked if anti-dengue vaccines were available, a majority (62.11%) said an

emphatic 'no' while 8.42% said 'yes'. 29.47% of the respondents did not specify.

Results, discussion and conclusions

This study showed that a majority of the physicians had a good clinical know-ledge but lacked epidemiological compre-hension of dengue fever. Most of them came out with the correct answer with regard to the causative agent of DF (virus:77.37%) and prime diagnostic tools (serology: 73.16%). They also showed a good awareness of the most common disease manifestation (61.58%) and appropriate treatment (general measures: 38.95% and antibiotics plus general measures: 42.63%) despite the fact that only 9.47% of the respondents reported to have had inservice training on arbovirus diseases and 94.74% did not have any kind of information exchange with others on dengue. For clinical assessment of a suspected case, only 16.32% of the physicians were correct in their response to consider 6-15 years age group to be the most vulnerable and affected. On epi-demiological comprehension, the physi-cians were found lacking in the knowledge. There was a positive and constructive thinking on the methods to control this viral disease. A total of 67.38% of the respondents suggested either a mass awareness programme or preven-tive measures or a combination of both.

The findings on the two different aspects of dengue infection, when summed up, confirmed the earlier impression as far as the knowledge of physicians about DF was concerned. The physicians did have the essential clinical knowledge but lacked infor-mation of epidemiological importance on dengue.

References

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