AWARENESS OF HAND FOOT AND MOUTH DISEASE AMONG DENTAL STUDENTS

RUNNING TITLE: Awareness of HFMD among dental students

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ABSTRACT:

AIM: This survey is conducted among dental students regarding awareness of Hand foot and mouth disease.

BACKGROUND : Hand, foot, and mouth disease (HFMD) is a common viral illness usually affecting infants and children but can affect adults. The infection usually involves the hands, feet, mouth, and sometimes, even the genitals. The most common strains causing hand, foot and mouth disease (HFMD) are Coxsackie A16, a type of enterovirus which mostly affects children below 10 years of age.

MATERIALS AND METHODS: A self-administered questionnaire was prepared with 10 questions related to Hand Foot and Mouth disease. The questionnaire was distributed to 100 practitioners and the details were recorded individually by the interpreter.

RESULTS: All the 100 students were aware of the term Hand foot and mouth disease. 68% percent of the students mentioned that they knew the causative agent of HFMD. Out of the 68 students , 88% of students were right in their answer. Nasopharyngeal transmission was felt as the common mode of transmission.About 57% of the students were not aware of the complications that can occur due to HFMD.Majority of the students believed that proper disinfection of the instruments and the proper hand washing techniques were more than enough to prevent Hand foot and mouth disease.

CONCLUSION: Awareness about Hand Foot and Mouth disease and their management is considerably good among the dental students. A little more awareness about the clinical features and diagnostic methods must be emphasised to the dental practitioners for timely diagnosis and prompt treatment.

KEYWORDS: Awareness, Disease, Foot, Hand, Mouth.

INTRODUCTION:

Hand, foot, and mouth disease (HFMD) is a common viral illness usually affecting infants and children but can affect adults. The infection usually involves the hands, feet, mouth, and sometimes, even the genitals. The most common strains causing hand, foot and mouth disease (HFMD) are Coxsackie A16, a type of enterovirus which mostly affects children below 10 years of age but the infection can also be caused by many other strains of coxsackievirus[1]. In the western Pacific, hand, foot, and mouth disease has been linked to enterovirus. The coxsackievirus is a member of the Picornaviridae family which includes non-enveloped single-stranded RNA viruses. Early symptoms are likely to be fever often followed by a sore throat. Loss of appetite and general malaise may also occur. Between 1 and 2 days after the onset of fever, painful sores (lesions) may appear in the mouth or throat. A rash may become evident on the hands, feet, mouth, tongue, inside of the cheeks and also the buttocks, knees and elbow. Oral lesions appear as vesicles, which rapidly ulcerate producing multiple small superficial ulcers with erythematous halos. The ulcers are usually seen on the tongue, palate,

buccal mucosa, gums and lips. Oral ulcers cause discomfort, making feeding and swallowing very difficult[2]. Symptoms usually subside within 7-10 days[3]. Although several cases of HFMD have been reported, it has been rarely reported having both oral and cutaneous lesions simultaneously[4,5]. Since it is less common in India, awareness among dental students about HFMD is a question. So this survey was conducted to analyse and evaluate the awareness among dental students about Hand foot and mouth disease.

MATERIALS AND METHODS:

This study was conducted in Saveetha Dental College and Hospitals, Chennai. Final year students, Interns and PGs were included in the study while first, second and third year students were excluded. A self administered questionnaire was prepared with 10 questions related to Hand Foot and Mouth disease. The questionnaire was distributed to 100 practitioners and the details were recorded individually by the interpreter.
The questions are as follows:

1. Are you aware of HFMD?
   • Yes • No

2. Do you know the causative agent of HFMD
   • Yes • No

3. If Yes, Which of these virus causes HFMD?

- Cox Sackie Virus
- Herpes simplex virus
- Epstein Barr virus

4. Which do you think is the most common site in the oral cavity ?

- Buccal mucosa
- Palate
- Lips
- Tongue

5. What do you think is the most common oral manifestation?

- Ulceration
- Swelling
- Pus discharge

6. Which do you think is the most common mode of transmission ?

- Nasopharyngeal transmission
- Orofecal transmission
- Touch

7. How will you diagnose HFMD ?

- Only with clinical features
- Culture
- Blood test

8. What treatment do you prefer ?

- Wait for it to heal gradually
- Anti viral therapy
- Topical steroids
- Pain killer medication

9. Are you aware of the serious complications of HFMD

- Yes
- No

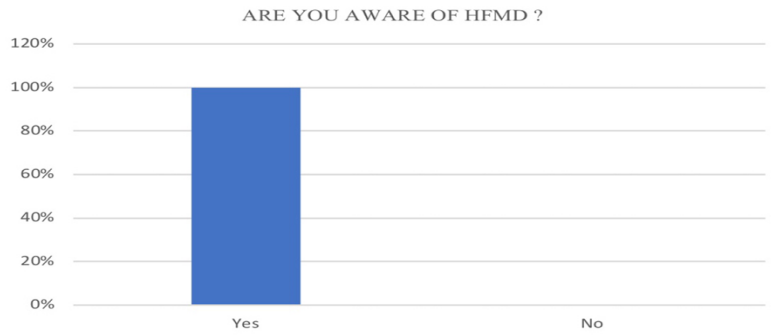
10. How do you think you can prevent HFMD

- Proper disinfection of contaminated surface
- Proper hand washing techniques
- Both
- Vaccination

RESULTS :

This survey included 100 dental students and the results are represented in the form of graphs. All the 100 students were aware of the term Hand foot and mouth disease(Graph 1).

GRAPH 1 : AWARENESS OF HFMD



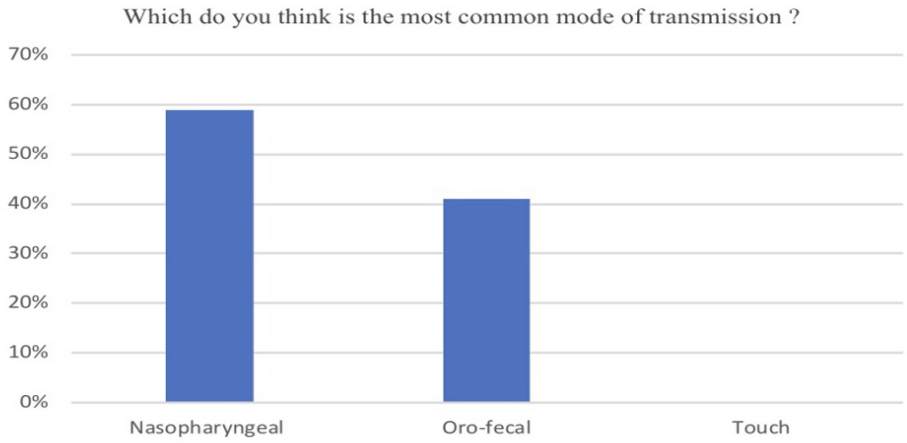
68% percent of the students mentioned that they knew the causative agent of HFMD while 32% percent were not very sure.

Out of the 68 students , 88% of students were right in their answer while 12% had doubt on Epstein Barr virus. But all the students were very sure that it was not caused by Herpes simplex virus.

Majority of the students felt that oral manifestation was seen commonly in lips and tongue than in palate and buccal mucosa. They also felt that Ulceration was the most common oral manifestation.

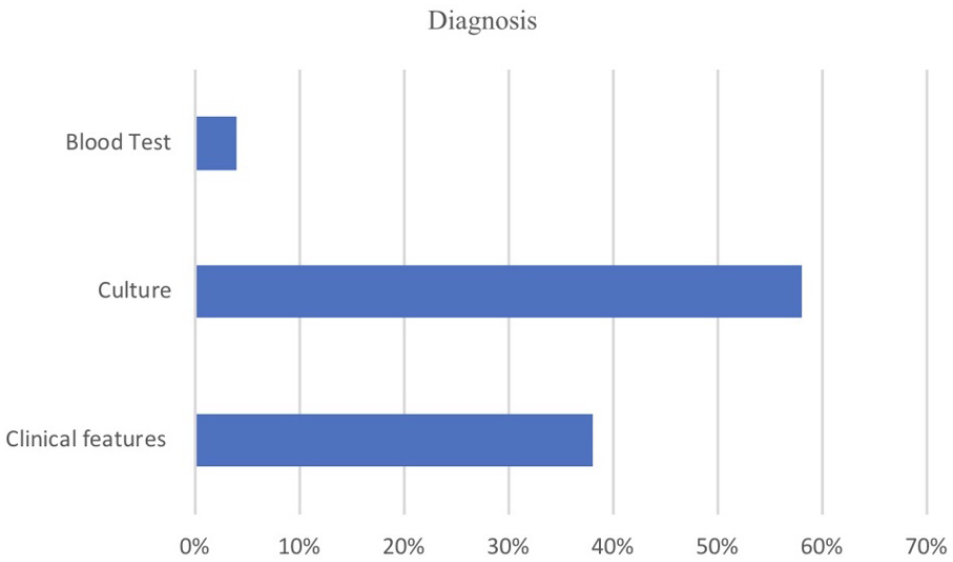
Nasopharyngeal transmission was felt as the common mode of transmission(Graph 2)

GRAPH 2 : COMMONEST MODE OF TRANSMISSION



Majority of them felt that HFMD could be diagnosed with clinical features alone while some felt that Culture test was the most proper diagnostic method (Graph 3)

GRAPH 3 : DIAGNOSIS OF HFMD



Most of them preferred to give anti-viral medications while some felt that medicines were not necessary and the disease could just subside on its own.

About 57% of the students were not aware of the complications that can occur due to HFMD. Also , Majority of the students believed that proper disinfection of the instruments and the proper hand washing techniques were more than enough to prevent Hand foot and mouth disease.

DISCUSSION:

HFMD also known as vesicular stomatitis with exanthema in literature. Coxsackievirus infection is highly contagious. During epidemics, the virus is spread by horizontal transmission. Initial viral implantation in the buccal and ileal mucosa is followed by spread to lymph nodes within 24 hours[6].Viremia rapidly ensues, with spread to the oral mucosa and skin. After a week, neutralizing antibody levels increase and the virus is eliminated[7]. The first major outbreak of HFMD occurred in Sarawak, Malaysia in 1997 in the Asia Pacific region.The largest outbreak of HFMD occurred in eastern part of India in 2007, where about 38 cases of HFMD in and around Kolkata was reported[8,9].There is no normal enteric virus flora. Usually only one type of enterovirus multiplies within the intestine of an individual at any given time. Polio vaccination has eliminated polio viruses from the gut, thereby increasing the chances of coxsackie viral and echoviral infections. It is possible that the emergence of HFMD in India may be related to the mass polio vaccination. However, a firm conclusion can be made in this regard only after studying a large number of cases of HFMD over a period of time[10]. It is uncommon in adults, but those with immune deficiencies are very susceptible. HFMD is not to be confused with foot- and-mouth disease (also called hoof-and-mouth disease), which is a disease affecting sheep, cattle and swine, and which is unrelated to HFMD.Oral lesions begin as erythematous macules that evolve into 2 to 3 mm vesicles on an erythematous base. The vesicles may involve the palate, buccal mucosa, gingiva, lip and tongue. The vesicles are rarely observed because they rapidly become ulcerated. They are painful and may interfere with mastication and feeding. In 44% of the cases, tongue involvement is reported. In our study , Ulceration was said to be the most common oral manifestation which is similar to other studies.

In other studies gingiva, lips, tongue and palate was considered as the common site in the oral cavity. But in our study students considered lips as the most common oral site[11]. There are various complications due to HFMD like dehydration, meningoencephalitis, myocarditis, pulmonary edema, and death occasionally occurs in children with HFMD. Viral meningitis causes fever, headache, stiff neck or back pain. Some patients may need to be hospitalized for a short time. Complications from the virus infections that cause HFMD are not common, but if they do occur, medical care should be given[12]. There have been rare reports of severe complications such as pneumonia, cardiomyositis, and aseptic meningitis[13,14].In our study, majority of the students were aware of any of these complications.

Patients may first consult a dermatologist due to prominent skin manifestations of HFMD. Oral lesions of HFMD can be easily misdiagnosed as aphthous ulcers, varicella or herpangina. However, varicella rarely presents with oral lesions and the skin lesions are more concentrated on the trunk, rarely affecting the palms and soles. Herpangina is a viral infection of children caused by a type A coxsackie virus which presents with similar types of oral ulcers but are more extensive involving the tonsils, pharyngeal mucosa, soft palate and the posterior part of buccal mucosa.

In our study students felt that Anti-viral therapy was the most effective treatment. But there are also other treatment modalities like the topical application of anesthetics and viscous lidocaine or diphenhydramine for painful oral ulcers. Antipyretics may be used to manage fever, and analgesics may be used to treat arthralgias. Low-level laser therapy has also shortened the duration of painful oral ulcers[15].

The majority of patients with coxsackievirus-induced hand, foot, and mouth disease are treated as outpatients, but those who have CNS involvement may require admission for close monitoring.Admission is highly recommended in any infant with hand, foot, and mouth disease who shows signs of severe disease and lethargy. The virus is shed in the stools for a few weeks; hence, patients should be educated about hand washing and maintenance of good personal hygiene.

CONCLUSION: Awareness about Hand Foot and Mouth disease and their management is considerably good among the dental students. Increased awareness about vaccination in a developing nation like India and vaccination program at the grass root levels have eradicated certain lethal diseases. At the same time viral disorders previously unreported in Indian population are now being diagnosed more often.Hence a little more awareness about the clinical features and diagnostic methods must be emphasised to the dental practitioners for timely diagnosis and prompt treatment.

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