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Investigation of hand, foot, and mouth diseases (HFMD) outbreak in Jatitujuh Majalengka District in 2015

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ABSTRACT

Background

The District Epidemiology Surveillance Team (TGC) received a report from the Epidemiology Surveillance (SE) officer at the Health Center on September 3, 2015 at 2:00 p.m. that the doctor reported that a child was diagnosed with a Singapore flu suspect.

Objective

Extracting information about outbreaks of disease: etiology, characteristics and risk factors for the spread of the disease, so that mitigation and prevention measures can be taken and Confirmation of Extraordinary Events. **Methods** Research agency of District Health Office of Majalengka and Puskesmas conducted investigations, sampling and interviewing cases suspected of HFMD. The samples obtained were taken to the Health Research and Development Agency for inspection.

Results

Based on the results of table 1 above, the percentage of cases is more prevalent in the child age group 5.5 to 10 years, while the specimens taken only from the age group <5 years are 2 people (Table 2) then the results of the Positive HFMD Laboratory are 1 Specimens (50%), so that for this area the incidence of HFMD has been confirmed and it is necessary to increase early awareness of similar events in the future, namely by continuously improving the Clean and Healthy Lifestyle (PHBS).

Keywords: HFMD, Outbreak, Majalengka

INTRODUCTION

Hand, Foot, and Mouth Disease (HFMD) is a disease in the form of fever accompanied by redness of the skin with or without mouth ulcers. While redness can be papulovesicular in the palms or soles of the feet or both, in some cases

maculopapular redness without vesicles can affect the buttocks, knees and elbows in infants and infants.

Initial symptoms of fever (38-39°C), decreased appetite and painful swallowing. Embossed vesicles and rashes in the mouth. Vesicles are found on the tongue, gums or cheek mucosa. This

vesicle is easily broken and becomes an ulcer which causes the child to refuse to eat and the saliva melts out. A rash with vesicles can also be found on the palms, feet and buttocks of the baby. Other symptoms can include muscle pain, vomiting, diarrhea, abdominal pain and conjunctivitis. In certain circumstances, for example due to EV-71 infection, can cause severe neurological disorders or inflammation of the brain (aseptic meningitis, encephalitis) and paralysis and even death and most cause outbreaks. In general, this disease affects children under 10 years of age. This disease is different from nail and mouth disease in animals caused by human enteroviruses species A (HEV-A), Coxsackievirus A16 and Enterovirus 71 (EV71). Genus Enterovirus family Picornaviridae. The other HEV-A serotypes are Coxsackie A6 virus and Coxsackievirus A10, and Echovirus.

This disease has existed in 1957 in Toronto, Canada and since then there have been many occurrences of this disease worldwide. Named Singapore Flu because at that time there was an explosion of cases and deaths from this disease in Singapore. Generally, attacks children aged 2 weeks to 5 years (sometimes up to 10 years). Adults are generally immune to this virus (coxsackie, enterovirus etc.). The incubation period (period from infection to complaint) is 3 to 7 days and can be completely cured 7-10 days. In 2008 HFMD outbreaks were reported in China and in 2009 HFMD outbreaks were reported in Indonesia (94 cases of clinical cases - 1 positive for EV 71) and in several countries in Asia such as Taiwan, Hong Kong, Vietnam, Singapore and Malaysia.

The HFMD outbreaks almost never occur nationwide; however, early vigilance against the possibility of outbreaks of HFMD must still be done. The District Epidemiology Surveillance Team (TGC) in the Surveillance and Matrix Immunization section (ISM) received a report from the Puskesmas Epidemiology Surveillance (SE) officer on September 3, 2015 at 2:00 p.m.

MATERIAL AND METHODS

Investigations were carried out in connection with the report from the Director of PT.PG Seventh that there was a child whose employees were diagnosed with Singapore flu, so that the TGC team immediately prepared to get off the field. At that

time TGC went to the location with a previous coordination at the local health center. At the location, we visited 2 houses that were indicated as sick and doctors made a diagnosis that both of them did show clinical symptoms of HFMD. However, at that time, we had not yet been able to take specimens, waiting for a team from the Research agency of Ministry of Health of Jakarta to carry out a joint investigation and sample collection in the case, we sought information and found out the report that most cases had been healed and had done school activities again. The next day, a team from Research agency of Kabalengka District Health Office and Puskesmas took samples and interviews in cases suspected of HFMD.

RESULT

Based on the results of Table 1 above, the percentage of cases is more prevalent in the child age group 5.5 to 10 years, while the specimens taken only from the age group <5 years are 2 people (Table 2) then the results of the Positive HFMD Laboratory are 1 specimen (50%), so that in this area the incidence of HFMD has been confirmed and it is necessary to increase early awareness of similar events in the future, namely by continuously improving the Clean and Healthy Lifestyle.

Determination of these conditions as a HFMD outbreak because based on the Criteria of HFMD outbreak in accordance with the criteria for stipulating outbreak in PERMENKES 1501 of 2010 concerning specific types of infectious diseases that can cause outbreaks and Countermeasures. Taking specimens to confirm diagnosis. The Puskesmas conducts health promotion efforts by educating the public about HFMD and still maintaining PHBS. Communication with the Rajawali PTP Sugar Factory Manager about this incident and its mitigation efforts. Communication and consultation with several parties including the West Java Provincial Health Office and the Indonesian Ministry of Health Research and Development Ministry of Health. Research agency of Ministry of Health Jakarta together with a team from the Majalengka District Health Office conducted an investigation for additional case searches or cases that were cured, but experienced problems because they had already carried out activities outside the complex. On the job Training for the District TGC

Team from the Research agency of Ministry of Health, Jakarta, on several ways of collecting, storing and sending specimens to the Laboratory. Submission of the Specimen Management Guidebook to Outbreak Incidence and the TGC

Handbook for the Outbreak. Acceptance of Laboratory Results and based on the results of the Lab, this condition is determined as a Confirmation of outbreak. Analysis of the results of 2 specimens sent 1 was positive for HFMD.

Table 1. HFMD incidences in Jatitujuh Puskesmas September 2015

Age group	Frequency	%
< 5 years old	2	40
>= 5-10 years old	3	60
Total	5	100

Table 2. Number of Attack Cases of HFMD based on age group in the Jatitujuh Puskesmas Area September 2015

Age group	Frequency	Estimation of population at risk	Attack rate %
< 5 years old	2	15	13
>= 5-10 years old	3	20	15
Total	5	35	14

Table 3. Laboratory result. The incidence of HFMD in the Jatitujuh Puskesmas September 2015

Age group	Specimens sent	Results (+)%
< 5 years old	2	1 50
>= 5-10 years old	3	0 0
Total	5	1 50

DISCUSSION

Hand-foot-and-mouth disease (HFMD) is an acute systemic infectious disease, caused by enteroviruses, characterized by oral ulcer-shaped lesions and vesicle-shaped exanthema in the distal limb accompanied by mild constitutional symptoms and usually self-limiting disease (heal by itself) [2].

The diagnosis of enterovirus infection is often based on history and physical examination. Laboratory diagnosis can be made through serological testing, viral isolation with PCR culture and techniques⁸. Serological examination is rarely done because it cannot show specific serotypes of enterovirus⁷. The standard criteria for diagnosing enterovirus infection are virus isolation [11]. Viruses can be isolated and identified through culture and immunoassay techniques of skin lesions, mucosal lesions or fecal material [4]. Oral specimens have the highest isolation rates. In patients with skin disorders in the form of vesicles,

swabs from vesicles are good ingredients. In patients without vesicles, swabs from the rectum can be taken. For virus isolation, collecting [2] swabs is recommended from the throat and the other can be from vesicles or rectum [3, 11]. The results of a combination of throat and vesicle swabs are the most beneficial for patients with vesicles on the skin with or without oral ulcers.

In research conducted by Chang et al. in the EV 71 epidemic in Taiwan in 1998 it was found that the rate of EV isolation was significantly higher in throat swabs (93%) than rectal swabs (30%) [6].

Treatment of HFMD is supportive and is intended to relieve symptoms [1, 7, 9]. Until now there has been no effective antiviral treatment [7]. The absence of this antiviral causes sufferers to depend on the immune system to overcome the infection [5]. Do supportive measures by providing fluids and nutrients that enough, febrifuge (paracetamol or ibuprofen) if accompanied by fever, and adequate rest, HFMD treatment is

supportive and is intended to relieve symptoms [1, 7, 9].

Do not give food or drink that is spicy, sour, or carbonated, but is allowed to provide cold drinks such as ice cream, cold water, and ice water which can reduce pain in the mouth. Prevent dehydration by providing adequate fluid intake, because if the child has this disease, the child is lazy to drink and eat due to difficulty swallowing. Give soft / soft food so the child doesn't chew too long. In large children and can gargle, can be given antiseptic / analgesic mouth rinses [1, 10].

Most cases of HFMD are expected to be completely cured.³ HFMD is usually a self-sustaining disease, in which elevated serum antibodies eliminate viremia within 7 to 10 days [2, 8]. Serious complications are rare [3]. Sometimes cases associated with prolonged fever, systemic symptoms, diarrhea and joint pain have been reported HFMD infection causes immunity to specific viruses. If a second episode of the disease occurs, it is most likely to occur due to infection with another virus strain in the enterovirus group.

CONCLUSION

It is named as Singapore Flu because at that time there was an explosion of cases and deaths due to this disease in Singapore. Generally, it attacks children aged 2 weeks to 5 years (sometimes up to

10 years), while adults generally immune to this virus (coxsackie, enterovirus etc.). The incubation period (period from infection to complaint) is 3 to 7 days and can be completely cured 7-10 days.

Hand-foot-and-mouth disease (HFMD) is an acute systemic infectious disease, caused by enteroviruses, characterized by oral ulcer-shaped lesions and vesicle-shaped exanthema in the distal limb accompanied by mild constitutional symptoms and usually self-limiting disease (heal by itself).

Treatment of HFMD is supportive and is intended to relieve symptoms. Recently, there has been no effective antiviral treatment provided. The absence of this antiviral causes sufferers to depend on the immune system to overcome the infection. Perform supportive measures by providing fluids and nutrients sufficient, febrifuge (paracetamol or ibuprofen) if accompanied by fever, and adequate rest, HFMD treatment is intended to relieve symptoms.

Ethical clearance

Nil. This research was case-report.

Conflict of interest

All authors declared no conflict of interest

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