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Article

Teachers-Parents Awareness and Knowledge Towards Hands Foot Mouth Disease

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Abstract: Hand, Foot, and Mouth Disease (HFMD) is a highly contagious viral illness that primarily affects children. This study aimed to assess the awareness and knowledge of HFMD among teachers and parents, recognizing their crucial roles in disease prevention and management. Data were collected through surveys measuring respondents' perceptions of HFMD signs and symptoms, transmission, critical features, prevention, and treatment, as well as the management of an infected child. The results revealed significant disparities between teachers and parents across these aspects. Teachers exhibited a significantly higher level of awareness and knowledge regarding HFMD, with parents consistently lagging behind. These findings underscore the importance of targeted educational interventions to bridge the knowledge gap between teachers and parents, ultimately enhancing HFMD prevention and management practices for the well-being of children.

Keywords: HFMD, teachers parents' awareness, signs and symptoms

Introduction

Hand, foot and mouth disease (HFMD) is a common infectious disease of infants and children younger than 7 years old. Hu (2019) emphasized that the infection usually not only involves the hands, feet, mouth, but sometimes it also involves, genitals and buttocks. According to Guerra, Orille & Waseem (2022) hand, foot, and mouth disease is a common viral illness usually affecting infants. Outbreaks of HFMD occur every few years in different parts of the world, but in recent years these have occurred more in Asia (Lopez et al., 2021). Based on WHO (2023) reports, countries with recent large increases in the number of reported cases in Asia include: China, Philippines, Japan, Republic of Korea, Malaysia, Singapore, Thailand, Taiwan and Viet Nam. Similar empirical study of CDC (2022) stated that viruses that

cause hand, foot, and mouth disease occur worldwide and are more common in summer and fall in temperate climates. Large, severe outbreaks affecting thousands of people occur frequently in some countries in Asia.

WHO (2023) emphasized hand, foot and mouth disease is a common infectious disease that occurs most often in children, but can also occur in adolescents and occasionally, in adults. In most cases, the disease is mild and self-limiting, with common symptoms, including fever, painful sores in the mouth, and a rash with blisters on hands, feet and buttocks. HFMD are spread by direct contact with saliva, mucus, fluid from blisters and stool of infected people or indirectly when infected persons touch objects and surfaces which are then touched by others. It is also characterized by fever, painful sores in the mouth, and a rash with blisters on hands, feet and also buttocks (Shah et al., 2020).

Schmidt (2020) argued that although hand-foot-and-mouth disease is considered a mild disease, however it is contagious and it spreads quickly at schools' day care centers and within the family. According to Wang (2017) there is no specific medical treatment for hand, foot, and mouth disease. Thus, effective preventive and control measures include practicing personal hygiene and improving sanitation to minimize disease transmission (Cruz, 2020).

In the Philippines, public are advised to take precaution against hand, foot and mouth disease (HFMD) amid the increased in cases reported in Metro Manila. Moreover, the Department of Health in Central Visayas (DOH 7) has recorded 340 cases (101 of the cases were in Bohol, 126 were in Cebu, 68 were in Negros Oriental, and 45 were in Siquijor) of suspected and probable cases of Hand, Foot and Mouth Disease (HFMD) in the region from Jan. 1 to Feb. 11, 2023. Records also showed that the most affected age group was one to five years old, with majority of the infected being males.

According to Guerra et al. (2020) parental education is paramount in reducing the transmission of HFMD among children and also between children and adults. Early prevention such as handwashing has been proven to be an effective strategy in the prevention of HFMD transmission. Thus, parents should the awareness on the preventive measure signs and symptoms of HFMD. Despite the crucial insights from the previous reports and literature, assessing parents and teachers' awareness on the preventive measures and sign and symptoms of hands, foot, mouth and disease is still missing in the context of Department of Education, Olango Island, a province of Cebu. Furthermore, this study would contribute significant insights to Department of Education (DepEd), Local Government Units (LGU) and parents to mitigate proper prevention response in reducing the transmission of HFMD.

Methodology

The descriptive method of research was used in this study, which described data and the characteristics of the population under study. This method answered the questions who, what, where, when, and how. A descriptive is used when it aims to provide an accurate description of a situation or an association between variables from which one can then make some statements about a certain group or population. With the nature of our study, the respondent groups level of knowledge and awareness on hand mouth foot disease, hence it will be appropriate to use the mentioned research design. Moreover, data will be described and analyzed through data gathered using the research instrument. The study was conducted at Poo and Sta. Rosa Elementary School. Poo Elementary School is a public school that belongs to the Division of Lapu- Lapu. It is situated at Barangay San Vicente which approximately found in Olango Island. Awareness of HMFD. This questionnaire will be adopted from the study of Ruttiya & Tepata (2013), which focus on the Knowledge attitude and preventive behaviors towards hand foot and mouth disease among caregivers of children under five years old in Bangkok. Knowledge of HMFD. This questionnaire will be adopted from the study of Rajamoorthy et al. (2022), which focus on a community-based cross-sectional study.

Results and Discussion

Table 1. Signs and Symptoms

Indicators	Teachers		Parents	
	Mean	VD	Mean	VD
Persistent high fever	4.09	A	3.22	M
Ulcer at mouth and throat	4.00	A	3.20	MA
Limb weakness	4.00	A	3.04	MA
Lethargy	4.00	A	3.11	MA
Frequent vomiting	4.00	A	3.11	MA
Grand Mean	4.018	A	3.14	MA

Table 1 presents the signs and symptoms of illnesses among students at Sta Rosa Elementary School, as reported by both teachers and parents.The table shows the mean scores for each indicator, as well as the degree of awareness (VD) among both teachers and parents. The grand mean score for all indicators is 4.018, which suggests a high level of awareness among both teachers and parents. The indicators with the highest mean scores are persistent high fever, ulcer at mouth and throat, limb weakness, lethargy, and frequent vomiting, all with mean scores of 4.00. This suggests that these are the most commonly observed symptoms among students at the school. Both teachers and parents report being highly aware of these symptoms, with mean scores ranging from 3.04 to 4.09. However, the degree of awareness reported

by parents is slightly lower than that reported by teachers, with a grand mean score of 3.14 compared to 4.018 for teachers. This indicates the information provided in the table suggests that there is a high level of awareness among both teachers and parents regarding the signs and symptoms of illnesses among students at Sta Rosa Elementary School. However, it is important to note that the data is self-reported and may not reflect the true level of knowledge and awareness among teachers and parents.

Table 2. Transmission of HFMD

Indicators	Teachers		Parents	
	Mean	VD	Mean	VD
It is transmitted via oral route	4.00	A	3.13	MA
It is transmitted from infected sheep, cattle and swine.	4.00	A	3.20	MA
It can be spread from the care giver of the infected child	4.13	A	3.24	MA
It is transmitted by direct contact with the infected people from them	4.00	A	3.17	MA
Saliva	4.00	A	3.11	MA
fluid from the blisters	4.00	A	3.20	MA
Utensil	4.00	A	3.33	MA
Grand Mean	4.02	A	3.20	MA

Table 2 shows the level of awareness of the teachers and parents regarding the transmission of HFMD. The indicators include the means and the level of awareness of the respondents. The mean for the teachers' awareness is 4.02, which indicates that the teachers have a high level of awareness regarding the transmission of HFMD. On the other hand, the mean for the parents' awareness is 3.20, which indicates that the parents have a moderately aware level of awareness regarding the transmission of HFMD.The indicators show that both the teachers and parents are aware that HFMD is transmitted via the oral route, from infected animals, and through direct contact with infected people. They also know that the fluid from the blisters, saliva, and utensils can spread the disease. However, the mean for the level of awareness among parents is slightly lower compared to that of teachers, suggesting that parents need to be provided with more information about the transmission of HFMD. It is important to note that the transmission of HFMD can be prevented through good hygiene practices such as frequent hand washing, avoiding close contact with infected individuals, and disinfecting surfaces and objects that may be contaminated with the virus. Therefore, it is crucial to raise awareness among both teachers and parents about the importance of hygiene in preventing the transmission of HFMD.

Table 3. Clinical Features

Indicators	Teachers		Parents	
	Mean	VD	Mean	VD
Red spot and blister on hand	4.00	A	3.42	A
Itchy skin rash	4.00	A	3.22	MA
Mouth Ulcer	4.00	A	3.31	MA
Poor appetite	4.09	A	3.24	A
Vesicle at mouth, hand-palm, foot, bottom, knee Fever	4.23	A	3.51	A
Grand Mean	4.06	A	3.34	MA

The table shows the clinical features of HFMD as perceived by the teachers and parents of Sta. Rosa Elementary School. The mean score and the level of awareness or knowledge about each indicator are also presented. The highest mean score for teachers is 4.23, which corresponds to "Vesicle at mouth, hand-palm, foot, bottom, knee Fever." This means that the teachers have a strong awareness or knowledge about this clinical feature of HFMD. On the other hand, for parents, the highest mean score is 3.51, which indicates that they are only aware of this feature. The other clinical features such as "Red spot and blister on hand," "Itchy skin rash," "Mouth ulcer," and "Poor appetite" have mean scores ranging from 4.00 to 4.09 for teachers, indicating that they are aware of these features. However, for parents, the mean scores range from 3.22 to 3.42, which indicates only moderate awareness or knowledge about these features. The grand mean for teachers is 4.06, while for parents, it is 3.34. This suggests that teachers have a higher level of awareness or knowledge about the clinical features of HFMD compared to parents.

Table 4. Prevention and Treatment

Indicators	Teachers		Parents	
	Mean	VD	Mean	VD
Good personal hygiene is the main methods to control HFMD	4.05	K	3.13	MK
There is no vaccine to protect against HFMD infection at the moment	4.00	K	3.22	MK
Alcohol gel cannot kill the causative agent of HFMD	4.05	K	3.16	MK
Hand cleaning with water (without soap) is sufficient to prevent HFMD	4.05	K	3.56	MK
HFMD is treated with antibiotics	4.00	K	3.18	MK
Grand Mean	4.03	K	3.25	MK

Table 4 shows the awareness of teachers and parents regarding the clinical features of HFMD. The indicators included in the table are red spot and blister on hand, itchy skin rash, mouth ulcer, poor appetite, vesicle at mouth, hand-palm, foot, bottom, knee, and fever.

The mean scores for teachers and parents in identifying these clinical features are high, ranging from 4.00 to 4.23, indicating that they are generally aware of these symptoms. The highest mean score was for vesicles at mouth, hand-palm, foot, bottom, knee, and fever, with a mean of 4.23 for teachers and 3.51 for parents, showing that teachers have a higher awareness of this symptom than parents. The Grand Mean for teachers is 4.06, while for parents, it is 3.34, which indicates that teachers are more aware of the clinical features of HFMD than parents. This may be due to the fact that teachers are more familiar with the symptoms of HFMD because they interact with children who are more susceptible to the disease. This indicate that teachers and parents are generally aware of the symptoms of HFMD, with teachers being more knowledgeable than parents. This knowledge can be valuable in identifying and controlling the spread of HFMD among children.

Table 5. Management of Infected Child

Indicators	Teachers		Parents	
	Mean	VD	Mean	VD
Let the child rest	4.00	K	3.47	K
Reduce the fever by putting wet towel on child head	4.00	K	3.44	K
Give fever medication (e.g., Ibuprofen, Tylenol)	4.05	K	3.53	K
Clean the child's mouth carefully	4.00	K	3.40	K
Avoid breaking any vesicles or blisters	4.00	K	3.17	MK
Feed the child with nutritious food	4.05	K	3.47	K
Clean the child's faces or wash hand after cleaning the child's faces	4.05	K	3.49	K
Reduce contact between the sick child and healthy ones	4.00	K	3.47	K
Grand Mean	4.02	K	3.43	K

Table 5 shows the management practices that teachers and parents are knowledgeable about in handling an infected child. The grand mean for both teachers and parents is 4.02, which indicates that they are knowledgeable about the proper management practices for an infected child. Some of the management practices that both teachers and parents are knowledgeable about include letting the child rest, reducing the child's fever through the use of a wet towel or fever medication, cleaning the child's mouth carefully, feeding the child with nutritious food, and reducing contact between the infected child and healthy ones. However, there are still some practices that need improvement. For instance, parents are only moderately knowledgeable about avoiding breaking any vesicles or blisters, while teachers are moderately knowledgeable about cleaning the child's face or washing their hands after cleaning the child's face.

Table 6. Significant difference between respondent groups perception on the awareness and knowledge on HFMD

Aspects of Challenges	Mean	Std Dev	z stat	p - value	Decision
Signs and Symptoms	4.02 3.14	0.8224 0.5200	1.512	0.0207	Reject Ho Highly significant
Transmission of HFMD	4.02 3.20	0.7788 0.4004	1.821	0.0341	Reject Ho significant
Critical Features	4.06 3.34	0.6186 0.6023	4.241	0.0160	Reject Ho highly significant
Prevention and Treatment	4.03 3.25	0.3891 0.6542	3.229	0.0026	Reject Ho highly significant
Management of Infected Child	4.02 3.43	0.2824 0.5595	1.287	0.0412	Reject Ho significant

The study assessed various aspects of challenges related to Hand, Foot, and Mouth Disease (HFMD) and analyzed their mean scores, standard deviations, z-statistics, and p-values. The results indicated that there were significant differences in the perception of signs and symptoms associated with HFMD. The mean score for this aspect was 4.02, with a standard deviation of 0.8224. The z-statistic of 1.512 and p-value of 0.0207 indicated that the null hypothesis (Ho) could be rejected, suggesting a highly significant difference in the perception of signs and symptoms. Similarly, the transmission of HFMD showed significant differences among the respondents. The mean score was 4.02, with a standard deviation of 0.7788. The z-statistic of 1.821 and p-value of 0.0341 indicated that the null hypothesis (Ho) could be rejected, implying a significant difference in the perception of transmission. The critical features of HFMD also exhibited significant differences. The mean score was 4.06, with a standard deviation of 0.6186. The z-statistic of 4.241 and p-value of 0.0160 suggested that the null hypothesis (Ho) could be rejected, revealing a highly significant difference in the perception of critical features. Furthermore, the prevention and treatment of HFMD were perceived differently among the respondents. The mean score was 4.03, with a standard deviation of 0.3891. The z-statistic of 3.229 and p-value of 0.0026 indicated that the null hypothesis (Ho) could be rejected, signifying a highly significant difference in the perception of prevention and treatment. Lastly, the management of infected children also showed significant differences. The mean score was 4.02, with a standard deviation of 0.2824. The z-statistic of 1.287 and p-value of 0.0412 suggested that the null hypothesis (Ho) could be rejected, implying a significant difference in the perception of management. Overall, the study revealed that there were significant variations in the perception of different aspects related to HFMD among the respondents. These findings highlight the need for targeted interventions and educational programs to address the challenges and improve understanding and practices related to the

signs and symptoms, transmission, critical features, prevention and treatment, and management of HFMD.

The survey data reveals notable differences in the perception of teachers and parents regarding their awareness and knowledge of Hand, Foot, and Mouth Disease (HFMD). In terms of recognizing the signs and symptoms, teachers displayed a significantly higher awareness level (mean of 4.02) compared to parents (mean of 3.14), indicating a substantial disparity in their understanding of HFMD symptoms. Similarly, when it comes to the transmission of HFMD, teachers exhibited a more comprehensive understanding (mean of 4.02) than parents (mean of 3.20), highlighting a significant distinction between the two groups. Critical clinical features of the disease also yielded a substantial difference in perception, with teachers (mean of 4.06) showing a clearer understanding compared to parents (mean of 3.34). Moreover, in the areas of prevention and treatment, teachers had a significantly higher knowledge level (mean of 4.03) than parents (mean of 3.25). Finally, regarding the management of infected children, teachers (mean of 4.02) showed a greater understanding compared to parents (mean of 3.43), indicating a significant divergence in their perception. These findings emphasize the need for targeted educational efforts to bridge the gap in HFMD awareness between teachers and parents, with a particular focus on improving parental understanding of the disease.

Conclusion

The study conducted to assess the awareness and knowledge of Hand, Foot, and Mouth Disease (HFMD) among teachers and parents revealed some notable findings. Across various aspects, there were significant differences between the perceptions of teachers and parents. In terms of recognizing the signs and symptoms of HFMD, teachers exhibited a significantly higher level of awareness than parents. The same trend was observed in the understanding of the transmission of HFMD and its critical features. Furthermore, the disparities extended to knowledge about prevention and treatment methods, with teachers displaying a more informed perspective. Interestingly, in the management of an infected child, while there was a significant difference, it was parents who appeared to have slightly better knowledge. These findings highlight the importance of targeted educational campaigns to bridge the knowledge gap between teachers and parents, ultimately contributing to better HFMD prevention and management practices.

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