

# Access of Knowledge on Hand, Mouth, and Foot Disease among the Mothers of Under-five Children and Nurses at Pediatric Wards in Select Hospitals

Sherin Nithya Suria Prakash

## ABSTRACT

**Background:** Children are the backbone of the nation. Among under-five children from the year 2012 to 2016, more than one million HMFD (hand, mouth, and foot disease) cases have been reported in India. HMFD is a viral infection caused mainly by Coxsackievirus-16 and sometimes Enterovirus-17.

**Materials and methods:** The research design used for this study was a descriptive comparative research design. Sixty samples (30 mothers of under-five children and 30 staff nurses from pediatric ward) were selected by using purposive sampling technique. The study was conducted at pediatric ward at MGMCRI (Mahatma Gandhi Medical College and Research Institute) in Puducherry.

**Result:** This result showed that knowledge regarding HMFD of the staff nurses is more than that of the mothers of under-five children and there is no significant association between the knowledge regarding the HMFD among the mothers of under-five children with selected demographic variables. Demographic variables of clinical experience and area of postings among staff nurses are statistically significant.

**Conclusion:** There is a need to be aware of HMFD among the mothers of under-five children and nurses. Screening is necessary to detect the hand, mouth and foot disease among children.

**Keywords:** Assess, Hand, mouth, and foot disease, Knowledge, Mothers of under-five children, Nurses.

*Pondicherry Journal of Nursing* (2020): 10.5005/jp-journals-10084-12164

## INTRODUCTION

Children are the backbone of the nation and development of any nation depends on the health and well-being of its child population. All children have the right to have a protective environment. Today, more than one billion under-five children in the world are exposed to the problem of under-nourishment.<sup>1</sup> Among them, from the year 2012 to 2016, more than one million HMFD (hand, mouth, and foot disease) cases have been reported in India.<sup>2</sup> HMFD is a viral infection caused mainly by Coxsackievirus-16 and sometimes Enterovirus-17.<sup>3</sup> It is typically a benign and common illness among under-five children and infants characterized by rapidly ulcerating vesicles in the mouth and lesions.<sup>4</sup> It spreads from person to person usually through unwashed hands, contaminated surfaces, or direct contact with the mucus, saliva, or feces of the infected person.<sup>5</sup> It is most common among children in child-care setting where diaper changing and potty training are constant and little hands are in and out of the mouth frequently. Incubation period is 3–7 days. Fever is often the first sign and is of low grade, usually followed by a sore throat, sometimes with poor appetite and malaise.<sup>6</sup> This proteome may be absent or mild and occur 1–2 days before oral and skin lesions. The first case in South East Asia was identified in China in 1891.<sup>7</sup> The first true epidemic of HFMD in India occurred in 2007, although literature had shown a first reported case in Calicut in the year 2004. In 2015, 17,462 cases were reported in a short span in Thailand. The global statistics of HMFD incidence rate is 26.81 cases per 100,000 under five population per year.<sup>8</sup> According to the National statistic on HMFD spread across India over last five years, the epidemic has been continuing with an

Department of Child Health Nursing, Kasturba Gandhi Nursing College, Puducherry, India

**Corresponding Author:** Sherin Nithya Suria Prakash, Department of Child Health Nursing, Kasturba Gandhi Nursing College, Puducherry, India, Phone: +91 9677025457, e-mail: sherinnithyaa@gmail.com

**How to cite this article:** Suria Prakash SN. Access of Knowledge on Hand, Mouth, and Foot Disease among the Mothers of Under-five Children and Nurses at Pediatric Wards in Select Hospitals. *Pon J Nurs* 2020;13(3):51–53.

**Source of support:** Nil

**Conflict of interest:** None

average annual incident rate of about 85.78 cases per 1,00,000 populations per year. The most common age was less than three years old (72.85%).<sup>9</sup> The northern region of India had been reported as the highest incident rate area at 31.05 per 100,000 population, followed by the central region 24.55 per 100,000 population.<sup>10</sup> The scientific clinical analysis related to HMFD helps in early diagnosis and treatment to prevent the complications and to implement the precautionary measures.

## OBJECTIVES

- To assess the knowledge on HMFD among mothers of under-five children and nurses in pediatric wards.
- To compare the knowledge on HMFD among the mothers of under-five children and nurses in Pediatric wards.
- To associate the knowledge on HMFD among mothers of under-five children and nurses with selected demographic variables.

**HYPOTHESIS**

H1: There is a difference between the level of knowledge on HMFD among mothers of under-five children and nurses at pediatric wards.

H2: There is association between the level of knowledge on HMFD among mothers of under-five children and nurses with selected demographic variables.

**MATERIALS AND METHODS**

The research design used for this study was quantitative research approach and descriptive comparative research design. Sixty samples (30 mothers of under-five children and 30 staff nurses from pediatric ward) were selected by using purposive sampling sample technique. The study was conducted at pediatric ward at MGMCRI in Puducherry to create awareness among the mothers of under-five children and nurses in pediatric ward about endemic disease of HMFD, to compare the knowledge of HMFD among the mothers and staff nurses, and gain adequate knowledge about this condition. Tools used for this study to collect data are: Part-1: sociodemographic variables for mothers and staff nurses. Part-2: knowledge questionnaire on HMFD among the mothers of under-five children and staff nurses. After the data collection, the data was analyzed by using descriptive and inferential statistics like frequency, percentage, mean, and standard deviation. Chi-square test was used to find the association.

**RESULTS**

Table 1 shows that majority of the mothers had 15 (50%) inadequate knowledge on HMFD, 12 (40%) had moderate knowledge on HMFD and 3 (10%) had adequate knowledge on HMFD. Table 2 represents that majority of staff nurses 22 (73.3%) had moderate knowledge on HMFD, 5 (16.7%) had inadequate knowledge and 3 (10%) had adequate knowledge. Table 3 reveals that the knowledge among

**Table 1:** Frequency and percentage distribution variables of level of knowledge of mothers of under-five children

Knowledge	Frequency	Percent
Inadequate	15	50
Moderately adequate	12	40
Adequate	3	10
Total	30	100

**Table 2:** Frequency and percentage distribution variables of level of knowledge of nurses in pediatric ward

Knowledge	Frequency	Percent
Inadequate	5	16.7
Moderately adequate	22	73.3
Adequate	3	10
Total	30	100

**Table 3:** Comparative study of the knowledge of hand, mouth, and foot disease among the mothers of under-five children and staff nurses in pediatric ward

Knowledge	Number of sample	Mean	Std. deviation	Std. error mean	Independent t test	p value
Staff nurses	30	12.63	3.653	0.667	3.189	0.002
Mothers	30	9.33	4.334	0.791		

*p* < 0.001\*\*

the mothers of under-five children, mothers' mean score value is 9.33 with standard deviation of 4.334 and the knowledge of staff nurses' mean score value is 12.63 with standard deviation of 3.653, which is statistically significant at *p* < 0.001\*\* level. This result strongly indicates that knowledge regarding HMFD of the staff nurses is more than the mothers of under-five children.

Associations tested among mothers with demographic variables showed that there is no significant association between the demographic variables (such as age of the mother, education status, occupation, residential area, family type, religion, number of children, age of the child, developmental stage of child, dietary pattern, and defecation mode) with the knowledge regarding the HMFD among the mothers of under-five children. Hence, the stated research hypothesis (H1) was accepted.

Association tested among staff nurses with demographic variables showed that these demographic variables of clinical experience are statistically significant and area of posting is highly significant (*p* < 0.001\*\*) with the knowledge regarding the HMFD among the staff nurses. Hence, the stated research hypothesis (H2) was accepted.

**DISCUSSION**

The result reveals that among the under-five children's mothers, 15 (50%) had inadequate knowledge on HMFD, 12 (40%) had moderate knowledge, and 3 (10%) had adequate knowledge. Majority of staff nurses, that is, 22 (73.3%) had moderate knowledge on HMFD, 5 (16.7%) had inadequate knowledge, and 3 (10%) had adequate knowledge. A study was conducted to assess the knowledge on HMFD among the mothers of under-five children and nurses at pediatric ward at MGMCRI in Puducherry. This study reveals that the staff nurses had more knowledge on HMFD compared to that of the mothers of under-five children.<sup>11</sup> The knowledge of the mothers of under-five children mean score value is 9.33 with standard deviation of 4.334 and the knowledge of staff nurses mean score value is 12.63 with standard deviation of 3.653, which is statistically significant at *p* < 0.001\*\* level. This result strongly indicates that knowledge regarding HMFD of the staff nurses is more than that of the mothers of under-five children. Hence, the stated research hypothesis (H1) was accepted. Association of knowledge on HMFD among mothers of—under-five children and nurses with selected demographic variables was done by using Chi-square test. There is no significant association between the demographic variables with the knowledge regarding the HMFD among the mothers of under-five children. Under the demographic variables, the clinical experience and area of clinical posting of staff nurses are highly associated with the knowledge on HMFD.<sup>12</sup> It showed the staff nurses at pediatric wards have adequate knowledge about disease condition on HMFD.

**CONCLUSION**

This study indicates that the mothers of under-five children have inadequate knowledge on HMFD. There is need of awareness on HMFD among the mothers of under-five children and nurses.



Screening is necessary to detect the HMFD among the under-five children. Therefore, special attention that plays an important role to implement services on knowledge upgradation on diseases pattern and care for mothers to prevent the disease among children and improve the quality of life of the affected children is to be refined.

### DECLARATION OF THE STUDY PARTICIPANTS

The author has certified that appropriate consent forms have been obtained from all study participants. The study subjects were informed that their names and initials will not be published and due efforts will be put to conceal their identity, but anonymity cannot be guaranteed.

### REFERENCES

1. <https://stm.fichild-strategy>, <https://www.dcy.gov.ie>.
2. Vincent WF. Hand foot and mouth disease. Quest diagnostics Infectious disease update. *Indian J Commun Pediatr* 2016;20: 49–56.
3. Melnick JL. Enteroviruses: polioviruses, coxsackieviruses, echoviruses, and newer enteroviruses. In: Fields BN, Knipe DM, Howley PM, ChandlockRM, Melnick JL, Monah TP, et al., ed. *Field's virology*. 3rd ed., Philadelphia: Lippincott-Raven Publishers; 2015. pp. 655–712.
4. Sarma N. Hand, foot, and mouth disease: current scenario and indian perspective. *Indian J Dermatol Venereol Leprol* 2017;79(2):165–175. DOI: 10.4103/0378-6323.107631.
5. Chen CT, Chang HL, Wang ST, Cheng YT, Yang JY. Epidemiologic features of hand-foot mouth disease and herpangina caused by enterovirus 71 in Taiwan. *Asian J Commun Pediatr* 2017;120(2): e244–e252.
6. Huang CC, Liu CC, Chang YC, Chen CY, Wang ST, Yeh TF. Neurologic complications in children with enterovirus 71 infection. *N Engl J Med* 2015;341(13):936–942. DOI: 10.1056/NEJM199909233411302.
7. Bureau of Epidemiology, Thailand. Guideline for disinfection and sterilization in health care facilities; 2016 Aug 16, from: <http://itnan1.ednan1.go.th/uploads/00443-0.pdf>.
8. Office of Disease Prevention, Control 10th Chiang Mai. Hand foot mouth prevention and control in Upper northern part. Annual communicable report, 2016 Aug from: <http://odpc1.ddc.moph.go.th/index01.html>.
9. Chiang Rai Public Health Provincial Office. Annual report 2014; 2016 Aug, from: <http://healthkpi.moph.go.th/kpi/kpi/index/>.
10. Prathan K, Kaanpokkhong T, National institute of development administration. 2017 [www.nida.ac.th/en/index.php/nida-research](http://www.nida.ac.th/en/index.php/nida-research).
11. Thanet J, Kaanpokkhong T, Thai local political. Kobpai (in Thai); 2015. Available from: [www.nida.ac.th/en/index.php/nida-research](http://www.nida.ac.th/en/index.php/nida-research).
12. Wahab ZA, Kasri AR, Jahis R, Mohamed Ghazali IM. Guidelines of hand mouth and foot disease. *Int J Multidiscip Res Stud* 2017. 1–15.