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### Effectiveness of Teaching About Preventing and Detecting Complications of Hand, Foot, and Mouth Disease at My Phuoc Hospital

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UNIVERSITY OF NORTHERN COLORADO

Greeley, Colorado

The Graduate School

EFFECTIVENESS OF TEACHING ABOUT PREVENTING AND  
DETECTING COMPLICATIONS OF HAND, FOOT, AND  
MOUTH DISEASE AT MY PHUOC HOSPITAL

A Thesis Submitted in Partial Fulfillment  
of the Requirements for the Degree of  
Master of Science

Ha Thi Kim Phung

College of Natural and Health Sciences  
School of Nursing  
Advanced Nurse Generalist

December 2019

This Thesis by: Ha Thi Kim Phung

Entitled: *Effective of Teaching About Preventing and Detecting Complications of Hand, Foot, and Mouth Disease at My Phuoc Hospital*

has been approved as meeting the requirement for the Degree of Master of Science in the College of Natural and Health Sciences, School of Nursing, Advanced Nurse Generalist program

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## ABSTRACT

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Hand, foot, and mouth disease (HFMD) is an infectious illness that affects millions of people, especially children under five years of age. The social impact of severe HFMD to the health community, family members, and children is also of big concern. In the south of Vietnam, Binh Duong province is located in the area affected by HFMD. Unfortunately, caregivers have little knowledge to prevent and detect HFMD severity in children. The research question asked how effective teaching about HFMD was to improve knowledge of caregivers for detecting HFMD severity in children under five years of age at My Phuoc Hospital in Binh Duong Province, Vietnam. Therefore, the purpose of this quasi-experimental study was to determine the effectiveness of HFMD teaching to improve knowledge for preventing and detecting severe HFMD in children less than five years of age.

In the analysis section, data were extracted from 52 caregivers caring for children under five years of age before and after a health education session. The results showed the intervention measures improved knowledge about HFMD in participants after the intervention. In the pretest, 34.6% caregiver had levels of poor and very poor understanding, 38.5% had moderate levels, and 26.9% had good and very good knowledge levels. This finding compared with 86.5% caregivers who achieved very good knowledge levels after intervention.

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## TABLE OF CONTENTS

CHAPTER I. INTRODUCTION.....	1
Background Information.....	2
Problem Statement and Purpose .....	2
Theoretical Framework.....	4
Assumptions.....	5
Research Question and Hypotheses .....	6
Significance of the Research.....	6
Limitations of the Research .....	6
CHAPTER II. LITERATURE REVIEW .....	7
Epidemiology of Hand, Foot, and Mouth Disease.....	7
Signs and Symptoms of Hand, Foot, and Mouth Disease.....	8
Risk Factors of Hand, Foot, and Mouth Disease Severity .....	8
Burdens of Hand, Foot, and Mouth Disease .....	9
Management of Hand, Foot, and Mouth Disease .....	19
Hand, Foot, and Mouth Disease Prevention and Treatment .....	11
CHAPTER III. METHODOLOGY .....	12
Introduction.....	12
Research Design/Structure.....	12
Population, Research Sample, and Sampling Method .....	12
Research Methodology .....	13
Collection of Data .....	14
Analysis of Data.....	14
Ethical Considerations .....	14
Conclusion .....	15
CHAPTER IV. DATA ANALYSIS AND RESEARCH FINDINGS .....	16
Description of the Sample.....	17
Assessment of Level of Knowledge about Preventing and Detecting Complications of Hand, Foot, and Mouth Disease .....	22

CHAPTER V. DISCUSSION.....	32
Study Limitations.....	33
Recommendations.....	34
Conclusion .....	34
REFERENCES .....	35
APPENDIX A. QUESTIONNAIRE ASSESSING CAREGIVER KNOWLEDGE REGARDING HAND, FOOT, AND MOUTH DISEASE IN CHILDREN UNDER FIVE YEARS OF AGE IN ENGLISH AND VIETNAMESE .....	38
APPENDIX B. CONSENT FORM TO PARTICIPATE IN HUMAN RESEARCH.....	46
APPENDIX C. GUIDELINE FOR HAND, FOOT, AND MOUTH DISEASE DISTRIBUTED AT EDUCATION SESSION .....	51
APPENDIX D. PERMISSION TO CONDUCT RESEARCH FROM DIRECTOR OF MY PHUOC HOSPITAL .....	56
APPENDIX E. HONG BANG INTERNATIONAL UNIVERSITY ETHICS COMMITTEE AND UNIVERSITY OF NORTHERN COLORADO INSTITUTIONAL REVIEW BOARD APPROVALS .....	58

## LIST OF TABLES

1.	Demographic Description of Sample.....	18
2.	Age of Sample.....	19
3.	Caregivers of Children.....	19
4.	Participants' Level of Education.....	20
5.	Careers of Child Caregivers.....	20
6.	Sources of Information about Hand, Foot, and Mouth Disease.....	21
7.	General Knowledge of Caregivers Regarding Hand, Foot, and Mouth Disease .....	23
8.	Detecting Hand, Foot, and Mouth Disease: Pretest and Posttest.....	24
9.	Pretest and Posttest Level of Knowledge About Detecting Complications of Hand, Foot, and Mouth Disease .....	26
10.	Pretest Knowledge of Hand, Foot, and Mouth Disease .....	27
11.	Pretest Knowledge about Severe Complications of Hand, Foot, and Mouth Disease .....	28
12.	Posttest Knowledge of Hand, Foot, and Mouth Disease .....	29
13.	Posttest Knowledge Regarding Severe Complications of Hand, Foot, and Mouth Disease.....	30
14.	Correlations Among Knowledge about Hand, Foot, and Mouth Disease and Demographic Factors.....	31



## LIST OF FIGURES

1. The Neuman system model..... 5

## **CHAPTER I**

### **INTRODUCTION**

Nowadays, more infectious diseases can cause major outbreaks killing thousands of people, many of whom are children. Hand, foot, and mouth disease (HFMD) is an infectious illness that affects millions of infants and children around the world but it particularly affects Asia and Southeast Asia. Hand, foot, and mouth disease is defined as a viral illness that is mainly transmitted through the gastrointestinal tract. Two types of HFMD viruses are common in Asia and Southeast Asia: Enterovirus 71 (EV71) and Coxsackie virus. This disease usually affects infants and children under five years of age. Common symptoms of HFMD include fever, sore throat, and a rash with blisters on hands, feet, and buttocks. In addition, some serious signs of HFMD such as meningitis, encephalitis and polio-like paralysis could cause even fatal complications for children (World Health Organization [WHO], 2011). In 1997, large outbreaks of HFMD caused by Enterovirus 71 were reported mostly in children in East and Southeast Asia. In 2009, the WHO reported an outbreak in China of 1,155,525 cases including 13,810 severe cases and 353 deaths. In 2011, the Vietnamese Ministry of Health (VMOH, 2012) reported a large outbreak of HFMD that occurred; 113,121 children sought medical attention and there were 170 deaths. In the August 2018 report, there were over 50,000 HFMD cases with six deaths in 63 provinces of Vietnam (VMOH, 2018).

The increase in the number of people suffering from this disease could be traced to the limited knowledge in the community on how to control the spread of this disease,

which has consequently led to an increase in the cost of health care and added to the burden on health systems of treating patients and controlling the spread of the disease (Koh et al., 2018). The WHO (2011) provided guidelines to prevent and manage HFMD in 2007. In Vietnam, Duyen (2018) conducted a survey of knowledge, practices, and factors related to HFMD prevention of caregivers for children less than five years of age in Khanh Hoa provinces of Vietnam. The results showed only 20.6% of caregivers had a moderate level of knowledge about HFMD. Duyen's study showed caregivers had little knowledge and practice about HFMD to protect their children. Therefore, the need for health promotion in HFMD guidelines would improve caregivers' HFMD knowledge.

### **Background Information**

Binh Duong is in a province in southeast Vietnam and located 30 km from Ho Chi Minh City center along National Highway 13. The population of Binh Duong is over two million people and is Vietnam's seventh largest population center. Binh Duong has a large number of migrants who work in various industries, the majority of migrants are young and have children under five-years-old. According to the Binh Duong government, the number of HFMD cases in Binh Duong province has increased dramatically over the past few years (Chi, 2019). In 2018, Binh Duong province recorded 7,437 cases of HFMD including one death (Chi, 2019).

### **Problem Statement and Purpose**

The social impact of severe HFMD to the health community, family members, and children is a big concern. Along with the social burden, the economic burden can lead to a reduction in the quality of life. Zheng et al. (2017) stated that mean total costs for mild outpatients were \$201, costs for mild inpatients were \$1,072, and costs for

severe and fatal cases were \$3,051 and \$2,819, respectively. Thus, quality adjusted life years lost per HFMD episode for mild inpatients and severe cases were from 3.6 to 13.7 per 1000 people (Zheng et al., 2017).

In 2011, VMOH provided a guideline to prevent and manage HFMD. The guideline issued was based on HFMD guidelines from the guidelines of WHO (VMOH, 2011). The guidelines were formulated to rapidly identify HFMD and standardize treatment procedures to efficiently resolve severe life-threatening complications and reduce mortality. The guidelines are designed to ensure nurses monitored patients in a timely way in order to detect and avoid missed events as well as outline interventions that could be used to reduce the level of damage to organs (VMOH, 2011)

This project was conducted to determine how effective a teaching intervention would be for caregivers to improve their knowledge about overall prevention as well as detection of severe symptoms of HFMD in children less than five years of age at a hospital in Binh Duong province. This was important because a study by Koh et al. (2018) reported that children under five have high rates of HFMD.

The purpose of this study was to determine the effectiveness of teaching HFMD guidelines to change the knowledge of caregivers of under five-year-old children in preventing and detecting HFMD severity. The study would also determine how much knowledge was required to prevent and detect HFMD severity by caregivers of children under five-years-old prior to providing the HFMD guidelines; following being provided with HFMD guidelines concerning the prevention and detection of HFMD severity, the extent of the knowledge acquired by caregivers would be measured. In addition,

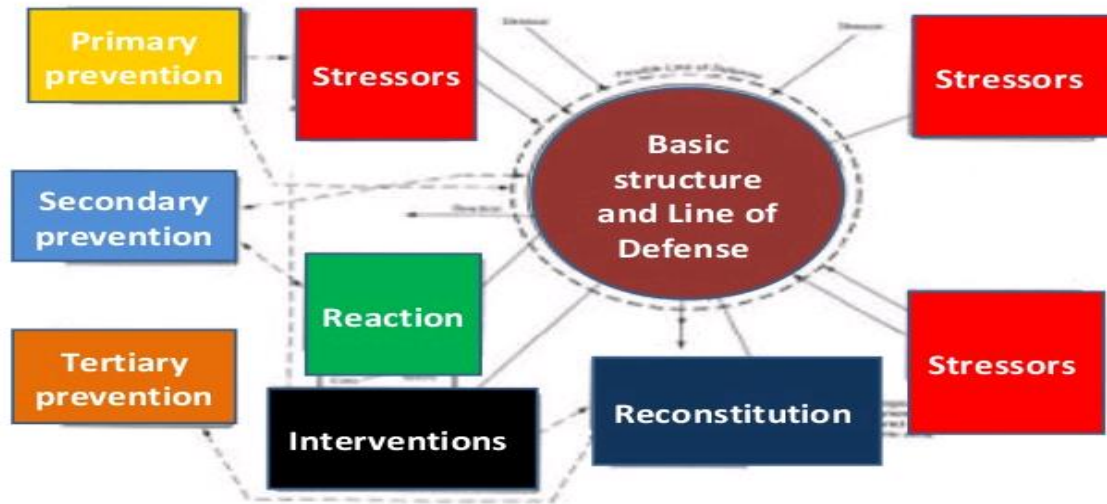
demographic data were collected to examine any correlation of knowledge about HFMD before and after health education.

### **Theoretical Framework**

Neuman's (Neuman & Fawcett, 2002) system model described primary, secondary, and tertiary nursing prevention interventions to achieve and manage the wellness of an individual (see Figure 1). Primary prevention is centered on interventions to lessen the possibility a person might become ill. It is necessary in this phase to reduce any risks to a patient's well-being. These interventions are related to health promotion and maintenance of wellness. Primary prevention relates to general knowledge applied in client assessment and intervention in identification. Secondary prevention is used after the system reacts to a stressor. In this case, medical treatment is prescribed to reduce or remove the threat to the patient. Secondary prevention related to symptomatology following a reaction to stressors and appropriate ranking of intervention priorities and treatment to reduce their noxious effects. Tertiary prevention occurs after the system has been treated. Tertiary prevention is related to the adaptive process taking place as reconstitution begins and maintained factors move the client back in a circular manner towards primary prevention. At this stage, clinical personnel would offer support to the patient and take necessary measures to bolster the patient's well-being and maintain the factors that first caused the person to become ill (Neuman & Fawcett, 2002).

Neuman's (Neuman & Fawcett, 2002) theory also defined primary prevention and secondary prevention that focused on health promotion and maintenance of wellness. Therefore, in this research, Neuman's system model was used as framework to develop interventions for caregivers in order to prevent under five-year-old children from

contracting HFMD as well as detect HFMD severity through a HFMD guideline provided to caregivers.



*Figure 1.* The Neuman system model (Neuman & Fawcett, 2002)

### Assumptions

The following assumptions were made regarding this study:

- The tool used would elicit reliable feedback.
- Respondents would fully understand the questions they were asked.
- Respondents would provide honest statements about their knowledge.
- The researcher would provide a guide and explain the content of the participant's guide and return to the evaluation after four days.

## **Research Question and Hypotheses**

The following research question and hypotheses guided this study:

- Q1 How effective is teaching the HFMD guidelines to improve knowledge for detecting HFMD severity in under five-year-old children in family caregivers at a hospital in Binh Duong province?
- H1 Hand, foot, and mouth diseases guidelines will improve caregivers' knowledge for detecting severity of HFMD in children less than 5 years at a hospital in Binh Duong province.
- H01 There will be no real difference detected in caregivers' knowledge about prevention and detection of HFMD severity pre-and post-guideline instruction.
- H02 There is no correlation between population characteristic and knowledge of prevention and detection of HFMD severity in pre-test and post-test.

### **Significance of the Research**

Results from this intervention study could be useful as a baseline for experts and researchers interested in pursuing similar studies. In addition, the study provided information to parents or caregivers regarding HFMD care and the detection of severe symptoms. This study facilitated further studies to intervene in attitudes and behaviors of caregivers as well as children with HFMD.

### **Limitations of the Research**

This study used a convenience sample so the results did not represent the whole population.

## CHAPTER II

### LITERATURE REVIEW

#### **Epidemiology of Hand, Foot, and Mouth Disease**

Hand, foot, and mouth disease is an infectious illness caused by group of human viruses including Coxsackievirus 16 (CA16) and Enterovirus 71 (EV71) from members of the Picornaviridae family and genus Enterovirus (Han et al., 2014). In Vietnam, from 2011-2015, 514 of 2,230 (23%) of HFMD cases were caused by Coxsackievirus A6 (CV-A6) and of those 514 cases, 93 (18%) had severe HFMD (Nguyen et al., 2014). The viruses were mainly transmitted through direct contact with drainage from infected tissues such as saliva, blister fluid, or stool. A child with HFMD usually presents with a mild fever accompanied by headache, sore throat, and general malaise. Eventually, blister-like sores develop on the hands, feet, and buttocks of the child. Most of the children with this disease also suffer from ulcers in the mouth and throat, leading to loss of appetite. Hand, foot, and mouth disease is closely related to poor hygiene and close contact with infected persons. This disease can be severe, leading to neurological complications. Fever for more than three days, vomiting, limb trembling, dyspnea, rashes on the hips, pathologic reflexes, lethargy, convulsions, and EV71 infection are risk factors for severe HFMD (Sun, Chen, Chen, An, & Zhou, 2018).

In 2014, Nguyen et al. examined 169 medical records of HFMD deaths in 2011 in all Vietnam hospitals to find epidemiological and clinical characteristics from these cases: 87% were children three-years-old or younger, 69% were male, 18% attended



daycare, 89% lived in southern Vietnam, 85% of the deaths occurred between May and October 2011, and 77% cases needed three days of treatment at a hospital. However, the records did not have full information of patients during their course of disease (Nguyen et al., 2014).

### **Signs and Symptoms of Hand, Foot, and Mouth Disease**

The Centers for Disease Control and Prevention (CDC, 2017) described some signs and symptoms of HFMD. This common viral illness usually affects infants and children younger than five-years-old; sometimes, however, it occurs in adults. Signs and symptoms of HFMD include fever, reduced appetite, sore throat, and a feeling of being un-well (malaise). Patients might develop painful sores in the mouth (herpangina) after one or two days of fever; they begin with small red spots, often in the back of the mouth, that blister and can become painful. Some patients have skin rashes on the palms of the hands and soles of the feet that develop over one or two days as flat, red spots, sometimes with blisters. These lesions might also appear on the knees, elbows, buttocks, or in the genital area. Young children might get dehydrated if they are not able to swallow enough liquids because of loss of eating or drinking due to painful mouth sores (CDC, 2017).

### **Risk Factors of Hand, Foot, and Mouth Disease Severity**

Fang et al. (2014) completed a meta-analysis about risk factors of severe hand, foot, and mouth disease. Data were collected from the following electronic databases: PubMed, Elsevier Science Direct, the Cochrane Library, Chinese Biomedical Literature Database (CBM), China National Knowledge Infrastructure (CNKI), and Wan fang (Chinese). They showed EV71 was one of pathogens of HFMD and young age and home

care were related to risk factors for severe HFMD. However, factors about homecare of HFMD patients were not found to be significant with  $p$ -value of .44 (Fang et al., 2014).

Shi et al. (2018) collected data on HFMD cases from May 2, 2008 to December 31, 2016 from the National Infectious Disease database in China. The results noted boys younger than four years of age living in urban areas were more prone to reinfection. Shi et al. indicated specific health education and intervention should be developed to protect these susceptible populations.

A meta-analysis by Sun et al. (2018) found fever, vomiting, lethargy, convulsions, and contact with HFMD children were risk factors of severe HFMD. Their study also showed severe HFMD was associated with fever for more than three days, limb trembling/shaking, dyspnea, pathologic reflexes, and repeated EV71 infection. Any of these factors increased the possibility of developing severe HFMD. Therefore, Sun et al. recommended early recognition and meticulous management of patients with these risk factors was essential.

### **Burdens of Hand, Foot, and Mouth Disease**

Koh et al. (2018) provided a comprehensive picture of HFMD disease burden: infection risk, symptomatic rates, risk of complications and death, and overall disability-adjusted life-year (DALY) losses along with its associated uncertainties. They constructed a series of models and indices that described the entire spectrum of HFMD severity. These findings were translated into age-weighted disability-adjusted life-years for comparison to other diseases. Overall, the years of life lost due to HFMD were higher than dengue and upper respiratory tract infection because the majority of the disability-

adjusted life-years lost were caused by years lived with disability for the latter two diseases (Koh et al., 2018).

### **Management of Hand, Foot, and Mouth Disease**

The World Health Organization first provided guidelines to prevent and manage HFMD in 2011. The guidelines showed how to identify and clinically manage HFMD. In addition, the guidelines helped healthcare workers detect impending outbreaks, monitor circulating infectious agent, estimate the magnitude of HFMD in the population at risk, and estimate the magnitude of HFMD complications in the population at risk (WHO, 2011).

In 2012, VMOH provided a guideline to prevent and manage HFMD. This guideline was drawn from the WHO (2011) guideline. The guideline showed how to manage HFMD, outlined how to rapidly identify HFMD, and reinforced the importance of identifying severe life-threatening complications in order to reduce mortality and the level of damage to organs (VMOH, 2012).

Duyen (2018) conducted a survey about knowledge, practices, and factors related to HFMD prevention in caregivers for children less than five years of age in Khanh Hoa provinces of Vietnam. The findings showed only 20.6% of caregivers had a moderate level of knowledge about HFMD and little knowledge about how to protect their children.

In a study in Bangkok, Thailand, Charoenchokpanit and Pumpaibool (2013) indicated 50.4% of caregivers had low knowledge and only 3.7% had high overall knowledge about HFMD.

## **Hand, Foot, and Mouth Disease Prevention and Treatment**

Guo et al. (2018) conducted an intensive education intervention on hand hygiene in caregivers and children with HFMD. The study showed knowledge improvement in both children and parents and a reduction in the incidence of HFMD following the intervention. In order to take the initiative in preventing and treating HFMD, VMOH (2018) recommended that people and communities take the following measures:

1. Wash your hands often with soap, preferably under running tap water (both adults and children), especially before preparing food, before eating/feeding, before holding the baby, after going to the bathroom, and after changing diapers and cleaning the baby.
2. Good hygiene and eating: eating cooked, ripe foods; eating utensils must be cleaned before use (preferably in boiling water); all food and toys should be cleaned in safe water. Children should not share napkins, handkerchiefs, utensils such as bowls, plates, spoons, mugs, and unclean toys.
3. Regular cleaning of children's toys, cleaning of surfaces, such as learning tools, door handles, stair rails, desk/chair, floor with soap or other ordinary detergent.
4. Do not expose children to actual or suspected illness.
5. Hygienic latrines, excreta, and waste from patients should be collected and disposed of in sanitary latrines.
6. When children show signs of suspected illness, they should immediately be taken to medical facilities for examination, counseling and treatment.

## **CHAPTER III**

### **METHODOLOGY**

#### **Introduction**

This chapter describes the research method used in this study. Every component involved in the research from the study population and research setting is included along with sample inclusion and exclusion criteria. The technique used for the interviews is also described. In addition, reliability, validity, and the selected mode of analysis are also addressed in this chapter. Finally, the chapter provides the ethical considerations in the study.

#### **Research Design/Structure**

This study used a quantitative, descriptive survey to examine knowledge about the prevention and detection of HFMD severity before and after providing an educational intervention about the guidelines. In addition, there was a correlational survey of the relationship between knowledge prevention and detecting HFMD severity and population characteristics. This design enabled collection of data and analyzed the relationships among knowledge prevention and detecting HFMD severity and characteristics of caregivers. A survey was designed to obtain information regarding caregivers' knowledge about preventing and detecting HFMD severity.

#### **Population, Research Sample, and Sampling Method**

The study population consisted of people caring for children under five years of age. Exclusion criteria were caregivers who could not read, declined to participate, or

those not caring for children under the age of five. Inclusion criteria consisted of being able to read, being a caregiver for children under the age of five at My Phuoc Hospital, and agreed to participate in the study.

### **Research Methodology**

All caregivers who met the selection criteria and agreed to participate in the study completed a self-report questionnaire before and after being provided with the guidelines (see Appendix A). In this study, self-report bias might have been a limitation as assessment of all variables represented in this study depended on self-report measures and as such, only represented acknowledged prevention and detection HFMD severity. However, a self-report questionnaire had the following advantages: it provided absence of interviewer effect; it was low in cost; it involved a large number of subjects; and it had a fair degree of reliability since the wording and order are the same and respondents remained anonymous.

### **Sample Size**

Because of limited time, a convenience sample was chosen with 52 participants in two weeks at My Phuoc Hospital. The following formula was used to determine the number of participants needed:

$$SS = \frac{Z^2 * (p) * (1-p)}{c^2}$$

SS: Sample size, Z = Z value (e.g. 1.96 for 95% confidence level), p = percentage picking a choice, expressed as decimal (.5 used for sample size needed), c = confidence interval, expressed as decimal.  $SS = 1.96^2 \times (0.5) (0.5) / (0.1)^2 = 97$

## **Pilot Study**

A pilot study was completed as a trial for the main study. It was comprised of a sample of 10 caregivers from another hospital. The purpose of the pilot study was to demonstrate the clarity of the questionnaires administered and to assess the validity and reliability of the study. Data from this pilot study were not included in the analysis of the sample.

## **Collection of Data**

Data were collected over a two-week period. The questionnaire (Appendix A) and a consent form (see Appendix B) were sent to each caregiver in the hospital. Completed questionnaires were returned to a sealed mailbox.

## **Analysis of Data**

Data from this study were analyzed by SPSS version 20.0. Descriptive statistical analysis was used to identify frequencies and percentages to answer the questions in the questionnaire. The statistical significance of relationships among selected variables was determined using the Pearson correlation. The level of significance was set at .05.

## **Ethical Considerations**

To protect the rights of study participants and also to meet the standards of any scientific inquiry, this researcher followed procedures prior to conduction of the study and in the course of the study:

- Consent of the research participant (see Appendix B)
- Guideline donated to the participant for future use (see Appendix C)
- Respect was consistently demonstrated for all participants during the study and they were clearly given permission to end their participation at any time

- Permission was granted by the Director of My Phuoc Hospital (see Appendix D)
- Permission was granted by both the ethics committees of Hong Bang International University and University of Northern Colorado (see Appendix E)

### **Conclusion**

The methods and procedures for achieving the purposes of this study were described in this chapter. The sampling methods, method of data collection, and the instrument were described. Ethical considerations used were also discussed.



## **CHAPTER IV**

### **DATA ANALYSIS AND RESEARCH FINDINGS**

This chapter discusses the data analysis and findings from the 25 completed questionnaires. The purpose of this study was to identify the percentage of knowledge required to prevent and detect HFMD severity by caregivers of children under five years of age prior to and after receiving the HFMD guidelines. The study also explored associations of knowledge about prevention and detection of severe HFMD by caregivers of children under five years of age with prior attitude and current practices using selected demographic variables. The data from the questionnaires were statistically analyzed by a statistician. The SPSS version 20.0 program was used for data analysis. The findings of this study are presented in three sections. The first section is a description of participants' demographic data such as age, sex, relationship to child, literacy, occupation, ethnicity, and number of children. The second section addresses the results of the pretest and posttest on preventing and detecting complications of hand, foot, and mouth disease. The third section provides correlations between demographic data and knowledge about HFMD as well as knowledge about HFMD before and after the health education session. Data were obtained from questionnaires and completed by 52 caregivers with a 53% response rate. Although a population size of 197 was expected, time was limited so only a portion of that sample size was taken. The following sections address descriptions of the sample population and how their knowledge about preventing

and detecting complications of hand, foot, and mouth disease improved in caregivers of children under five years of age.

### **Description of the Sample**

The sample included 52 caregivers who were taking care of children less than five years of age in the Pediatric Department at My Phuoc hospital. This section of the questionnaire covered participants' age, gender, child's relative, highest school qualification, race, and number of children. Caregivers' age ranged from 23 to 59 with a mean age of 32 years. The data showed the gender of the participants was predominately female (76.9%,  $n = 40$ ) with 23.1% being male ( $n = 12$ ; see Table 1). The table also depicted the distribution of caregivers' ethnicity: 100% identified as Vietnamese.

Table 2 describes the age of the sample. age group of samples. The majority of caregivers were from 20 to 35 years of age (78.85%). It should be noted most caregivers were very young.

Table 3 revealed the majority (82.7%) of the caregivers were parents of pediatric patients and 5% of the participants were caregivers for children. The remaining 4% was divided equally between grandparents or relatives of children.

Table 1

*Demographic Description of Sample*

Characteristic	<i>n</i>	%
Gender		
Male	12	23.1
Female	40	76.9
Relative		
Parents	43	82.7
Grandparents	2	3.8
Relative	2	3.8
Care giver	5	9.6
Level of education		
Primary	10	19.2
High	12	23.1
Matric	17	32.7
College and beyond	13	25
Career		
Business	3	5.8
Officer	16	30.8
Housewife	4	7.7
Worker	19	36.5
Other	10	19.2
Ethnicity		
Vietnamese	52	100
Number of babies under 5 years		
1 baby	39	75
2 babies	13	25

*N* = 52

Table 2

*Age of Sample*

Age	<i>n</i>	%
20-35 years	41	78.85
36- 50 years	9	17.3
51-65 years	2	3.85
Over 65 years	0	0

*N* = 52

Table 3

*Caregivers of Children*

Relative	<i>n</i>	%
Parents	43	82.7
Grandparent(s)	2	3.8
Relative	2	3.8
Care giver	5	9.6

*N* = 52

Table 4 describes the level of education for caregivers; 25% of caregivers attended vocational school; 25% of the participants had college degree and above, 23.1% had upper secondary education, and the remaining 19.2% had graduated from primary school.

Table 4

*Participants' Level of Education*

Level of Education	<i>n</i>	%
Primary	10	19.2
High	12	23.1
Matric	17	32.7
College and beyond	13	25

*N* = 52

Table 5 provides the distribution of caregiver's employment status; 36.5% of caregivers were workers, 19.2% belonged to the other category, 5.8 % were self-employed, and 30.8 % were salaried.

Table 5

*Careers of Child Caregivers*

Career	<i>n</i>	%
Business	3	5.8
Officer	16	30.8
Housewife	4	7.7
Worker	19	36.5
Other	10	19.2

*N* = 52

When asked how many children under the age of 5 were being taken care of, 39 (75%) caregivers said one child and 13 (25%) said two children.

Table 6 describes caregivers' sources of information to obtain knowledge about HFMD. Caregivers chose two main sources of information that provided their knowledge about HFMD: health workers and television, 63.6% and 55.8%, respectively. Information sources from magazines, newspapers, and posters are also selected with 34.6%. Information about HFMD from radio and neighbors/relatives of participants accounted for 21.2% and 26.9%, respectively. Only 5.8% of participants received information about HFMD from other sources.

Table 6

*Sources of Information about Hand, Foot, and Mouth Disease*

Question	<i>n</i>	%
Have you ever heard about HFMD?		
Clinicians	33	63.5
Television	29	55.8
Radio	11	21.2
Magazines, newspapers, posters	18	34.6
Relatives, neighbors	14	26.9
Others	3	5.8

### **Assessment of Level of Knowledge about Preventing and Detecting Complications of Hand, Foot, and Mouth Disease**

This section discusses the level of knowledge of preventing and detecting complications of HFMD. Table 7 provides frequencies and percentage distributions of level of knowledge of caregivers in preventing and detecting complications of HFMD before and after the health education session. It is evident from the table that general knowledge of the caregivers about HFMD was lacking in the pretest as 63.5% answered incorrectly about way HFMD was transmitted, 50% caregivers answered incorrectly about factors that were most likely to lead to children becoming infected with HFMD. In addition, 69.2% of participants answered incorrectly on the question about symptoms of HFMD being vomiting and diarrhea and 75% of caregivers answered incorrectly for symptoms of HFMD with loss of appetite and irritability. However, after the health education session, caregivers had a significant increase in knowledge about information of HFMD as 78.8% participants had correct answers about the ways HFMD was transmitted. Caregivers demonstrated a change in thinking about the factors that made children most infected with HFMD as reflected an increase from 50% to 92% in correct answers. Knowledge of caregivers in posttest about symptoms of HFMD such as vomiting and diarrhea and loss of appetite and irritability clearly increased to 96% and 94%, respectively.

Table 7

*General Knowledge of Caregivers Regarding Hand, Foot, and Mouth Disease*

Question	Pretest		Posttest	
	<i>n</i>	%	<i>n</i>	%
How is HFMD transmitted?				
Correct	50	96.2	52	100
Incorrect	2	3.8	0	0
Which way is HFMD most transmitted?				
Correct	19	36.5	41	78.8
Incorrect	33	63.5	11	21.2
Who are most susceptible to HFMD?				
Correct	49	94.2	52	100
Incorrect	3	5.8	0	0
Which factors make children most infected with HFMD?				
Correct	26	50.0	48	92.0
Incorrect	26	50.0	4	8.0
Symptoms of HFMD with fever				
Correct	33	63.5	52	100
Incorrect	19	36.5	0	0
Symptoms of HFMD with sore throat/mouth ulcer pain				
Correct	41	78.8	52	100
Incorrect	11	21.2	0	0
Symptoms of HFMD with red rash on palm, soles and buttocks				
Correct	45	86.5	52	100
Incorrect	7	13.5	0	0
Symptoms of HFMD with vomiting, diarrhea				
Correct	16	30.8	50	96
Incorrect	36	69.2	2	4
Symptoms of HFMD with loss of appetite, and irritability				
Correct	13	25.0	49	94
Incorrect	39	75.00	3	6
Unknown about symptoms of HFMD	2	3.8	0	0

*N* = 52

Table 8 shows the percentage distribution of the level of knowledge among the caregivers of children in pretest and posttest with regard to preventing HFMD. Before the health education session, caregivers did not know HFMD did not have a vaccine or



medication for treatment, 25% and 30.8%, respectively. However, after receiving knowledge about HFMD from the lecture, the percentage of participants who did not know about vaccine prevention and medication to treat HFMD was 0%. However, the proportion of participants lacking knowledge about some ways to prevent HFMD was still high. Essentially, 38.5% of caregivers still did not understand the proper way of handling children's feces and secretions to protect others from HFMD. This percentage dropped to 5.8% after the intervention.

Table 8

*Detecting Hand, Foot, and Mouth Disease: Pretest and Posttest*

Question	Pretest		Posttest	
	<i>n</i>	%	<i>n</i>	%
Did not know HFMD had no preventive vaccine	13	25.0	0	0
Did not know HFMD had no treatment medicine	16	30.8	0	0
HFMD is preventable	48	92.3	51	98.1
Did not know ways to prevent HFMD	0	0	0	0
Avoid contact with children with HFMD	4	7.7	0	0
Wash child's hands	4	7.7	0	0
Do not share children handkerchiefs	13	25.0	2	3.8
Wash caregiver's hands	9	17.3	1	2.9
Ensure children's food hygiene	16	30.8	1	1.9
Clean, collect, and process affected child's feces with soap or Chloramine B	11	21.2	1	1.9
Handle children's feces and secretion properly	20	38.5	3	5.8

*N* = 52

Table 9 shows the percentage distribution of the level of knowledge pretest and posttest among caregivers of children with regard to detecting complications of HFMD. It appears as though the proportion of participants lacking knowledge about detecting complications of HFMD was high. Essentially, caregivers did not know the signs of severe HFMD such as being startled when sleeping, grappling, tightness, wobbling, trembling and shortness of breath, pale skin, sweating, and cold limbs. However, after receiving the intervention session, the percentage of caregivers with lack of knowledge about severe HFMD symptoms decreased significantly. Thus, participants' knowledge of the most common complications of HFMD and the most noticeable signs when monitoring HFMD complications only achieved 44.2% and 50%, respectively, on the pretest but increased to 80.8% on the posttest following the health education session.

Table 10 depicts the percentage distribution of the overall pretest level of knowledge of caregivers about HFMD. It revealed that 17.3% of the caregivers had good knowledge with a mean score of 4.88, 9.6% of the sample had very good knowledge with a mean score 94.6 and standard deviation of 2.11; 38.5% of the caregivers had fair knowledge with a mean score of 78.3 and standard deviation of 4.88; and 23.1% of the caregivers had poor knowledge with a mean score of 59.9 and standard deviation of 7.6. However, 11.5% participants had very poor knowledge with a mean score 37.2 and standard deviation of 7.56.

Table 9

*Pretest and Posttest Level of Knowledge About Detecting Complications of Hand, Foot, and Mouth Disease*

Question	Pretest		Posttest	
	<i>n</i>	%	<i>n</i>	%
Unknown sign of child with high temperature	13	25.0	0	0
Unknown sign of child with vomiting	23	44.2	2	3.8
Unknown sign of child who is startled when sleeping	26	50.0	2	3.8
Unknown sign of child who is struggling, tight, wobbly, and shaking	28	53.8	3	5.8
Unknown sign of child who has difficulty breathing, pale skin, sweating, and cold limbs	32	61.5	3	5.8
Unknown signs of child with HFMD	3	5.8	0	0
Knowledge to act when discovering a child with severe symptoms of HFMD	40	76.9	51	98.1
Knowledge that complications are most common in HFMD	23	44.2	42	80.8
What signs should be most noted when monitoring HFMD complications?				
Correct	26	50.0	42	80.8
Incorrect	26	50.0	10	19.2

*N* = 52

Table 10

*Pretest Knowledge of Hand, Foot, and Mouth Disease*

Knowledge about HFMD	<i>n</i>	%	Min	Max	<i>M</i>	<i>SD</i>
Very Poor:<50%	6	11.5	26.9	46.2	37.2	7.56
Poor:50-<70%	12	23.1	50.0	69.2	59.9	7.60
Fair:70-<85%	20	38.5	73.1	84.6	78.3	4.88
Good:85-<90%	9	17.3	88.5	88.5	88.5	0.00
Very good:>90%	5	9.6	92.3	96.2	94.6	2.11
Total	52	100.0				

Table 11 reveals the percentage distribution of the pretest level of awareness of caregivers of children with regard to HFMD complications; 55.8 % of the caregivers had poor and very poor knowledge and 34.6 % had fair knowledge with a mean score of 80.34 and standard deviation of 3.93. No participants achieved a good level of knowledge regarding HFMD complications. However, 9.6% of the caregivers had very good knowledge with mean score of 95.38 and standard deviation of 4.21.

Table 11

*Pretest Knowledge about Severe Complications of Hand, Foot, and Mouth Disease*

Knowledge about HFMD	<i>n</i>	%	Min	Max	<i>M</i>	<i>SD</i>
Very Poor:<50%	13	25.0	23.1	46.2	37.87	7.98
Poor:50-<70%	16	30.8	53.8	69.2	59.62	5.96
Fair:70-<85%	18	34.6	76.9	84.6	80.34	3.93
Good:85-<90%	0	0.0	0.0	0.0	0.0	0.00
Very good:>90%	5	9.6	92.3	100.0	95.38	4.21
Total	52	100.0				

Table 12 depicts the percentage, mean, and standard deviation for caregivers' level of knowledge about HFMD after the health education session; 82.7% of caregivers had a very good level of knowledge with a mean score 97.2 and standard deviation of 2.94. No participants had poor and very poor levels of knowledge about HFMD.

Table 12

*Posttest Knowledge of Hand, Foot, and Mouth Disease*

Knowledge about HFMD	<i>n</i>	%	Min	Max	<i>M</i>	<i>SD</i>
Very Poor:<50%	0	0.0	0.0	0.0	0	0
Poor:50-<70%	0	0.0	0.0	0.0	0	
Fair:70-<85%	4	7.7	80.8	84.6	83.7	1.90
Good:85-<90%	5	9.6	88.5	88.5	88.5	0.00
Very good:>90%	43	82.7	92.3	100.0	97.2	2.94
Total	52	100.0				

Table 13 provides the percentage, mean, and standard deviation for the posttest level of knowledge about severe complications of HFMD after the health education session; 86.5% of participants now had very a good level of knowledge with a mean score of 2.98. No care givers had a very poor level. However, caregivers with poor and fair levels of knowledge also accounted for 3.8 % and 9.6%, respectively.

Table 13

*Posttest Knowledge Regarding Severe Complications of Hand, Foot, and Mouth Disease*

Knowledge about HFMD	<i>n</i>	%	Min	Max	<i>M</i>	<i>SD</i>
Very Poor:<50%	0	0.0	0.0	0.0	0	0
Poor:50-<70%	2	3.8	61.5	69.2	65.4	5.44
Fair:70-<85%	5	9.6	84.6	84.6	84.6	0
Good:85-<90%	0	0.0	0.0	0.0	0	0
Very good:>90%	45	86.5	92.3	100.0	98.6	2.98
Total	52	100.0				

Table 14 provides the correlation analysis among knowledge about HFMD and demographic factors. Here, HFMD knowledge was significantly correlated with gender,  $r = 0.454$ ,  $p < .01$ . The level of education of participants also correlated with knowledge about HFMD at a statistically significant level with  $r = 0.309$  and  $p < .05$ . However, the other five factors did not correlate with HFMD knowledge: age, relationship, career, ethnicity, and number of children under five years of age ( $p > .05$ ).

Table 14

*Correlations Among Knowledge about Hand, Foot, and Mouth Disease and Demographic Factors*

		Age	Gender	Relationships	Education	Career	Ethnicity	# of Children	HFMD Knowledge
Age	Pearson Correlation	1.00	-.075	.102	.020	-.034	. <sup>a</sup>	.291*	.068
	Sig. (2-tailed)		.599	.474	.889	.809		.036	.630
Gender	Pearson Correlation	-.075	1.00	-.007	.286*	-.295*	. <sup>a</sup>	.211	.454**
	Sig. (2-tailed)	.599		.958	.040	.034		.134	.001
Relationship	Pearson Correlation	.102	-.007	1.00	.051	-.128	. <sup>a</sup>	-.059	.175
	Sig. (2-tailed)	.474	.958		.717	.367		.679	.215
Education	Pearson Correlation	.020	.286*	.051	1.000	-.186	. <sup>a</sup>	.032	.309*
	Sig. (2-tailed)	.889	.040	.717		.187		.824	.026
Career	Pearson Correlation	-.034	-.295*	-.128	-.186	1.00	. <sup>a</sup>	.027	-.225
	Sig. (2-tailed)	.809	.034	.367	.187			.851	.109
Ethnicity	Pearson Correlation	. <sup>a</sup>	. <sup>a</sup>	. <sup>a</sup>	. <sup>a</sup>	. <sup>a</sup>	. <sup>a</sup>	. <sup>a</sup>	. <sup>a</sup>
	Sig. (2-tailed)								
# of Children	Pearson Correlation	.291*	.211	-.059	.032	.027	. <sup>a</sup>	1.00	.034
	Sig. (2-tailed)	.036	.134	.679	.824	.851			.811
HFMD Knowledge	Pearson Correlation	.068	.454**	.175	.309*	-.225	. <sup>a</sup>	.034	1.00
	Sig. (2-tailed)	.630	.001	.215	.026	.109		.811	

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\*. Correlation is significant at the 0.01 level (2-tailed).

a. Cannot be computed because at least one of the variables is constant.

$N = 52$



## CHAPTER V

### DISCUSSION

Chapter V focuses on a discussion of the statistical findings of the research study.

The findings are discussed in relation to the objectives of the study and the hypotheses.

The research question stated:

- Q1 How effective is of teaching the HFMD guidelines in improving knowledge for detecting HFMD severity in the caretakers of under 5-year-old children at a hospital in Binh Duong province?

This study was conducted among 52 caregivers who were caring for children under five years of age. The study collected information with regard to socio-demographic data of the study subjects with seven questions as part of the study. The socio-demographic characteristics were analyzed according to frequency and percentage. Distribution of caregivers according to their age group revealed that the majority (41, 78.9%) of the participants belonged to the age group of 20-35 years and 40 (76.9%) of the participants were females. The majority (43, 82.7%) of the caregivers were parents. Educational status of caregivers revealed the majority (17, 32.7%) had attended school up to matriculation. Considering the career status of caregivers, the majority (19, 36.5%) were workers. Finally, the majority (39, 75%) of caregivers had two babies.

One of the study objectives was to assess the general knowledge of caregivers regarding care of the children with HFMD. The findings revealed 14 (26.9%) of the caregivers had good and very good (>85%) knowledge, 20(38.5%) had fair (70% -85%) knowledge, and 11.5% (six) of the caregivers had very poor ( $\leq$ 50%) knowledge of

HFMD. This finding compared to research by Duyen (2018) who found 20.6% of caregivers had knowledge about HFMD at a moderate level in Khanh Hoa, Vietnam. The results also compared with a study of Charoenchokpanit and Pumpaibool (2013) who examined knowledge about HFMD in Bangkok, Thailand with a 50.4% low level, 45.8% moderate level, and 3.7 % high level.

After the health education intervention session about HFMD, the result showed 82.7% of caregivers had very good level of knowledge with a mean score 97.2 and standard deviation of 2.94. No participants had poor and very poor levels of general knowledge about HFMD. Accordingly, 86.5% of participants had a very good level with a mean score 2.98. No care givers had a very poor level of knowledge. However, caregivers with poor and fair levels accounted for 3.8 % and 9.6%, respectively.

The results also showed that an increase in caregiver knowledge about HFMD would contribute to the prevention of HFMD in children in terms of primary and secondary prevention based on the Neuman (Neuman & Fawcett, 2002) theory. Therefore, application of the Neuman model is recommended to help nurses set prevention levels for HFMD.

### **Study Limitations**

This study research did not provide a complete picture of the pretest and posttest assessments. First, it was limited to caregivers of children with HFMD. Children under five years of age might encounter many diseases that need attention. Second, the study was conducted at My Phuoc Hospital, one of several hospitals in Binh Duong Province. Therefore, this result might not be representative of the sample population. Finally, the sampling period was not long enough to follow a decline in knowledge over time.

### **Recommendations**

It is recommended that this study be replicated for a longer period of time. It would be very interesting to re-survey the participants at a later date to determine how much of the learning was retained. This would reduce the intermittent increase in knowledge by only evaluating posttest results immediately after the lesson.

A comparative study could be conducted regarding the knowledge, attitudes, and practice between urban and rural caregivers of children with HFMD. This could bring about comparisons across regions. Thus, it would also contribute to the comparison of results among knowledge, attitudes, and behavior. Such information could help managers have an objective view when developing national health education programs on HFMD.

### **Conclusion**

The major findings of this study indicated caregivers lacked knowledge of HFMD as well as delayed detection of complications. In addition, most of the participants' information was obtained from health workers. Thus, the role of providing accurate and fast information is an integral part of the role of a healthcare educator in nursing.

The study also contributed to increasing the knowledge of study participants about HFMD as caregivers of children. There was an association among knowledge and level of education and gender group. Therefore, this association should be taken into consideration when developing subsequent interventions. The information brochure provided significant information, which had a high impact on caregivers' level of knowledge regarding children with HFMD.

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**APPENDIX A**

**QUESTIONNAIRE ASSESSING CAREGIVER KNOWLEDGE  
REGARDING HAND, FOOT, AND MOUTH DISEASE  
IN CHILDREN UNDER FIVE YEARS OF AGE  
IN ENGLISH AND VIETNAMESE**

**QUESTIONNAIRE ASSESSING CAREGIVER KNOWLEDGE REGARDING  
HAND FOOT MOUTH DEASE IN CHILDREN UNDER 5 YEARS**

Number:

Patients' name (Symbol):

Day of survey:

	Contents	Answer
<b>A. DEMOGRAPHICS:</b>		
A1	<b>How old are you?</b>	Birth year: ..... 1. 20-35 years <input type="checkbox"/> 2. 36- 50 years <input type="checkbox"/> 3. 51-65 years <input type="checkbox"/> 4. Over 65 years <input type="checkbox"/>
A2	<b>What is your gender?</b>	1. Male <input type="checkbox"/> 2. Female <input type="checkbox"/>
A3	<b>What is your relationship with patient?</b>	1. Parents <input type="checkbox"/> 2. Grandparent's <input type="checkbox"/> 3. Relative <input type="checkbox"/> 4. Care giver <input type="checkbox"/> 5. Other ..... <input type="checkbox"/>
A4	<b>What is your level of education?</b>	1. None <input type="checkbox"/> 2. Primary school <input type="checkbox"/> 3. High school <input type="checkbox"/> 4. Matric <input type="checkbox"/> 5. College and beyond <input type="checkbox"/>
A5	<b>What do you do?</b>	1. Farmer <input type="checkbox"/> 2. Business <input type="checkbox"/> 3. Officer <input type="checkbox"/> 4. Housewife <input type="checkbox"/> 5. Worker <input type="checkbox"/> 6. Others <input type="checkbox"/>
A6	<b>Which ethnic group do you belong to?</b>	1. Vietnamese <input type="checkbox"/> 2. Ethnic minorities <input type="checkbox"/>
A7	<b>How many children do you have?</b>	1. 1 child <input type="checkbox"/> 2. 2 children <input type="checkbox"/> 3. Over 3 children <input type="checkbox"/>



<b>B. KNOWLEDGE OF HAND FOOT MOUTH DISEASE</b>			
B1	<b>Have you ever heard about hand, foot and mouth disease (HFMD)?</b>	1. Yes 2. No	<input type="checkbox"/> <input type="checkbox"/>
B2	<b>If yes, where did you hear it from? (Multiple choices)</b>	1. Clinicians 2. Television 3. Radio 4. Magazines, newspapers, posters 5. Relatives, neighbors 6. Others	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
B3	<b>Do you think HFMD is transmitted?</b>	1. Yes 2. No 3. Unknown	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
B4	<b>If yes, which way is HFMD most transmitted?</b>	1. HFMD is transmitted through the respiratory tract 2. HFMD transmits through feces-mouth way. 3. Transmits by blood channel, injections, mosquito bites. 4. HFMD direct contact with nasopharyngeal fluid of patient 5. Unknown	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
B5	<b>Who are the most susceptible to HFMD?</b>	1. Children under 5 years 2. Children over 5years 3. Adults 4. Elderly people 5. Unknown	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
B6	<b>Which factors make children most infected with HFMD?</b>	1. Infection from caregivers 2. Infection from other children playing together. 3. Low hygienic situation 4. Reduce resistance 5. Unknown	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
B7	<b>Do you know symptoms of HFMD include?</b>	1. Fever 2. Sore throat / mouth ulcer pain 3. Red rash, without itching on palm, soles and buttocks 4. Vomiting, diarrhea 5. Loss of appetite, and irritability in infants and toddlers 6. Unknown	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
B8	<b>When you suspect your child has TCM, what will you do?</b>	1. Take your child to hospital immediately 2. Immediately notify the nearest clinic 3. Leave at home to monitor and treatment 4. Do nothing	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
B9	<b>Has HFMD had preventive vaccine?</b>	1. Yes 2. No 3. Unknown	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
B10	<b>Has HFMD had treatment medicine?</b>	1. Yes 2. No 3. Unknown	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
B11	<b>Is HFMD preventable?</b>	1. Yes 2. No 3. Unknown	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

B12	<b>Which ways can you help to prevent HFMD?</b>	<ol style="list-style-type: none"> <li>1. Avoid contact with children with HFMD</li> <li>2. Hygiene child's hands</li> <li>3. Do not share children handkerchiefs</li> <li>4. Hygiene caregiver's hand</li> <li>5. Ensure food hygiene of children</li> <li>6. Clean and collect and process the affected child's feces with soap or Chloramine B</li> <li>7. Handling properly for children's feces and secretion</li> <li>8. Wear a mask for children</li> <li>9. Avoid mosquito bites</li> <li>10. Sleeping with mosquito nets</li> <li>11. Unknown</li> </ol>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
B13	<b>Is washing my hands an effective way to prevent?</b>	<ol style="list-style-type: none"> <li>1. Yes</li> <li>2. No</li> <li>3. Unknown</li> </ol>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<b>PHẦN C: BIẾN CHỨNG BỆNH TAY CHÂN MIỆNG</b>			
C1	<b>The signs of server of HFMD</b>	<ol style="list-style-type: none"> <li>1. High temperature</li> <li>2. Vomiting</li> <li>3. Startled when sleeping</li> <li>4. Struggling, tight, wobbly and shaking</li> <li>5. Difficulty breathing, pale skin, sweating, cold limbs</li> <li>6. Unknown</li> </ol>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
C2	<b>What do you need to do when you discover a child with severe symptoms of HFMD?</b>	<ol style="list-style-type: none"> <li>1. Immediately notify the nearest clinicians</li> <li>2. Take your child to hospital immediately</li> <li>3. Leave at home to monitor and treatment</li> <li>4. Do nothing</li> </ol>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
C3	<b>Can HFMD cause death?</b>	<ol style="list-style-type: none"> <li>1. Yes</li> <li>2. No</li> <li>3. Unknown</li> </ol>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
C4	<b>Which complications are common in HFMD?</b>	<ol style="list-style-type: none"> <li>1. Meningitis</li> <li>2. Encephalitis</li> <li>3. Malnutrition</li> <li>4. No complication</li> <li>5. Unknown</li> </ol>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
C5	<b>What signs should be noted when monitoring HFMD complications?</b>	<ol style="list-style-type: none"> <li>1. Convulsions</li> <li>2. Crying when waking up</li> <li>3. Less to eat</li> <li>4. Nothing</li> <li>5. Unknown</li> </ol>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

**PHIẾU KHẢO SÁT HIỆU QUẢ CỦA GIÁO DỤC SỨC KHỎE CHO NGƯỜI  
CHĂM SÓC VỀ PHÒNG NGỪA VÀ NGĂN NGỪA BIẾN CHỨNG NẶNG BỆNH  
CHÂN TAY MIỆNG Ở TRẺ DƯỚI 5 TUỔI**

Mã số phiếu:

Họ tên NB (viết tắt tên):

Ngày khảo sát:

	<b>Nội dung câu hỏi</b>	<b>Trả lời</b>	
<b>PHẦN A: ĐẶC ĐIỂM CHUNG CỦA ĐỐI TƯỢNG NGHIÊN CỨU</b>			
A1	Ông/ bà sinh năm nào?	Ghi năm sinh: .....	
		5. 20-35 tuổi	<input type="checkbox"/>
		6. 36- 50 tuổi	<input type="checkbox"/>
		7. 51-65 tuổi	<input type="checkbox"/>
		8. Trên 65 tuổi	<input type="checkbox"/>
A2	Giới tính của ông/bà?	3. Nam	<input type="checkbox"/>
		4. Nữ	<input type="checkbox"/>
A3	Ông/ bà là gì của bệnh nhi?	6. Cha, mẹ	<input type="checkbox"/>
		7. Ông/bà	<input type="checkbox"/>
		8. Họ hàng	<input type="checkbox"/>
		9. Người chăm sóc	<input type="checkbox"/>
		10. Khác	<input type="checkbox"/>
A4	Trình độ học vấn cao nhất của ông/bà?	6. Không biết chữ	<input type="checkbox"/>
		7. Cấp 1,2	<input type="checkbox"/>
		8. Cấp 3	<input type="checkbox"/>
		9. Trung cấp, Nghề	<input type="checkbox"/>
		10. Cao đẳng, đại học	<input type="checkbox"/>
A5	Nghề nghiệp của ông/bà?	7. Làm nông	<input type="checkbox"/>
		8. Buôn bán	<input type="checkbox"/>
		9. Nhân viên văn phòng	<input type="checkbox"/>
		10. Ở nhà, nội trợ	<input type="checkbox"/>
		11. Công nhân	<input type="checkbox"/>
		12. Nghề khác	<input type="checkbox"/>
A6	Ông bà thuộc dân tộc nào?	3. Kinh	<input type="checkbox"/>
		4. Thiếu số	<input type="checkbox"/>
A7	Số con dưới 5 tuổi của ông bà là?	4. 1con	<input type="checkbox"/>
		5. 2 con	<input type="checkbox"/>
		6. 3 con trở lên	<input type="checkbox"/>



B8	Khi phát hiện trẻ có dấu hiệu nghi ngờ mắc bệnh TCM, ông/bà sẽ làm gì?	<p>4. Đưa trẻ đi khám ngay tại các cơ sở y tế <input type="checkbox"/></p> <p>5. Thông báo ngay cho cơ quan y tế gần nhất <input type="checkbox"/></p> <p>6. Để ở nhà theo dõi và điều trị <input type="checkbox"/></p> <p>7. Không làm gì cả <input type="checkbox"/></p>	
B9	Theo ông/bà, hiện nay đã có vắc xin phòng bệnh TCM chưa?	<p>4. Có <input type="checkbox"/></p> <p>5. Chưa <input type="checkbox"/></p> <p>6. Không biết <input type="checkbox"/></p>	
B10	Theo ông/bà bệnh Tay Chân Miệng hiện nay đã có thuốc điều trị đặc hiệu chưa?	<p>4. Có <input type="checkbox"/></p> <p>5. Chưa <input type="checkbox"/></p> <p>6. Không biết <input type="checkbox"/></p>	
B11	Theo chị, bệnh TCM có thể phòng ngừa được không?	<p>4. Có <input type="checkbox"/></p> <p>5. Không <input type="checkbox"/></p> <p>6. Không biết <input type="checkbox"/></p>	
B12	Ông/bà hãy chọn các cách phòng bệnh TCM mà ông/bà biết?( Nhiều lựa chọn)	<p>12. Tránh để trẻ tiếp xúc với trẻ bệnh <input type="checkbox"/></p> <p>13. Vệ sinh cá nhân, rửa tay cho trẻ, không cho trẻ mút tay hay ngậm đồ chơi <input type="checkbox"/></p> <p>14. Không dùng chung khăn ăn, khăn tay, khăn lau mặt,... cho trẻ. <input type="checkbox"/></p> <p>15. Vệ sinh cá nhân của người chăm sóc trẻ: rửa tay thường xuyên bằng xà phòng trước khi chăm sóc trẻ và sau khi đi vệ sinh <input type="checkbox"/></p> <p>16. Vệ sinh ăn uống: cho trẻ ăn chín, uống chín; dùng riêng bát thìa cho trẻ <input type="checkbox"/></p> <p>17. Thường xuyên lau sạch các vật dụng tiếp xúc hàng ngày như đồ chơi, dụng cụ học tập, sàn nhà, mặt bàn/ghế, ...bằng xà phòng hoặc Chloramin B. <input type="checkbox"/></p> <p>18. Xử lý triệt phân, chất thải của trẻ đúng cách <input type="checkbox"/></p> <p>19. Đeo khẩu trang cho trẻ <input type="checkbox"/></p> <p>20. Không cho trẻ bị muỗi đốt <input type="checkbox"/></p> <p>21. Ngủ màn <input type="checkbox"/></p> <p>22. Không biết <input type="checkbox"/></p>	
B13	Theo ông/bà rửa tay có phải là biện pháp hiệu quả phòng ngừa bệnh TCM?	<p>4. Có <input type="checkbox"/></p> <p>5. Không <input type="checkbox"/></p> <p>6. Không biết <input type="checkbox"/></p>	

<b>PHẦN C: BIẾN CHỨNG BỆNH TAY CHÂN MIỆNG</b>			
C1	Những dấu hiệu trở nặng của bệnh Tay Chân Miệng là?(Nhiều lựa chọn)	7. Sốt cao kéo dài 8. Nôn ói nhiều 9. Giật mình khi ngủ 10. Trẻ vật vã- li bì, đi loạng choạng, rung chi 11. Khó thở, da tím tái, vã mồ hôi, chân tay lạnh 12. Không biết	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
C2	Khi trẻ có những dấu hiệu trở nặng của bệnh Tay Chân Miệng, ông/bà nghĩ nên làm gì?(Nhiều lựa chọn)	5. Báo ngay cho nhân viên y tế nếu đang nằm tại bệnh viện 6. Đưa trẻ đi khám ngay tại các cơ sở y tế 7. Để ở nhà theo dõi và điều trị 8. Không làm gì cả vì sẽ tự khỏi	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
C3	Theo ông/bà bệnh Tay Chân Miệng có gây tử vong không?	4. Có 5. Không 6. Không biết	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
C4	Ông/bà hãy cho biết các biến chứng nào thường gặp trong bệnh Tay Chân Miệng?	6. Viêm màng não 7. Viêm não 8. Suy dinh dưỡng 9. Không có biến chứng 10. Không biết	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
C5	Theo ông bà dấu hiệu cần chú ý khi theo dõi các biến chứng bệnh TCM?	6. Co giật 7. Khóc khi tỉnh dậy 8. Ít ăn 9. Không có gì 10. Không biết	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

**APPENDIX B**

**CONSENT FORM TO PARTICIPATE IN HUMAN  
RESEARCH IN ENGLISH AND VIETNAMESE**



## INFORMED CONSENT-NO SIGNATURE DOCUMENT

**Project Title:** Effectiveness of teaching about preventing and detecting complications of hand foot mouth disease

**Student Researcher:** Ha Thi Kim Phung

**Research Advisor:** Alison Merrill PhD, APRN, CNM, School of Nursing

**Purpose:** The purpose of the proposed study is to determine the effect of the HFMD teaching to change the knowledge of caregivers of under 5-year-old children in prevention and detection of HFMD severity.

**Objective:** This project sets to

- To determine the percentage of knowledge required to prevent and detect HFMD severity by caregivers of children under 5 years old prior to providing the HFMD guidelines;
- To determine the percentage of knowledge in the prevention and detection of HFMD severity of caregivers of children under five years old after being provided with HFMD guidelines

The research process consists of 4 parts: pre-test of health education session, teaching and presentation of knowledge about Hand Foot Mouth Disease, discussion and evaluation after health education session and post-test. Estimated time is 80 minutes.

All responses will be kept confidential and anonymous. All questionnaires will be scanned into a password protected computer and then “shredded” (permanently destroyed). All study data and information will then be kept on a thumb drive in a locked drawer in a locked cabinet. There are no anticipated risks by participation in this survey. If you complete the survey, it will be assumed that you have communicated consent for your participation. You may keep this form for future reference.

Participation is voluntary. You may decide not to participate in this study and if you begin participation you may still decide to stop and withdraw at any time. Your decision will be respected and will not result in loss of benefits to which you are otherwise entitled.

You have had the opportunity to ask questions about the study. A copy of this form will be given to you to retain for future reference. If you have any concerns about your selection or treatment as a research participant, please contact the Office of Research, Kepner Hall, University of Northern Colorado Greeley, CO 80639; 970-351-1910. Please give this informed consent and the completed questionnaire to the researcher (the one who gave you the form).

**Committee Contact information:** ``

Student Researcher: Ha Thi Kim Phung, Master’s -student



Email: [thik4944@bears.unco.edu](mailto:thik4944@bears.unco.edu) or [hathikimphung@hotmail.com](mailto:hathikimphung@hotmail.com)  
Phone: (84 8) 0917462860

Research Advisor: Alison Merrill, PhD, RN, CNE School of Nursing  
Email: [alison.merrill@unco.edu](mailto:alison.merrill@unco.edu)  
Phone: 970-351-1389

Participant

Questionnaire Number Assigned \_\_\_\_\_

Print Name \_\_\_\_\_

Sign Name \_\_\_\_\_



**GIẤY ĐỒNG Ý THAM GIA PHÒNG VẤN NGHIÊN CỨU HIỆU QUẢ  
CỦA GIÁO DỤC SỨC KHỎE VỀ PHÒNG BỆNH VÀ NGĂN NGỪA BIẾN  
CHỨNG BỆNH TAY CHÂN MIỆNG CHO NGƯỜI CHĂM SÓC TRẺ DƯỚI 5  
TUỔI**

Kính thưa Quý Ông/Bà, được sự chấp nhận của trường đại học Northern Colorado (Mỹ) và Đại học Quốc Tế Hồng Bàng thành phố Hồ Chí Minh và bệnh viện đa khoa Mỹ Phước, hôm nay chúng tôi tiến hành nghiên cứu “**Hiệu quả của giáo dục sức khỏe về phòng ngừa và ngăn ngừa biến chứng nặng của bệnh tay chân miệng cho người chăm sóc trẻ dưới 5 tuổi**”. Chúng tôi rất mong Quý Ông/Bà chấp nhận tham gia nghiên cứu này như là sự đóng góp vào nền y học với các thông tin về nghiên cứu như sau:

Nghiên cứu viên chính: Hà Thị Kim Phụng

Đơn vị chủ trì: Đại học Northern Colorado và Đại học Quốc tế Hồng Bàng

Giáo viên hướng dẫn: Dr. Alisson Merrill

Nhà tài trợ: Không

**1. Thông tin về nghiên cứu**

Đây là nghiên cứu được thực hiện tại Khoa Nhi Bệnh viện Đa Khoa Mỹ Phước từ tháng 4/2019 đến tháng 5/2019 khảo sát trên người chăm sóc trẻ dưới 5 tuổi về phòng ngừa và ngăn ngừa các biến chứng nặng của bệnh Tay Chân Miệng.

Sự tham gia của ông/bà vào nghiên cứu này sẽ góp phần quan trọng vào việc cung cấp các thông tin có liên quan đến khảo sát hiệu quả của giáo dục sức khỏe về phòng ngừa và ngăn ngừa biến chứng nặng của Bệnh Tay Chân miệng của người chăm sóc trẻ dưới 5 tuổi. Thông tin này giúp cho các nhà quản lý, các điều dưỡng, nhân viên y tế các số liệu có liên quan đến bệnh Tay Chân Miệng, xây dựng các kế hoạch can thiệp nhằm hạn chế tỷ lệ mắc bệnh và phòng ngừa các biến chứng nặng của bệnh.

Quá trình nghiên cứu bao gồm 4 phần: đánh giá trước buổi giáo dục sức khỏe, giảng dạy và trình bày kiến thức về bệnh tay chân miệng, thảo luận và đánh giá sau buổi giáo dục sức khỏe và sau kiểm tra. Thời gian dự kiến là 80 phút.

**Sự tự nguyện tham gia**

Việc tham gia vào nghiên cứu này là hoàn toàn tự nguyện. Trong khi phỏng vấn, nếu ông/bà thấy không thoải mái với bất kỳ câu hỏi nào chị có quyền từ chối trả lời. Việc ông/bà trả lời chính xác là vô cùng quan trọng đối với nghiên cứu. Vì vậy chúng tôi mong rằng ông/bà sẽ hợp tác và giúp chúng tôi có được những thông tin chính xác nhất.

### **Tính bảo mật**

Để đảm bảo tính riêng tư, toàn bộ thông tin chi cung cấp sẽ được chúng tôi tổng hợp cùng với thông tin thu được từ những người tham gia khác và không ghi tên người trả lời, nên không ai khác biết được ông/bà trả lời cụ thể những gì.

### **Bất lợi khi tham gia nghiên cứu**

Khi tham gia nghiên cứu ông/bà sẽ gặp bất lợi nhỏ là phải dành thời gian để trả lời bảng câu hỏi và tham gia vào lớp tư vấn giáo dục sức khỏe về bệnh Tay Chân Miệng. Ngoài ra ông/bà sẽ không gặp những bất lợi về thể chất cũng như tinh thần.

Ông/bà tham gia nghiên cứu này không ảnh hưởng và gây cản trở gì đến việc điều trị của bệnh nhi tại bệnh viện.

### **Những lợi ích khi tham gia nghiên cứu**

Ông/bà tham gia nghiên cứu sẽ được cung cấp thêm các kiến thức về phòng ngừa và ngăn ngừa biến chứng nặng của bệnh Tay Chân Miệng cho trẻ dưới 5 tuổi.

### **2. Chấp nhận và tham gia nghiên cứu:**

Tôi đã đọc và hiểu thông tin trên đây, đã xem và đặt câu hỏi về thông tin liên quan tới nghiên cứu này. Tôi đã nói chuyện trực tiếp với nghiên cứu viên và được trả lời các câu hỏi 1 cách cặn kẽ. Tôi nhận một bản sao của bản thông tin nghiên cứu và đồng ý tham gia nghiên cứu này. Tôi tự nguyện đồng ý nghiên cứu.

**APPENDIX C**

**GUIDELINE FOR HAND, FOOT, AND MOUTH DISEASE  
DISTRIBUTED AT EDUCATION SESSION**


**BỆNH VIỆN ĐA KHOA MỸ PHƯỚC**  
 An cần - Nhanh chóng - An toàn  
 MY PHUOC HOSPITAL

**CHƯƠNG TRÌNH GIÁO DỤC SỨC KHỎE**  
**BỆNH TAY CHÂN MIỆNG**

  
 Đại Học Quốc Tế Miền Đông  
 Eastern International University

**BỆNH TAY CHÂN MIỆNG**



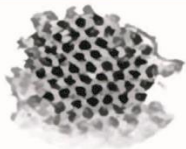
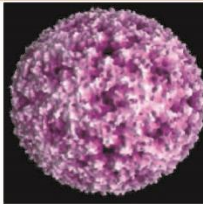


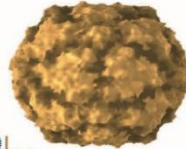
 HÀ THỊ KIM PHỤNG


### Nguyên nhân gây bệnh

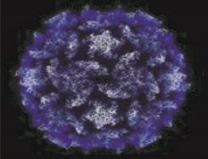
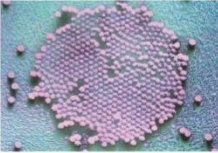
- Bệnh tay chân miệng (hand foot mouth disease: HFMD) là một bệnh nhiễm trùng thường gặp ở trẻ sơ sinh và trẻ nhỏ.
- Nguyên nhân dẫn đến bệnh Tay-Chân-Miệng ở trẻ, nhưng là do vi-rút đường ruột chủ yếu là Enterovirus 71 hay Coxsackie 16.

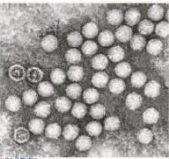
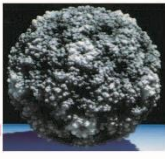







 Coxsackievirus A16





 Enterovirus 71



### ĐƯỜNG LÂY

- Bệnh tay chân miệng là bệnh truyền nhiễm lây từ người sang người
- Bệnh lây truyền qua đường tiêu hóa.
- Bệnh lây qua dịch tiết từ các nốt phỏng hoặc tiếp xúc với chất tiết và bài tiết của trẻ
- Ngoài ra một số ít lây qua tiếp xúc với dịch tiết từ mũi, hắt, họng, nước bọt



## DỊCH TỄ HỌC

- Bệnh tay chân miệng (TCM) xuất hiện và tràn thành dịch ở một số nơi trên thế giới như: Canada, Mỹ, Trung Quốc, Anh....
- Tại Việt Nam, bệnh TCM chủ yếu xuất hiện ở các tỉnh miền Nam, một số ít ở phía Bắc
- Bệnh thường gặp ở trẻ dưới 3 tuổi và rất ít thấy ở trẻ trên 5 tuổi
- Trong một đợt dịch bệnh, trẻ có thể bị mắc bệnh tái đi tái lại nhiều lần.



## TRIỆU CHỨNG BỆNH

- Vi-rút xâm nhập vào cơ thể qua niêm mạc miệng hay ruột vào hệ thống hạch bạch huyết và từ đó sẽ phát triển rất nhanh và gây ra các tổn thương ở da và niêm mạc



## TRIỆU CHỨNG BỆNH



## TRIỆU CHỨNG BỆNH

- Loét miệng: là các bóng nước có đường kính 2-3 mm.
- Thường khó thấy các bóng nước trên niêm mạc miệng vì nó vỡ rất nhanh tạo thành những vết loét, trẻ rất đau khi ăn, tăng tiết nước bọt



- Bóng nước: từ 2-10 mm, màu xám, hình bầu dục.
- Bóng nước vùng mông và gối thường xuất hiện trên nền hồng ban.
- Bóng nước lòng bàn tay và lòng bàn chân có thể lồi lên trên da sẽ có cảm giác cộm hay ấn dưới da, thường ấn không đau.

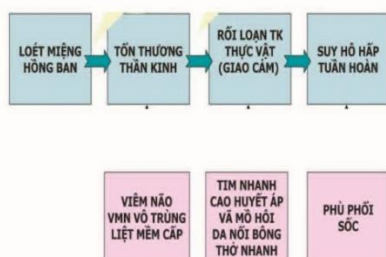


## TRIỆU CHỨNG BỆNH

- Khi nổi bóng nước trẻ có thể sốt nhẹ, quấy do đau miệng, bỏ ăn. Bóng nước sẽ tự xẹp đi và tự khỏi sau 5 đến 7 ngày
- Một số trẻ có kèm nôn ói, tiêu chảy ngay khi nổi bóng nước hay khi bóng nước đã xẹp.



## BIẾN CHỨNG BỆNH



## BIẾN CHỨNG

Biến chứng thần kinh: Viêm não, viêm thân não, viêm não tủy, viêm màng não.

Biến chứng tim mạch, hô hấp: Viêm cơ tim, phù phổi cấp, tăng huyết áp, suy tim, trụy mạch.



## PHÒNG NGỪA BIẾN CHỨNG

- Chưa có vắc-xin phòng ngừa
- Theo dõi sát trẻ bệnh các dấu hiệu:
  - ✓ Sốt cao >39 độ C
  - ✓ Sốt cao liên tục > 2 ngày
  - ✓ Trẻ quấy khóc liên tục
  - ✓ Ói nhiều
  - ✓ Tiêu chảy nhiều lần
  - ✓ Số lượng bóng nước, loét miệng nhiều
  - ✓ Hoảng hốt
  - ✓ Giật mình khi ngủ



## PHÒNG NGỪA BIẾN CHỨNG

Xử lý khi phát hiện các biến chứng:

- **Khi đang nằm viện:**
  - ✓ Báo cho nhân viên y tế gấp khi phát hiện biến chứng
- **Khi ở nhà:**
  - ✓ Nhanh chóng đem trẻ tới cơ sở y tế gần nhất



## ĐIỀU TRỊ

- Hiện nay chưa có thuốc điều trị đặc hiệu, chỉ điều trị hỗ trợ
- Theo dõi sát, phát hiện sớm và điều trị biến chứng.
- Bảo đảm dinh dưỡng đầy đủ, nâng cao thể trạng.



## PHÒNG NGỪA BỆNH

Tại cơ sở y tế- bệnh viện

- Trẻ sẽ được cách ly theo nhóm bệnh.
- Thân nhân và người nhà : Mang khẩu trang, rửa, sát khuẩn tay trước và sau khi chăm sóc trẻ.





## PHÒNG NGỪA BỆNH

### Tại nhà:

- Rửa tay thường xuyên bằng xà phòng
- Thực hiện tốt vệ sinh ăn uống: ăn chín, uống chín.
- Thường xuyên lau sạch các bề mặt, dụng cụ tiếp xúc hàng ngày như đồ chơi, dụng cụ học tập.
- Không cho trẻ tiếp xúc với người bệnh hoặc nghi ngờ mắc bệnh.



## PHÒNG NGỪA BỆNH

### Tại nhà:

- Sử dụng nhà tiêu hợp vệ sinh, phân và các chất thải của bệnh nhân phải được thu gom và đổ vào nhà tiêu hợp vệ sinh.
- Khi phát hiện trẻ có dấu hiệu nghi ngờ mắc bệnh cần đưa trẻ đi khám hoặc thông báo ngay cho cơ quan y tế gần nhất



## Tài liệu tham khảo

- Bộ y tế( 2011),QĐ 2554/QĐ-BYT Về việc ban hành hướng dẫn chẩn đoán, điều trị bệnh tay - chân - miệng



**CẢM ƠN SỰ QUAN TÂM THEO  
DÕI CỦA QUÝ VỊ**





**APPENDIX D**

**PERMISSION TO CONDUCT RESEARCH FROM  
DIRECTOR OF MY PHUOC HOSPITAL**

**CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM**

**Độc Lập - Tự Do - Hạnh Phúc**

**ĐƠN XIN PHÉP THU THẬP SỐ LIỆU**

Kính gửi: - Giám Đốc Bệnh Viện Đa Khoa Mỹ Phước  
- Phòng Điều Dưỡng Bệnh viện Đa Khoa Mỹ Phước

Tôi tên là: Hà Thị Kim Phụng

- Ngày sinh: 23/07/1986
- Địa chỉ: C2.009 Ehome 4, Thuận An, Bình Dương
- Đơn vị công tác: Trường Đại Học Quốc Tế Miền Đông.
- Học viên lớp thạc sĩ điều dưỡng trường Đại Học Bắc Colorado (University of Northern Colorado), Mỹ.
- Đề tài nghiên cứu: Hiệu quả của giáo dục sức khỏe về phòng bệnh và ngăn ngừa biến chứng của bệnh Tay Chân Miệng cho ngư ời chăm sóc trẻ dưới 5 tuổi.

Để triển khai thu thập số liệu và hoàn thành luận văn tốt nghiệp theo quy định của Đại Học Bắc Colorado, Mỹ. Tôi làm đơn này kính mong Ban Giám Đốc Bệnh Viện Đa Khoa Mỹ Phước xem xét, tạo điều kiện cho tôi được thu thập số liệu tại khoa Nhi trong thời gian từ tháng 05/2019 đến 06/2019.

Tôi xin chân thành cảm ơn!

Bình Dương, ngày 23 tháng 05 năm 2019

**XÁC NHẬN  
CỦA GIÁM ĐỐC BỆNH VIỆN**

**NGƯỜI LÀM ĐƠN**



**Bs. CKI Phan Công Lý**

*Handwritten signature of Hà Thị Kim Phụng*  
**Hà Thị Kim Phụng**

**APPENDIX E**

**HONG BANG INTERNATIONAL UNIVERSITY ETHICS  
COMMITTEE AND UNIVERSITY OF NORTHERN  
COLORADO INSTITUTIONAL REVIEW  
BOARD APPROVALS**

**HỘI ĐỒNG ĐẠO ĐỨC TRONG**  
**NGHIÊN CỨU KHOA HỌC ĐIỀU DƯỠNG**
**BẢN NHẬN XÉT ĐẠO ĐỨC**  
**TRONG NGHIÊN CỨU KHOA HỌC ĐIỀU DƯỠNG**

Tên đề tài: *Hiệu quả của giáo dục sức khỏe về phòng ngừa và ngăn ngừa biến chứng nặng của bệnh tay chân miệng cho người chăm sóc trẻ dưới 5 tuổi*

Nghiên cứu viên: **Hà Thị Kim Phụng**

**Thành phần Hội đồng:**

1. TS. Trần Thụy Khánh Linh - Chủ tịch Hội đồng
2. TS. Đỗ Thị Hà - Phản biện 1
3. TS. Hà Thị Như Xuân - Phản biện 2
4. ThS. GVC. Trần Thị Thuận - Ủy viên
5. ThS. Vũ Thị Ngọc Trâm - Thư ký

1. Nội dung nhận xét:

- |  |  |                                |
|--|--|--------------------------------|
| - Tính tự nguyện của đối tượng được nghiên cứu                   | <input checked="" type="checkbox"/> Có | <input type="checkbox"/> Không |
| - An toàn và không có nguy cơ cho người tham gia nghiên cứu      | <input checked="" type="checkbox"/> Có | <input type="checkbox"/> Không |
| - Lợi ích cho cá nhân và cộng đồng                               | <input checked="" type="checkbox"/> Có | <input type="checkbox"/> Không |
| - Bảo mật cho đối tượng được nghiên cứu                          | <input checked="" type="checkbox"/> Có | <input type="checkbox"/> Không |
| - Đảm bảo tính trung thực và khoa học trong quá trình nghiên cứu | <input checked="" type="checkbox"/> Có | <input type="checkbox"/> Không |

2. Ý kiến nhận xét:

- Đạt tiêu chuẩn đạo đức trong nghiên cứu khoa học điều dưỡng.

3. Kết luận:

Đạt

Đạt, cần bổ sung thêm

Không đạt

Tp. HCM, ngày ..../..../.. năm 2019

**Chủ tịch Hội đồng**



**TS. Trần Thụy Khánh Linh**





*Institutional Review Board*

DATE: August 12, 2019

TO: Ha Thi Kim Phung  
FROM: University of Northern Colorado (UNCO) IRB

PROJECT TITLE: [1456546-2] Effectiveness of teaching about preventing and detecting complications of hand foot mouth disease

SUBMISSION TYPE: Revision

ACTION: APPROVAL/VERIFICATION OF EXEMPT STATUS

DECISION DATE: August 12, 2019

EXPIRATION DATE: August 12, 2023

Thank you for your submission of Revision materials for this project. The University of Northern Colorado (UNCO) IRB approves this project and verifies its status as EXEMPT according to federal IRB regulations.

**Additional changes were needed on your informed consent that weren't addressed after the first review. Those changes have been made for you and are highlighted in blue on the final English consent that is attached. Please make those same changes on the Vietnamese version and use it with your research subjects.**

We will retain a copy of this correspondence within our records for a duration of 4 years.

If you have any questions, please contact Nicole Morse at 970-351-1910 or [nicole.morse@unco.edu](mailto:nicole.morse@unco.edu). Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within University of Northern Colorado (UNCO) IRB's records.