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Assessment of Prevalence of Hand, Foot and Mouth Disease among Children in the Selected Areas of City.

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Abstract

The purpose of the study was to Assess prevalence of hand, foot and mouth disease among children in the selected areas of city. Hand, Foot, and Mouth Disease (HFMD) is a viral infection caused by enteroviruses. Coxsackievirus A16 and Enterovirus 71 are the most common viruses related with HFMD. According to the Centres for Disease Control and Prevention (CDC), 10-15 million symptomatic cases of HFMD occur annually in the United States.It's important to note that HFMD is more common in young children, especially those under the age of five. The disease is extremely contagious and spreads rapidly in settings such as schools and day care centres. Hand hygiene, such as routinely washing hands and avoiding close contact with infected persons, can help prevent the disease from spreading.

This study was conducted using a quantitative research approach. The research is conducted in certain community areas within the city. The research design is descriptive rather than experimental. The researcher assessed 200 samples to determine the prevalence of hand, foot, and mouth disease among children in several areas of the city. The samples were chosen using the non-probability convenience sampling technique. The researcher collected the child's demographic data. The researcher also used a self-prepared questionnaire to estimate the prevalence of hand, foot, and mouth disease among children in specific areas of the city.

Result-Researcher assessed 200 samples out of that 24 samples suffered from hand, foot and mouth disease.12% of the children were found to have hand, foot and mouth disease. The prevalence of hand,foot and mouth disease was 12%. Fisher's exact test is used for the association between study findings and selected demographic variables. p-value corresponding to age was small (less than 0.05), the demographic variable agewas found to have significant association with the Hand, foot and mouth disease status.

INTRODUCTION

Children represent our society's future and unique contributions to the universe. Tomorrow's citizens are today's youngsters. Taking care of children and their families has always been challenging, but it has become more complicated. In all communities, children are the most significant age group. Paediatrics nursing, often known as child health nursing, is a nursing specialty that focuses on the treatment of children from conception to adolescence.

Hand, Foot, and Mouth Disease (HFMD) is a viral infection caused by enteroviruses. Coxsackievirus A16 and Enterovirus 71 are the most common viruses related with HFMD. According to the Centres for Disease Control and Prevention (CDC), 10-15 million symptomatic cases of HFMD occur annually in the United States.

Hand, foot, and mouth disease (HFMD) incidence and prevalence rates in India vary according to season, geographic region, and population density. However, based on accessible data, here are some details: According to the National Vector Borne Disease Control Programme (NVBDCP), there were 19,273 cases of HFMD registered in India in 2019. This represents an increase over the previous year, when 12,630 instances were documented. It is crucial to emphasise that however, that these are only the recorded occurrences; there may be many more that go unnoticed cases of hand, foot and mouth disease.

In India, the incidence and prevalence of HFMD differ by region. A 2014 study in the southern state of Karnataka found an incidence rate of 22.5 cases per 1000 children under the age of five. Another study conducted in the northern state of Uttar Pradesh in 2017 found an incidence rate of 23.8 cases per 1000 children under the age of 10. It's important to note that HFMD is more common in young children, especially those under the age of five. The disease is extremely contagious and spreads rapidly in settings such as schools and day care centres. Hand hygiene, such as routinely washing hands and avoiding close contact with infected persons, can help prevent the disease from spreading.

Hand, Foot, and Mouth Disease (HFMD) is a viral paediatric illness. It is easily transmitted from person to person (contagious) when someone comes into contact with an infected person's bodily fluids. Touching something that has been sneezed, coughed, or drooled on can result in this. When speaking, breathe in the infected person's air droplets (less than 3 feet). Putting a hand on something contaminated with stool (bowel movement or faces) or touching a draining sore's bodily fluid.

The incubation period ranges between three and seven days. HFMD is treated without the use of medicines. Patients should drink plenty of water and relax, and they may be given symptomatic medication for reducing the fever and pain produced by mouth ulcers.

It is most frequent in children under the age of five, but teenagers and adults can also become infected. Without treatment, HFMD symptoms typically recover within 5 to 7 days. The early symptoms of HFMD reflect those of a normal cold. Fever, Headache, sore throat, and runny nose. People may notice the following a day or two after the fever: Small, painful ulcers (sores) on the tonsils and throat. A rash of tiny blisters or red marks on the hands, soles of the feet and diaper area. They are usually not irritating. Tenderness or soreness while touching one's palms or soles, Poor appetite due to unpleasant swallowing. The skin may peel once the rash has healed, but this is not a problem.

BACKGROUND OF STUDY

Hand, foot, and mouth disease (HFMD) is a viral infection that most commonly affects infants and young children under the age of five. It is caused by the enteroviruses, the most prevalent of which being Coxsackievirus A16 and Enterovirus 71. HFMD is highly contagious and can be spread by direct contact with an infected person or contaminated surfaces and objects.

Fever, sore throat, and an overall sense of malaise are common symptoms of HFMD. Within a day or two, painful sores in the mouth and a rash on the hands, feet, and occasionally the buttocks may develop. The rash may develop as little red spots, blisters, or ulcers, with itching and burning.

Without specialised therapy, HFMD is usually a self-limiting condition that passes in a week or two. However, problems such viral meningitis or encephalitis are infrequent, especially in very young children or persons with weaker immune systems.

Because there is no vaccination for HFMD, prevention relies on basic hygiene habits such as frequent handwashing and avoiding close contact with infected individuals.

NEED OF THE STUDY

There are several reasons why it is critical to research HFMD, Understanding the virus and how it spreads can aid in the prevention of disease outbreaks. HFMD research can aid in the identification of risk factors and the development of disease-prevention strategies.

While there is no specific treatment for HFMD, research into the disease can aid in the identification of effective treatments for managing symptoms and preventing complications.

Public health: Because of the potential for outbreaks, HFMD is a public health concern. The study of the disease can assist public health officials in developing policies and procedures to manage outbreaks and reduce their impact.

Researchers can gain a better understanding of the virus and its behavior by studying it, which can lead to the

development of more effective treatments and prevention strategies**.**

Overall, research into HFMD is critical for both public health and medical research. It has the potential to help prevent outbreaks, improve treatment options, and, ultimately, save lives.

Public Health Awareness Research into the incidence of HFMD raises awareness among parents, carers, and healthcare professionals about the disease's dangers and symptoms. This understanding enables people to take preventative actions and seek timely medical care, thereby slowing the spread of the disease. Early diagnosis and intervention Identifying locations with high HFMD prevalence enables public health officials to execute focused surveillance and intervention plans. This could involve expanding healthcare resources, launching immunisation campaigns, or implementing hygiene education programmes in schools and communities. Protection for Vulnerable Populations Children under the age of five are especially vulnerable to HFMD and its consequences. Research assists in identifying susceptible populations and developing protective actions, such as enhancing cleanliness procedures in childcare centres and schools.

PROBLEM STATEMENT

Assessment of prevalence of hand, foot and mouth disease among children in the selected areas of city.

OBJECTIVES

1**.**To find out the prevalence of hand, foot and mouth disease among children in selected areas of city.

2.To find association between study findings and selected demographic variables.

3.To develop information booklet on hand, foot and mouth disease and its management.

The present study is based on Rosen stocks and Becker and Health Belief Model (1974).

METHODOLOGY

The study was based on the Health Belief Model (Rosen stocks and Becker's Health Belief Model). It provides a way of behavior with their health and how they will comply with health care therapies. The study made use of Non-experimental descriptive research design. The study population consisted of children (Birth to 5 years) who are suffered or suffering from hand, foot and mouth disease. Total 200 samples were taken with non-probability convenience sampling technique. For generating necessary data, Content validation was done by 15 Experts from different field. The data was collected from 23/12/2023 to 13/01/2024. At the starting of the session Survey was done of the selected community areas to find prevalence of hand, foot and mouth disease. Samples were selected according to the inclusion criteria and exclusion criteria thus parents were introduced by the investigator. Explained the purpose of the study and assured about confidentiality of the information between the investigator and the respondent. Before Data Collection the consent was taken from the parent. Data was collected from 200 samples from selected community areas of city. Findings were recorded according to the tool. The data was gathered using descriptive and inferential statistics. The Fisher's exact test was used to find association between hand, foot and mouth disease with selected demographic variables.

RESULT

SECTION - I deals with the analysis and interpretation of demographic characteristics of child.

For the analysis of demographic data, the investigator has used descriptive analysis i.e. frequency and percentage.

This section deals with the analysis and interpretation demographic characteristics of samples under study such as Age, Gender, Care Giver, Family type, Occupation of parents and educational status of parents. It is tabulated in the form of description of samples according to Demographic characteristics by frequency and percentage.

SECTION -II Deals with prevalence of hand, foot and mouth disease among children in selected areas of city.

For the analysis of demographic data, the investigator has used descriptive analysis i.e. frequency and percentage.

SECTION – III- Deals with analysis of data related to association between study findings andselected

demographic variables.

SECTION – I

Description of samples (children) based on their personal characteristics

Table 1: Description of samples (children) based on their personal characteristics in terms of frequency and percentages

Table No. 1.1: Table showing distribution of samples according to their Age

Sr. No.	Age	Frequency	Percentage
1	Birth- 1 years	29	14.5%
2	1year 1 day-2 years	33	16.5%
3	2 years 1 day -3 years	51	25.5%
4	3years 1 day -4 years	60	30.0%
5	4 years 1 day – 5 years	27	13.5%

n=200

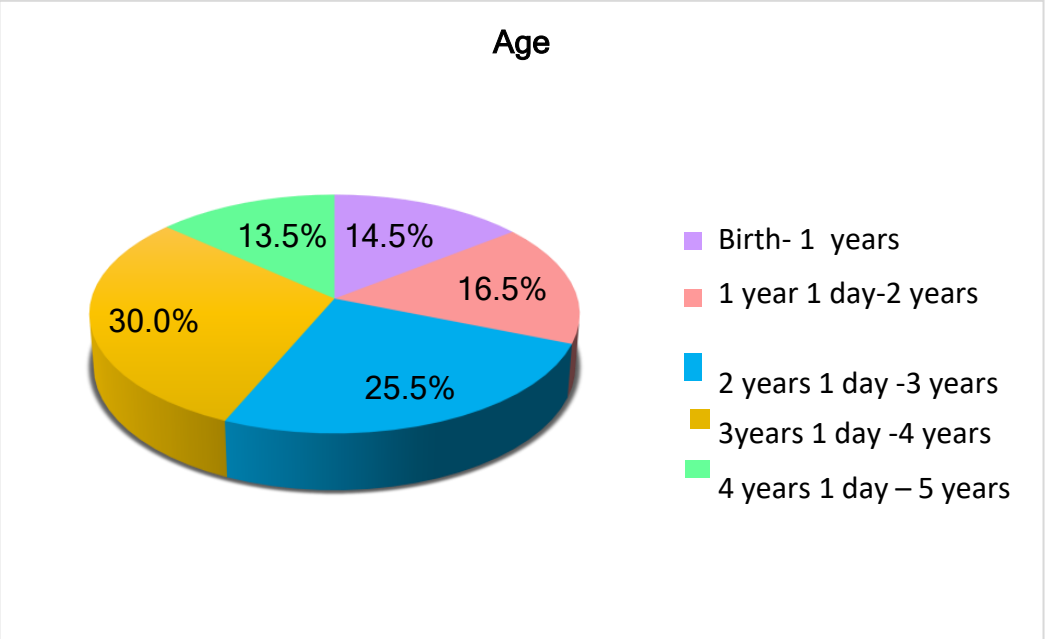

Figure No. 4.3 Pie diagram showing percentage wise distribution of samples according to their Age

Table no.1.2 and figure no.4.3 shows that 14.5% of the children had age up to one year, 16.5% of them had age 1 year one day to 2 years,25.5% of them had age 2 years one day to 3 years, 30% of them had age 3 years 1 day to 4 years and 13.5% of them had age 4 years 1 day to 5 years.

Table No. 1.2: Table showing distribution of samples according to their Gender

n=200

Sr. No.	Gender	Frequency	Percentage
1	Male	122	61.0%
2	Female	78	39.0%

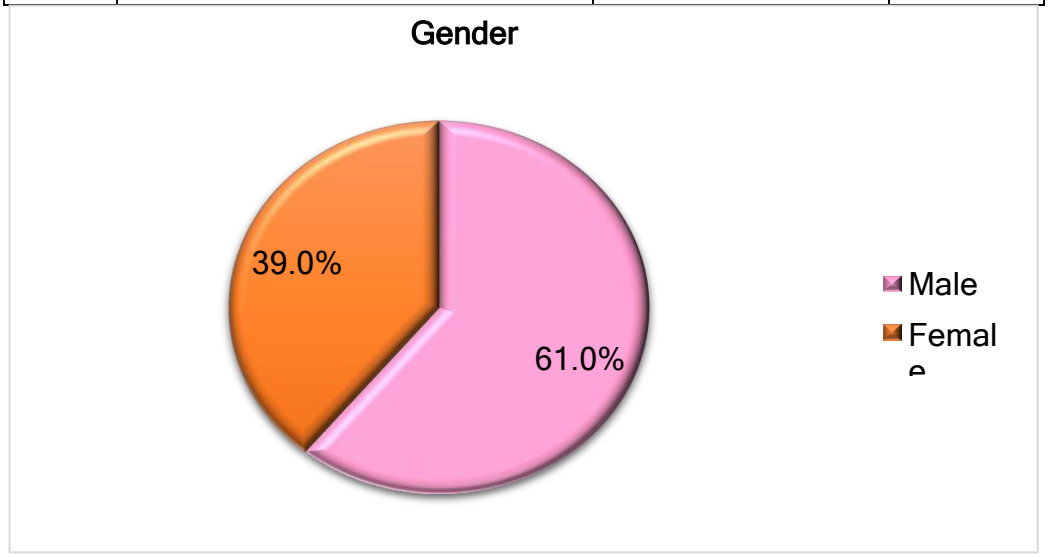

Figure No. 4.4 Pie diagram showing percentage wise distribution of samples according to their Gender

Table no.1.2 and figure no.4.4 shows that 61% of them were males and 39% of them were females.

Table No. 1.3: Table showing distribution of samples according to their Care Giver

n=200

Sr. No.	Care Giver	Frequency	Percentage
1	Mother	166	83.0%
2	Father	10	5.0%
3	Caregiver	11	5.5%
4	Other	13	6.5%

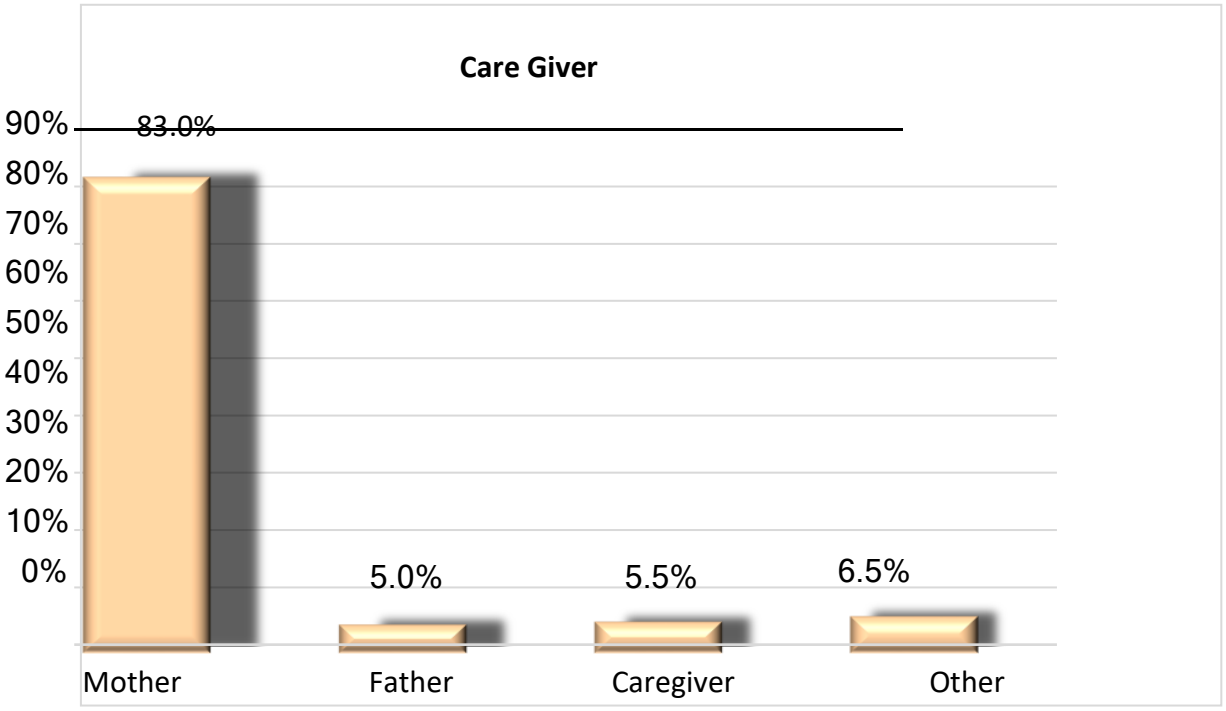

Figure No. 4.5 Bar diagram showing percentage wise distribution of samples according to their Care Giver

Table no.1.3 and figure no.4.5 shows that 83% of them had mother as care giver, 5% of them had father as care givers, 5.5% of them hadcaregivers and 6.5% of them had other caregivers.

Table No. 1.4: Table showing distribution of samples according to their Family type

n=200

Sr. No.	Family Type	Frequency	Percentage
1	Nuclear	106	53.0%
2	Joint	63	31.5%
3	Extended	28	14.0%
4	Single Parent	3	1.5%

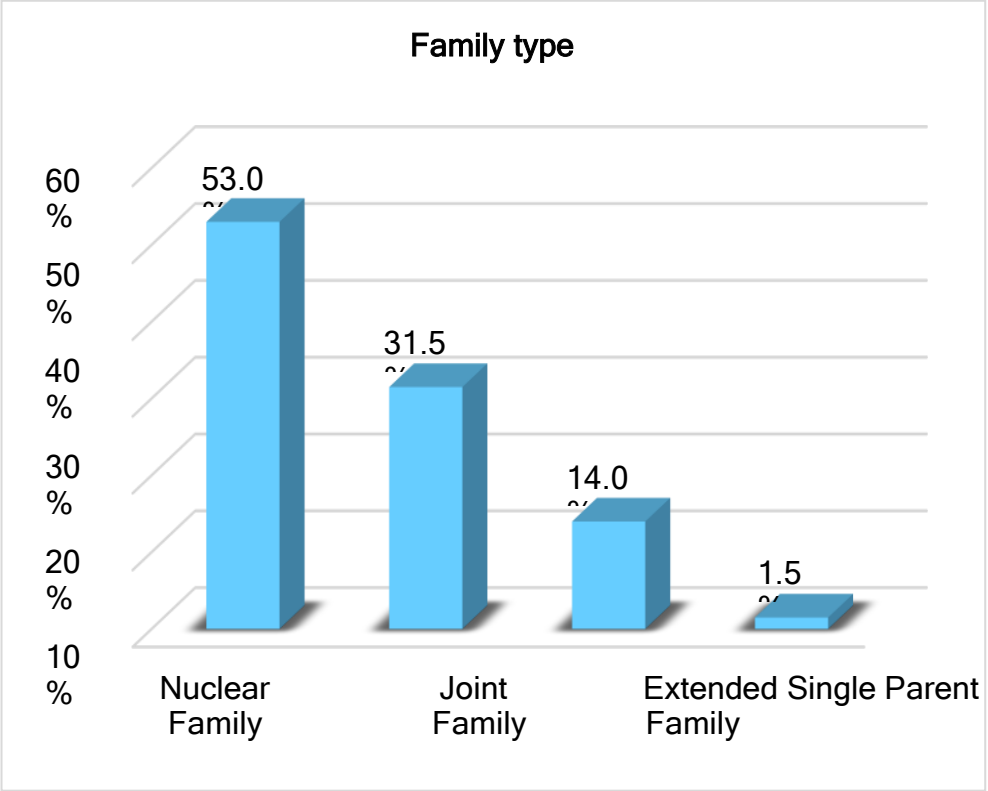

Figure No. 4.6 Bar diagram showing percentage wise distribution according Family type

Table no.1.4 and figure no.4.6 shows that 53% of them had nuclear family, 31.5% of them had joint family, 14% of them had extendedfamily and 1.5% of them had single parent family.

Table No. 1.5: Table showing distribution of samples according to their Occupation of parents

n=200

Sr. No.	Occupation of parents	Frequency	Percentage
1	Unemployed	116	58.0%
2	Self employed	42	21.0%
3	Private /Government	20	10.0%
4	Other	22	11.0%

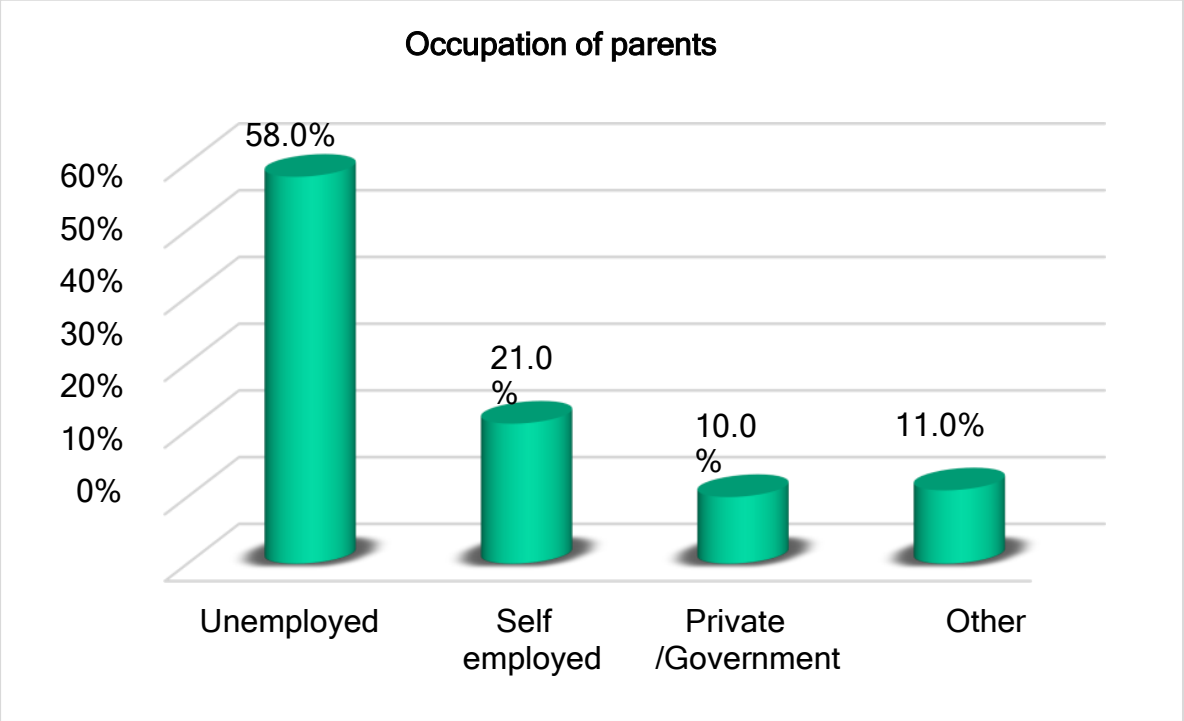

Figure No. 4.7 Bar diagram showing percentage wise distribution according Occupation of parents

Table no.1.5 and figure no.4.7 shows that 58% of their parents were unemployed, 21% of them were self-employed, 10% of them hadprivate/government service and 11% of them had some other occupation.

Table No.1.6: Table showing distribution of samples according to their educational status of parents

n=200

Sr. No.	Educational status of parents	Frequency	Percentage
1	Illiterate	19	9.5%
2	Primary	63	31.5%
3	Secondary	102	51.0%
4	Graduation and above	16	8.0%

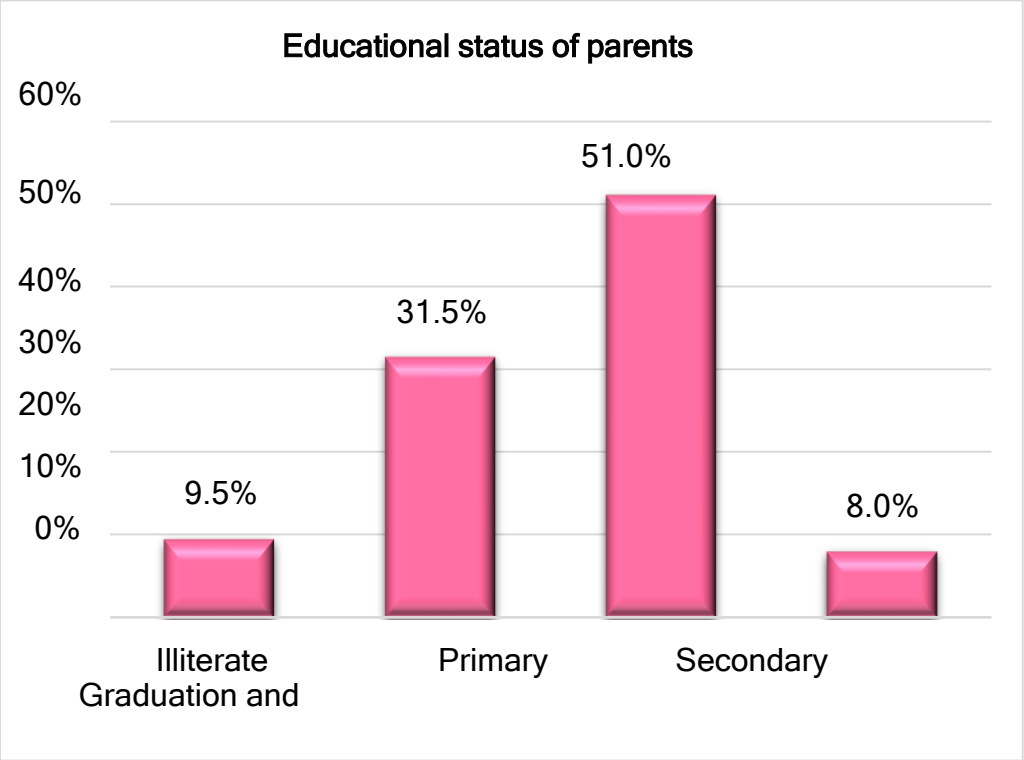

Figure No. 4.8 Bar diagram showing percentage wise distribution according to educational status of parents

Table no.1.6 and figure no.4.8 shows that 9.5% of their parents were illiterate, 31.5% of them had primary education, 51% of them hadsecondary education and 8% of them had graduation and above

Section II

Analysis of data related to the prevalence of hand, foot and mouth disease among children in selected areas of city

Table 2: Prevalence of hand, foot and mouth disease among children in selected areas ofcity

n=200

Hand, foot and mouth diseasestatus	**Frequency**	**Percentage**
Hand, foot and mouth disease	24	12.0%
No disease	176	88.0%

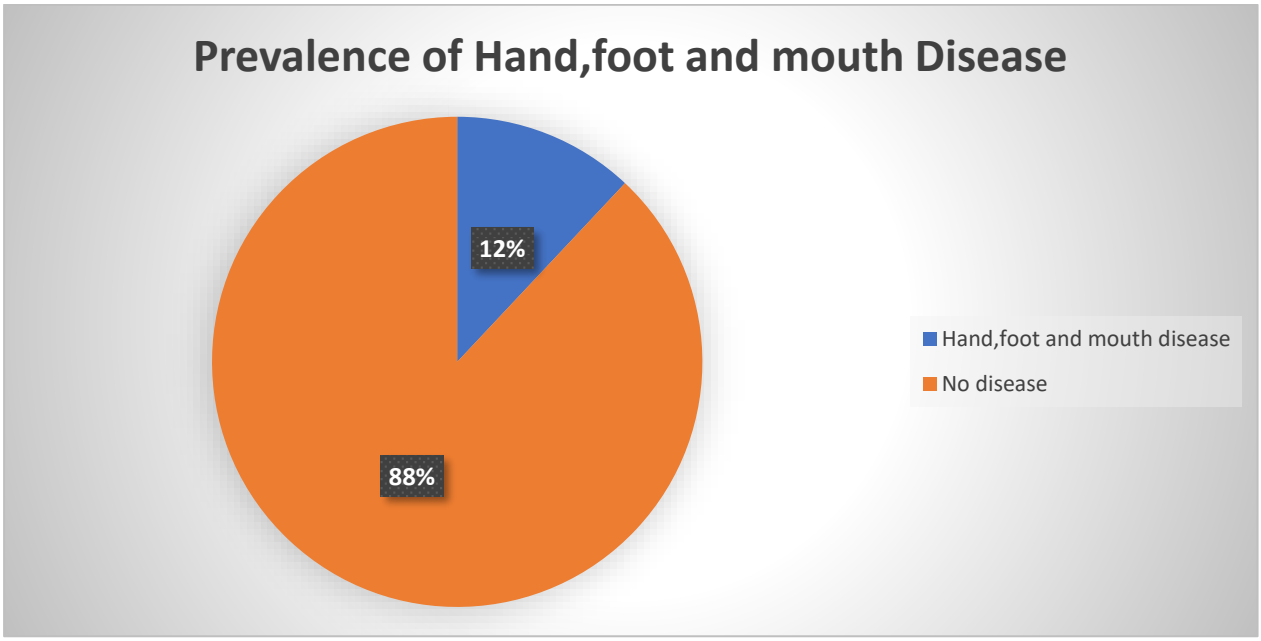

Figure No. 4.9 Pie diagram showing percentage wise distribution according to prevalence of hand, foot and mouth disease

Table no.2 and figure no.4.9 shows that 12% of the children were found to have hand, foot and mouth disease. The prevalence of hand,foot and mouth disease was 12%

Table 2.1: Common Signs and Symptoms-Item analysis

	Frequency	**Percentage**
Experienced fever	94	47.0%
Reduced appetite	60	30.0%
Sore throat	56	28.0%
Fatigue or general feeling of malaise	28	14.0%
Displayed Irritability	17	8.5%

Figure No. 4.10 Line diagram showing self-reported checklist (Common signs and symptoms) Item analysis

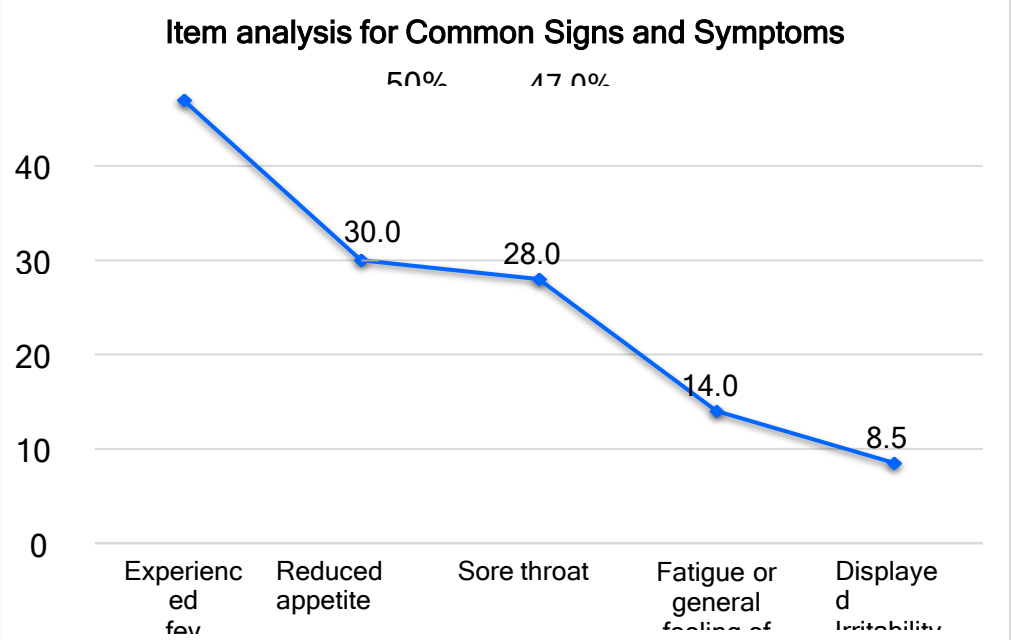

Table no.2.1 and figure no.4.10 shows that 47% of the children had experienced fever. 30% of them had reduced appetite. 28% of them had sore throat. 14% of them had fatigue or general feeling of malaise. 8.5% of them had displayed irritability.

Table 2.2: Definitive Signs and Symptoms Item analysis

n=200

Definitive Signs and Symptoms	**Frequency**	**Percentage**
Painful, red, blister -like lesions on the tongue, gums, orinside of the cheeks	32	16.0%
Red rash on the palms of the hands or soles of the feet	26	13.0%
Blisters or sores on the hands, feet, buttocks or legs	26	13.0%
Finger nail or toenail loss	0	0.0%
Symptoms of Brain Infection or Encephalitis orParalysis	0	0.0%

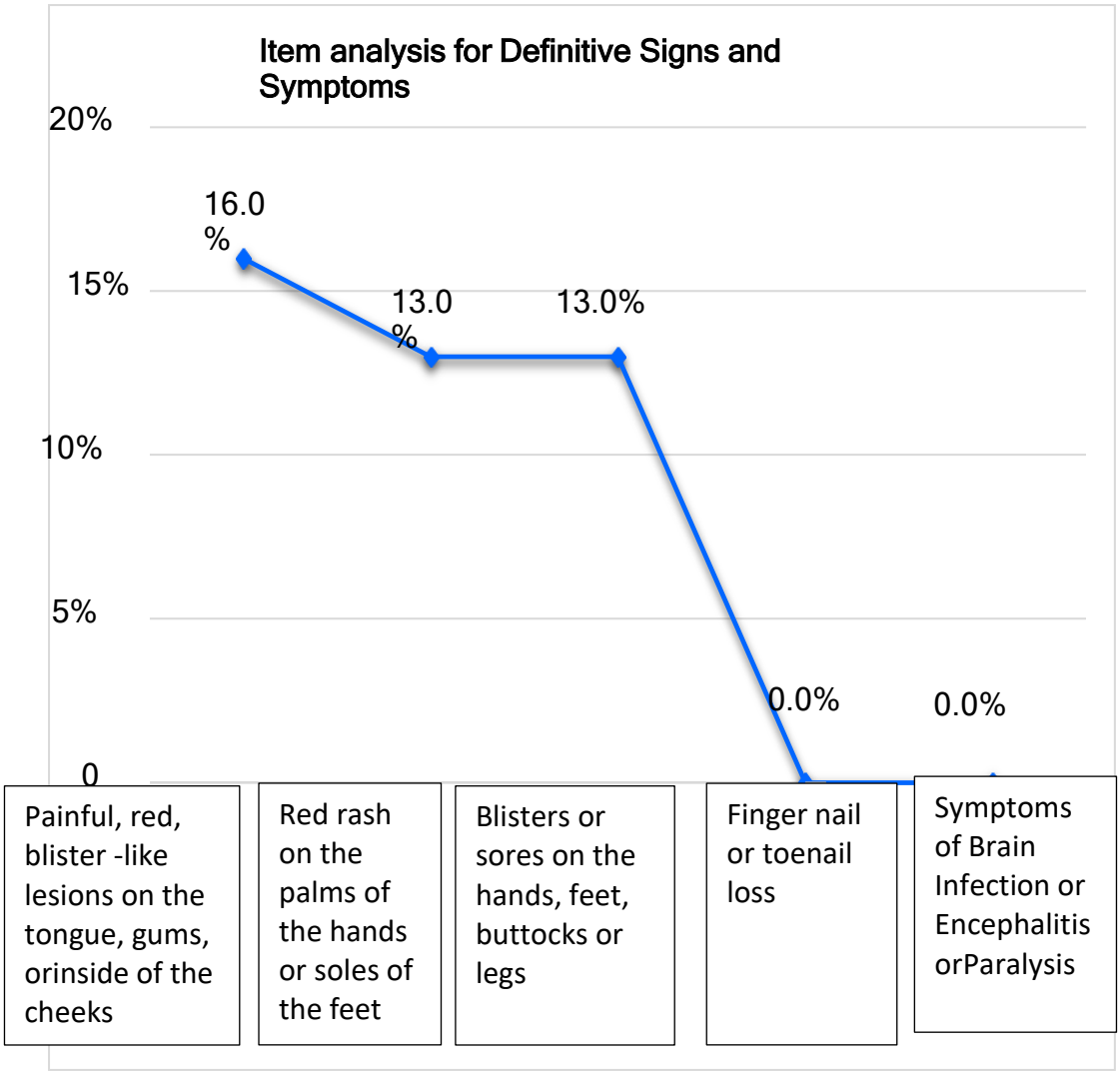

Figure No. 4.11 Line diagram showing self-reported checklist (Common signs and symptoms) Item analysis

Table no.2.2 and figure no. 4.11 shows that 16% of them had painful, red, blister -like lesions on the tongue, gums, or inside of the cheeks.13% of them had red rash on the palms of the hands or soles of the feet. 13% of them had Fingernail or toenail loss. None had Fingernail or toenail loss. Noone had Symptoms of Brain Infection or Encephalitis or Paralysis.

Section III

Analysis of data related to the association between hand, foot and mouth disease andselected demographic variables

Table 3: Fisher's exact test for the association between hand, foot and mouth disease and selected demographic variables

n=200

Demographic variable		Hand, foot and h diseasestatus		p-value
		Diseased	No disease	
Age	Birth- 1 years	0	29	0.003
	1year 1 day-2 years	2	31	
	2 years 1 day -3 years	4	47	
	3years 1 day -4 years	15	45	
	4 years 1 day – 5 years	5	22	
Gender	Male	16	106	1.000
	Female	10	68	
Care Giver	Mother	21	145	0.883
	Father	1	9	
	Caregiver	2	9	
	Other	2	11	
Family type	Nuclear	15	91	0.090
	Joint	6	57	
	Extended	3	25	
	Single Parent	2	1	
Occupation of parents	Unemployed	12	104	0.461
	Self employed	8	34	
	Private /Government	3	17	
	Other	3	19	
Educational status of parents	Illiterate	2	17	0.985
	Primary	9	54	
	Secondary	13	89	
	Graduation and above	2	14	

Table no.3.shows that Since p-value corresponding to age was small (less than 0.05), the demographic variable age was found to have significant association with the Hand, foot and mouth disease status.

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