



“A Study To Evaluate The Effectiveness Of Warm Water Foot Bath Therapy On Reducing The Level of Temperature Among Children With Hyperthermia In Selected Hospitals of Mehsana District”

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Abstract : Fever is the childhood problem. A wide range of childhood illness is accompanied by fever. Fever is said to occur in children when the body temperature is above 37 0 C.High fever can cause seizure in young children. In this context, complementary therapy likewarm water foot bath therapy has more useful. Objectives - To assess the pre test level of temperature among children with hyperthermia in experimental and control group. To evaluate the effectiveness of warm water foot bath therapy on reducing level of temperature among children with hyperthermia in experimental group. To determine the association between pre-test level of temperature among children with hyperthermia and their selected demographic variables in experimental and control group. Result The study findings showed that in experimental group, in the pre test 27(90%) children had moderate pyrexia, and 3 (10%) children had low pyrexia. Whereas in the post test, the majority of children 11(37%) had low pyrexia, 19(63%) children had normal temperature. Conclusion In the above findings of the present study, it is found that the Warm water foot bath therapy is effective on reducing level of body temperature for children with hyperthermia.

Keywords - Warm water foot bath therapy, level of temperature, children with hyperthermia.

I. INTRODUCTION

Children are not small adults but special individuals with unique minds, bodies and needs. The childhood period is vital because of socialization process by the transmission of attitudes, customs and behavior through the influence of the family cultural and religious belief, educational level and ways of living influence the promotion and maintenance of child health. In India, about 35 per cent of total population is children below 15 years of age Hyperthermia, also known simply as overheating, is a condition in which an individual's body temperature is elevated beyond normal due to failed thermoregulation. The person's body produces or absorbs more heat than it dissipates. When extreme temperature elevation occurs, it becomes a medical emergency requiring immediate treatment to prevent disability or death. The most common causes include heat stroke and adverse reactions to drugs. Heat stroke is an acute temperature elevation caused by exposure to excessive heat, or combination of heat and humidity, that overwhelms the heat-regulating

mechanisms of the body. The latter is a relatively rare side effect of many drugs, particularly those that affect the central nervous system. Malignant hyperthermia is a rare complication of some types of general anesthesia. Hyperthermia can also be caused by a traumatic brain injury. Hyperthermia differs from fever in that the body's temperature set point remains unchanged. The opposite is hypothermia, which occurs when the temperature drops below that required to maintain normal metabolism. An early stage of hyperthermia can be "heat exhaustion" (or "heat prostration" or "heat stress"), whose symptoms can include heavy sweating, rapid breathing and a fast, weak pulse. If the condition progresses to heat stroke, then hot, dry skin is typical as blood vessels dilate in an attempt to increase heat loss. An inability to cool the body through perspiration may cause dry skin. Hyperthermia from neurological disease may include little or no sweating, cardiovascular problems, and confusion or delirium. In severe heat stroke, confusion and aggressive behavior may be observed. Heart rate and respiration rate will increase (tachycardia and tachypnea) as blood pressure drops and the heart attempts to maintain adequate circulation. The decrease in blood pressure can then cause blood vessels to contract reflexively, resulting in a pale or bluish skin color in advanced cases. Young children, in particular, may have seizures. Eventually, organ failure, unconsciousness and death will result. The increase in body temperature that results from a breakdown in thermoregulation affects the body biochemically. Enzymes involved in metabolic pathways within the body such as cellular respiration fail to work effectively at higher temperatures, and further increases can lead them to denature, reducing their ability to catalyze essential chemical reactions. This loss of enzymatic control affects the functioning of major organs with high energy demands such as the heart and brain.^[14] Loss of fluid and electrolytes cause heat cramps – slow muscular contraction and severe muscular spasm lasting between one and three minutes. Almost all cases of heat cramps involve vigorous physical exertion. Body temperature may remain normal or a little higher than normal and cramps are concentrated in heavily used muscles. Heat waves are often followed by a rise in the death rate, and these 'classical hyperthermia' deaths typically involve the elderly and infirm. This is partly because thermoregulation involves cardiovascular, respiratory and renal systems which may be inadequate for the additional stress because of the existing burden of aging and disease, further compromised by medications. During the July 1995 heatwave in Chicago, there were at least 700 heat-related deaths. The strongest risk factors were being confined to bed, and living alone, while the risk was reduced for those with working air conditioners and those with access to transportation. Even then, reported deaths may be underestimated as diagnosis can be mis-classified as stroke or heart attack.

BACKGROUND OF THE STUDY

A wide range of childhood illnesses are accompanied by fever. Fever is said to occur in children when the body temperature is above 37.0°C (98.6°F). It occurs when various infectious and non-infectious processes interact with the host's defense mechanism. Fever has been recognized as a symptom and not a disease. Fever is a natural response of the body that helps in fighting of foreign substances. Thermoregulatory center in the hypothalamus regulates body temperature. During fever, dilation of internal blood vessels and constriction of peripheral blood vessels occurs. Fever in children is a common problem for the parents and a significant cause of laboratory investigation and hospitalization. The word "Fever" is simply a high body temperature of more than 36.5°C to 37.5°C axillary than the natural physiological range (Prajitha, Athira, and Mohanan, 2018). Fever is the body's innate reaction to combat foreign substances like microorganisms and toxins. Fever is a biochemical phenomenon of beneficial effect on infection management, rather than a primary disease (Pereira, and Sebastian, 2018). Fever can be the result of various causes, such as an infectious or pathological mechanism, an exercise in severity, or a reaction to the use of certain medications. Most fevers, including bacterial, fungal, and yeast infections, are typically the result of microbial infections (Gould, 2017). Initially, fever control is symptomatic, but it is the actual cause that can be identified and control begun as soon as possible. Body temperature mitigation is the essential component of administration and can be achieved with the use of a tepid sponge, the use of ice bags, or agriculture, is a comfortable, well-ventilated,

and warmwater football climate. Rest and comfort are essential mechanisms of help in order to decrease metabolic rate and allow more oral fluids to prevent dehydration (Fernando, 2016). Warm application to the feet allows the blood congested to flow into distal areas of the body and into the vessels of the foot and leg that are stretched. As a hot water foot bath is placed 15-20 minutes in the feet, the vessels tend to extend and improve circulation, neutralize acids and destroy bacteria. The increased circulation of the blood resets hypothalamic heat flow points from higher to lower heat (Sunar, 2017).

Need for the study

Fever is a part of childhood illness. Although normal febrile responses are self limiting, it can be miserable for the child; it causes anxiety for parents and expensive for health services. Children those who are affected with fever can accompany symptoms such as lethargy, fussiness, poor appetite, sore throat, cough, ear pain, vomiting, and diarrhea. High fever can cause seizures in young children. Fever is a common childhood problem faced by health care personnel including doctors, nurses and others in both hospital and community. Fever is a natural response of the body that helps in fighting of foreign substances. Fever is a symptom not a disease. Main symptom of respiratory illness is fever. Fever is said to occur in children when the body temperature is above 37.0 C. American Academy of pediatrics (2012) estimates that 90% or 6.6 million children reported fever in past 12 months. According to Public Health Association of Australia (2012), Rheumatic fever mainly affects children ages 5-15 and occurs approximately 14-28 days after strep throat or scarlet fever. According to National Center for Health Statistics (2013) febrile seizure occur in 2-4% infant and children under 5 years of age, with the majority between 12 and 18 months of age. Up to 50% of cases will show recurrence if the first febrile seizure occurred when under 5 years of age. 75% reoccur with 12 months of the first febrile seizure. The New Environmental Health Commission, United States (2013) estimates that the 2010-13 prevalence rate of fever among children (5-14 years) in the United States was approximately 57%. National Health Interview Survey (NHIS 2011) states that fever affects The study in Ahmadabad Revealed that cases (6.16%) below 2 years; 11.11% were between 6 months to 12 months and remaining 88.88% were between 1 to 2 years. No case was reported below 6 months of age. Monorama et al noted 10.9% of total cases below 2 years of which majority (85.7%) were between 13 to 20 months of age and only 14.3% cases were seen in infancy all of whom were more than 6 months of age. Saha et al stated in their study that according to recent reports infants and children below 2 years of age are highly susceptible to typhoid fever. The preschool children have 8-9 times more risk for S.typhi infection than older persons in highly disease endemic areas. Our data indicate high incidence of typhoid fever in children below 5 years (24.65%). This suggests that our area has high incidence of typhoid fever. This findings are consistent with earlier work of Sinha A et al showing that in high incidence area, the incidence of typhoid fever in preschool children can approximate that of school age children. With an estimated 16±33 million cases annually resulting in 216,000 deaths in endemic areas, the World Health Organization identifies typhoid as a serious public health problem. Its incidence is highest in children and young adults between 5 and 19 years old. Pan American Health Organization (2012) state that 2.5- 3 billion people (40% of the global population) continue to live at constant risk of infection, while 50 million cases and 24000 deaths are occur in 100 endemic countries worldwide annually, and nearly 5,00,000 cases of which 90% children are hospitalized. The 8 Southeast Asia region contributes 52% or 1.3 billion cases annually. India is one of seven identified countries in the region regularly reporting incidence of dengue fever.

RESEARCH PROBLEM STATEMENT

"A Study To Evaluate The Effectiveness Of Warm Water Foot Bath Therapy On Reducing The Level of Temperature Among Children With Hyperthermia In Selected Hospitals of Mehsana District"

Objectives

1. To assess the pre test level of temperature among children with hyperthermia in experimental and control group.
2. To evaluate the effectiveness of warm water foot bath therapy on reducing level of temperature among children with hyperthermia in experimental group.
3. To determine the association between pre-test level of temperature among children with hyperthermia and their selected demographic variables in experimental and control group.

Hypothesis

H₁ - There will be a significant difference between the mean pre and post test level of temperature among children with hyperthermia in experimental and control group.

H₂: There will be a significant association between mean post test level of temperature among children with hyperthermia and their selected demographic variables

ASSUMPTIONS

- Warm water foot bath therapy has an influence on body temperature.
- Warm water foot bath therapy has no potential side effect on children with hyperthermia.
- Warm water foot bath therapy is a simple and cost effective measure to reduce the level of temperature among children with hyperthermia.

OPERATIONAL DEFINITIONS:

Evaluate: In this study it refers to determine the effectiveness of warm water foot bath therapy to bring reduction in level of temperature.

Effectiveness: In this study it refers to the ability of warm water foot bath therapy to bring reduction in temperature among children with hyperthermia as measured by using a digital thermometer.

Warm water foot bath therapy: In this study warm water foot bath therapy refers to immersion of both the feet in warm water with a temperature of 103 °F once for a period of 15 minutes. **Fever:** In this study, fever refers to rise in body temperature of child ranging from 99 °F - 103 °F.

Children: In this study child refers to the persons between 4-12 years of age with hyperthermia or who had developed fever during their period of hospitalization.

Hospitalization: In this study it refers to the admission of the child to the pediatrics hospital of the hospital for treatment.

DELIMITATIONS

- The study was delimited to children with hyperthermia who will be admitted in selected hospital Mehsana District.

- Data collection period will be limited to 4 week.

DATA ANALYSIS AND INTERPRETATION

This chapter deals with the analysis and interpretation of the collected data from 60 children with hyperthermia to assess the effectiveness of warm water foot bath therapy on level of temperature among children with hyperthermia. Polit and Beck (2003) has noted data analysis as "the systematic organization, synthesized research data and testing of research hypothesis using those data" The analysis and interpretation of data of the study are based on data collected through standardized digital thermometer to assess the level of temperature among 60 children with hyperthermia. The study findings are presented in sections as follows:

Section I	: Data on demographic variables of children with hyperthermia.
Section II	: Data on level of temperature among children with hyperthermia.
Section III	: Data on effectiveness of warm water foot bath therapy on level of temperature among children with hyperthermia.
Section IV	: Data on association between levels of temperature among Children with hyperthermia and their selected demographic variables.

SECTION I

DATA ON DEMOGRAPHIC VARIABLES OF CHILDREN WITH YPERTHERMIA

Table: 1.1 Frequency and Percentage Distribution of Demographic Variables Among Children With Hyperthermia In Experimental Group.

N=30

S.No	Demographic variables	Frequency (f)	Percentage (%)
1	Age of child(in years)		
	a. 4-9 years	24	80
	b. 10-14 years	6	20
2	Gender		
	a. Male	18	60
	b. Female	12	40
3	Duration of hospitalization		
	a. One day	0	0

	b. Two days	21	70
	c. Three days	6	20
	d. More than three days	3	10
4	Type of ward		
	a. General ward	9	30
	b. Private	21	70
5	BMI Category		
	a.<18.5 -Under weight	23	77
	b.18.5- 25 - Normal weight	7	23
	c. >25 - Over weight	0	0
6	Use of antipyretics		
	a. Yes	30	100
	b. No	0	0
7	Use of antibiotic		
	a) Yes	24	80
	b) No	6	20

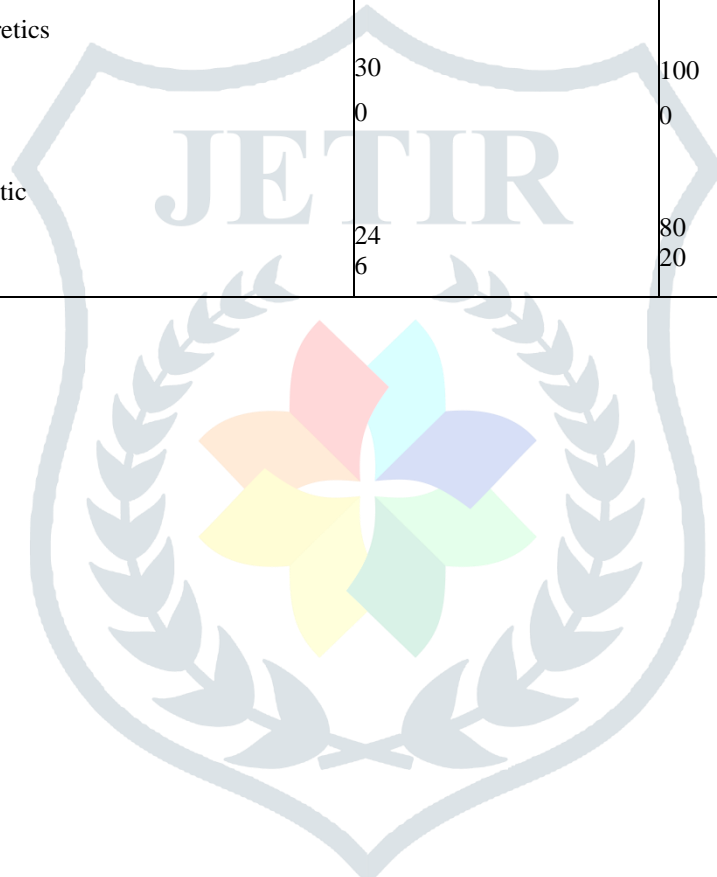


Table 1.1 Reveals that regarding age, majority 24 (80%) of the children belong to 4-9 years and 6 (20%) belong to the age group 10-14 years.

Regarding gender 18 (60%) children were males and 12(40%) were females.

Regarding the duration of hospitalization 21(70%) of children were hospitalized for 2 days, 6(20%) of children were hospitalized for 3 days and 3(10%) of children were hospitalized for more than three days.

Regarding type of ward 9 (30%) of children admitted in general ward, 21(70%) of children admitted in private ward.

Regarding BMI category 23 (77%) of children were are under weight, 7 (23%) of children were normal weight.

Regarding use of antipyretics all 30(100%) of children were undergone the antipyretic treatment.

Regarding use of antibiotics 24(80%) of children got antibiotics treatment 6(20%) of children were not getting antibiotic treatment.

Table: 1.2 Frequency and Percentage Distribution of Demographic Variables Among Children with Hyperthermia In Control Group.

N= 30

S.No	Demographic variables	Frequency (f)	Percentage (%)
1	Age of child(in years)		
	a. 4-9 years	24	80
	b. 10-14 years	6	20
2	Gender		
	a. Male	18	60
	b. Female	12	40
3	Duration of hospitalization		
	a. One day	6	20
	b. Two days	12	40
	c. Three days	6	20
	d. More than three days	6	20
4	Type of ward		
	a. General ward	9	30
	b. Private	21	70
5	BMI Category		
	a. <18.5 -Under weight	23	77
	b. 18.5- 25 - Normal weight	7	23
	c. >25 -Over weight	0	0
6	Use of antipyretics		
	a. Yes	30	100
	b. NO	0	0

7	Use of antibiotic	20	67
	Yes	10	33
	NO		

Table 1.2 Reveals that regarding age, 30 (100%) of the children belong to 4-9years.Regarding gender 18 (60%) children were males and 12(40%) were females.

Regarding the duration of hospitalization 6 (20%) of children were hospitalized for 1 days, 12(40%) of children were hospitalized for 2 days. 6(20%) of children were hospitalized for 3 days. 6(20%) of children were hospitalized for more than three days.

Regarding type of ward 15(50%) of children were admitted in general ward, 15(50%) of children were admitted in private ward.

Regarding BMI category 27 (90%) of children were under weight, 3(10%) of children were normal weight.

Regarding use of antipyretics all 30(100%) of children had the antipyretics treatment.

Regarding use of antibiotics 20(67%) of children got antibiotics treatment 10(33%) of children were not getting antibiotic treatment.

SECTION II

DATA ON LEVEL OF TEMPERATURE AMONG CHILDREN WITH YPERTHERMIA.

Table: 2.1 Frequency and Percentage Distribution on Level of Temperature AmongChildren With Hyperthermia In Experimental Group

N=30

S.No	Level of temperature	Pre-test		Post-test	
		N	%	N	%
1	Normal	0	0	19	63
2	Low pyrexia	3	10	11	37
3	Moderate pyrexia	27	90	0	0
4	High pyrexia	0	0	0	0

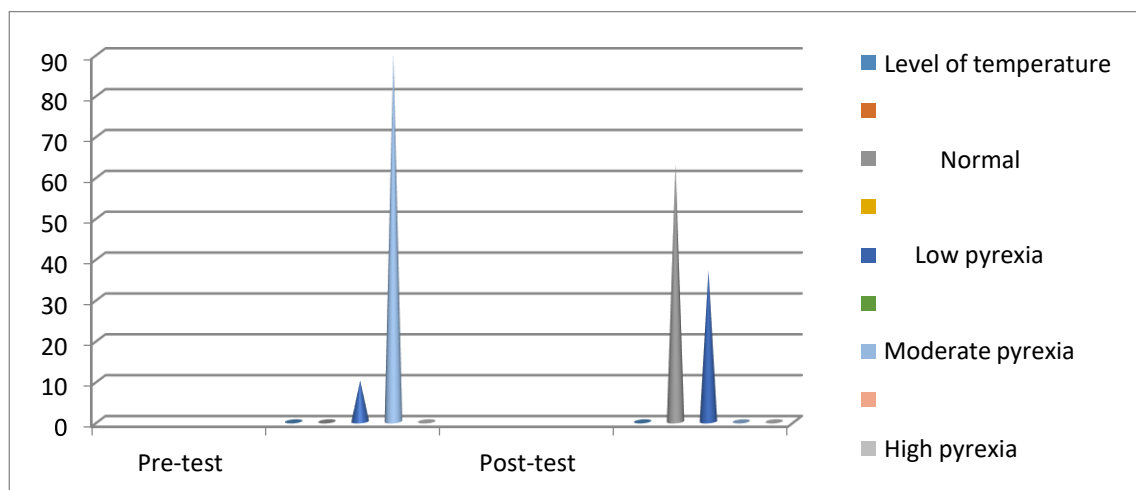


Table & figure 2.1 shows that among children with hyperthermia in experimental group 27(90%) had moderate pyrexia and 3(10%) had low pyrexia during pre-test. Majority of the children 11 (37%) had low pyrexia and 19(63%) had normal temperature during post-test.

Table: 2.2 Frequency and Percentage Distribution on Level of Temperature Among Children With Hyperthermia In Control Group N=30

S.No	Level of temperature	Pre-test		Post-test	
		N	%	N	%
1	Normal	0	0	0	0
2	Low pyrexia	8	27	12	40
3	Moderate pyrexia	22	73	18	60
4	High pyrexia	0	0	0	0

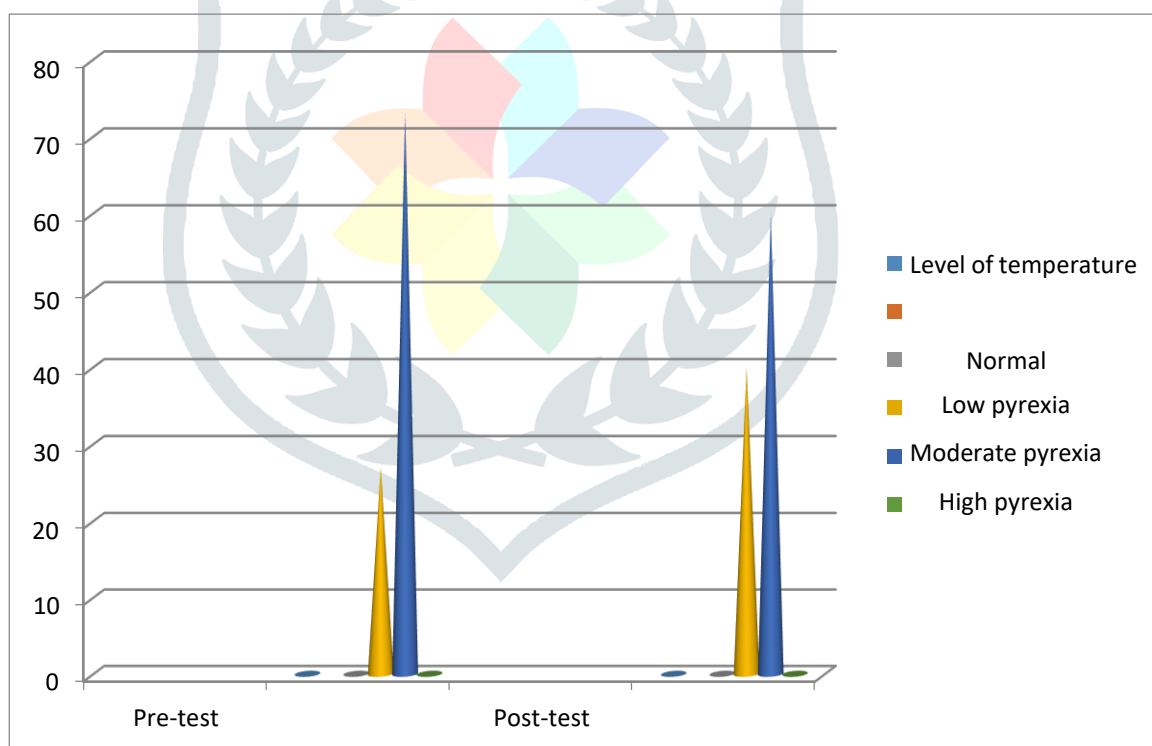


Table & figure 2.2 shows that among children with hyperthermia in control group 8(27%) had low pyrexia and 22 (73%) had moderate pyrexia during pre-test. Majority of the children 12 (40%) had low pyrexia and 18(60%) had moderate pyrexia during post-test.

SECTION III

DATA ON EFFECTIVENESS OF WARM WATER FOOT BATH THERAPY ON LEVEL OF TEMPERATURE AMONG CHILDREN WITH HYPERTHERMIA

Table: 3.1 Mean, Standard Deviation, Mean Difference and 't' Value on Pre test& Post testLevel of Temperature Among Children With Hyperthermia In Experimental Group.

N=30

S.NO.	Level of Temperature	Mean	Standard Deviation	Mean Difference	't'Value
1.	Pre-test	101.81	1.112	2.91	17.9*
2.	Post-test	98.90	0.579		

* - Significant at p<0.05 level

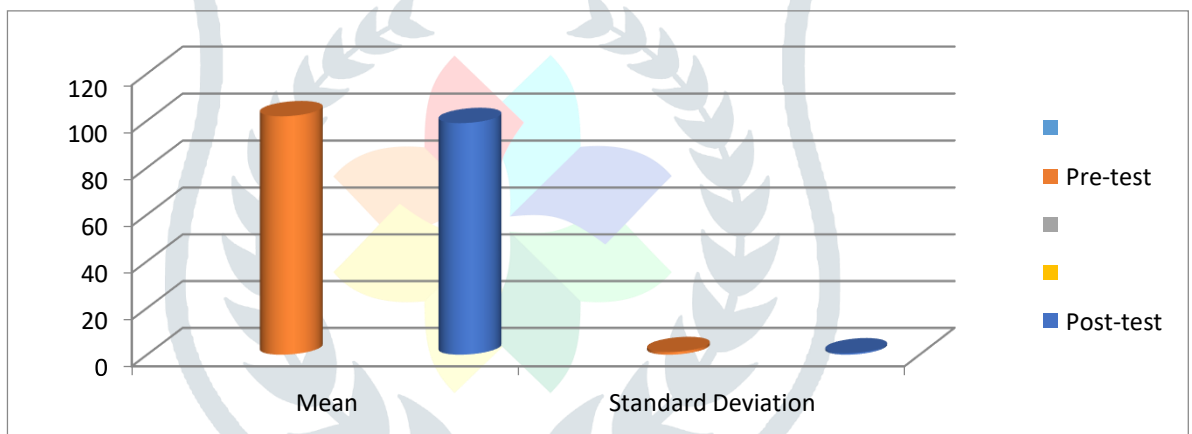


Table & figure 3.1 reveals that among experimental group, the mean pre-test score 101.81 with standard deviation 1.112 was more than the mean post test score 98.90 with standard deviation 0.579. The calculated mean difference was 2.91 and the obtained 't' value 17.9 was highly significant at p<0.05 level.

Table: 3.2 Mean, Standard Deviation, Mean Difference and 't' Value on Pre test & Post testLevel of Temperature Among Children With Hyperthermia In Control Group.

N=30

S.NO.	Level of Temperature	Mean	Standard Deviation	Mean Difference	't'Value

1.	Pre-test	100.70	0.819		
2.	Post-test	100.30	0.716	0.39	10.7*

* - Significant at p<0.05 level

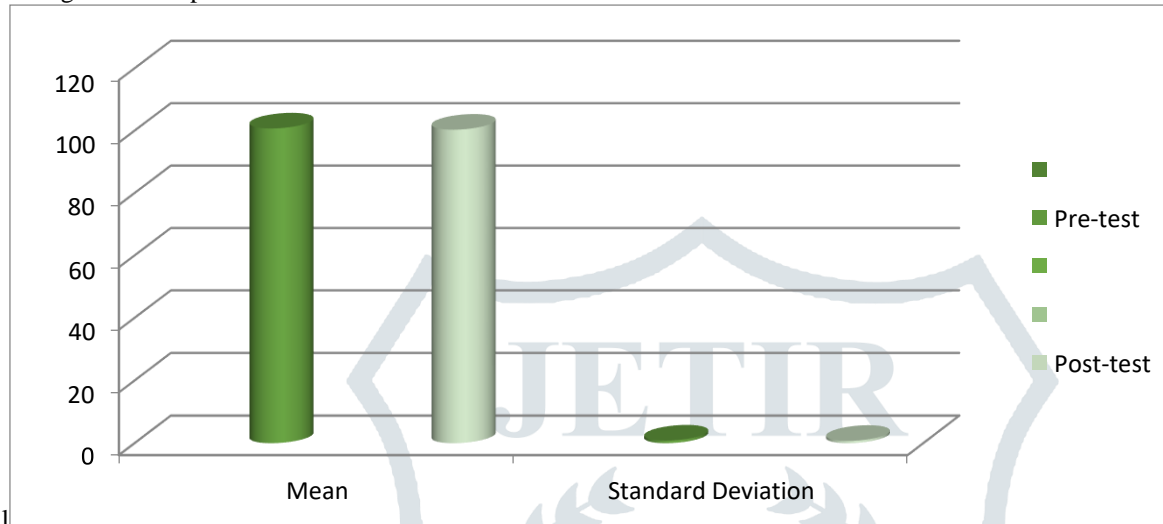


Table & figure 3.2 reveals that among control group, the mean pre-test score 100.70 with standard deviation 0.819 was more than the mean post test score 100.30 with standard deviation 0.716. The calculated mean difference was 0.39 and the obtained 't' value 10.7 was also significant at p<0.05 level.

Table: 3.3 Mean, Standard Deviation, Mean Difference and 't' Value on Post test Level of Temperature Among Children With Hyperthermia In Experimental and Control Group.

N=60

S.NO.	Level of Temperature	Mean	Standard Deviation	Mean Difference	't' Value
1.	Experimental group	98.90	0.579	1.4	8.20*
2.	Control group	100.30	0.719		

level* - Significant at p<0.05

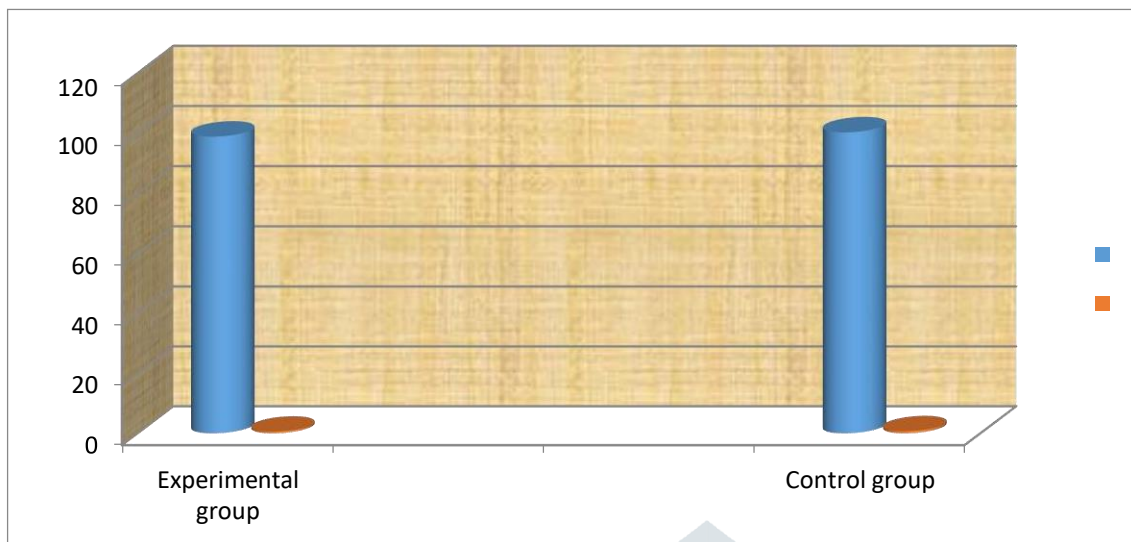


Table & figure 3.3 reveals that among experimental group, the mean post-test score was 98.90 with standard deviation 0.579. Among control group, the mean post-test score was 100.30 with standard deviation 0.716. The calculated mean difference was 1.4 and the obtained 't' value 8.20 was highly significant at $p < 0.05$ level.

DATA ON ASSOCIATION BETWEEN LEVEL OF TEMPERATURE AMONG CHILDREN WITH HYPERTHERMIA AND THEIR SELECTED DEMOGRAPHIC VARIABLES

Distribution on Level of Temperature Among Children With Their Selected Demographic Variables In Experimental Group.

N=30

Sl.No	Demographic variables	Level of temperature				χ^2 Value
		Normal		Low pyrexia		
		N	%	N	%	
1.	Age (in years)					0.035 ^{NS} df=1
	a. 4-9 years	15	50	9	30	
	b. 10-14 years	4	13	2	7	
2.	Gender					0.215 ^{NS} df=1
	a. Male	12	40	6	20	
	b. Female	7	23	5	17	
3.	Duration of hospitalization					0.061 ^{NS} df=3
	a. One day	0	0	0	0	
	b. Two days	13	43	8	27	
	c. Three days	4	13	2	7	
	d. More than three days	2	7	1	3	
4.	Type of ward					

S.No	Demographic variables	Level of temperature				χ^2 Value
		Normal		Low pyrexia		
		N	%	N	%	
	a.General	5	17	4	13	0.334 ^{NS}
	b.Private	14	47	7	23	df=1
5.	BMI category					
	a.a.<18.5-Underweight	17	57	6	20	4.925 ^{NS} df
	b.18.5-25-Normal weight	2	7	5	16	=2
	c.25 -Overweight	0	0	0	0	
6.	Use of antipyretics					
	a.Yes	19	63	11	37	0 ^{NS}
	b.No	0	0	0	0	df=1
7.	Use of antibiotics					
	a. Yes	15	50	9	30	0.034
	b.No	4	13	2	7	^{NS} df=1

NS- Non significant **Table 4.1** envisages the substantive summary of Z^2 analysis which was used to bring out the relationship between the levels of temperature among children with their selected demographic variables in experimental group.

With regard to age, among 4-9 years 15 (50%) had normal temperature, 9(30%) had low pyrexia. Among 10-14 years, 4(13%) had normal temperature and 2(7%) had low temperature. The obtained Z^2 value of 0.035 was not significant and thus stated hypothesis is not supported. So it is inferred that there is no significant association between the age and level of temperature among children with hyperthermia.

With regard to gender, among males 12 (40%) had normal temperature, and 6(20%) had low pyrexia. Among females 7(23%) had normal temperature. 5(16%) had low pyrexia. The obtained Z^2 value of 0.215 was not significant and thus the stated research hypothesis is not supported.

So it is inferred that there is no significant association between gender and level of temperature among children with hyperthermia.

With regard to duration of hospitalization, among children with 2 days of hospitalization 13(43.3%) had normal temperature, 8(27%) had low pyrexia. Among children with 3 days of hospitalization 4(13%) had low pyrexia, 2(7%) had low temperature. Among children with more than three days of hospitalization 2(7%) had normal pyrexia, 1(3.3%) had low pyrexia. The obtained Z^2 value of 0.061 was not significant and thus the stated research hypothesis is not supported. So it is inferred that there is no significant association between duration of hospitalization and level of temperature among children with hyperthermia.

With regard to type of ward, among general ward 5 (17%) had normal temperature and 4(13%) of them had low temperature. Among private ward 14(47%) had normal temperature, 7(23.3%) had low pyrexia. The obtained Z^2 value 0.334 was not significant and thus the stated research hypothesis is not supported. So it is inferred that there is no significant association between type of ward and level of temperature among children with hyperthermia.

With regard to BMI category, among underweight 17(57%) had normal temperature, 6 (20%) had low pyrexia. Among normal weight 2(7%) of them have normal temperature, 5(16%) had low pyrexia. The obtained Z^2 value 4.925 was not significant and thus the stated research hypothesis is not supported. So it is inferred that there is no significant association between BMI category and level of temperature among children with hyperthermia. With regard to use of antipyretics, among 19(63%) had normal temperature, 11 (37%) had low pyrexia. The obtained Z^2 value 0 was not significant and thus the stated research hypothesis is not supported.

So it is inferred that there is no significant association between use of antipyretics and level of temperature among children with hyperthermia.

With regard to use of antibiotics, among 15(50%) had normal temperature, 9(30%) had low pyrexia. 4(13%) had normal temperature and 2(7%) had low pyrexia. Among 3 children was not undergoing antibiotics treatment. The obtained Z^2 value 0.034 was not significant and thus the stated research hypothesis is not supported. So it is inferred that there is no significant association between use of antibiotics and level of temperature among children with hyperthermia.

It was inferred that, there is no significant association between level of temperature among children with their selected demographic variables in experimental group such as age, gender, duration of hospitalization, type of ward, BMI category, use of antipyretics and use of antibiotics. hypothesis is not supported. So it is inferred that there is no significant association between gender and level of temperature among children with hyperthermia.

With regard to duration of hospitalization, among children with one day of hospitalization 3(10%) had low temperature and 3(10%) had moderate pyrexia. Among children with 2 days of hospitalization 3(10%) had low temperature and 9(30%) had moderate pyrexia. Among children with 3 days of hospitalization 3(10%) had low pyrexia and moderate pyrexia. More than three days of hospitalization 3(10%) had low pyrexia and 3(10%) had moderate pyrexia.

The obtained Z^2 value of 1.875 was not significant and thus the stated research hypothesis is supported. So it is inferred that there is a significant association between duration of hospitalization and level of temperature among children with hyperthermia.

With regard to type of ward, among general ward 3(10%) had low pyrexia and 12(40%) of them had moderate pyrexia. Among private ward 9(30%) had low pyrexia, 6(20%) had moderate pyrexia.

The obtained Z^2 value 5 was a significant and thus the stated research hypothesis is not supported. So it is inferred that there is significant association between type of ward and level of temperature among children with hyperthermia.

With regard to BMI category, among underweight 9(30%) had low pyrexia, 18(60%) had moderate pyrexia. Among normal weight 3 (10%) of them have low pyrexia. The obtained Z^2 value 3.808 was not significant and thus the stated research hypothesis is not supported. So it is inferred that there is no significant association between BMI category and level of temperature among children with hyperthermia. With regard to use of

antipyretics, among 12(47%) had low pyrexia, 18(53%) had moderate pyrexia. The obtained Z^2 value 0 was not significant and thus the stated research hypothesis is not supported. So it is inferred that there is no significant association between use of antipyretics and level of temperature among children with hyperthermia.

With regard to use of antibiotics, among 8(33.3%) had low pyrexia, 12(40%) had moderate pyrexia. 4(13%) had low pyrexia, 6(20%) had moderate pyrexia. The obtained Z^2 value 0 was not significant and thus the stated research hypothesis is supported. So it is inferred that there is a significant association between use of antibiotics and level of temperature among children with hyperthermia.

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