



A PRE-EXPERIMENTAL STUDY TO EVALUATE THE EFFECTIVENESS OF RESPIRATORY THERAPY ON PHYSIOLOGICAL PARAMETERS AMONG CHILDREN WITH RESPIRATORY TRACT INFECTION IN PEDIATRIC HOSPITAL

Nursing

Jeba Sheela.J	Associate professor, Venkateswara nursing college Tamil Nadu DR. M G R Medical University Chennai, India.
Jayanthi P	Vice Principal, Venkateswara nursing college, Tamil Nadu DR. M G R Medical University Chennai, India.
Ciby Jose	Principal, Venkateswara Nursing College, Tamil Nadu DR. M G R Medical University Chennai, India.

ABSTRACT

BACKGROUND: Respiratory tract infections (RTIs) are infectious disease that can affect the throat, sinuses, airway, or lung. They are generally categorized as upper and lower respiratory tract infections (URTIs or LRTIs) Symptoms include cough, sore throat, runny or stuffy nose, sneezing, headache, muscle aches, and low-grade fever. **AIMS AND OBJECTIVES:** This study aimed to 1.To assess the pretest and post-test level of physiological parameters among children with respiratory tract infection.2.To evaluate the effectiveness of respiratory therapy on physiological parameters among children with respiratory tract infection.3.To find out the association of post-test level of physiological parameters among children with respiratory tract infection with their selected demographic variables. **METHODOLOGY:**A quantitative research approach with a pre-experimental research design was used for the study.60 children were selected using purposive sampling techniques. The study was conducted in a selected pediatric hospital chennai. The Paediatric Early Warning Scoring (PEWS) tool was used to assess physiological parameters. **RESULTS:** The results showed that in the pre-test, The majority of the children 11(18.33%) had mild respiratory tract infection, 37(61.67%) had moderate respiratory tract infection and 12(20%) had severe respiratory tract infection. Where as in the post-test, 53(89%) had mild respiratory tract infection, 5(8%) had moderate respiratory tract infection and 2(3%) had severe respiratory tract infection. Paired t-test revealed that Respiratory therapy (RT) had a statistically significant effect on improving respiratory parameters such as Respiratory Rate (RR), Heart Rate (HR), Capillary Refill Time, Level of Consciousness and Oxygen saturation at ($P < 0.05$) level. **CONCLUSION:** The findings of this study implies that respiratory therapy was effective to improve the physiological parameters among children with respiratory tract infection.

KEYWORDS

children, Respiratory tract infection, Respiratory therapy, Pediatric Early Warning Score(PEWS)

INTRODUCTION

"Respiration is the bridge between mind and body, breath is the key and wellness, a function can learn to regulate and developing in order to improve our Physical and Mental Spiritual Wellbeing." Respiratory tract infections are one of the "third world" leading causes of morbidity and mortality in young children. Respiratory problems are responsible for a large proportion of pediatric admission and outpatient attendance. Respiratory system is frequent site of illness in children. Respiratory infection and allergies together of response for many disruptions in family life and which force them miss their school work. Children respond differently to respiratory illness than adults, the respiratory changes that occur during childhood as new lung tissue continues to form and existing structure changes in shape and function

Statement Of The Problem

A pre-experimental study to evaluate the effectiveness of respiratory therapy on physiological parameters among children with respiratory tract infection.

Objectives

1. To assess the pre-test and post- test level of physiological parameters among children with respiratory tract infection.
2. To evaluate the effectiveness of respiratory therapy on physiological parameters among children with respiratory tract infection.
3. To find out the association of post - test level of physiological parameters among children with respiratory tract infection with their selected demographic variables.

Hypotheses

H1: There will be a significant effect of respiratory therapy on Physiological Parameters among children with respiratory tract infection.

H2: There will be a significant association of post-test level of Physiological parameters of children with Respiratory tract infection with their selected demographic variables.

MATERIALS AND METHOD:

Quantitative research approach was used for this study. Pre experimental research design was used for this study. The study was adopted Purposive Sampling Technique to select 60 hospitalized

children at the age group of 6-12 years admitted with respiratory tract infection admitted in a selected pediatric hospital chennai. The purpose of the study was explained and verbal consent was obtained from the mothers of the participants. Initial assessment of demographic data was collected, its includes Age, Gender of the child, Previous episode of respiratory tract infection, Number days hospitalization, educational status of the child, Family monthly income, educational status of mother, educational status of father, Mother's occupation, Father's occupation, Residential area, Type of family, if there any passive smoking atmosphere, History of allergy, Pet animal in house. After initial assessment the Physiological Parameters measured by Standardizing PEWS (National Early Warning Signs) Scoring System consist of 5 Parameters, Respiratory Rate, Oxygen Saturations, Heart Rate, Level of Consciousness, Capillary refill time. Pretest was collected, after the pretest the child's the mother were explained the respiratory therapies (simple breathing exercises such as diaphragmatic breathing exercise, purse lips and alternative nostril exercise and balloon blowing exercise) and was demonstrated the same. Respiratory therapy was given to them for 10 minutes 3 session per day, for 5 days. Health education was given with the help of flash cards on the day of pretest. Post test was conducted after 5th day to assess the effectiveness of respiratory therapy. It took 5-10 minutes to assessing the physiological parameters.

Plan for data analysis

Effectiveness of respiratory therapy technique on a respiratory infection among children was analyzed by using mean, standard deviation, mean percentage, paired - 't' test. Association on post test scores of respiratory tract infection among children with their selected demographic variables was analyzed by using chi-square test.

RESULTS & DISCUSSION

In demographic variables most of them, 18 (30%) were aged between 6-7 years, 31(51.67%) were Male child, 51(85%) of them up-to-date in immunization status, 46(76.67%) of the child had below normal weight, 25(41.67%) had first episode of respiratory infection, 42(70%) were hospitalized below 3 days, 30(50%) of children were studying 2nd standard, 17 (28.3%) had a monthly income of above rupees 40,0000, 57(95%) of mothers were diploma, graduation and above, 60(100%) of fathers were diploma, graduation and above, 44(73.3%) of the mothers were home maker, 49(81.6%) of the fathers were working in private organization, 43 (71.6%) were residing in a urban area,

29(48.3%) belonged to a nuclear family, 52(86.67%) were not having any passive smoking atmosphere, 51(85%) of children not having history of any kind of allergy, 54(90%) of them were not having any pet animals in their house.

Assessment of physiological parameters among children with respiratory tract infection is depicted in Table 1 and Effectiveness of Respiratory Therapy on Physiological Parameters among children with respiratory tract infection is depicted in Table 2.

Table 1: Assessment of physiological parameters among children with respiratory tract infection N=60

S.NO	CRITERIA	PRE- TEST POST TEST			
		n	%	n	%
1	Mild Respiratory tract infection (0-5)	11	18.33	53	89
2	Moderate Respiratory tract infection (6-10)	37	61.67	5	8
3	Severe Respiratory tract infection (11-15)	12	20	2	3

Table 2 : Effectiveness of Respiratory Therapy on Physiological Parameters among children with respiratory tract infection. N=60

Physiological Parameters	Mean	S. D	Paired 't' Value
Pre-test	5.05	2.6	t=3.67 DF=59
Post-test	2.25	2.42	P=1.671

At 5% Level of significance $P > 0.005$

Association between physiological parameters of children with respiratory tract infection with their selected demographic variables.

The demographic variables such as Age of the child ($X^2=18.12$), Weight of the children in Kg ($X^2=5.80$), Previous episode of respiratory infection ($X^2=28.41$), Educational status of child ($X^2=7.76$), Family monthly income ($X^2=3.84$), Educational status of the father ($X^2=2.23$), Mothers occupation ($X^2=6.324$), Father's occupation ($X^2=3.85$), Residential area ($X^2=6.524$), Type of family ($X^2=7.32$) had shows statistically significant.

The similar study conducted by **Samundeeswari Arunachalam et al (2022)**, effectiveness of the balloon therapy on physiological parameter among children with lower respiratory tract infection. Shows that, in pretest 33.3% of children are having mild respiratory problem 66.7% of children having moderate respiratory problem and none of them having severe respiratory problem. Hence it can be interpreted that most of the children are having moderate respiratory problem. In post-test 23.3% of the children are having mild respiratory problem, 76.6% children are having no respiratory problem and none of them are having moderate and severe respiratory problem.

The similar study by **Ms. Kayalvizhi M, (2022)** conducted Evaluate the effectiveness of balloon therapy on physiological parameter among children with acute respiratory tract infection in Dhanalakshmi Srinivasan Medical College and Hospital, Preamble. It shows that the pre-test mean children with Acute respiratory tract infection score was 5.24 and post-test mean children with acute respiratory tract infection score was 9.36. The calculated t value is 3.658 significantly greater than the table value.

The similar study conducted by **Dr. M. Mahalakshmi [2021]**, To determine the effectiveness of Balloon therapy on respiratory Efficacy for children with Respiratory diseases. Shows that before balloon therapy the pretest mean score and standard deviation of respiratory distress was 19.77 ± 6.794 whereas after the post-test mean and standard deviation was 24.29 ± 6.247 . There was a statistically significant difference found at 5% level of significance.

CONCLUSION

The Respiratory therapies of simple breathing exercises such as diaphragmatic breathing exercise, purse lips and alternative nostril exercise and balloon blowing exercise were effective in improvement of 5 physiological Parameters such as Respiratory Rate, Oxygen Saturations, Heart Rate, Level of Consciousness, Capillary refill time of children with respiratory tract infection.

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