

Determine the Effectiveness of Balloon therapy on Respiratory Efficacy for Children with Respiratory Diseases

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Abstract:

Respiratory tract infections are one of the reasons for children admitted in hospital. Because of uncertain weather changes and air pollution, children are not involving breathing exercises, low level of personal hygiene. Here the researcher taken some steps on determines the effectiveness of balloon therapy on respiratory efficacy for children with respiratory diseases in selected hospitals of Gujarat. This study adopted quantitative approach and applied one group pre test and post group research design, simple random sampling techniques applied for drawing the samples for research study. The results of the study were the post test mean was higher than pre test mean. The conclusion was balloon blowing exercises were effective to reduce the respiratory distress.

Key words: balloon therapy, respiratory distress, children

Introduction

Child care has changed dramatically in recent years due to advances in medical knowledge and understanding of emotional response of children. Modern concepts of child health emphasizes on continues care of whole child. At present in child care more emphasis given on preventive approach rather than curative care only.

Respiratory system is a frequent site of illness in children. Respiratory infection and allergies together are responsible 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

Education of parents and children is an important aspect of lower respiratory tract infection treatment. Parents should also be asked to maintain a record of daily symptoms such as cough, wheezing, breathlessness and sleep disturbance .Breathing exercises helps to strengthen the children's lungs and control their breathing. Various breathing exercises help to reduce the severity of respiratory signs and symptoms. Breathing techniques are helpful for reducing breathing difficulty. Breathing exercise as an integral part plays a significant role in airway clearance and parenchyma expansion by improving the efficiency of respiratory muscles.

Blowing up a balloon is a key health test that most people have been taking their whole life without realizing it. A simple exercise that creates lung capacity is blowing up a certain amount of balloons each day. Blowing balloons works out the intercostals muscles responsible for spreading and elevating your diaphragm and ribcage. This allows lungs to absorb oxygen, alter its chemical composition while still in the lungs, and expel carbon dioxide as exhaling is commenced. Balloon blowing, while effectively exercising the lungs' ability to expand and take in air,

does not affect the size or number of alveoli contained in the lungs. Alveoli are air sacs that disperse carbon dioxide during exhalation and oxygen into the blood during inhalation.

The more oxygen supplied to the body during exercise, the longer a trainer is able to exercise without becoming breathless and fatigued. Oxygen restores energy to cells and muscles by removing carbon dioxide. When plenty of oxygen is able to be processed by lungs, muscles equip themselves with energy reserves that permit trainers to continue a workout session. Committing to a daily routine of blowing up 10 or 15 balloons steadily increases lung capacity and also amplifies the lungs' ability to maintain a sufficient supply of oxygen.

Need of the study

UNICEF (2018) Pneumonia claims the lives of the world's most vulnerable for under five children Pneumonia remains the leading infectious cause of death among children under five, killing approximately 2,400 children a day. Pneumonia accounted for approximately 16 per cent of the 5.6 million under-five deaths, killing around 880,000 children in 2016. Most of its victims were less than 2 years old. Mortality due to childhood pneumonia is strongly linked to poverty-related factors such as under nutrition, lack of safe water and sanitation, indoor air pollution and inadequate access to health care.

Around half of childhood pneumonia deaths are associated with air pollution. The effects of indoor air pollution kill more children globally than outdoor air pollution. At the same time, around 2 billion children 0-17 years of age live in areas where outdoor air pollution exceeds international guideline limits.

Air pollution is stunting our children's brain, affecting their health in more ways than we suspected said by Dr.Maria Neira,the WHO director of public health and environment at a global conference on air pollution and health held in Geneva's report published by the world health organization reveals that India witnessed the deaths of 60987 children under the age of five years in the year 2016.of these deaths, the girl children were more prone to die of air pollution with 32889 girl children dying of the cause as compared to 28097 boys.

Objectives of the study:

1. To assess the respiratory condition of children before intervention
2. To implement balloon therapy among the children admitted in the hospital.
3. To find out the effectiveness of balloon therapy on respiratory efficacy among the Children admitted in the hospital.
4. To determine the association the post test score of respiratory efficacy regards to balloon therapy among children admitted in hospital with selected socio demographical variables

HYPOTHESIS:**Hypothesis in present study**

H₀: there is no significant effect of balloon therapy on respiratory efficacy

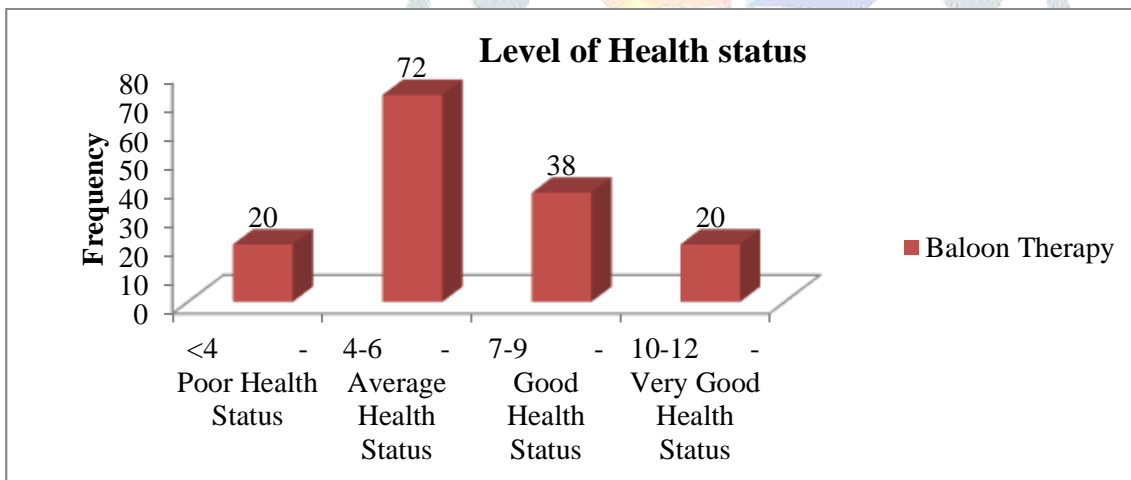
H₁: there will be significant effect of balloon therapy on respiratory efficacy

MATERIALS AND METHODS:

In this study the researcher used the quantitative approach, and applied pre experimental one group pre test and post test only, 150 samples taken through simple random sampling techniques from selected hospital of Gujarat. Tools of the study obtained reliability and content validity from experts. The tools composed with count of child health assessment chart, respiratory assessment chart.

DATA ANALYSIS

Descriptive analysis used for drawing the frequencies of data and inferential analysis are used for testing the hypothesis.

RESULTS AND INTERPRETATION**GRAPH:NO: 1- EXISTING HEALTH STATUS OF CHILDREN**

As per graph no 1 displays that overall impression from the data most of samples were fall under average health condition that is why they fall on sick frequently. The researcher concluded that mostly children had average level of health status, it was really that children highly risk getting infection.

TABLE NO:1 - Comparisons of children level of pre-test respiratory distress and post-Test respiratory distress score

Sr No	Therapy	Test	Mean	N	S.D	T Value	Df	P Value
1	Balloon Therapy	Pre-test	19.77	150	6.794	29.812	149	<0.001
		Post-test	24.49	150	6.247			

In balloon therapy group the pre test mean score of respiratory distress level is 19.77.post test mean score is 24.49.the computed S.D for pretest 6.794 and post test is 6.247 and t value is 29.812 shows that there will be significant difference between pretest mean respiratory distress score and post test mean score of respiratory distress score with 5% of level of significance and 149 degree of freedom. This indicates that balloon therapy is effective to reduce the respiratory distress level among children admitted in hospital with respiratory diseases. And H1 research hypothesis accepted

Finding of association between pilot study post test score with demographic variables:

The post test score significantly associate with educational status of parent, areas of residence, health status of child and Age of the child, Gender, Educational status of the child, Type of family, Religion, Monthly Income of the family, Occupation of the parents, frequency of Respiratory Infection undergone in last year, Number of children in the family, previous exposure to therapy, Order of the child, Any respiratory illness in the past these all non significant with post test score of respiratory distress

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