

**EFFECTIVENESS OF MASSAGE THERAPY ON ANXIETY AMONG
ASTHMATIC CHILDREN-HOSPITAL BASED INTERVENTIONAL STUDY****PROF. VIJAYALAKSHMI* N AND Dr.PARAMANANDAM***Professor, Department of Pediatrics , SRM MCH &RC, SRM University, Chennai.***Professor, K.G.College of Nursing, Coimbatore***ABSTRACT**

Asthma is an illness of the respiratory system that causes swelling and narrowing of the airways. Asthma is the most common chronic illness in childhood and the greatest cause of disability in children alone. Worldwide childhood asthma appears to be increasing in prevalence despite considerable improvements in our management and pharmacopeia to treat asthma. Asthma prevalence is expected to be twice in 2020. It will impair the child's social interaction and academic achievement. Asthma is a burden to the family as well as to the society. There are limited studies on identification of an effective management strategy in children with asthma. This study was conducted to find out the effect of massage therapy on anxiety among asthmatic children. Quasi experimental design was used in the study and the subjects were selected using purposive sampling method. The samples included 120 children who visited outpatient department were divided into two groups, namely study and control. In the pretest both the groups of children's anxiety was assessed by using Modified Spence Children Anxiety Scale. The Study group underwent massage therapy for 20 minutes followed by hot pack application, these techniques were demonstrated to the mother of the child and a CD was given to all the mothers. Control group underwent usual routine care and both group children were reassessed by using the same anxiety scale. The data were analyzed using descriptive and inferential statistics, following the analysis it shows that the children anxiety level was reduced who underwent massage therapy when compared to children who are in control.

KEY WORDS: Massage therapy, Asthmatic Children, Education on Asthma, Anxiety.

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INTRODUCTION

Children are the greatest inspiration in the present and our great hope for the future. Children are the most precious gifts one will ever receive. From the moment we first hold this miracle of life in our arms; our world will be broader and richer. Every family looks forward to the normal child with great hopes and expectations.¹⁾ Children are wonderful gifts. Every child is a different kind of flower and all together makes this world a beautiful garden. Children are our most valuable natural resource. Children are our one third of our population and our future.²⁾ School age is regarded as the most important phase of childhood life during which the child enters the society training system and emerge as a contributing member of the community.³⁾ The relationship between health status and academic achievement is more complex than it would seem at first glance. While there is strong evidence that children whose health care needs are met are less likely to miss school days because of illness and better able to focus on learning in the classroom, School performance is multi-determined, multiple diversified and inter-related factors which affect a child's opportunities for successful learning and academic achievement. Some of these factors are amenable to clinical intervention; managing chronic health conditions such as asthma is one such factor.⁴⁾ Asthma continues to increase in the US and around the world. According to the National Heart, Lung, and Blood Institute, the prevalence of asthma around the world has doubled in the last 15 years. In the US, the Centres for Disease Control estimates that the prevalence among persons up to 17 years old increased about 5% per year from 1980 to 1995. According to a recent New York Times article, "Asthma Becoming an Urban Epidemic," the statistics from the Centres for Disease Control and Prevention are staggering: the number of asthma sufferers has more than doubled in less than twenty years, skyrocketing from 6.7 million in 1980 to 17.3 million in 1998. Every fourth Indian suffers from allergy commonly is being asthma. The incidence, severity and mortality associated with asthma have steadily risen throughout the world. The increasing number may result from "increasing air

pollution, under treatment and under diagnosis". According to H-CUP (Healthcare Cost and Utilization Project), there were 335,000 asthma-related pediatric stays in 2006; these stays accounted for 13.5 percent of all pediatric hospitalizations (excluding newborns). The rate of hospitalization principally for asthma among children living in the poorest communities was 76 percent greater than it was among children living in wealthier communities. There were 8.0 asthma-related hospital stays per 1,000 children under one year of age. This age group had the highest rate of asthma-related hospitalizations.⁵⁾ According to WHO, at global level 300 million people suffer from asthma. 2,55,000 people died of asthma in 2005 and over 80 % of asthma deaths are reported from low and lower middle income countries. In India 57,000 deaths were attributed to asthma in 2004 and it was seen as one of the leading cause of morbidity and mortality in rural India. In India varied prevalence rates ranging from 0.9% to 15.7%. Asthma ranks within the top 10 prevalent condition causing limitation of activity. Prevalence of bronchial asthma increased continuously since 1970, and now affects 4 to 7% of the people worldwide. The prevalence range in children from 4 to 32 % and also it increases number of hospital emergency visits and admissions. 1 in 11 children has asthma in U.K. In U.S.A 7 million children have asthma. In India about 1 out of every 12 children has asthma.⁶⁾ The mechanism between asthma and anxiety is many-fold. Uncontrolled emotions can work the nerves and cause constriction of muscles, like the smooth muscles of the airways in the lungs. They tighten up and constrict, which can worsen wheezing, coughing, and chest tightness in people with asthma. Asthma is a distressing, and potentially dangerous condition that is caused by obstruction of the airways due to inflammation. Anxiety is a mental health condition that causes worries and stress, along with physical symptoms that can cause further anxiety. The two conditions do not appear at first glance to be related, but anxiety and asthma do have a very complicated relationship that can cause issues

in Children life .There is a great deal of evidence that anxiety can worsen asthma symptoms.⁽⁷⁾Vullermin et.al conducted a cross-sectional study on “ Anxiety is more common in children with asthma” . The objectives of this study was to determine if children with physician defined asthma are more likely to have anxiety than children without asthma .205 children aged 5-13 years were selected and assessed by Spence Children Anxiety Scale . The SCAS scores were higher in asthmatics than controls ($p < 0.001$) and were more likely to be in the clinical range ($OR = 2.5$, $95\% CI 1.1$ to 5.8 , $p = 0.036$) . The study concluded that children with asthma are substantially more likely to have anxiety than children without asthma.⁽⁸⁾ With these staggering statistics regarding asthma and anxiety, it's no wonder, that parent and caregivers are looking for various asthma remedies. In addition to the many medications that are recommended for pediatric patients with Asthma, parents and healthcare providers are looking towards managing asthma with other complementary therapies.⁽⁵⁾ Massage therapy is one very viable source of reducing stress, anxiety and promoting relaxation. The benefits of the massage are increases circulation, increases flexibility, strengthens the immune system, reduces stress and anxiety, improves the health of the skin, speeds healing and reduces blood pressure.⁽⁹⁾

MATERIALS AND METHODS

The study was carried out in selected hospitals, Coimbatore with 238 consecutive asthmatic children who are attending the outpatient department. This sample size was determined based on the results of a pilot study and was computed by power analysis. Institutional ethical committee approval was obtained. Children between the age group of 8 – 12 years are diagnosed as asthma within 2 years were included in the study . Children who are having chronic illness , respiratory complications, congenital abnormalities ,cardiac abnormalities , developmental disabilities and Status asthmatics are excluded in the study.Quasi Experimental research design with measures at three study intervals was used .By using Purposive Sampling technique ,238 samples were

selected and are divided as 120 in study group and 118 in control group .An informed consent was obtained from the parents of detailed history and the findings were recorded in a predesigned patient proforma .Initially study and control group children were assessed for anxiety by using Modified Spence Children Anxiety Scale. The study group children received intervention (Massage) for 20 minutes which includes hot pack application(1minute), Deep breathing exercises(5 minutes), Kneading(1 minute) , Thumb stroke (2 minute), Effleurage(7 minutes), Friction(3 minutes), Raking(1 minute) which performed 20-30 minutes in bed time daily for 1 month.The mothers of asthmatic children were asked to observe the technique of massage therapy . Education film of massage therapy (CD) and massage technique manual which was developed by researcher was given. Mothers were instructed to do a massage to their children for 20 minutes just before the bedtime for 1 month and they have reinforced to attend the hospital alternate week to share their views and perform massage in front of the investigator. At the end of one month anxiety was reassessed by using same tool. At the end of the study the data was analysed by using appropriate statistical tests .

RESULTS

The baseline values and clinical variables were not significantly different between study and control groups for all the demographic variables pertaining to the child and family including age of the child (0.51), sex of the child (0.35), birth order of the child (0.38), weight of the child (0.30), height of the child (0.14), type of food habit (0.51), Educational status of the mother (0.83) , Occupation of the mother (0.41) ,Family income(0.73),Place of residence(0.15), Location of house(0.35), Type of house(0.19) , Type of ventilation(0.21), Total number of children in the family(0.15), Type of family(0.53), Location of school(0.18),Birth history(0.69),Gestational age at birth(0.30),Birth weight of the child(0.42),History of breast feeding(0.35),Immunization history(1.00), Frequent history of respiratory tract infection(0.26), ,Age at onset of asthma(0.29), Asthmatic attacks occur commonly(0.42),

Type of asthma(0.42), Number of previous hospitalization for asthma(0.35), Number of asthmatic attacks in last 12 months(0.34), Type of treatment for asthma(0.16), Duration of treatment for asthma(0.22), Family history of asthma(0.19), Exposure to pet animals(0.35), Exposure to passive smoking(0.70) .In pre test there was no statistically significant difference found in anxiety mean score (t=0.42 p=0.67)

among asthmatic children between study group and control group . It indicates that the level of anxiety in the groups were similar before intervention and the groups were comparable .In post test there was a highly significant difference found in anxiety mean score (t=12.70 p=0.001) between study group and control group (Table 1)

Table 1
comparison of pretest and post test Anxiety mean score among asthmatic children between study group and control group

Anxiety scores	Group				Student independent t-test
	Study		Control		
	Mean	SD	Mean	SD	
Pre test	21.07	8.29	21.48	6.87	t=0.42 p=0.67
Post test	10.31	5.65	20.28	6.45	t=12.70 p=0.001***

*** = Very highly significant at p=0.001

When comparing the level of anxiety in pretest , in the study group 30.5 % had mild anxiety , 45.8% had moderate anxiety , 23.7% had severe anxiety , in the control group 23.3% had mild anxiety , 53.4% had moderate anxiety , 23.3% had severe anxiety. In post test , in the study group 65 % had mild anxiety ,35 % had moderate anxiety , no one had severe anxiety , in the control group 26.7% had mild anxiety , 56.7% had moderate anxiety , 16.6% had severe anxiety. In study group when compared to pretest and posttest score, None of the children had severe anxiety

in posttest but in control group 10 children had severe anxiety in posttest , which is reduced from pretest after intervention. (fig – 1& 2) .When comparing the pre test and post test anxiety score in study group and control group, there was highly statistically significant difference between pre test and post test mean anxiety scores(t=12.70 p=0.001) in study group, whereas in control group there was no significant difference between pre test and post test mean anxiety scores(t=1.69 p=0.10)(Table-2)

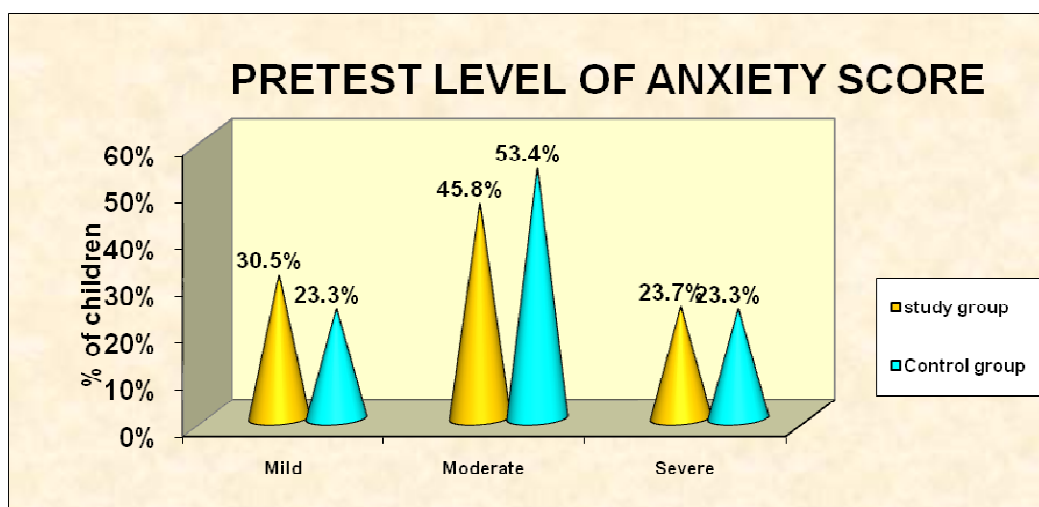


Figure 1
comparison of pre test level of anxiety in study and control group

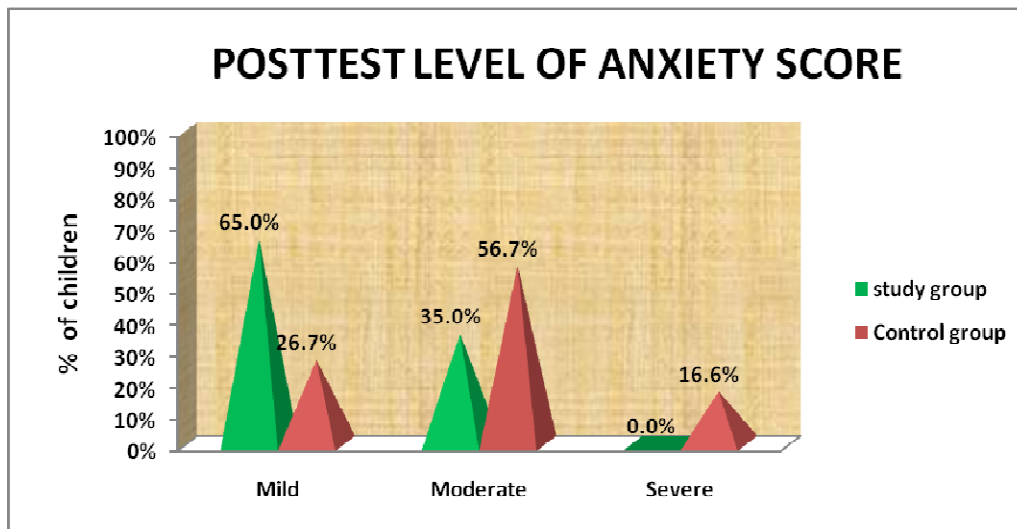


Figure 2
comparison of posttest level of anxiety in study and control group

Table 2
Comparison of pre test and post test mean anxiety score among asthmatic children in study group and control group

Group	TEST				Student paired t-test
	PRETEST		POSTTEST		
	Mean	SD	Mean	SD	
Study	21.07	8.26	10.33	5.63	t=12.70 p=0.001***
Control	21.48	6.90	20.28	6.45	t=1.69 p=0.10

*** = Very highly significant at p=0.001

There was a significant association between anxiety and age of the child (p=0.001), sex of the child (p=0.01), weight of the child (p=0.02), height of the child (p=0.001), education status of the mother (p=0.01) income (p=0.01), no of previous hospitalization for asthma (p=0.02), no of attacks in last 12 months (p=0.01), duration of asthma treatment (p=0.02)

DISCUSSION

Based on the available information regarding baseline characteristics and anxiety, the present study was planned to define the role of massage therapy as a complementary medicine in asthmatic children to reduce anxiety. After one month follow up there was a significant reduction in anxiety after receiving intervention. Rydstorm et al believed that the families with asthmatic children have more anxiety and turbulent behavior patterns than families of children with other chronic diseases like diabetes mellitus.⁽¹⁰⁾ Hernandez et al also believed that chronic disease is a potential

stressor (physiologic distress) for children and their families.⁽¹¹⁾ Field et al. suggests that application of massage in younger children showed an immediate decrease in anxiety. The author concludes that there was an increase in cortisol level soon after massage helps to reduce the anxiety. The patient shows a change in attitude towards asthma.⁽¹²⁾ Wong .D et al., also believed that the massage therapy was an excellent method in reduction of anxiety in children with asthma. It allows the family member to participate more with the patient which psychologically boost the children well being.⁽¹³⁾ Bingel et al., 2000 suggest that massage helps in reducing the anxiety and improves the functional capacity of the lungs. Massage therapy helps to reduce the anxiety and improve the quality of life in children.^{(14).}

CONCLUSION

Asthma is the common childhood illness despite of various measures the asthma is a serious illness. This study focuses on

identification of massage therapy on reduction of anxiety in asthmatic children. This study finds a better result in study group, as massage therapy significantly reduces the anxiety in children. It also supports that compared to the control group, the study (massage) group provides a marked reduction in outcome as well as the participants involvement was more. So this study concludes that the massage therapy helps in reduction of anxiety level in children with asthma. Limitations found in the study are, limited number of participants, need an exploratory study to find significant benefits on massage, other factors like food habit,

religious customs were not controlled, the medications were not controlled.

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CONFLICT OF INTERESTS

Declared none

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