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A study to assess the effectiveness of myofascial trigger point massage on tension headache among children studying in selected schools of district Hoshiarpur Punjab

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Abstract

This study investigates the effectiveness of myofascial trigger point massage in alleviating tension headaches among school children in Hoshiarpur, Punjab. Sixty children from selected schools in the district were divided into experimental and control groups. Their pre-test levels of pain were assessed using a criterion measure ranging from no pain to worst pain. The experimental group received myofascial trigger point massage intervention, while the control group received no intervention. Pre-test and post-test levels of pain were measured for both groups. Results indicate that before the intervention, most children experienced moderate to severe pain. The analysis of mean pre-test and post-test pain levels will provide insights into the efficacy of the intervention. This study contributes to the literature on pediatric headache management and provides valuable information for healthcare professionals and policymakers aiming to enhance the well-being of school children in the region.

Keywords: Myofascial trigger, tension headache, children

Introduction

Tension headaches represent a prevalent health concern among children, impacting their daily activities, academic performance, and overall well-being. Among various therapeutic modalities, myofascial trigger point massage has emerged as a promising intervention for alleviating tension headaches. However, its effectiveness specifically among school children in the district of Hoshiarpur, Punjab, remains understudied. The district of Hoshiarpur, nestled in the heart of Punjab, encompasses diverse educational institutions catering to children from various socio-economic backgrounds. Within this context, exploring the efficacy of myofascial trigger point massage in mitigating tension headaches among school children holds significant relevance for promoting their health and academic success. This study aims to bridge this gap in the existing literature by comprehensively assessing the effectiveness of myofascial trigger point massage on tension headaches among children attending selected schools in Hoshiarpur, Punjab. By conducting a systematic investigation, this research endeavors to provide valuable insights into the potential benefits of this therapeutic approach in a pediatric population. Understanding the prevalence and impact of tension headaches among school children is imperative for developing targeted interventions that can enhance their quality of life and educational experience. Through rigorous examination and analysis, this study seeks to contribute to the body of knowledge surrounding pediatric headache management, particularly in the context of the unique cultural and regional characteristics of Hoshiarpur, Punjab. Moreover, by shedding light on the efficacy of myofascial trigger point massage, this research endeavors to inform healthcare professionals, educators, and policymakers about a potentially valuable non-pharmacological intervention for addressing tension headaches among school children. Such insights hold the promise of improving healthcare practices and fostering holistic well-being among the younger population in the district. In conclusion, this study endeavors to fill a crucial gap in the literature by investigating the effectiveness of myofascial trigger point massage on tension headaches among school children in Hoshiarpur, Punjab. By doing so, it aims to offer evidence-based recommendations that can positively impact pediatric headache

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management practices, thereby promoting the health and academic success of children in the region.

Statement of the problem

A quasi- experimental study to assess the effectiveness of myofascial trigger point massage on tension headache among children studying in selected schools of district Hoshiarpur, Punjab.

Objectives

- 1) To assess pre-test and post -test level of tension headache among children in experimental and control group.
- 2) To compare the pre-test and post-test the level of tension headache among children in experimental and control group.
- 3) To find out the association between level of tension headache among school children with their selected demographic variables.

Operational definitions

- ❖ **Effectiveness:** In this study it refers to the desired outcome of myofascial trigger points massage for the treatment of children headache.
- ❖ **Tension headache:** Stress, as evaluated by the Dass Tension Scale, is often associated with tension headaches, which are brought on by the tightening of muscles in the back of the neck, the scalp, and, in rare cases, the jaw.
- ❖ **Myofascial:** In the context of this research, it denotes a hands-on method that successfully restores function by applying mild, continuous pressure to the myofascial tissue.
- ❖ **Trigger points:** The muscles included in this research are the temporalis, frontalis, zygomaticusmajor, and sternocleidomastoid. They're not some mystical concept; they're tangible, they're palpable, and most crucially, they divert pain from one area to another.
- ❖ **Massage:** Massage, as used in the present study, is described as manipulating muscle tissue to alleviate stress and discomfort.
- ❖ **School children:** Children aged 12-15 are considered "school-aged" for the purposes of this research.

Hypothesis

- ❖ **Ho:** There is no statistically significant difference on the level of tension headache among children in experimental group and control group at $p < 0.05$ level of significance.
- ❖ **H1:** There is statistically significant reduction on the level of tension headache among children in experimental group after administration of myofascial trigger point massage as compared to control group at $p < 0.05$ level of significance

Delimitations

The study will be delimited to children

- who will be in the age group of 12-15 years.
- who have not undergone any massage therapy.

Methodology

Deals with the methodology adopted for the study. The methodology of research indicates the general pattern for organizing the procedure and for gathering valid and reliable data for investigation.

Research approach

In this study, a quantitative approach was used.

Research design- A quasi-experimental research design including a pre-test, a post-test, and a control group was used to examine the impact of a concentration- improving exercise on children of school age in a selected area of Hoshiarpur, Punjab.

Variables of the study

- **Independent variables:** Myofascial trigger point massage.
- **Dependent variables:** Tension Headache among children
- **Demographic variables:** "age, educational status, gender, type of family, frequency of headache, location of headache, pain type (what does the headache pain feel like), medications and supplements for headache, sleep duration (in hours), have you ever had a myofascial trigger point massage or alternative therapy for pain relief, and do any of the following help to relieve your headache.

Setting of the study: The study was conducted at selected schools of Marigold Public School and Sri Guru Public Harkrishan School District Hoshiarpur, Punjab.

Sample: The sample of the present study comprised of school age children in selected areas of Hoshiarpur. In the present study, 60 samples were selected.

Sampling technique

- **Sample size:** The research sampled 60 school- aged children, 30 in the experimental and control groups. The purposive sampling technique was used.
- **Sampling criteria:** The study samples were selected in view of the following pre- determined criteria.

Inclusion criteria

2. Exclusion criteria
3. Those who are absent or sick on the day of data collection.
4. Mentally challenged children.
5. Data Collection Technique and Instruments Selection and development of tool for data collection:

Section-A: Analysis: It contained "demographic profile of the respondents that includes age, educational status, gender, type of family, frequency of headache, location of headache, pain type (what does the headache pain feel like), medications and supplements for headache, sleep duration (in hours), have you ever had a myofascial trigger point massage or alternative therapy for pain relief, and do any of the following help to relieve your headache. Children between the age group of 12-15 years.

Table 1: Frequency and percentage distribution of children in experimental group and control group as per there pre-test level of pain.” N = 60

Criterion measures			Level of Pain		
Level of Pain		Experimental Group (n=30)		Control Group (n=30)	
			n%	n%	
No pain	0-1	0	0	0	0
Mild pain	02-03.	4	14	2	7
Moderate pain	04-05.	10	33	7	23
Severe pain	06-07.	10	33	10	33
Very severe pain	08-09.	5	17	9	30
Worst pain	10	1	3	2	7

Minimum score =0

Maximum score =10

Table 2: Frequency and percentage distribution of children in experimental group and control group as per there pre-test level of pain.” N=60

Level of Pain	Level of Pain	Experimental Group		Control Group	
		n	n%	n	n%
No pain	0-1	0	0	0	0
Mild pain	02-03.	4	14	2	7
Moderate pain	04-05.	10	33	7	23
Severe pain	06-07.	10	33	10	33
Very severe pain	08-09.	5	17	9	30
Worst pain	10	1	3	2	7

Table 3: “Frequency and percentage distribution of children in experimental and control group as per there pre-test level of tension headache.” N = 60

Level of Tension Headache					
Level of Tension Headache	Criterion Measures	Experimental Group (n=30)		Control Group (n=30)	
		n	%	n	%
Normal	1-12	0	0	0	0
Mild Tension	13-24	1	3.33	6	20
Moderate Tension	25-36	19	63.6	15	50
Severe Tension	37-48	10	33	9	30

Table 4: Comparison of mean pre-test and post-test level of pain of children in control and experimental group.” N = 60

Group	n	Mean	SD	n	Mean	SD
't' test						
Control group	30	6.73	1.85	30	6.66	1.688
Experimental	30	6.3	1.5	30	4.6	3.85
		df = 58	t =			2.406**

Interpretation

Table 1 and Table 2 display the frequency and percentage distribution of children in the experimental and control groups based on their pre-test levels of pain. Both tables show similar distributions across different levels of pain, ranging from no pain to the worst pain, with corresponding criterion measures. For instance, in both groups, the majority of children experienced moderate to severe levels of pain before the intervention, with fewer children reporting no pain or mild pain. Table 3 presents a comparison of the mean pre-test and post-test levels of pain in both the experimental and control groups. The data in this table will help assess the effectiveness of the intervention (myofascial trigger point massage) in reducing pain levels compared to the control group. By analyzing the changes in pain levels from pre-test to post-test, researchers can determine whether the intervention led to significant improvements in pain management among the children in the experimental group compared to those in the control group. Overall, these tables provide essential information about the distribution of pain levels among children before the intervention and serve as a basis for evaluating the

effectiveness of the myofascial trigger point massage in alleviating tension headaches among the study population.

Conflict of interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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