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Effects of yogasanas on the development of gross motor skills of the middle school girls

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Abstract

The purpose of the study was to find out the effect of yogasanas on developing gross motor skill (GMS) among middle School girls. For this purpose, one hundred girls were selected from Kanyakumari District, Tamil Nadu, India. The participants age ranged between 10 to 12 years. The selected participants' were divided into two groups of fifty participants each namely intervention and control groups. The selected GMS variables such as bilateral coordination (BC), balance (BA) for this study. The selected outcome variables were assessed by using the standardized test manual for Bruininks – Oseretsky test for Motor Proficiency Second Edition- (BOT-2). The collected data on the selected variables were treated with paired sample “t” test and Analysis of Covariance (ANCOVA) at 0.05 level of significant. The results of the study indicate that there was significant improvement on GMS because of 6 weeks yogasanas training and there was a significant difference between intervention and control group on GMS.

Keywords: Yogasanas, gross motor skill, bilateral coordination, balance

Introduction

GMS are a vital component of a child's development. Monitoring levels and correlates of is important to ensure appropriate strategies are put in place to promote these skills in young children (Veldman, Jones, Santos, Sousa-Sá, & Okely, 2018) [15].

The term “yoga” and the English word “yoke” are derived from Sanskrit root “yuj” which means union (Singh, Singh, & Gaurav, 2011) [14]. Yoga is one such alternative that shows promise as an intervention for a variety of social, emotional, behavioral, and academic difficulties (Nardo, & Reynolds, 2002) [8]. A growing body of randomized controlled research on yoga (Khalsa, 2004) [5] suggests that yoga may provide physical and psychological benefits to both healthy and chronically ill individuals (Monroe & Greco, 2007; Kirkwood, Rampes, Tuffrey, Richardson, & Pilkington, 2005; Raub, 2002) [7, 6, 11].

A physical yoga practice consists of exercises called postures or asanas that strengthen, stretch, and align the body (Finger, 2000) [4]. Each posture requires combining the mind, body, and breathing practices. According to Bersma & Visscher (2003) [1], children are natural yogis. Taking a moment to breathe, relax, or stretch will leave students calm, alert, and ready to learn. Therefore, yoga can be used as a warm-up or as the class itself. Short yoga exercises are also a welcome break or pick-me-up in a classroom setting. Yoga makes a difference for kids when it comes in the class. Interestingly, yoga practice has been a gift even in military classes. Many soldiers are provided regular classes in their military camps (Nelson, 2006) [9].

Some evidence suggests yoga is an effective intervention for children (Birdee, Yeh, Wayne, Phillips, Davis, & Gardiner, 2009) [2]. Yoga appears to have a positive effect on upper-extremity motor performance (Dash, & Telles, 1999) [3].

Purpose of the study

The purpose of the study was to find out the effect of yogasanas on developing GMS among Middle School Girls

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Methodology

The purpose of the study was to find out the effect of yogasanas on developing gross GMS among middle School girls. For this purpose, one hundred girls were selected from Kanyakumari District, Tamil Nadu, India. The participants' age ranged between 10 to 12 years. The selected participants were divided into two groups of fifty participants each namely intervention and control group. The selected GMS variables such as BC, BA for this study. The selected outcome variables were assessed by using the standardized test manual for Bruininks – Oseretsky test for Motor Proficiency Second Edition- (BOT-2). The collected data on the selected variables were treated with paired sample “t” test and ANCOVA at 0.05 level of significant.

Analysis of Data

Table 1: The summary of mean and paired sample t-test and ANCOVA values

Variable	Test	Intervention group		Control group		F Value
		Mean	SD	Mean	SD	
BC	Pre test	3.51	0.04	3.24	0.08	18.4*
	Post test	6.26	0.09	3.29	0.09	
	T test	4.13*		0.56		
BA	Pre test	3.31	0.08	3.23	0.11	24.4*
	Post test	7.02	0.12	3.27	0.08	
	T test	4.73*		0.62		

*Significant at .05 Level. Table value required for significance at .05 levels for ‘t’ with 49 is 2.00 & ‘f’ with 1,97 is 3.94.

The paired sample t-test value of intervention group is greater than the table value $4.13 < df\ 2.00$ on BC at 0.05 level of significance. The paired sample t-test value of intervention group is greater than the table value $4.73 < df\ 2.00$ on BA at 0.05 level of significance.

The paired sample t-test value of control group is lesser than the table value $0.56 > df\ 2.00$ on BC at 0.05 level of significance. The paired sample t-test value of intervention group is greater than the table value $0.62 > df\ 2.00$ on BA at 0.05 level of significance.

The ANCOVA F ratio value on BC is 18.4, and BA is 24.4 which is greater than the table value with df 1,97 is 3.94. This means that there is a significance difference between control and experimental groups.

Discussion on findings

The result of the study indicates that the intervention group had significant improvement on selected dependent variable on BC, and BA because of Yogasanas training among middle school girls. Control group didn't find any improvement on BC and BA among Middle School girls.

However, intervention and control group had significant difference on improvement of the selected outcome variables such as BC and BA. The present findings of the study are confirmed by the studies conducted already related this area such as Ramakrishnan, & Sethu, (2018) ^[10]; Sethu, & Ramakrishnan; Donahoe-Fillmore, & Grant, (2019) ^[13]; Pise, Pradhan, & Gharote, (2018); Folleto, Pereira, & Valentini, (2016); Sethu, & Ramakrishnan, (2018) ^[12].

Conclusions

From the statistical analysis the following conclusions were drawn

1. Intervention group found significant improvement on BC due to 6 weeks of yogasanas practice among middle school girls.
2. Intervention group found significant improvement on BA

due to 6 weeks of yogasanas practice among middle school girls.

3. Control group did not find significant improvement on BC among the middle school girls.
4. Control group did not find significant improvement on BA among the middle school girls.
5. Significant improvement difference exists between intervention and control group on BC among middle school girls.
6. Significant improvement difference exists between intervention and control group on BA among middle school girls.

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