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A survey of postural characteristics of school children in Pune

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Abstract

The purpose of the study was to Survey of the Postural Characteristics of C.B.S.E School Children in Pune modern education system and other related factor. For this study 200 Boys C.B.S.E school students and 200 Girls C.B.S.E school students were selected randomly in Dhankawadi Pune city. The age of the subject was ranged between 14-15 years respectively. To find out Postural Characteristics and Deformities Percentile method were used to calculate the collected data. The result showed that In case of Bowlegs girls are lower than boys. In case of Knock Knee girls are higher than boys and in case of Flat foot girls are lower than the Boys.

Keywords: Postural Characteristics, Bowlegs, Knock Knee, Flat foot

Introduction

Physiological systems are highly adoptable to exercise. Each task has major physiological impact and fitness component in systematic programmed of training brings about desirable changes in physiological factors, contributing to the development of functional performance in the sports.

The esthetic appeal of erect posture and poise cannot be denied. Good posture also improves social and economic efficiency as he is full of confidence and is able to properly interact with people. For any successful work, posture is important. Since today's children are the tomorrow's citizen, good posture at childhood may contribute remarkably for every success in life. Thus, the present study on postural characteristics seems to have social relevance.

Working efficiency and ability depend upon good posture. Good appearance and good posture of an individual conveys good impression of his well-being. It reflects the alertness activeness, agility and wholesomeness of an individual's personality. Lack of awareness regarding the concept of proper posture and continues to follow wrong or faulty posture is one of the major causes of deformities. As has been seen that there is a possibility of postural deformities among the today's children, the purpose of this survey research is to find out the number of school going students suffering from postural deformities (i.e. knock knee, bowleg, and flatfoot) etc. including thoracic back pain, pain in the heel, pain in the knee. Since no report seems to be available in this direction.

The asymmetrical postural configurations or 'deformities' that can arise include scoliosis, pelvic obliquity and hip subluxation/dislocation. Windswept hips deformity is also often experienced where there is an abduction contracture of one hip and an adduction contracture of the opposite hip. These postural deformities can result in secondary problems such as pain, loss of ability and independence, pressure ulcers, cardiovascular and respiratory problems, swallowing difficulties and sleep disturbance, all of which are likely to have a significant effect on quality of life.

Individual components of asymmetrical postural deformity tend to be considered and studied separately, however, a clear understanding of the relationship between them is essential if patterns of deformity are to be predicted and early postural management strategies implemented.

In a study of prevalence of neuromuscular scoliosis Madigan and Wallace reported on a subgroup of 36 quadriplegic participants who had both windswept hip deformity and scoliosis, indicating that the femurs pointed towards the concavity of the scoliosis in 22 cases and

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toward the convexity in 14 cases. Direction of lateral spinal curvature and direction of pelvic obliquity;

Statement of the problem

The purpose of the study was to Survey of the Postural Characteristics of School Children in Pune.

Methodology

The objective of the study was to investigate the Postural Characteristics of C.B.S.E School Children in Pune. For this study 200 Boys C.B.S.E school students and 200 Girls C.B.S.E school students were selected randomly in Dhankawadi Pune city. The age of the subject was ranged between 14-15 years respectively.

The important in the study was to investigate and analyze the Postural Characteristics. The investigator has collected the data through the test of Flat foot Diagnosis, Knock-knee Diagnosis and Bow Leg Diagnosis.

In case of Flat foot the subject stands on a smooth level surface such as smooth concrete surface. The sole of the foot that make contact the flatter the foot In more extreme cases, known as a kinked flatfoot, the centre inn edge of the footprint may actually bulge outward, where in a normal to high arch this part of the sole of the foot does not make contact with the ground at all.

In case of Knock-Knee is obvious when a child stand with the legs straight and the toes pointed forward. A researcher can determine the severity of knock-knee by observing the position of the child’s legs, knee, and ankles, and by measuring the distance between the child’s inner ankle bones the greater the distance between the ankles, the more severe the condition. In the plumb line test the line inside the medial side of the foot.

In case of Bow Leg is obvious when a child stands with the legs straight and the toes pointed forward. A researcher can determine the severity of bow-leg by observing the position of the child’s legs, knee, and ankles, and by measuring the distance between the child’s inner knee bones the greater the distance between the knees, the more severe the condition. In the plumb line test the line lies outside the lateral side of the foot.

Table 1: Criteria for Judging the Deformities of Knock Knees and Bow Legs

Name of Deformities	Deviation		
	Slight	Mild	Severe
Bowleg	0-4 (cm)	5-9 (cm)	10(cm)<
Knock Knee	0-4 (cm)	5-9 (cm)	10(cm)<
Flat foot	4(cm)<	3-2(cm)	>1(cm)

Percentile method were used to calculate the collected data

Finding

Table 2: Number of Student (Boys) Suffering From Postural Deformities of C.B.S.E School of Dhankawadi Pune City

Deformities	Total student	No of Deformities	Percentage
Bowleg	200	26	13%
Knock Knee		17	8.5%
Flat foot		11	5.5%
Normal		146	73%

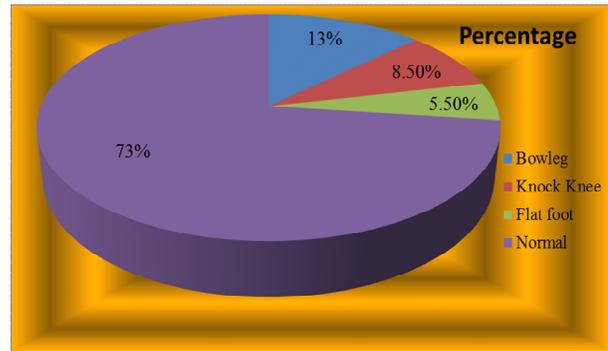


Fig 1: Percentage of boys in Postural Deformities and non-deformities

Table 3: Number of Student (Girls) Suffering From Postural Deformities of C.B.S.E School of Dhankawadi Pune City

Deformities	Total student	No of Deformities	Percentage
Bowleg	200	19	9.5%
Knock Knee		36	18%
Flat foot		5	2.5%
Normal		140	70%

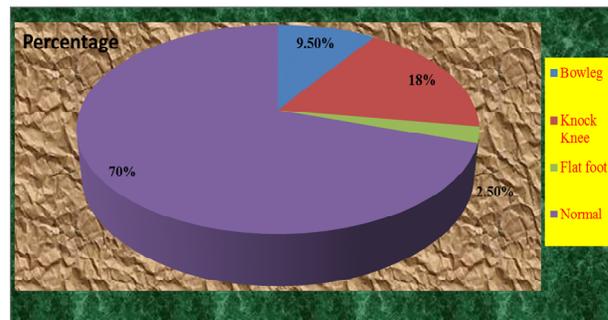


Fig 2: Percentage of girls in Postural Deformities and non-deformities

Table 4: Number of Student and Percentage (Boys and Girls) Suffering from Postural Deformities and non-deformities of C.B.S.E School of Dhankawadi Pune City

Deformities	Total student		No of Deformities		Percentage	
	Boys	Girls	Boys	Girls	Boys	Girls
Bowleg	200	200	26	19	13%	9.5%
Knock Knee			17	36	8.5%	18%
Flat foot			11	5	5.5%	2.5%
Normal			146	140	73%	70%

Discussion of finding

From the above findings we came to know that out of 200 Boys Bowleg are 26 but out of 200 girls 19 are Bowlegs which is lower than boys due to low body weight and dally activity. In case of Knock Knee Boys are 17 in number but Girls are 36 in number which is higher than boys due to walking style muscular power and stricter of knee joint. In case of flat foot Boys are 11 in number and girls are 5 in numbers which is also lower than boys due to lower weight and less Percentage of Bowleg. In case of non – Deformities Boys are 146 in number but Girls are 140 in number. Girls are more prone to Postural Deformities than the Boys.

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