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## Analytical study of postural deformities and its causes in school boys and girls of Doaba region Punjab

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### Abstract

There are mainly two types of body posture of human being one of good posture and the other of bad posture. When the human beings are habitual of bad posture position then the people suffered from many postural deformities e.g. Kyphosis, Lordosis, Scoliosis, Knock knee, bowlegs etc. So the researcher has selected this type of study. The subject was an analytical study of postural deformities in school children of rural area in Doaba region Punjab, For this study 200 school children (100 Boys & 100 Girls) of rural area in Punjab have been observed. The age group of school children is 10-18 years. The main objective this study is find out the ratio of the school children who have suffered from postural deformities. The posture grid chart has been used for data collection on the subject and data have been analytical (Percentage Method). After that the researcher has found that knock Knee postural deformities are very high and Flat Feet posture deformities is very low in rural area of Punjab.

**Keywords:** Kyphosis, lordosis, scoliosis, knock knee, bow leg, deformities

### Introduction

The location of the body segments which requires the least of effort from the muscles and ligaments, will lead to this balanced motionless state. Posture in its most essential form is static, standing with no movement. As we stand, the segments of our body, whether they be the head, torso or limbs, arrange themselves in sure way. If the posture is good, the body is in a state of muscular and skeletal balance and is sheltered against damage and deformity to the joints, muscles, vertebrae and other tissues.

As of mechanical point of view the perfect posture is one in which the different segments of the body neck, chest and stomach are balanced upright one upon the other. The body weight is borne mostly by the bony skeleton with a minimum of energy spending and strain by muscles and ligaments. This is a case when the long axis of its segments forms a vertical line as a replacement for zigzag. If any part of the body is out of its natural placement more muscular power needs to be prolonged to maintain the location of the body. The strength used this way is exhausted energy.

### Perfect Posture

The location for which we must aim is called 'neutral spine', an ideal postural position. Neutral spine exists when there is a slight forward curve in the small of the lower back, a slight backward curve in the upper back around the shoulder blades, and a slight extension of the neck. Before we can review our posture and resolve ways to correct any abnormalities, we must first know what the ideal posture should look like. In this neutral spine position, the other segments of the body must also be agreed, so we can draw a straight, vertical line through ears, shoulders, hips, wrists, knees and ankles. With the spine and segments in their accurate positions, the muscles and ligaments are imparting the smallest credible force and the body is balanced, protecting against damage and deformity. If this position is good posture, poor posture results in the contrary effects. If a balance is not found between the spine and the segments of the body, the muscles and ligaments are required to exert a force to maintain posture. This increases stress on the muscular and skeletal structures sustaining the body.

**Good Posture**

There are two types of posture

1. **Dynamic Posture:** When a person is sleeping or having rest and body requires minimum muscular efforts.
2. **Static Posture:** Where included muscular activity is required.

**Bad Posture**

Just what’s so appalling about having poor posture, also not looking as sharp as you could? Quite a bit as it turns out. When you slouch or slump, so does your spine, leading to bad circulation. This can cause vertebrae to worsen over time. Chronic fatigue can also result. Coupled with circulation issues, the result can be early tiredness. Chronic back, neck, and shoulder pain can also result from the strain of bad positioning. Fifty percent of working Americans suffer from back pain, and it’s the second most common reason for doctor visits. Twenty five percent of those with back pain suffer from a herniated disc, which may be caused by poor posture.

**Common Postural Deformities**

Various types of postural deformities are discussed below:

- Spinal curvature (Kyphosis, Lordosis, Scoliosis).
- Flat Foot.
- Knock Knees.
- Bow Legs.
- Round Shoulders.

**Position of the Posture**

1. Standing Position or Posture.
2. Sitting Position or Posture.
3. Lying Position or Posture.
4. Walking Posture.

**Methodology**

The study is entitled “Analytical Study of Postural Deformities and its Causes in School Boys and Girls of

Doaba Region Punjab” For the study the researcher used 200 school children (100 boys &100 girls) as a sample for this study. The age group of subject was 10-18 years. The samples were collected from different schools in Doaba region (Purhira & Bhoonga Arhana) of Punjab through the random sampling method. In this study researcher find out the ratio of different postural deformities e.g. Kyphosis, Lordosis and Scoliosis etc. There was no control on diet, habit & daily routine on sample related. The data was collected through the following standardized Posture test:

S/N	Particular	Test/Equipment
1.	Kyphosis	Grid Chart
2.	Lord sis	Grid Chart
3.	Scoliosis	Grid Chart
4.	Knock Knees	Grid Chart
5.	Bow Legs	Grid Chart
6.	Flat Foot	Foot Print

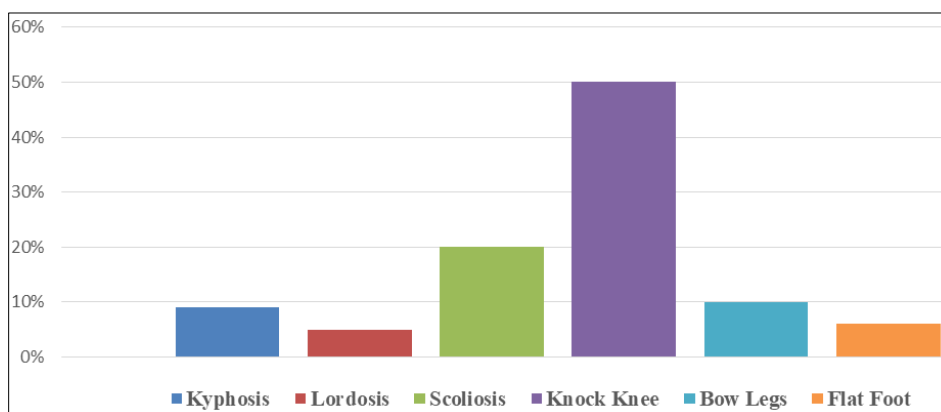
**Statistical Analysis**

**Table 1:** Showing the Percentage of Postural Deformities in Boys of Rural Area

S/N	Total	Kyphosis	Lordosis	Scoliosis	Knock Knee	Bow Legs	Flat Foot
1	100	09	05	20	50	10	06
2	Percentage	9%	5%	20%	50%	10%	6%

According to above table showing percentage wise data of rural boys, as per table 9% boys were found suffered from Kyphosis, 5% suffering from lordosis and 20% suffering from scoliosis. 50% boys were found suffering from knock knee, 10% suffered from Bow legs and 06% suffering from flat foot.

It is concluded that the knock knees deformities are very high and lordosis deformities are very low in school boys of rural area.



**Fig 1:** Showing the Percentage of Postural Deformities in Boys of Rural Area

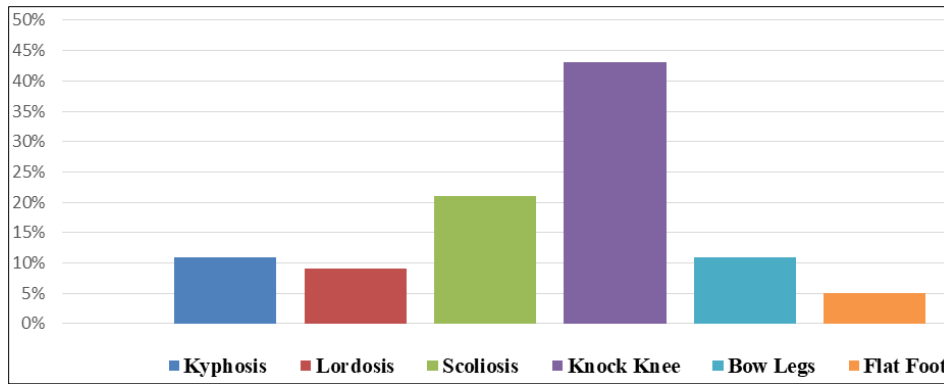
**Table 2:** Showing the Percentage of Postural Deformities in School Girls of Rural Area

S/N	Total	Kyphosis	Lordosis	Scoliosis	Knock Knee	Bow Legs	Flat Foot
1	100	11	09	21	43	11	05
2	Percentage	11%	9%	21%	43%	11%	5%

According to above table showing percentage wise data of rural girls as per table 11% boys were found suffered from kyphosis, 09% suffered from lordosis and 21% suffered from scoliosis. 43% boys were found suffering from knock knee,

11% suffered from Bow legs and 05% suffered from flat foot.

It is concluded that the knock knees deformities are very high and flat feet deformities are very low in school boys of rural area.



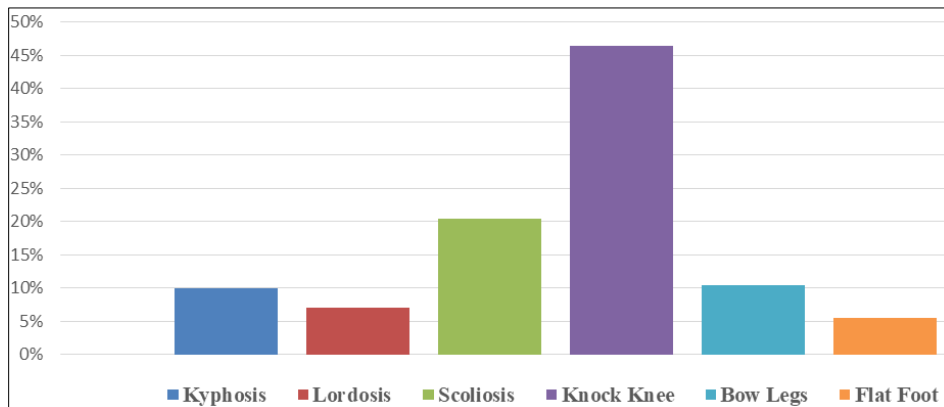
**Fig 2:** Showing the Percentage of Postural Deformities in School Girls of Rural Area

**Table 3:** Showing the Percentage of Posture Deformities in School Children (Boys & Girls) of Rural Area

S/N	Total	Kyphosis	Lordosis	Scoliosis	Knock Knee	Bow Legs	Flat Foot
1	200	20	14	41	93	21	11
2	Percentage	10%	7%	20.5%	46.5%	10.5%	5.5%

According to above table showing percentage wise data of rural children as per table 10% children were found suffering from Kyphosis, 7% suffered from Lordosis and 20.5% suffered from Scoliosis. 46.5% boys were found

suffering from knock knee, 10.5% suffered from Bow legs and 5.5% suffered from flat foot. It is concluded that the knock knees deformities are very high and flat feet deformities are very low in school children of rural area.



**Fig 3:** Showing the Percentage of Posture Deformities in School Children (Boys & Girls) of Rural Area

**Conclusion**

After the suitable statistical process there are more postural deformities in rural area of Doaba Punjab. The knock knee deformities are very high scoliosis deformities are less than knock knee, Bow legs deformities are less than scoliosis, Kyphosis is less than bow legs, and lordosis is less than Kyphosis. But a flat feet postural deformity is very low in rural area of doaba Punjab.

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