

## An investigation into postural abnormalities in School children

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### Abstract

Both good and bad posture can exacerbate structural flaws in the human body. Any postural defects have not occurred if the person is carrying out his everyday activities with proper posture. If they are unable to stand or sit with proper posture for the job, they will undoubtedly have abnormalities like bowlegs, round shoulders, knock knees, scoliosis, and kyphosis. "An investigation into postural abnormalities in school children" was the kind of topic that was selected for this. 500 schoolboys were observed for this study. 10 to 18 years old is the age range for school-age children. This study's primary goal is to determine the proportion of schoolboys who have postural abnormalities.

**Key word:** knock knee, bow leg, deformities, kyphosis, lordosis.

### Skelton of Human

There are 206 bones in the human skeleton. The skeleton's jobs include giving our bodies stability, giving them structure, protecting various bodily systems and organs, giving muscles somewhere to attach, facilitating movement, and producing red blood cells.

The axial and appendicular skeletons can be separated into two components. The arms and legs are made up of the appendicular skeleton, whereas the axial skeleton is made up of the central core of the skull, spine, and ribs.

### Human Muscles

Every component of our body has muscles, which range significantly in size and structure and move the human skeleton. Over 600 skeletal muscles alone make up the muscular system, which accounts for about 40% of our body weight. Skeletal muscles are attached to the skeleton by bone or connective tissues like ligaments. Blood vessels and nerves run to every muscle, helping to control and regulate each muscle. All muscles have two or more points of attachment. The attachment sites move apart when the muscle relaxes and closer together when the muscle contracts.

Every region of our body has muscles that move the human skeleton, which come in a wide range of sizes

and shapes. Over 600 skeletal muscles alone, or nearly 40% of our mass, are found in the muscular system. Skeletal muscles are attached to the skeleton via bone or connective tissues like ligaments, with the support of blood vessels and nerves that help control and regulate each muscle in the muscular system. Muscles are almost always joined at two or more points. The attachment points are drawn closer together as the muscle contracts and further apart when it relaxes.

### Posture

There is no single best posture for all individuals. Each person must take the body he has and make the best of it. For each person, the best posture is that in which the body segments are balanced in the position of least strain and maximum support.

Posture is the position in which you hold your body upright against gravity while standing, sitting, or lying down. Good posture involves training your body to stand, walk, sit, and lie in positions where the least strain is placed on supporting muscles and ligaments during movement or weight-bearing activities. To be upright, during calibration or in general, make sure to pay attention to the following instructions:

### Position of Posture

- Sitting
- Standing
- Sleeping
- Lifting

### Type of posture

In everyday life, posture is something that is really significant. How you feel may be impacted by your posture. Having good posture can boost your energy levels, give you more self-assurance, ease neck stress, ease migraines, prevent back and shoulder problems, and support chronic back symptoms that are currently present. Incorrect posture can take many different forms, such as lordosis, kyphosis, flatback, swayback, and forward neck or head. Read on to find out what ailment you have and what is causing it if you have any of these posture issues.

The two basic categories of postures are: (Bad and Good Postures)

#### Active: Static & Dynamic, inactive

Inactive postures are those that are taken during resting or sleeping. They are typically thought to need relaxation and should only theoretically require minimal muscle action.

Active postures must be maintained by the coordinated movement of numerous muscles, which can be broadly classified into two categories.

Body parts are aligned and kept in a fixed position in static postures. Typically, this is accomplished through the coordination and interaction of numerous muscle groups functioning statically to oppose gravity and other forces. The positions of standing, sitting, lying, and kneeling are examples of static postures.

• Dynamic postures – In this kind of posture, many body parts are in motion. Usually, it is necessary to create a solid foundation for movement. Muscles and non-contractile structures must work hard to change with the environment. Walking, running, jumping, throwing, and lifting are some examples.

#### Common postural deformities

• Flat foot; knock knees; bowlegs; scoliosis; kyphosis; Lordosis; kyphosis; round shoulders.

#### Diagnosing Kyphosis by Radiological examinations

Kyphosis Can usually confirmed by examining Spine and can be diagnosed by taking an X-ray.

- X-ray: Anterior -Posterior projection thoracic Spine are taken. The patient may be positioned either supine or erect, Upper edge of the cassette, should be at a level just below the prominence of thyroid cartilage. (The Cobb angle method measures or quantifying spine curvature)
- CT Scan: It gives us detailed 3 -dimensional image of Spine.
- MRI (Magnetic Resonance Imaging): MRI Scan is required to determine whether the spinal cord has been compressed by kyphosis.

#### Methodology

"An investigation into postural abnormalities in school children " is the title of the investigation. 500 school boys were utilized as a sample by the researcher for this investigation. The subject's age range was 10 to 18 years. The samples were obtained using the random sampling technique from several schools. Researchers determined the ratio of various postural abnormalities in this study. There was no restriction on the sample-related food, habits, or daily routine. The following standardized Posture exam was used to gather the data:

S/N	Particular	Test/Equipment
1.	Kyphosis	Grid chart
2.	Lordosis	Grid chart
3.	Scoliosis	Grid chart
4.	Knock Knees	Grid chart
5.	Bowlegs	Grid chart
6.	Flat Foot	Footprint

#### Data Analysis

Table-1 show the percentage of postural deformities in school boys

S/N	Total	Kyphosis	Lordosis	Scoliosis	Knock knee	Bowlegs	Flat foot
1	500	24	19	205	157	62	33
2	Percentage	4.8%	3.8%	41%	31.4%	12.4%	6.6%

According to the following table, which provides percentage-wise data on schoolboys, 4.8% of boys were discovered to have kyphosis, 3.8% to have lordosis, and 41% to have scoliosis. Boys were found to have knock knees in 31.4% of cases, bowlegs in 12.4% of cases, and flat feet in 6.6% of cases. It has been determined that schoolboys have very high rates of scoliosis and relatively low rates of lordosis abnormalities.

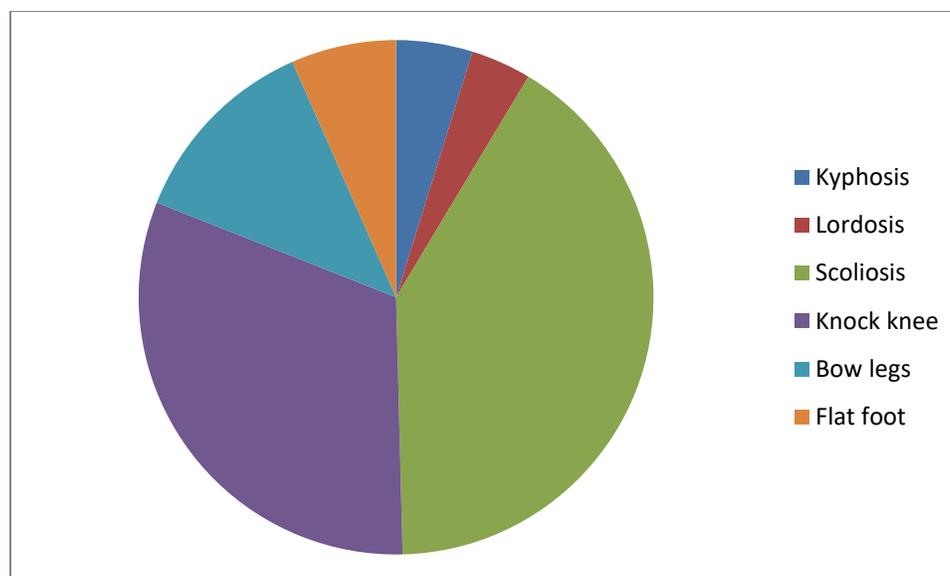


Figure-I Show the percentage of Postural deformities in school boys

### Summary

More postural deformities have been found in schoolboys following data analysis. Scoliosis deformities are very high, while knock knee deformities, bow leg deformities, flat foot deformities, and kyphosis deformities are all lower than those caused by scoliosis. But lordosis postural deformity is very low in school boys.

palsy: what is the relationship between the direction of scoliosis, direction of pelvic obliquity, direction of windswept hip deformity and side of hip dislocation? Leeds University U.K,Page No;11

- Dr. Vijay (2001) "Handbook of Sports Medicine" Friends Publications, Delhi. Page no. 104.

### References:

- Winnie C W Chu, H Y Yeung, et al, (2002), Changes in vertebral Neural Arch Morphometry and functional treating of tethering of spinal cord in adolescent idiopathic scoliosis – study with multi planar reformat magnetic resonance imaging" Vol-1,
- Osteoporos international 2003 Dec 14 (12): 1007 – 12 – Epub Oct ID.
- Miyokshi 'N', (2003) "Impact of postural deformities and spinal mobility on quality of life in postmenopausal osteoporosis" Journal Article Akita University, Vol-11007 Japan.
- www.teachpe.com
- www.visiblebody.com
- [www.google.com](http://www.google.com)
- Banish Kumar(2016) "Poor posture and its causes" International Journal of Physical Education, Sports and Health, IJPESH 2016; 3(1): 177-178, (www.kheljournal.com)
- Chisholm, Hugh, ed. "Encyclopædia Britannica" (11th ed.). Cambridge University Press 1911. (<http://www.teachpe.com>)
- David Porter, (2004) "Patterns of postural deformity in non-ambulant people with cerebral