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IDENTIFICATION OF POSTURE DEFECTS AMONG SCHOOL CHILDREN

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ABSTRACT

The study was to identification of posture defects among Basic schools children and their remedial programme in Kanpur and also to make some suggestions to parents and related Government Authority regarding corrective program of postural defects. For this study one thousand students studying in 2nd, 3rd, 4th and 5th standard in hundred basic schools in Kanpur were selected as subjects for the investigation. The age level of the students was 7 to 10 years. Five postural defects Kyphosis, Lordosis, Scoliosis, Knock knee and Flat foot were selected for the study. The evaluation of posture were made by lateral, medial view of posture and by observing the cervical, thoracic, lumbar spine region for spinal deformities, like kyphosis and scoliosis deformity was detected by the forward bending test in which a rib hump is observed on either side of the spine. Whereas as the bow legs and knock knee deformities were diagnosed by measuring the inter condylar distance and inter malleolar distance in erect standing position, flatfoot deformity was diagnosed by the Simple wetted stand by observing the foot impression the conclusion was derived whether the participants has a normal or a flat foot arch. To analyze data, Mean and standard deviation in respect of each of the posture defects were computed in order to identify the normal children and those suffering from above defects. In order to determine the number of subjects suffering from posture defects in relation to the population, a percentage analysis was be used. To test the hypothesis the level of significance was set at 0.05. The research conducted by the scholar did reveal that the numbers of deformed students were quite high compared to the general population in schools.

Keywords: *Posture, Posture Defects, Kyphosis, Lordosis, Scoliosis, Knock Knee, Flat Foot*

Introduction:

Posture is a general term that is defined as a position or attitude of the body, the relative arrangement of body parts for a specific activity, or a characteristic manner of bearing one's body Posture is an index of personality. "It expresses mental as well as physical status, and he who stands erect with a well-poised, controlled and therefore a graceful body will feel that he is a master of himself and a leader of men "The way we speak, sit, walk, sleep, stand, lie, etc.. determines our posture. Similarly, the way we carry things on arms, on back, hang on the shoulder or on head also constitutes our posture. Human body has an upright posture which supports his body on his two legs. This condition has challenges significant changes in man's mechanism of sitting, standing, sleeping, lying, running, blood circulation, respiration, muscular growth and development of body co-ordination etc. it also has an impact on placing visceral organs, heart, lungs, liver, kidneys, and intestines. Accordingly to all human beings this various systems of body require stability and movements to perform their work with efficiency and least strain on the body organs. Posture is defined as, "the position of one or many body segments in relation to one another and their orientation in space" (Ham et al, p26). Body 'segments' are referred to as the head, thorax, pelvis, lower limbs and feet, whilst the body 'linkages' are considered as the spinal joints, hips, knees, ankle and shoulder joints (Pope 2002). When considering posture, one should not consider it as static, but as an active and dynamic process which underpins movement and function (Hong 2005). Normally, our postures continuously shift and change position to facilitate movement to engage in functional activities. Pope (2002) identifies that posture is a prerequisite for movement. Howe and Oldham (2001) also highlight that posture and movement are inextricably linked, referring to posture as a temporary arrested movement, which is in a constant state of change. From a neuro developmental perspective Nichols (2001) suggests that the development of postural control and acquisition of motor milestones are intrinsically linked. Ham et al (1998) support this assumption highlighting that there is constant neuromotor activity being used to maintain body balance and posture. Engström (2002) further suggests that biological and physiological influences affect body position and posture. This is also in addition to the somatosensory, vestibular and musculoskeletal systems (Nichols 2001).

The human body is just like a machine. Like any machine human machine also functions efficiently when all of its parts are maintained in proper alignment. Human kind's biologic heritage has left them vulnerable in the area of posture and body mechanics. The evolutionary process which ultimately led to the assumption of

biped position had resulted in several adverse effects on the skeletal, muscular, digestive and circulatory systems as they underwent the necessary anatomical adaptations. Some major adjustments were made in the evolutionary process to off-set these negative effects. However, incomplete evolutionary adaptations to the biped position have left humans with postural problems which have been accentuated by their mode of living; and poor posture thus was the ultimate result.

Objective of the study:

The purpose of the study was to identification of posture defects among Basic schools children and their remedial programme in Kanpur and also to make some suggestions to parents and related Government Authority regarding corrective program of postural defects.

Methodology:

For this study one thousand students studying in 2nd, 3rd, 4th and 5th standard in hundred basic schools in Kanpur were selected as subjects for the investigation. The age level of the students was 7 to 10 years. The investigator taken written permission to visit the schools from administrator of Kanpur Nagar before conducting the test aim and objectives of the work were explained to the principal, teachers and students of the school. The investigator had discussion with experts in the field of corrective physical and sports medicine and reviewed the available literature in the field. The evaluation of posture were made by lateral, medial view of posture and by observing the cervical, thoracic, lumbar spine region for spinal deformities, like kyphosis and scoliosis deformity was detected by the forward bending test in which a rib hump is observed on either side of the spine. Whereas as the bow legs and knock knee deformities were diagnosed by measuring the inter condylar distance and inter malleolar distance in erect standing position, flat foot deformity was diagnosed by the simple wetted stand by observing the foot impression the conclusion was derived whether the participants has a normal or a flat foot arch. The research scholar was tempted to take up this study as she observed that the number of boys suffering from flat-foot, scolosis, kyphosis and lordosis was quite visible amongst students in Government schools. It is an admitted fact that boys coming to Government schools, by and large, belong to either the Low income group of society or are from poor families. It is found that not even a few Parents of the upper middle class step into these schools of their own volition. It has been seen that such boys joined the Government schools when they had been thrown out from Private Schools for poor academic performances. Compared to the rich people the boys from the poor strata of society do not receive any parental attention or co-operation for their wellbeing. If they suffer from any kind of deformity no

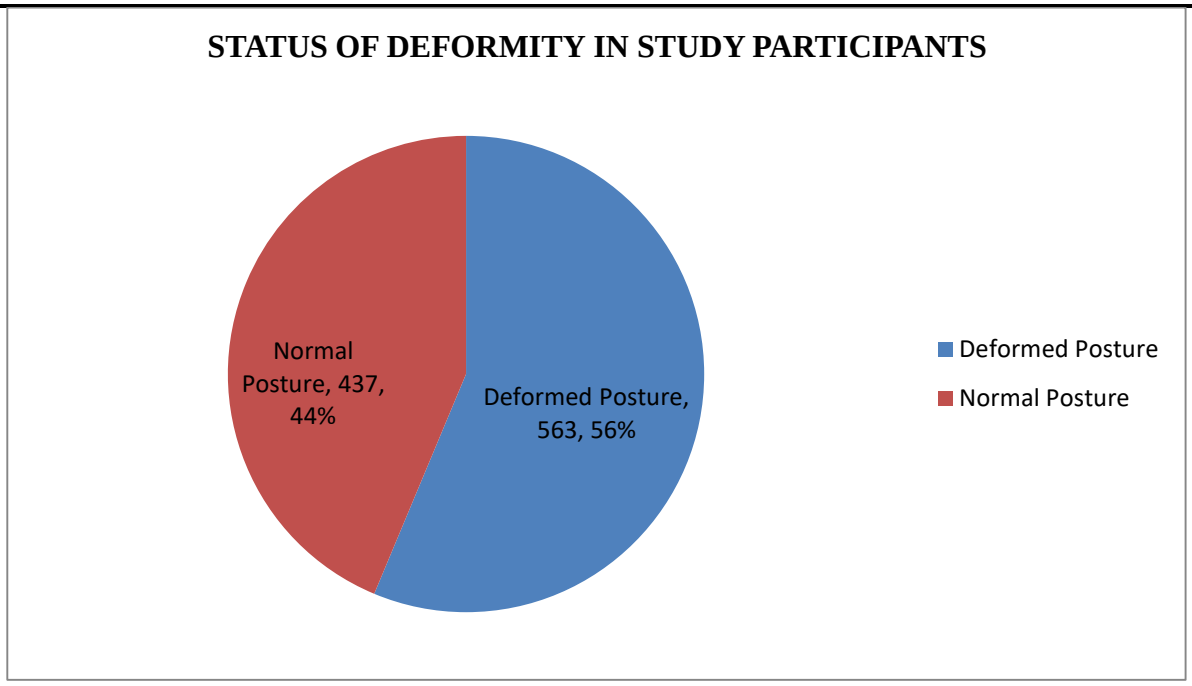
remedial measures are taken by the parents so such the number of deformed students is on the higher side in Govt. Schools.

Results of the study:

The data were collected on one thousand students studying in 2nd, 3rd, 4th and 5th standard in hundred basic schools in Kanpur were selected as subjects for the investigation to identification of posture defects among Basic schools children and their remedial programme. The age level of the students was 7 to 10 years. The investigator taken written permission to visit the schools from administrator of Kanpur Nagar before conducting the test aim and objectives of the work were explained to the principal, teachers and students of the school. To analyze data, Mean and standard deviation in respect of each of the posture defects were computed in order to identify the normal children and those suffering from above defects. In order to determine the number of subjects suffering from posture defects in relation to the population, a percentage analysis was be used. To test the hypothesis the level of significance was set at 0.05. The above statistical technique was analyzed by using SPSS.

Status of posture	No of Participants	Percentage
Deformed Posture	563	56.3%
Normal Posture	437	43.7%
Total	1000	100%

Total 1000 school children were selected for the study According to our study we found 563 (56. 3%) numbers of school children having postural deformities (deformed posture) and 437 (43.78 %) number of children as normal posture.



Discussion:

The research scholar was tempted to take up this study as she observed that the number of boys suffering from flat-foot, scoliosis, kyphosis and lordosis was quite visible amongst students in Government schools. It would be seen from the survey report that in a population of boys in Govt. Schools, 563 students were found suffering from physical deformities and their percentage was more than 56%. The apparent cause for these deformities could be attributed to their poor living conditions well as the neglectful attitude of the parents who, being illiterate, pay attention to such deformities and seek no remedial treatment in time. The study would reveal that 40.31 % out of deformed subjects suffered from flat-foot. Although the figure is very high, (whatever it is), it can be further improved by timely corrective exercises. In the case of scoliosis 5.15 % out of deformed subjects were found to be suffering from this deformity. The Scholar had found by discussing with the subjects that they did not get proper furniture to read and write at home and even at the school. They wrote by keeping books on the floor which is totally incorrect and develops the deformities like scoliosis. From the survey it is noted that a large number of subjects suffered from kyphosis e.g. 12.96 %. The scholar carried the impression after seeing the subjects that this being a constitutional deformity, when any subject gains abnormal height and looks different from the class, he instinctively tries to under-play his abnormal self and thereby he un willing develops typical postural movements to conceal his height. As regards lordosis 8.52 % subjects were found suffering from this deformity in government schools. Sometimes it develops due to careless treatment of kyphosis. As the poor class students do not get a balanced and proper diet, it causes the poor muscles and when the hamstring becomes weak, the lordosis develops. Since these are constitutional

deformities and involve proper development of bones and muscles to make a healthy and strong body, to cure these deformities requires persistent continuous training.

Conclusion:

The common postural defect prevalent among school children would be lordosis, kyphosis, scoliosis and flat-foot has been accepted. The investigator had a belief that hardly any children might have any defect, but the scholar found in his research work that there are many school children who suffer from different types of postural deformity.

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