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SURVEY OF SELECTED POSTURAL DEFORMITIES IN SCHOOL CHILDREN OF KHANDESH REGION, MAHARASHTRA

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Abstract:

The Purpose of the study was to do the survey of selected postural deformities in school children of Khandesh Region of Maharashtra. For this total N=900 students were selected with the mean age of (16+/-1.23) year from three different District of Khandesh Region i.e., Nanduraba, Dhule & Jalgaon. Further, the selected subjects were divided into three intervention group n=300 girls of each selected districts. The selected postural deformities were lower limb i.e., knock knee (KNK) and bow leg (BLG). Subjective observation was used to assess the postural deformities. Percentage was applied as statistical tool for the study. The results of the study revealed that percentage of the girls on selected postural deformities, i.e., (KNK) was Nanduraba n=123 (66.8%), Dhule 123 (68.7%) & Jalgaon 122 (67.4%) (BLG) was seen Nanduraba n=61 (33.2%), Dhule 56 (31.3%) & Jalgaon 59 (32.6%) found in the selected girl students of khandesh region.

Keywords: *Knock Knee, Bow Leg*

Introduction:

The ideal postural is characterize as the situation of the different body part, which mean the appropriate relationship between the various part of the body with given time, frame and space when they are investigated (Fortin C et. al. 2011). The assessment of the quantitative postural strategy is relying on the position of the feet, legs, the pelvis, the spine, the shoulders and connection with the head (Kovac S et. al. 2014). The body postural is eluded by the arrangement and direction of the body fragments in vertical situation during the assessment methodology. The vertical situation of the body is relying on the strength of the muscles of the body to defeat the gravity of the earth to lift the body parts when the body in vertical position (Ciric A et. al. 2015). The issue of postural disfigurements come in picture when the muscles in insufficient to conquer the gravity power to lift the body parts and because of this individual feel tired (Kovac S, et. al. 2015). With this layout the work of postural deformities should be finished different a part of the body to be diagnosed. The entire a part of or different part of the body is depending upon the position of the body whenever the postural deformities are examined. The minimum correct position of a part of the body may be a prerequisite for correct posture during any position. Whenever the movement of activities changes it also change the position of the postural of the body. An honest posture is defined as a mixing mechanism to realize customizable body behaviour.

There are number of theories is established to take care of the right postural during which one among the common theory is ankle and hip strategies (Negrini S, et. al. 2005). This theory explained the right and healthy positioning which incorporates the well placed and stable feet and ankle while standing position, also as proper movement of the knees, hips and pelvis, further the movement of the spine, shoulder and head (Kosinac Z, 2006). Postural deformation is available mind with violation of the right posture definition in any situation or movement of the body. The common advantage of the right posture of the body is it not only improves the social appearance but also provide the economic efficiency while performing the action. This is often the indication of the

confident filled with the trust and reinforce while interact with the people surrounding us. The study was the noble idea to do the postural deformities survey of students studying in different schools of Dhule District, Maharashtra due to socioeconomically and geographical location of the region as the selected student came under tribal community with low income of the sources which are having direct effect on the selected postural deformities.

Methodology:

The postural deformities survey was conducted on total (N=900) students studying in different schools of khandesh region of Maharashtra. Further, on the subjective survey sample of (n=544) students were found to be suffered from the selected postural deformities of the study. The mean age of selected girls was (16+/-1.23) from three different district i.e., *Nanduraba, Dhule & Jalgaon* of the khandesh region. The postural deformities for the study were knock knee (KNK) and bow leg (BLG). For assessment of knock knee (KNK), bow leg (BLG) scale and subjective method was applied. The data obtained from the students suffering with the postural deformities were analysis with percentage method with the software SPSS version IBM 20.

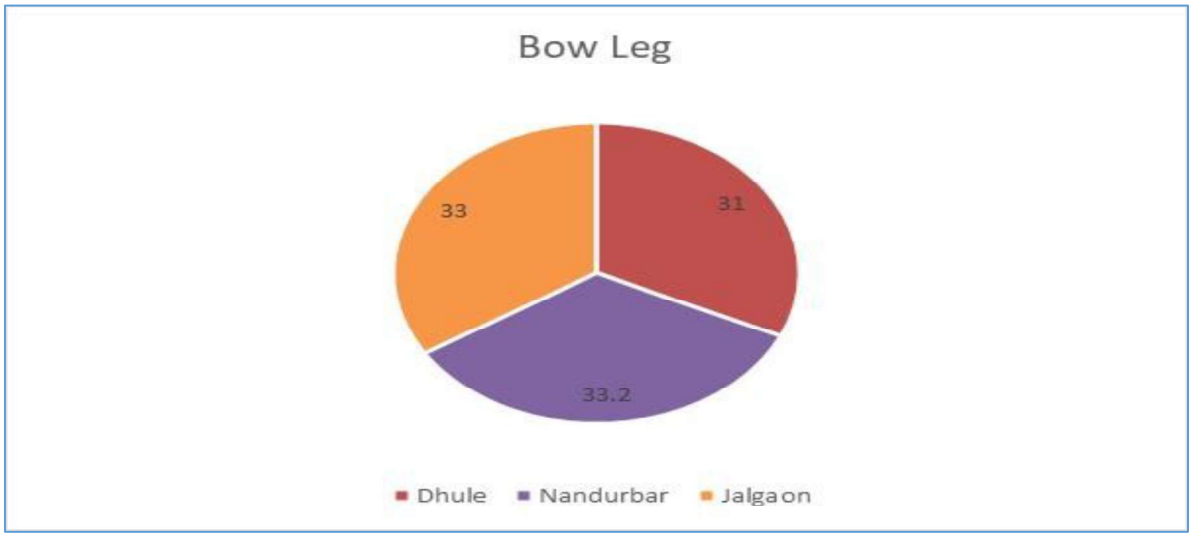
Statistical Analysis & Results:

The data collected on N=544 students on selected postural deformities knock knee (KNK) and bow leg (BLG) were analysis on percentage based and presented in table format is presented here.

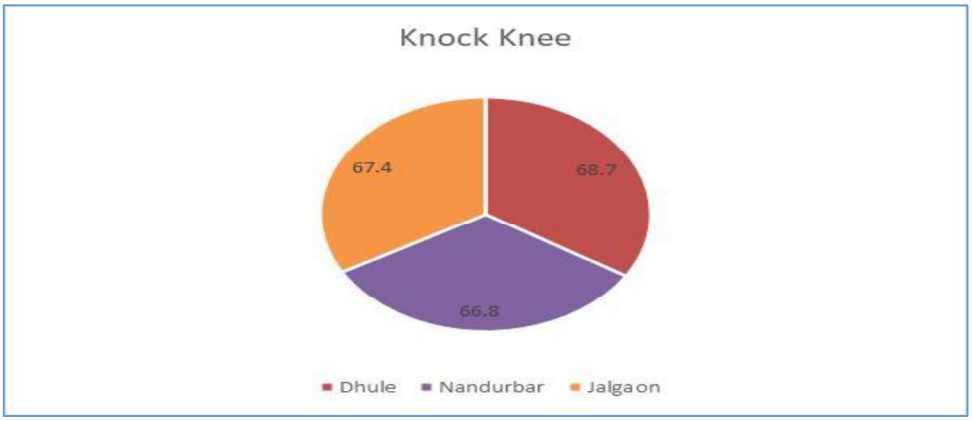
Percentage of Female Students Suffering from Postural Deformities District Wise of Khandesh Region

Postural Deformities	Dhule (N)	%	Nandurbar (N)	%	Jalgoan (N)	%	Total	%
Bow Leg	56	31.3	61	33.2	59	32.6	176	32.4
Knock Knee	123	68.7	123	66.8	122	67.4	368	67.6
Total	**179**	**32.9**	**184**	**33.8**	**181**	**33.3**	**544**	**100**

Percentage Graph of Bow Leg Deformity of Female Students of Different Districts of Khandesh Region



Percentage Graph of Knock Knee Deformity of Female Students of Different Districts of Khandesh Region



Discussion of finding:

In present scenario postural deformities are considered as the one of the common problems easily observes in school going children (Jandial S, Foster HE, 2008). Several studies were conducted in different area regarding the postural deformities among the school children (McEvoy M.P, Grimmer K, (2005). A child shouldn't have the standard adult orientation as there is greater mobility and flexibility during development (Penha PJ, Joao SM, et. al., 2005). The child's wide range of motion can cause temporary deviations in alignment that are considered abnormal in adults (Boulay C, Tardieu C, et. al., 2005). At the same time, this flexibility somewhat protects against fixed posture misalignment (Smith A, et. al., 2008).

Most of the studies revealed that children are suffering from postural deformities from very early age. This study was carried out with similar purpose to identify the school going children of khandesh region suffering from selected postural deformities knock knee (KNK) and bow leg (BLG. The results collected from actual Bow leg deformity out of 300 students total N= 176 student from which Dhule District 56 (31.3%) students, from Nandurbar 61 (33.2%) students & Jalgoan 59 (32.6%) students were suffering from bow leg deformity which was 32.4% of total 544 students suffering bow leg and knock knee deformities. Knock knee deformity out of 900 student total N= 368 student from which Dhule District 123 (68.7%) students, from Nandurbar 123 (66.8%) students & Jalgoan 122 (67.8%) students were suffering from bow leg deformity which was 67.6% of total 544 students suffering bow leg and knock knee deformities.

Out of 900 students of all the class 544 student were suffering from bow leg and knock knee deformities respectively which was 60.4% of selected District i.e., Dhule n=300, Nandurbar n=300 & Jalgaon students n=300.

The results obtained from 900 school going subjects revealed that, most of the percentage of student were suffering from postural deformities knock knee (KNK). This is due to decreased motor activity, prolonged sitting on the computer from early childhood, poor posture at school, too many backpacks, inadequate nutrition, increased traumatic lesions, congenital spinal abnormalities and spending few hours of exercise. Previously conducted studies also found to be similar resutls (Stamenka Mitova, 2015). The similar results were found in the study of Róbert Rusnák, et. al. 2019); M. Srpoňová and Z. Hudáková (2013); J. Vajičková, 2005).

References:

1. *Fortin., C., Ehrmann., Feldman., D., Cheriet., F, Labelle H., (2011). Clinical methods for quantifying body segment posture., Disabil*

Rehabil.; 33:367–83. doi: 10.3109/09638288.2010.492066

2. *Kovač., S., Kajmović., H, Rađo., I, G., Manić. (2014). Trend projections of body deformities occurrence between the ages of 5 and 12, metrically objectified and estimated by 3D postural status screening. Homo Sporticus.; 16:5–13.*
3. *Ćirić., A., Čaušević, Bejdić A. (2015). Differences in posture status between boys and girls 6 to 9 years of age. Homo Sporticus.; 17:15–20.*
4. *Kovač., S., Kapo S., Alić H, Manić G., (2015). Postural quality analyzes for children recorded in kinematic 2D and 3D contemplas method. TTEM.; 10:99–106.*
5. *Negrini., S., Aulisa., L, C., Ferraro, Fraschini., et. al. (2005). Italian guidelines on rehabilitation treatment of adolescents with scoliosis or other spinal deformities. Eura Medicophys.;41:183–201*
6. *Kosinac., Z., (2002). Kinesiotherapy of the movement system. Split: Universtiy of Split;*
7. *Mitova. B, Stamenka., S, (2015). frequency and prevalence of postural disorders and spinal deformities in children of primary school age, Research in Kinesiology, Vol. 43, No. 1, pp. 21-24*
8. *Rusnák. A, Róbert, Kolarová., et al., (2019). Screening and Early Identification of Spinal Deformities and Posture in 311 Children: Results from 16 Districts in Slovakia, Rehabilitation Research and Practice Volume, Article ID 4758386, 9 pages https://doi.org/10.1155/2019/4758386*
9. *Srpoňová., M., and Z., Hudáková, (2013). Impact of correct body position for the treatment of back deformities in children," Zdravotnícke štúdie, vol. 6, no. 2, pp. 31–34.*
10. *Vajičková J., (2005). Effect of dynamic sitting position in school, Rehabilitácia, vol. 42, no. 3, pp. 155–160,*
11. *Jandial., S., Foster H., E., (2008). Examination of the musculoskeletal system in children—a simple approach. Paediatr Child Health.;18(2):47–55.*
12. *McEvoy M., P., Grimmer K., (2005). Reliability of upright posture measurements in primary school children. BMC Musculoskelet Disord.;6(1):35.*
13. *Penha P., J., Joao S., M., Casarotto R., A., et al. (2005). Postural assessment of girls between 7 and 10 years of age. Clinics.;60(1):9–16*
14. *Boulay., C., Tardieu C., Hecquet., J, C., Benaim, et al. (2006). Sagittal alignment of spine and pelvis regulated by pelvic incidence: standard values and prediction of lordosis. Eur Spine J.;15(4):415–22.*
15. *Smith., A., O'Sullivan., P, Straker L., (2008). Classification of sagittal thoraco-lumbo-pelvic alignment of the adolescent spine in standing and its relationship to low back pain. Spine.; Voice Anthropol Soc Serbia. 33(19):2101–7*