

# Prevalence of Bow legs and Knock Knee Deformity in School going children

Mr. Qureshi haroon Rasheed \*, Dr. Sachin.B.Pagare \*\*

\* Research Scholar, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, (MS) India

\*\* Director & Head, Dept of Physical Education, R.B Attal College, Georai, Dist Beed (MS) India

**Abstract-** Child health has prime importance in all societies. School curriculum always emphasis on child proper health for all round development of the pupil. Lack of correct posture and negligence of good postural habits indulge postural deformity which indeed effect the body either structurally or functional. The purpose of this study was to find the prevalence of knock knee and bow legs deformity in school children. For this task a total of 25 subjects were selected randomly from different school ranged from 9 to 14 years of age. **Methodology** – to identify the deformities the inter - condylar distance for bow legs and inter - malleolar distance for knock knee was measured. Data was collected individually by performing the clinical test of orthopaedics. Mean score, standard deviation were applied for data analysis and interpretation. **Conclusion** – the mean score for bow legs was 3.38 and for knock knee 4.48 was reported. In the examined subject it was found that 32% of the subjects were having bow legs and knock knee deformity.

**Index Terms-** bow legs, inter malleolar, inter condylar, knock knee

## I. INTRODUCTION

Children represent the future and ensuring their healthy growth and development ought to be a prime concern of all societies (WHO). Your child spends more time at school than anywhere else except home. Schools can have a major effect on children's health. Schools can teach children about health, and promote healthy behaviors. Physical education classes give children a chance to get exercise. Child's health includes physical, mental and social well-being. Most parents know the basics of keeping children healthy, like offering them healthy foods, making sure they get enough sleep and exercise and insuring their safety. Children's bones grow continually and reshape (remodel) themselves extensively. Growth proceeds from a vulnerable part of the bone called the growth plate. In remodeling, old bone tissue is gradually replaced by new bone tissue (see Bones). Many bone disorders come from the changes that occur in a growing child's musculoskeletal system. These disorders may get better or worse as the child grows. Other bone disorders may be inherited or occur in childhood from known reason.

## II. OBJECTIVES OF THE STUDY

- To find the prevalence of knock knee deformity in school going children
- To find the prevalence of bow legs deformity in school going children

## III. HYPOTHESIS

- It was hypothesized that there will be no knock knee deformity in school going children
- It was hypothesized that there will be no bow leg deformity in school going children

## IV. PROCEDURE AND METHODOLOGY

- To achieve the purpose of the study 25 (N=25) school children were randomly selected from different government and private schools of Aurangabad city of Maharashtra (India). They were ranged from 9 to 14 years of age. The orthopaedics variables selected for the study were bow legs and knock knee to detect the prevalence of variables clinical examination of orthopaedics was applied in which knock knee and bow leg deformity was diagnosed by measuring inter condylar and inter malleolar distance in standing position.
- The subject was asked to stand in normal standing posture with feet apart by using the steel Tape the distance between inter malleolar and inter condylar were measured according to the clinical examination of orthopaedics method for Knock knee – if the distance is 6 to 8 cm between the two malleolar than mild knock knee deformity is found. And if the distance is 10 cm then the deformity is severe for Bow legs – if the distance is 6 to 8 cm than mild deformity is found and if the distance is 10cm or more than the deformity is severe. The data was collected individually by performing the test on the subject in the described manner. The distance is measured in cm.

## V. RESULTS AND DISCUSSION

The collected data were applied with statistical measures like mean, standard deviation. The level of significance

was considered when  $p > 0.05$ . The results of the study is shown in the following table

**Table - 1**

Significance of mean, standard deviation, range of selected variables bow legs and knock knee is presented.

Table – 1 illustrates the statistical values of bow legs and knock knee. With regards to bow legs and knock knee deformity the obtained mean value was 3.38 and 4.28 respectively which reveals that bow legs deformity and knock knee deformity is prevalent in school going children

Variables	Distances	Number	Mean	S.D	Range	Level of confidence
Bow Legs	inter - Condylar	25	3.38	1.85	0-8	0.76
Knock Knee	inter - Malleolar	25	4.28	2.04	0- 8.5	0.84

\*significant at 0.05 level

**Figure -1**  
 In our study we found four cases of abnormal inter - condylar distance, bow legs deformity.

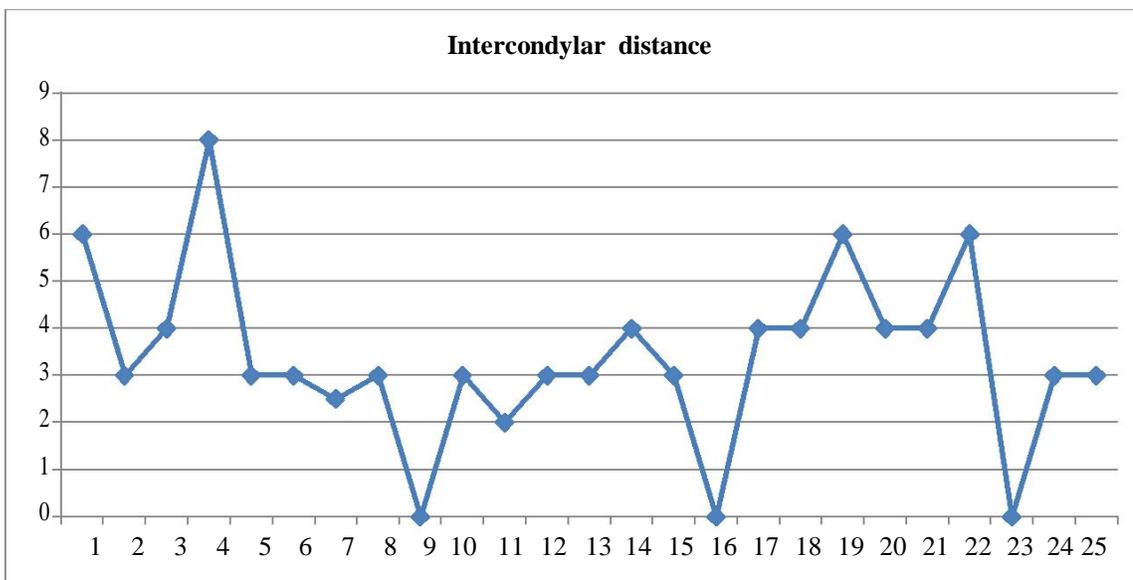


Figure – 2

In our study we found four cases of abnormal inter – malleolar distance, knock knee deformity  
Inter malleolar distance

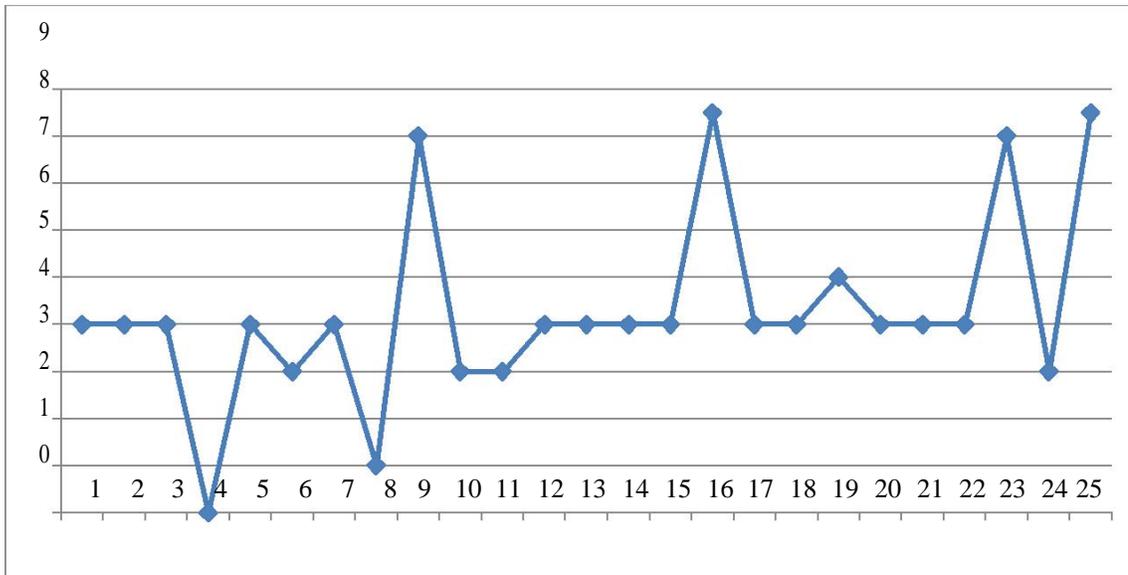
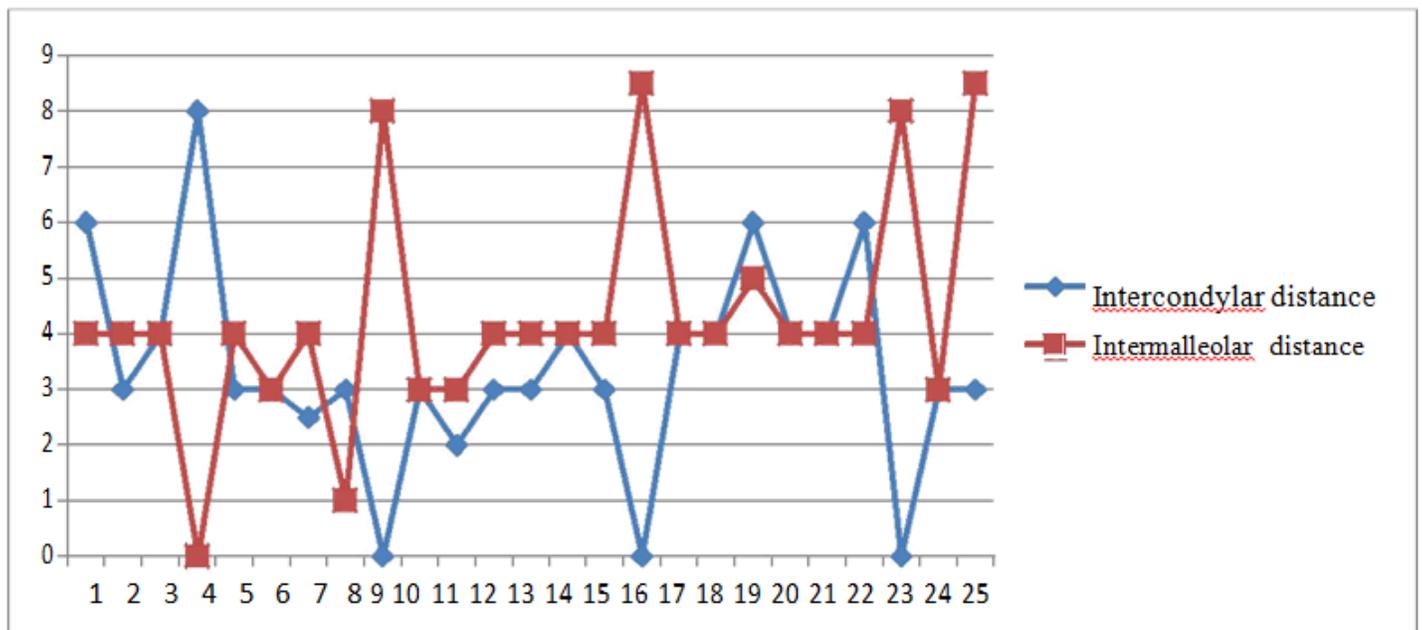


Figure 3. Showing the intercondylar and inter malleolar distance of samples



## VI. CONCLUSION

- Knock knee deformity is found in school going children hence H1 is accepted.
- Bow leg deformity is found in school going children hence H2 is accepted

## ACKNOWLEDGEMENT

We are great indebted to the Dean, librarian and orthopaedics department of government medical college and hospital, Aurangabad for their much needed guidance for the successful completion of this Research paper. We also thank to Dr Abdulla & Dr. Kashif for guiding us to put up the data statistically in the required manner according to medical sciences research work. We also thank the principals, administrators, teachers and other members of the different schools cooperated for participating in this Research paper.

## REFERENCES

- [1] Cíntia Detsch, Ann Maria Hecker Luz, Cláudia Tarragô Candotti, Daniela Scotto De Oliveira, Franciane Lazon, Lisiane Kiefer Guimarães,

Patrícia Schimanski. Prevalence of postural changes in high school students in a city in southern Brazil. *Revista Panamericana de Salud Pública* Pan American journal of public health (2007) Pages: 231-238

- [2] E Geldhof, D De Clercq, I De Bourdeaudhuij, G Cardon. Classroom postures of 8-12 year old children. *Ergonomics* (2007) Pages: 1571-1581
- [3] J Vidal, P A Borrás, F B Ortega, J Cantalops, X Ponseti, P Palou. Effects of postural education on daily habits in children. *International Journal of Sports Medicine* (2011) Pages: 303-308
- [4] Kate L Willoughby, Karen J Dodd, Nora Shields. Posture for Learning: meeting the postural care needs of children with physical disabilities in mainstream primary schools in England - a research into practice exploratory study. *Disability*

## AUTHORS

**First Author** – Qureshi Haroon Rasheed, Research Scholar, M.P.Ed, M.Phil, Sportiveharoon@gmail.com

**Second Author** – Dr. Sachin.B. Pagare, Ph.D, Head and Director Dept of Physical Education, R.B. Atal College, Georai dist Beed (MS) India [spagare@gmail.com](mailto:spagare@gmail.com).

**Correspondence address:** Qureshi Haroon Rasheed, Sportiveharoon@gmail.com