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Analysis of feet status among rural and urban school going children of Bilaspur

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Abstract

Background: The objectives of the study the analysis of feet status among rural and urban school going children of Bilaspur.

Method & procedure: Two hundred (200) subjects including boys and girls from rural as well as urban areas of Bilaspur, Chhattisgarh under age of 11-14, in which 100 subjects (50 boys & 50 Girls) were from rural and 100 subjects (50 boys & 50 Girls) from urban schools, were taken as a sample for present investigation on random sampling basis. In present study to find out the status of different foot deformities i.e. Flat-feet, Claw-feet, Valgus & Varus.

Test/equipments/tools: Foot impression with the help of pedograph & goniometer were used. The collected data was tabulated and computerized to draw out the meaningful conclusions. Frequenting and percentage were used to calculated of raw score.

Results: Two hundred (200) subjects including boys and girls from rural as well as urban areas of Bilaspur, Chhattisgarh. Results shows % wise data of rural school going children, as per record 10% children were found from flatfeet, 5% from Claw-feet, 1% from Valgus and 1% suffering from Varus. On the other hand, percentage wise data of urban school going children, as per record 7% children were found suffering from flatfeet, 3% suffering from Claw-feet, 1% suffering from Valgus and 2% suffering from Varus.

Conclusions: It is concluded that the flatfeet deformities are very high and Varus & Valgus deformities are very low in school going children of rural area. It is concluded that the flatfeet deformities are very high and valgus deformities are very low in school going children of urban area.

Keywords: Foot deformities, flat-feet, claw-feet, valgus & varus

Introduction

When a child is diagnosed with a foot deformity, parents are often faced with lots of questions. But there is no immediate cause for concern. That is because foot deformities are common and often innocuous, both from birth and up to pre-school age. We provide an insight into potential foot deformities in children, examining the causes and describing what can be done.

When a child is born, the musculature in their small feet is not yet fully developed. As a result, deformities in the feet are not uncommon. But feet deformities can also develop when the child is learning to walk. If these issues are recognized and treated early, it is usually possible to correct a young child's feet using non-invasive techniques. Parents can also do a lot to facilitate the healthy development of their children's feet.

Objectives: The objectives of the present study, entitled "Analysis of Feet Status among Rural and Urban School Going Children of Bilaspur" are

- To study the prevalence of foot deformities among rural school going children of Bilaspur.
- To study the prevalence of foot deformities among urban school going children of Bilaspur

Method & procedure

Sample: Two hundred (200) subjects including boys and girls from rural as well as urban areas of Bilaspur, Chhattisgarh under age group of 11-14, in which 100 subjects (50 boys & 50 Girls) were from rural and 100 subjects (50 boys & 50 Girls) from urban schools, were taken

as a sample for present investigation on random sampling basis. In present study examiner find out the status of different foot deformities i.e. Flat-feet, Claw-feet, Valgus & Varus etc.

Test/equipments/tools: Foot impression with the help of pedograph & goniometer were used.

Table 1: Variables test and tools

S. No.	Foot deformity	Test/equipments/ Tools
1	Flat-foot	Pedograph
2	Claw-foot	Pedograph
3	Valgus	Silfverskioid Examination, Goniometer
4	Valgus	Silfverskioid Examination, Goniometer

Table 2: Shows the overall deformities in rural and urban school going children of Bilaspur. Number of subjects possessing deformity

S. No.	Type of deformity	Rural (100)		Urban (100)		Total 200
		Boys (50)	Girls (50)	Boys (50)	Girls (50)	
1	Flat-feet	05	05	03	04	17
2	Claw-feet	03	02	02	01	08
3	Valgus	01	00	01	00	02
4	Varus	00	01	01	01	03
Total foot deformities		09	08	07	06	30
Non foot deformities		41	42	43	44	170
Over all total		50	50	50	50	200

Table 3: Shows overall foot deformities among the Rural & Urban School going children of Bilaspur

S. No.	Type of deformity	Rural (100)		Urban (100)		Total observation (200)	Total percentage (%)
		Children (100)	Percentage %	Children (100)	Percentage %		
1	Flat-feet	10	10%	07	7%	17	8.5%
2	Claw-feet	05	5%	03	3%	08	4%
3	Valgus	01	1%	01	1%	02	1%
4	Varus	01	1%	02	2%	03	1.5%
5	Non foot deformities	83	83%	87	87%	170	85%
Total		100	100%	100	100%	200	100%

The final sample of children aged between 11-14 years consisted of 100 boys and 100 girls from urban and rural areas of the Bilaspur District. The final sample in this study consisted of 200 children. Table no. 3 shows % wise data of rural school going children, as per record 10% children were found from flatfeet, 5% from Claw-feet, 1% from Valgus and 1% suffering from Varus. On the other hand, percentage wise data of urban school going children, as per record 7% children were found suffering from flatfeet, 3% suffering from Claw-feet, 1% suffering from Valgus and 2% suffering from Varus. It is determined that among schoolchildren in urban areas, flatfoot abnormalities are extremely common and Valgus

Study design: The present study was a descriptive cross-sectional study.

Statistical analysis

Data were imported into Microsoft Excel; SPSS version 19 was used for analysis. Initial data inspection, content analysis, and interpretation were the processes that were involved. The percentage and frequency were computed.

Analysis and Interpretation of data

The collected data was tabulated and computerized to draw out the meaningful conclusions. Frequenting and percentage were used to evaluate the score. The outputs generated are presented in the tables and graphs below.

deformities are very rare.

Table 4: Representing the foot deformity percentage in school-aged children in rural and urban areas

Groups	Observation	Percentage (%)
Foot deformities	30	15%
Non foot deformities	170	85%
Total	200	100%

The above table presents % wise data in rural and urban areas, in table 15% children have foot Deformities and 85% children non foot deformities.

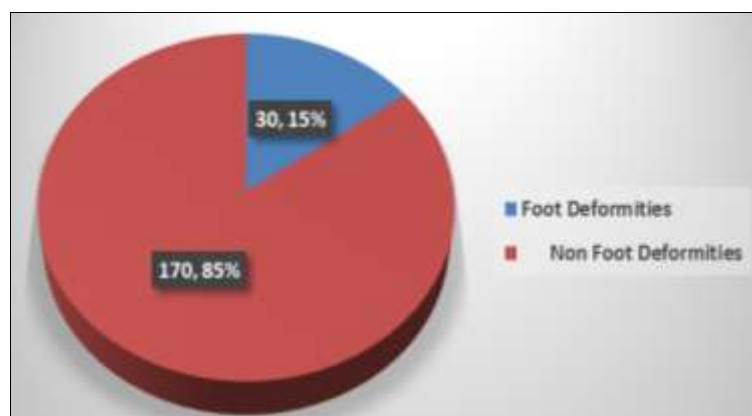


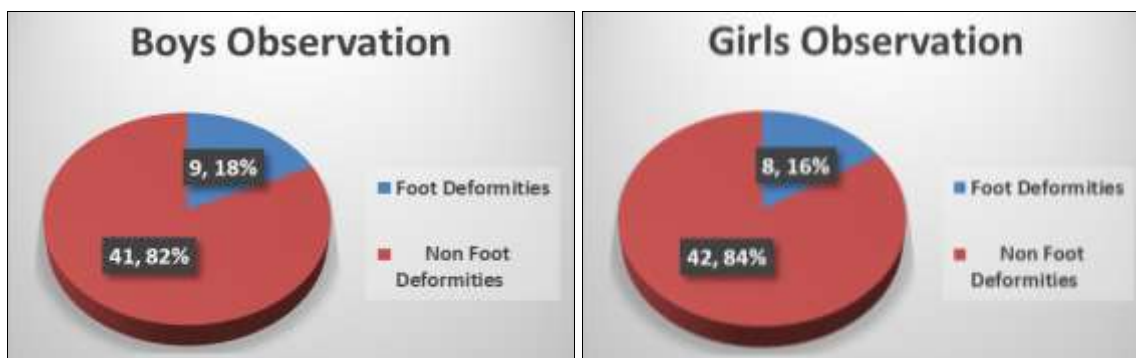
Fig 1: Represents the percentage of foot deformities among school-age children in Bilaspur's rural and urban areas

Table 5: Representing the foot deformity percentage among school-aged boys and girls in Bilaspur's rural area

Groups	BOYS		GIRLS	
	Observation	Percentage (%)	Observation	Percentage (%)
Foot deformities	09	18%	08	16%
Non foot deformities	41	82%	42	84%
Total	50	100%	50	100%

According to the above table, which presents percentage-wise statistics for school age children (Boys and girls) in rural areas, 18% of males were found to have foot deformities, 82%

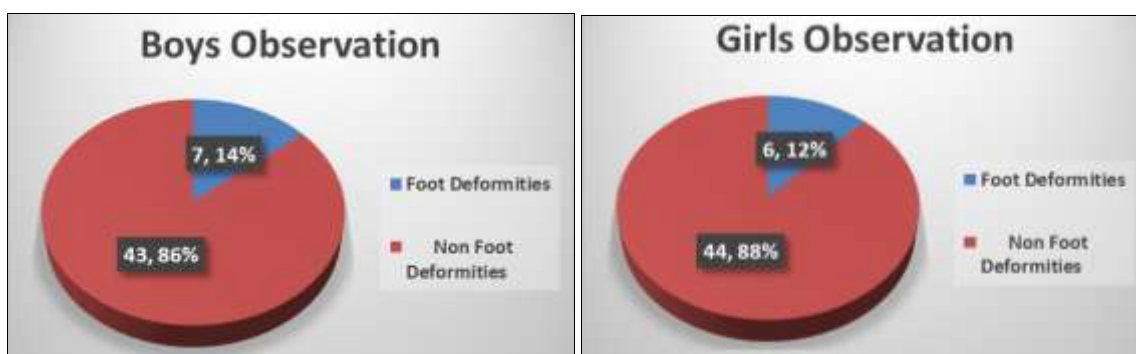
of boys did not, and 16% of girls were found to have foot deformities, 84% of girls did not.

**Fig 2:** Represents the percentage of foot deformities among school-aged boys and girls in Bilaspur's rural area**Table 6:** Representing the foot deformity percentage among school-aged boys and girls in Bilaspur's urban area

Groups	Boys		Girls	
	Observation	Percentage (%)	Observation	Percentage (%)
Foot deformities	07	14%	06	12%
Non foot deformities	43	86%	44	88%
Total	50	100%	50	100%

According to the above table, which presents percentage-wise statistics for school-age children (boys and girls) in urban areas, 14% of males were found to have foot deformities, 86%

of boys did not, and 12% of girls were found to have foot deformities, 88% of girls did not.

**Fig 3:** Represents the percentage of foot deformities among school-aged boys and girls in Bilaspur's urban area

Conclusion: Following interpretation and analysis of the data, it was determined that children attending school in rural Bilaspur had very high flatfeet deformities and very low Varus & Valgus deformities, while children attending school in urban Bilaspur had very high flatfeet deformities and very low Valgus deformities.

General suggestions for managing foot deformities

Foot deformities can vary in severity and type, ranging from structural issues to functional impairments. If you're seeking suggestions for management, treatment, or general care for foot deformities, here's a guide based on common conditions:

Consult a specialist

- Visit a podiatrist or orthopedic surgeon for a thorough

evaluation.

- Imaging tests (X-ray, MRI) may be recommended for diagnosis.

Orthotics and support

Custom orthotics: Correct or support the arch or structure of the foot.

Braces or splints: For severe deformities or conditions like clubfoot.

Footwear

- Wear wide, supportive shoes with ample room for toes.
- Avoid high heels or tight-fitting footwear.

Physical therapy

- Stretching and strengthening exercises to improve foot and ankle alignment.
- Specific therapies for muscle imbalances causing deformities.

Pain management

- Use over-the-counter pain relievers (e.g., ibuprofen).
- Apply ice packs to reduce inflammation.

Lifestyle modifications

- Maintain a healthy weight to reduce pressure on the feet.
- Engage in low-impact activities like swimming or cycling.

Advanced Treatments

- **Injections:** Corticosteroids for inflammation or discomfort.
- **Surgical correction:** For severe or unmanageable deformities (e.g., bunionectomy, tendon transfer).

Prevention and self-care tips

- Inspect your feet regularly for changes or injuries.
- Keep your feet clean and moisturized to prevent skin issues.
- Avoid walking barefoot on hard surfaces for extended periods.

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