Appendix A
To,

The Dean
Government Medical College and Hospital
Aurangabad.

Subject - Request to have Guidance for Ph.d Research Work in Physical Education in the subject of Orthopaedics.

Respected Sir,

With Due respect, I wish to gain guidance for my research work of the completion of Ph.d Degree in the Faculty of physical education from Dr.B.A.M.University.

So I Request you to kindly Grant me permission to seek guidance from your Orthopaedics.Department.
The Details of Research work are mentioned below.

TOPIC – A STUDY OF POSTURAL DEFORMITIES PREVALENCE IN SCHOOL CHILDRENS IN MARATHWADA REGION OF MAHARASHTRA.

AREA OF INTEREST - SPORTS MEDICINE

Request to do the needful.

Thanking you & oblige

Encl 1. University confirmation letter
2. Joining letter

Yours Faithfully
Research Scholar
Qureshi Haroon Rasheed
Guide
Dr.Sachin.B.Pagare
HEAD,D.P.E
R.B.Attal College
Gevrai,DIST Beed,Maharashtra.
Appendix B
TO,
The Librarian
Government Medical college and Hospital.
Aurangabad.

Subject – Request to refer some books of orthopaedics for Ph.d research work in the faculty of Physical Education in the Subject of Orthopaedics.

Respected Sir,
with due respect, I wish to refer some books of orthopaedics for Ph.d research work in the faculty of Physical Education. For the completion of Ph.d Degree in the Faculty from Dr.B.A.M.University.

So I request you to kindly favor and co operate me.

The Details of research work are mentioned below.

TOPIC – A STUDY OF POSTURAL DEFORMITIES PREVALENCE IN SCHOOL CHILDRENS IN MARATHWADA REGION OF MAHARASHTRA.
AREA OF INTEREST - SPORTS MEDICINE

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Research Scholzar
Qureshi Haroon Rasheed
Guide
Dr.Sachin.B.Pagare
HEAD,D.P.E
R.B.Attal College
Gevrai,Dist Beed,Maharashtra.
APPENDIX - C

Date -

To,

The Principal,

Sub – Request to collect Data for my Ph.D research Work.

Respected sir,

With due respect, I request to collect data for my Ph.D research work from your school students, which is indeed beneficial to them to know their status of postural deformity and physical fitness.

So it’s my humble request to allow me to collect the required data.

Hope you co operate and favor

The details of my research work is mentioned below

Topic - “A STUDY OF POSTURAL DEFORMITIES PREVALENCE IN SCHOOL CHILDREN IN MARATHWADA REGION OF MAHARASHTRA”

Thanking you and oblige

Yours faithfully

Research Scholar

Qureshi Haroon Rasheed

Sign

Principal

Research Guide

Sachin .B. pagare
APPENDIX - D

Date -

To,

The Research Scholar
Department of physical Education
Dr. Babasaheb Ambedkar Marathwada university, Aurangabad.

Sub – Authentification letter of collected data from our School Students
Respected Sir,

With due respect, we authentify that Mr. Qureshi Haroon Rasheed Research Scholar for Ph.D Degree of Dr. Babasaheb Ambedkar Marathwada university, Aurangabad. Has collected data from our _______ school students for his research topic – “A STUDY OF POSTURAL DEFORMITIES PREVALENCE IN SCHOOL CHILDREN IN MARATHWADA REGION OF MAHARASHTRA”

We wish him for bright and successful future

Thanking you &oblige

Yours Sincerely
Principal

____________________________________
____________________________________
____________________________________
Appendix E
Effect of Flat Foot Deformity on Selected Physical Fitness Components 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, K.B. Atal College, Georai, Dist, Beed (MS) India

Abstract - The moment you discover which foot is your right foot, you don’t have many hesitations about which of them is the left foot. And then the problem left is of which of them to start walking with them (A.A.Milne). Flatfoot impairs the body’s shock absorption mechanism and creates motor difficulties in functions or activities requiring balance and stability. The purpose of this study was to find the effect of flat foot deformity on selected physical fitness components in school going child. For this task a total of 20 subjects (10 flat footer and 10 normal feet) subject were selected purposefully from different school, ranged from 9 to 14 years of age. Methodology – to identify the flat foot deformities wet test was measured. Data was collected individually by performing the wet test. Mean score, standard deviation were applied for data analysis and interpretation. Conclusion – the mean score for bow legs was 3.6 and for knock knee 4.4 was reported. In the examined subject it was found that 20% of the subjects were having postural deformity.

I. INTRODUCTION

Movement and postural pattern are important components in a child’s physical and emotional development (Dr. Gill Soberg) health is of prime importance with respect to all walks of life. Childhood is a crucial stage of life in terms of Child’s physical, intellectual, emotional and social development. Growth of mental and physical abilities progress at an outstanding rate and a very high proportion of learning take place from birth to age six. Child development experts agree that play is very important in the learning and emotional development of all children. Flat feet or foot is a deformity where the foot have medial arch completely present. Children between 3 and 13 percent of kids have flat foot (Dr. Angela Evan) and the condition is more common in young children. In fact some degree of flat footedess that reduces with age is considered normal up until around the age of eight or nine. According to research that flat foot might have a detrimental effect on various components of human physique. So here a study is been carried out to find the effect of flat foot deformity on selected physical fitness components in school going child.

In flat feet (pes planus), the middle of the feet, which are normally arched, appear sunken. Before 3 years of age, all children have flat feet. The arch in the foot begins to develop around age 3. Persistent flat feet may result when the arch of the foot is unusually flexible (called flexible flat feet). Another cause of flat feet is tightening of the foot joints, which fixes the foot in a position with a flattened arch (called tarsal coalition).

Tarsal coalition may be a birth defect or result from conditions such as injuries or prolonged swelling.

II. OBJECTIVES OF THE STUDY

- To find the effect of flat foot deformity on agility of school children.
- To find the effect of flat foot deformity on explosive leg strength of school children.

III. HYPOTHESES

- It was hypothesized that there will be no significant difference between flat footer and non flat footer with respect to agility.
- It was hypothesized that there will be no significant difference between flat footer and non flat footer with respect to explosive leg strength.

IV. PROCEDURE AND METHODOLOGY

To achieve the purpose of the study 40 (N=40) school children were purposively selected, 20 subject which have flat foot deformity and 20 sample which have normal feet were selected from different government and private schools of Aurangabad city of Maharashtra. The subjects were ranged from 9 to 14 years. The variables selected for the study flat foot (orthopaedics) agility, explosive leg strength (physical fitness) to detect the flat foot deformity clinical examination methodology of orthopaedics was used. Foot print wet test was used to detect flat foot deformity. A visual observation of the foot print was observed by using the wet test.

To measure agility 10 yards shuttle run was used. To measure explosive leg strength standing broad jump was used .for wet test the subject was asked to sit on a chair normally by applying black color to their soul and then asking them to give their foot impression by standing properly on the white paper sheet, ultimately Recording the foot impression. Flat foot detection – subject have almost entire footprint, if the medial foot Arch is present then they have a flat foot and if the medial arch is missing than the feet is normal. Standing Broad jump (explosive leg strength) Pupil stands with the feet several inches apart and the toes just behind the take off line. Preparatory to jumping, the pupil swings the arm backwards and bends the knees. The Jump is accomplished by simultaneously extending the knees and swinging forward the arms.

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Scoring – Record the best of the three trials in feet and inches to the nearest inch. Shuttle run, (Agility) Two Parallel lines are marked on the floor 30 feet apart. The width of a regulation volleyball court serves as a suitable area. Place the blocks of wood behind one of the lines as indicated. The pupil starts from behind the other line. On the signal ready? Go“ the pupil runs to the blocks; pick one up, Scoring - record the time of the better of the two trials to the nearest tenth of a second. The data was collected individually by performing the test on the subject and two groups were made one with flat foot deformity and other with normal feet in the described manner.

V. RESULTS AND DISCUSSION

The collected data were statistical measure like mean; standard deviation, fisher’s exact test were applied. The level of significance was p<0.05. The following table shows the result of the study.

Table – 1

Table no – 1 illustrates the statistical values of agility level of normal foot and flat foot. With regards to Agility (shuttle run) the obtained mean value of normal foot is 11.89 and 12.32 of flat foot respectively which reveals that there was no significant effect of flat foot deformity on agility.

<table>
<thead>
<tr>
<th>Samples</th>
<th>Number</th>
<th>Mean</th>
<th>S.D</th>
<th>Range</th>
<th>level of confidence</th>
<th>significance value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal foot</td>
<td>10</td>
<td>11.89</td>
<td>1.44</td>
<td>10.00 – 15.09</td>
<td>1.03</td>
<td>p&gt;0.05 level</td>
</tr>
<tr>
<td>Flat foot</td>
<td>10</td>
<td>12.32</td>
<td>0.72</td>
<td>11.41 -13.41</td>
<td>0.51</td>
<td></td>
</tr>
</tbody>
</table>

*significant at 0.05 level.

Table – 2

Table no – 2 illustrates the statistical values of explosive leg strength of normal foot and flat foot samples. With regards to explosive leg strength (standing broad jump) the obtained mean value of normal foot is 4.406 and 4.621 of flat foot respectively which reveals that there was no significant effect of flat foot deformity on explosive leg strength.

<table>
<thead>
<tr>
<th>Samples</th>
<th>Number</th>
<th>Mean</th>
<th>S.D</th>
<th>Range</th>
<th>level of confidence</th>
<th>significance value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal foot</td>
<td>10</td>
<td>4.406</td>
<td>0.83</td>
<td>2.08 – 5.11</td>
<td>0.58</td>
<td>p&gt;0.05 level</td>
</tr>
<tr>
<td>Flat foot</td>
<td>10</td>
<td>4.621</td>
<td>0.69</td>
<td>2.00 - 6.00</td>
<td>0.50</td>
<td></td>
</tr>
</tbody>
</table>

*significant at 0.05 level.
Figure- 1

Figure -1 illustrates the comparison of flat footer and normal foot with respect to agility

Comparison of flat footer and normal foot of agility level

- flat footer shuttle run
- normal feet shuttle run
Figure 2

Figure 2 illustrates the comparison of flat footed and normal foot with respect to explosive leg strength.

| Comparison of flat footer and normal foot of explosive leg strength level |
|-----------------------------|-----------------------------|
| 10                        | 9                        | 8                        |
| 7                        | 6                        | 5                        |
| 4                        | 3                        | 2                        |
| 1                        | 0                        | 1                        |

FLAT FOOTER standing broad jump  NORMAL FOOT standing broad jump

VI. CONCLUSION

On the basis of data interpretation and analysis the following conclusion is drawn:

- There is no significant difference between flat footer and non flat footer with respect to agility hence H1 is rejected.
- There is no significant difference between flat footer and non flat footer with respect to explosive leg strength. Hence H2 rejected.

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 me 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


AUTHORS

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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

Correspondence address: Qureshi Haroon Rasheed, Sportiveharoon@gmail.com Mob – 9975848903, H.no 1-13 37 near Nehru Bhavan Build lane Aurangabad, Maharashtra, India - 431001
Appendix F
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 Atal 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 www.jsrp.org

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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>
<thead>
<tr>
<th>Variables</th>
<th>Distances</th>
<th>Number</th>
<th>Mean</th>
<th>S.D</th>
<th>Range</th>
<th>Level of confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bow Legs</td>
<td>inter - Condylar</td>
<td>25</td>
<td>3.30</td>
<td>1.95</td>
<td>0-8</td>
<td>0.76</td>
</tr>
<tr>
<td>Knock Knee</td>
<td>inter - Malleolar</td>
<td>25</td>
<td>4.28</td>
<td>2.04</td>
<td>0-8.5</td>
<td>0.84</td>
</tr>
</tbody>
</table>

*significant at 0.05 level

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.

**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 excepted.

ACKNOWLEDGEMENT

We are great indebted to the Dean, librarian and orthopaedics department of government medical college and hospitot, 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


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Correspondence address: Qureshi Haroon Rashheed, Sportiveharoon@gmail.com

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Appendix G
RECORDING FORMS
PERSONAL
FITNESS RECORD

Name

Grade

School

FITNESS FOR YOUTH

FITNESS FOR YOUTH
AAHPER YOUTH FITNESS TEST
AMERICAN ALLIANCE FOR HEALTH, PHYSICAL EDUCATION, AND RECREATION
1201 - 16th Street, N. W.
Washington, D. C.

ERIC
Personal Data

Age (in months) ________________________________
Height (in inches) ________________________________
Weight ________________________________
Class ________________________________

Shuttle run Score Percentile
Standing Broad jump Score Percentile
50 yard Dash Score Percentile

Research Scholar
Appendix H
# MASTER SHEET PHYSICAL FITNESS TEST COMPONENTS

<table>
<thead>
<tr>
<th>Sub code</th>
<th>Name of the subject</th>
<th>Physical fitness components</th>
<th>Shuttle run</th>
<th>Standing broad jump</th>
<th>50 yard dash</th>
<th>Remark</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>MS (sec)</td>
<td>Per</td>
<td>Score</td>
<td>MS (feet)</td>
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</tbody>
</table>

Sign Research Scholar  Sign Research Guide  Sign School Principal

Abbreviations:
MS – Measurement
PER – Percentile
SUB – Subject
SEC – Seconds
Appendix I
<table>
<thead>
<tr>
<th>Sr.no</th>
<th>Name of deformity</th>
<th>Clinical examination</th>
<th>Measurement /observation</th>
<th>Status</th>
<th>Remark</th>
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<tr>
<td>1</td>
<td>Kyphosis</td>
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<tr>
<td>2</td>
<td>Scoliosis</td>
<td>Observing rib hump on the side of the convexity</td>
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<td>3</td>
<td>Bow legs</td>
<td>Inter-condylar distance measured in standing position</td>
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<td></td>
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<tr>
<td>4</td>
<td>Knock knee</td>
<td>Inter - malleolar distance measured in standing position</td>
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<tr>
<td>5</td>
<td>Flat foot</td>
<td>Observing the medial foot arch</td>
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</table>
Appendix J
<table>
<thead>
<tr>
<th>SUB CODE</th>
<th>NAME OF THE SUBJECT</th>
<th>KYPHOSIS</th>
<th>SCOLIOSIS</th>
<th>BOW LEGS</th>
<th>KNOCK KNEE</th>
<th>FLAT FOOT</th>
<th>TOTAL NO OF DEFORMITIES</th>
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<tbody>
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RESEARCH SCHOLAR  PRINCIPAL  GUIDE SIGN