

## PARENTAL INVOLVEMENT IN THE MANAGEMENT OF IN-TOEING GAIT USING ABDUCTION SPLINT IN CHILDREN LESS THAN FIVE YEARS OF AGE AT JINJA REGIONAL REFERRAL HOSPITAL. A PROPOSED STUDY.

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### ABSTRACT

#### Background of the study

Globally in-toeing gait is the most common foot deformity in infants, occurring in 1-3/1000 children, and is one of the most common pediatric gait disturbances. Prompted by parental concerns, it accounts for many new patient specialist visits. A descriptive cross-sectional study evaluated parents' involvement and policies guiding the management of children with foot deformities in Kenya revealing that more than half (54.6%) of the parents were actively involved in decision making whereas 45.6% were passively involved. The study aims to assess Parental involvement in the management of undergoing gait using abduction splints in children less than five years of age.

#### Methodology

A cross-sectional study. The study population will consist of 44 parents whose children have undergone gait at Jinja Regional Referral Hospital.

#### Discussion

There are consistently increasing cases of persistent in-toeing gait among children less than five years of age at Jinja Regional Referral Hospital. This is partly due to the failure of parents to get actively and fully involved in the management process of undergoing gait as recommended by health professionals. Parents are required to ensure serial casting, bracing, consistency, and gentle stretching of the leg and foot muscles and if in-toeing gait is associated with other medical conditions like cerebral palsy treatment should also focus on the laying treatment for better results. The study will aim to assess Parental involvement in the management of in-toeing gait using abduction splint in children less than five years of age by determining the practice, attitude, and knowledge of parents at Jinja Regional Referral Hospital. This may promote health education about in-toeing gait, early improvement of gait, and prevention of further deformities improving their mobility, independence, and social integration.

**Keywords:** Management of in-toeing gait, Abduction splint, Jinja Regional Referral Hospital.

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#### Background of the study

Globally in-toeing gait is the most common foot deformity in infants, occurring in 1-3/1000 children (Gleeson, 2022), and is one of the most common pediatric gait disturbances. Intoeing is not a diagnosis. It is a complaint and an objective finding on physical examination. There are varying inclusive ideas about the need for treatment and the effectiveness of the different available options. The varying ideas on diagnosis and clinical management necessitate further study to have conclusive knowledge. Intoeing has been the topic of many publications directed both toward primary care physicians and parents (Edwine, 2017). The disorder is not usually observed in children less than 3 years old (Nourai, Fadaei, & Rizi, 2015).

In many Western countries, parents have a legal right to be involved and influence children's healthcare to meet the children's and their families' needs and preferences. Parental involvement in children's healthcare decisions has been an important area of service in several countries for many years; however, it has not been sufficiently implemented in clinical practice (Antje, 2021). In the developing world, there is scarce documentation on the

approaches used in the management of children with foot deformities. A descriptive cross-sectional study evaluated parents' involvement and policies guiding the management of children with foot deformities in Kenya where results found that slightly more than half (54.6%) of the parents were actively involved in decision making whereas 45.6% were passively involved and may be partially as a result of insufficient knowledge attitude among parents. (Drusilla, Nimrod, & Grace, 2014). The study aims to assess Parental involvement in the management of undergoing gait using abduction splints in children less than five years of age.

#### Problem statement

The parents have to consider and follow the instructions on procedures to be performed during the management of in-toeing gait to prevent it from persisting by ensuring serial casting, putting on the abduction splints, consistency, and gentle stretching of the leg and foot muscles and if the toe in gait is associated with cerebral palsy, autism or other problems, consistent treatment should focus on the underlying treatment.

(Treatment for gait Mayo Foundation for Medical Education Research <http://www.mayofoundation.com>). Due to the failure of the parents to involve themselves in the treatment plan as required, due to insufficient knowledge and parents' attitude, some parents have been reported to have children with persistent in-toeing gait at Jinja Regional Referral Hospital. Parents have to follow and perform practices as required during in-toeing gait management and failure to follow and perform these practices has always resulted in persistent in-toeing gait. Several studies have been conducted to give parents sufficient knowledge about the treatment and prevention of in-toeing gait however, some parents don't actively get involved in the treatment and prevention of in-toeing gait as required thus this study is intended to measure the extent of knowledge, attitude and parental involvement in the treatment and prevention of in-toeing gait.

## **Methodology**

### **Study Area**

The study will be conducted at Jinja Regional Referral Hospital located in Jinja City Jinja District. In Jinja Regional Referral Hospital our study will concentrate on the pediatric orthopedic department in the orthopedic workshops and wards.

### **Study design**

A cross-sectional study design will be employed and it will only apply to parents with children having in-toeing gait.

### **Study population**

The study population will consist of 44 parents whose children have in-toeing gait at Jinja Regional Referral Hospital

### **Sample size determination**

Taro Yamane formula (1967) formula for the calculation of sample size (n) when population size (N) is known will be used to determine the sample size. Assuming a 95% confidence extent and maximum degree of variability of the attributes in the population,  $p = 50\%$  (0.5), the sample size will be calculated below

$N =$  estimated study population is 50

Where n is the sample size, N is the population size and e is the extent of precision (Sampling error – 5%).

Thus, using the formula;  $n = N / [1 + N(e^2)]$

$n = 50 / [1 + 50(0.05^2)] = 44.4$

$n = 44$

### **Sample technique**

Parents of children with in-toeing gait who have consented will be conveniently enrolled in the study

### **Sample procedure**

A convenient sampling method will be used in this study. Parents of children with in-toeing gait will be selected conveniently and enrolled in the study. This will be particularly for parents of children with in-toeing gait less than five years of age attending the pediatric orthopedic clinic at Jinja Regional Referral Hospital.

### **Inclusion criteria**

A parent of a child with in-toeing gait, below five years of age, under his/her care, at Jinja Regional Referral Hospital and has consented.

### **Exclusion criteria**

A parent of a child with in-toeing gait, below five years of age, under his/her care, at Jinja Regional Referral Hospital and has not consented.

### **Data collection tools and procedures**

Questionnaires with open and close-ended questions will be used for data collection. Research assistants will help parents to properly understand the questions in the questionnaire before answering.

### **Pretesting**

The questionnaires will be pretested one week before actual data collection at Jinja Regional Referral Hospital orthotic department to ensure the validity, reliability, and suitability of the questions. Adjustments will be made based on respondents' responses.

### **Data collection process**

Self-administered questionnaires will be used to collect data. Open-ended questions will be used to obtain qualitative data while closed-ended questions will assist in acquiring quantitative data. Every questionnaire will be coded with a number to prevent the loss of some of the questionnaires after completion. Thorough question comprehension for each parent will be conducted by research assistants. Informed consent will be obtained from parents before the actual data collection.

### **Quality control**

Validity and quality consistency of data collected will be cross-checked by the researcher before leaving the ward or workshop and emphasis will be on ensuring that there is completion of the questionnaires. Questionnaires will be coded with identity numbers to prevent their loss. Filled questionnaires will be kept on shelves under lock and key.

### **Data management, processing, and presentation**

Data will be categorized, coded, and summarized on a data master sheet, revised, and entered with the help of a scientific calculator. It will be edited by checking for any errors and omissions for accuracy uniformity and completeness. Quantitative data will be presented in frequency tables and pie charts while qualitative data will be presented in the form of narrations or text.

### **Ethical consideration**

An introductory letter from the principal tutor of Orthopedic Technology Training School will be obtained and presented to the Principal of Jinja Regional Referral Hospital who will allow the researcher to conduct his study at the orthopedic workshops and wards. All information collected will be handled with the highest degree of confidentiality and all parents will obtain written informed consent before enrollment into the study.

### Study limitations

Many parents are found giving wrong information thinking that they be arrested, time for data collection is not enough and parents refuse to consent.

### Discussion


There are consistently increasing cases of persistent in-toeing gait among children less than five years of age at Jinja Regional Referral Hospital. This is partly due to the failure of parents to get actively and fully involved in the management process of in-toeing gait as recommended by health professionals. Parents are required to ensure serial casting, bracing, consistency, and gentle stretching of the leg and foot muscles and if in-toeing gait is associated with other medical conditions like cerebral palsy treatment should also focus on the laying treatment for better results. The study will aim to assess Parental involvement in the management of in-toeing gait using abduction splint in children less than five years of age by determining the practice, attitude, and knowledge of parents at Jinja Regional Referral Hospital. This may promote health education about in-toeing gait, early improvement of gait, and prevention of further deformities improving their mobility, independence, and social integration.

### Abbreviations

WHO: Health Organization

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### Author Biography

Isaac Makula is a student of a diploma in Orthopaedic Technology at Uganda Institute of Allied Health and Management Science –Mulago.

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