Incidence of Growing Pain in a General Pediatric Clinic

Mahesh Prasad Mohanta

Pediatric Specialist Clinic Nua sakala Naba Diganta Primary Care Hospital Keonjhar, Odisha, India

***corresponding Author:**
Email: mpmohanta@gmail.com

Abstract

Objectives: To find out incidence of Growing Pains in a General Pediatric Clinic.
Materials and Methods: All the cases of leg Pains were evaluated for Growing Pains with the help of Peterson criteria from 1st September 2016 to 30th August 2017 for a period of one calendar year. Details of cases with diagnosis of Growing Pain were recorded. Appropriate statistical analysis was done using online statistical applications.
Results: The incidence recorded was 2.5 % for the study year. The mean age of the patients was 6.9 years and mean duration of pain was 10.3 months.
Conclusion: Incidence of Growing Pains in the General Pediatric Clinic was 2.5% per year.

Keywords: Growing pains, Incidence, Prevalence.

Introduction

Background and Rationale

Growing Pains (GP) first described by Marcel Duchamp in 1823 is a common and benign condition in children.[1] According to Nelson textbook of Pediatrics GP affects about 10-20% of children between 4-12 years of age.[3] However, the reported prevalence of GP in published literatures range from as little as 2.6 % to 87 % (Table No I). This wide variation in prevalence is mostly due to disparity of sample size age ranges and source of the samples. Also a clear definition of GP was lacking in the initial studies. Most of the recent studies report a high prevalence of GP in the community. Evans et al. from Australia conducted a community based study with optimum sampling using the Peterson's criteria for diagnosis of GP and found the prevalence to be 36.9%

among 4-6 years children.[4] Viswanathan and Khubchandani from India reported prevalence of 28.1% among school children of 3-9 years.[5] Kaspiris and Zafiropoulou from Greece did a retrospective study of children coming to pediatricians for routine checkup immunization or other conditions, and reported a prevalence of 24.5% among them.[6] De Piano et al. did a prospective study among the self-referred cases of lower limb pains in children in a specialized clinic in Brazil and found that 87% of them actually suffered from GP.[7] recently Haque et al. from Bangladesh have done a community based study involving selected schools of a locality and found the prevalence to be 19.3% among children of age 6-12 years.[8]

Table No. 1: Prevalence/ Incidence of GP in published literatures

Author	Year /Country	Prevalence/ Incidence (%)	Sample Size /Source	Age of the study population (Years)
Williams[9]	1928/England	49.4	324/Hospital	8-10
Hawksley[10]	1938 /England	33.6	505/Hospital	4-14
Naish & Apley[11]	1951 /England	4.2	721/Hospital	8-12
Oster & Neilsen[12]	1972/ Sweden	15.5	2178/ School	6-19
Abu-Arafeh[13]	1996 /Scotland	2.6	2165/ School	5-15
Evan & Scutter[4]	2004/Australia	36.9	1445/Community	4-6
Viswanathan[5]	2008/India	28.1	433/ School	3-9
Kaspiris[6]	2009/Greece	24.5%	532/Pediatric Clinic	4-12 (Mean 8.6)
De Piano[7]	2010/Brazil	87%	345/ Self referred patients in a Specialized Clinic	Mean 9.2
Haque et al.[8]	2016/Bangladesh	19.3%	404/Community	6-12

There is no study showing the burden of this condition in a General Pediatric Clinic. Hence this study was undertaken to find out the incidence of GP in a General Pediatric Clinic.

Materials and Methods

This is a cross-sectional study from the period 1st September 2016 to 30th August 2017 (one calendar year) done in a General Pediatrics Clinic in an Urban area. All the patients were seen by the author only. The children complaining about leg pains were thoroughly

evaluated clinically for the Diagnosis of GP with the help of Peterson criteria. The Peterson Criteria includes 'leg pains' which occurs intermittently in the evenings lasting for 30 min to 2 hours in the muscles of calf The data regarding age, sex, address and duration of pain was recorded. The 'total number of patients seen in the clinic in the above period' was found out from the clinic Register. Incidence of GP was calculated. The sometimes anterior thigh muscles, shins and popliteal fossa and affects both limbs and excludes persistent, unilateral pains associated with joint involvement or signs of inflammation or systemic illness.[1,2] Table 2.
Data was entered in a excel sheet and mean, median and mode of the data was calculated using the online calculator Alcula (www.alcula.com) and Stats Direct.

Results Table 2: discussion.

Table 2: Diagnostic Criteria of 'Growing Pains'

Characteristics of Pain	Inclusion criteria	Exclusion Criteria
Frequency and duration of pain	Intermittent pains once or twice per week, rarely daily, totally pain free in between the episodes; individual episodes lasting for 30 min to 2 hours	Pain, that is persisting or increasing in severity with time
Site of pain	Usually in the muscles of calf, sometimes anterior thigh muscles, shins and popliteal fossa and affects both limbs	1. Pain involving joints 2. Pain occurring only in one limb
Time of pain	In the evening and nights	Daytime pain and Nocturnal pain that persists till next morning
Physical examination	Normal	Signs of Inflammation

Table 3: Results of the study of growing pains in a general pediatric clinic

S. No.	Characteristics of the patients with Growing Pains	Findings	Remarks
1	Total Pediatric Patients in Clinic	3408	
2	Children diagnosed to have Growing Pains	86	Incidence 2.5%
3	Mean Age	6.9 Years	SD= 2.239
4	Mean Duration of Symptoms	10.3 Months	SD= 5.843
5	Sex Distribution	Male Female Ratio 55:45	P= 0.45
6	Urban residence	Urban-Rural Ratio 58:42	P= 0.08
7	University Educated Parents	79%	P < 0.001

During the period of 1st September 2016 to 30th August 2017 total number of children attending the clinic was 3408. During the above period, there were 117 cases of 'leg pains' were seen, out of which 86 (73.5%) cases were diagnosed as GP, making it the major cause of 'leg pains' in children. So the incidence was 2.5% for the above period of 1 year. Other causes of leg pains were sickle cell anemia, injury, juvenile rheumatoid arthritis and myalgia associated with fever. As we have already discussed, various community based and school based studies have reported a high prevalence of GP in the community.[4,8] My study is the first study in my knowledge which is done in a General Pediatric Clinic. The low incidence perhaps indicates that many of the GP symptoms are mild and do not prompt the parents to seek medical help. Though community based studies are lacking from our country recent study from Bangladesh shows similar high prevalence (19.3%) in the community.[8] Population and culture of Bangladesh are close to that of ours.

The mean age of the children was 6.9 years (SD 2.239, 95% confidence interval 6.43-7.49) and Median age was 8 yrs. This result is similar to the finding of other studies[4,6,7] Mean duration of pain was 10.3 months (SD 5.843 Median 10). out of 86 cases 39 were females and 47 were males. The difference between sexes was not significant. Only 36 out of 86 cases were from rural background, rest 50 were having urban dwelling, again the urban-rural difference was not significant. However in 68(79%) of cases at least one of the parents was a graduate (p<0.001). This perhaps

reflects the fact that the educated parents seek medical help more often.

This is a clinic based study and does not determine the incidence of GP in the community. Further studies may be undertaken to find out the true incidence of GP in the community.

What this Study Adds: Incidence of Growing Pains in a General Pediatric Clinic is 2.5% per year.

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