

Original Research Article

Cleft lip/ palate and its relationship with socio-demographic factors in 0-15 years old children attending tertiary care centre, Nandyal, Andhra Pradesh, India

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ABSTRACT

Background: Cleft lip with or without (CL) cleft palate and cleft palate alone (CP) are a major public health problem. It is a common developmental and serious birth defects associated with genetic and or environmental factors affecting 1 in every 500 to 1000 births worldwide.

Methods: Objectives is to know the prevalence of cleft lip/ palate in children attending Santhiram medical college – Nandyal. Study design is cross sectional study with study population 137 children. Study was conducted for a period of one year from August 2015 –July 2016. Each respondent were interviewed with pretested and semi structured questioner. The limitation of this study was the sample size. We also need to maintain an accurate database for cleft registrations; systematic record keeping is essential in this area.

Results: 70% of children were in age group of 0-5 years, 13.3% belongs to 6-10 years age group and 16.7% belongs to 11-15 yrs. 64.2% are Boys and 35.8% are girls were effected. 2.1% of uncles and grandparents have similar complaints. 7.4% of parents and 3.7% of siblings has similar complaints. 33.3% has risk factor consanguineous marriage.

Conclusions: Boys were more effected than girl children. 2.1% of uncle's and grandparents has similar complaints. 7.4% of parents and 3.7% of siblings has similar complaints. Majority has risk factor as consanguineous marriage, followed by history of OCP intake, smoking in family, obesity of mother as risk factor and other siblings with similar complaints. Majority has defect on left side.

Keywords: Cleft lip, Cleft palate, Consanguineous marriage

INTRODUCTION

Cleft lip with (CLP) or without (CL) cleft palate and cleft palate alone (CP) are a major public health problem. It is a common developmental and serious birth defects associated with genetic and or environmental factors affecting 1 in every 500 to 1000 births worldwide.^{1,2}

A child is born with a cleft somewhere in the world every 2 minutes according to a WHO study published in 2001.³

In India alone the number of infants born every year with CLP is 28,600, which means 78 affected infants are born every day, or 3 infants with clefts born every hour.⁴

Objectives

The purpose of this study was to find out the incidence of cleft lip and palate in children attending Santhiram medical college-Nandyal, Andhra Pradesh, India.

METHODS

Objectives are to know the prevalence of cleft lip/ palate in children attending santhiram medical college – Nandyal, Andhra Pradesh, India. Study design is cross sectional study with study population 137 children. Study was conducted for a period of one year from August 2015 –July 2016. Each respondent were interviewed with pretested and semi structured questioner. The limitation of this study was the sample size. We also need to maintain an accurate database for cleft registrations; systematic record keeping is essential in this area.

RESULTS

Table 1 showing 70% of children were in age group of 0-5 years, 13.3% belongs to 6-10 years and 16.7% belongs to 11-15 years.

Table 1: Distribution of children according to age.

Age (years)	Number	Percentage
0-5	96	70
6-10	18	13.3
11-15	23	16.7

Table 2 showing 64.2% are boys and 35.8% girls were effected.

Table 2: Distribution of children according to sex.

Sex	Number	Percentage
Boys	88	64.2
Girls	49	35.8

Table 3 showing 2.1% of uncles and grandparents has similar complaints. 7.4% of parents and 3.7% of siblings has similar complaints.

Table 3: Family history with similar complaints

Relation to the effected child	Number	Percentage
Uncle	3	2.1
Grand parents	3	2.1
Parents	10	7.4
Siblings	5	3.7
No	116	84.7

Table 4 showing 33.3% has risk factor of consanguineous marriages, 11.7% has history of OCP intake, 35.8% has smoking in family, 16.8% has obesity of mother as risk factor, 8.8% has risk factor as other siblings with similar complaints.

Table 5 showing 12.4% has defect on right side, 38.7% has defect on left side. 37.2% has defect bilaterally, 11.7% has defect on middle.

Table 4: Distribution of children according to risk factors.

Risk factors	Yes	No
Consanguineous marriage	33.5	66.5
History of OCP's intake	11.7	88.3
Smoking in family	35.8	64.2
Obesity of mother	16.8	83.2
Other siblings with similar complaints	8.8	91.2

Table 5: Side of cleft lip/ palate.

Side of defect	Number	Percentage
Right	17	12.4
Left	53	38.7
Both side	51	37.2
Middle	16	11.7

DISCUSSION

In my study 70% of children were in age group of 0-5 years, 13.3% belongs to 6-10 yrs. age group and 16.7% belongs to 11-15 yrs. 64.2% are Boys and 35.8% girls were effected. In Japanese populations, cleft lip and palate shows a significant male excess.⁵ In white populations, the male excess in cleft lip.^{6,7} In a study conducted by Martelli DRB et al, cleft palate were more frequent in females (28.7% versus 13.6%, 1.77:1), while the cleft lip and palate (59.8% versus 45.5, 1.56:1) and cleft labial (25.7% versus 26.6%; 1.23:1) predominated in males.⁸ There is no sex deference in studies conducted by Ueda et al.¹¹ Girl child are more effected in studies conducted by Natsume et al and Meskin et al.^{12,13} In a study conducted by Yehoshua et al female children are more effected.¹⁴ Kesanda T et al noted a higher frequency of boys, which is in agreement with previous studies.^{16,18,20,22-24} Nutsume N et al noted cleft lip and palate was significantly more common among boys.²⁵ Golalipour MJG et al clefts are more common in males but this result was not statistically significant indicating there is no association between gender and oral clefts.²⁶ This result is similar to other studies in Japan and Tehran, Iran.^{27,28} Natsume N et al cleft lip and palate was significantly more common among boys.³³

In present study 2.1% of uncles and grandparents has similar complaints. 7.4% of parents and 3.7% of siblings has similar complaints showing relation with family history. Lithovius RH et al A family history of clefting was detected in 20.1% of patients. Kesande T et al stated that oro-facial clefts are inherited conditions suggestive of the role of heredity.^{16,17} Similar findings had previously been reported.¹⁸⁻²¹ Nutsume N et al more babies in the cleft group had a family history of clefts.²⁵ Natsume N et al Significantly more babies in the cleft group had a family history of clefts.³³

33.3% has risk factor of consanguineous marriage, 11.7% has history of OCP intake, 35.8% has smoking in family, 16.8% has obesity of mother as risk factor, 8.8% has risk factor of other siblings with similar complaints. In a study conducted by Golalipour MJ et al showed there was also no association between consanguinity and oral clefts but several studies in Pakistan, Tehran, Iran, and South India have reported a significant association between familial matrimony and orofacial clefts.^{26,29-32} A study by Azimi and Karimian in Tehran showed that consanguineous marriage seems to have a significant role ($P=0.02$) in the prevalence of oral clefts³¹.

In present study 12.4% has defect on right side, 38.7% has defect on left side. 37.2% has defect bilaterally, 11.7% has defect on middle. In a study conducted by Nakagi Yet al cleft lip (55.3%) and cleft lip and palate (50.7%) occurred more often on the left side, similar to previous reports according to Hirayama.^{9,10} In a study conducted by Lithovius RH et al left-sided clefts were observed in 82% of patients compared to right-sided clefts in 18%.¹⁴ In a study conducted by Kesande T et al left side of the face was the most commonly affected with oro-facial clefts which is in agreement with previous findings.^{15,16}

CONCLUSION

In present study 70% of children were in age group of 0-5 years. Boys were effected more than girl children. 2.1% of uncles and grandparents has similar complaints. 7.4% of parents and 3.7% of siblings has similar complaints. Majority has risk factor as consanguineous marriage, followed by history of OCP intake, smoking in family, obesity of mother as risk factor and other siblings with similar complaints. Majority has defect on left side (38.7%) followed by bilaterally than right side least is on middle defect.

Recommendations

Preventive approach can be related to two different strategies:

- Education of the population about risk factors and
- Genetic counselling for families (or individuals) at risk.
- The policy makers need to strategically plan for provision of rehabilitation with an obturator to facilitate easy feeding to gain weight before surgical intervention of the affected children.

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