Original Article

Orofacial Defects in Children

Demographic and Social Factors in Relation with Occurrence of Orofacial Defects

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ABSTRACT

Objective: To determine the association of various demographic and social factors and the risk of orofacial defects in the children. To give recommendations to reduce the incidence of various orofacial defects.
Study Design: Observational / descriptive study.
Place and Duration of Study: This study was conducted at the Cleft Hospital (Ayesha Bashir Hospital) and Aziz Bhatti Teaching Hospital Gujrat for a period of six months from July to December 2016.
Materials and Methods: A particular performa was made to interview the parents of the children who presented with these orofacial defects. The patients with minor degrees of defects were excluded from the study. This was not a funded study.
Results: Total number of the patients included in this study was 81out of which ten had cleft lips and ten had palates but 70.07% had both cleft lip and palates. About 49.38% of the fathers were between 25-34 years, very young and old ones did not have these children. However about 71% of the mothers were less than thirty years of the age. Male children were the most affected. Majority of the parents and children belonged to the middle class. Para 2 and 3 were the ones who had these children. Majority belonged to the non hilly and Northern Punjab Pakistan.
Conclusion: The results of this study regarding parental age and orofacial defects were contrary to other such studies, in which advanced parental age was found as a determinant. Similarly increased parity did not have any association, but yet there was an increase after fifth birth of a child, so it is recommended that further studies and bigger samples should be assessed to confirm a positive association.
Key Words: Demographic, Orofacial, Cleft lip, cleft palate, social

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INTRODUCTION

Oral clefts are a heterogeneous group of congenital defects with prevalence of one in in 600-1000 among newborns. It could be syndrome or non syndromic. The different types of the defects are cleft (CL), cleft palate (CP) and cleft lip and palate.

About 70% of all the cases are isolated in such cases non-syndromic involving several genetic and environmental risk factors and then multifactorial threshold model of inheritance, familial recurrence is important in such cases; about six hundred syndromes have already been recognized.

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Mental retardation may be an important association with other congenital defects with chromosomal association the most important. Among them 22q.2 deletion syndrome is important.

Laura L and associates[1] found in their study that children with chromosomal and other structural birth defects are at a substantially increased risk of mental retardation by seven years of age as compared to children born without birth defects. Children with birth defects are especially at an increased risk of having severe mental retardation and mental retardation occurring independently of other developmental disabilities.

The association between demographic factors and occurrence of orofacial defects is important. The various important demographic factors are parental age, the parity of the mother, social status of the parents and the gender of patients.

Daniela and associates[2] in their study concluded that there was an association between the maternal age and increased risk for CLP. They found an important interval of 26-35 years and above 35 years with a reduced risk of CLP, compared to women younger than 25 years of age, however paternal age was not associated.

Camille Belle et al[3] also found in their study that high maternal and paternal age was associated with cleft lip

with or without cleft palate. High paternal but not the maternal age increased the risk of cleft palate only. The same finding of increased paternal age and increased risk of cleft palate was supported by Rigley Fisk in his study.[4]

Andrea Louiza[5] concluded in his study that male gender is the most affected and 0-4 years was the most frequent group. Transincisive foramen cleft type was most frequently encountered. In a similar study Ege Dogan[6] and associates found that among the affected group 49.6% were females and 50.4% males. In male babies left sided complete primer seconder is seen more, in female babies seconder cleft is seen more.

The social status and urban or rural habitat does affect the occurrence of orofacial defects. Prerana Agarwal and associates found in their study[7] that majority 68.4% of their patients came from the rural areas. The distribution of CLAP types differed significantly between rural areas and urban population with the frequency of cleft lip and palate higher in the rural population (p less than 0.05)

P during et al found a positive relationship between orofacial defects and maternal deprivation[8]

The higher the parity higher the risk of birth defects among children. Mohammed Jaffer Gollalipur and others (9, 10) confirmed that high parity is significantly associated with an increased risk of an oral cleft and also the low intake of folic acid.

MATERIALS AND METHODS

This study is a descriptive observational one done for a period of six months during the year 2016 at cleft hospital GT road Gujarat and Aziz Bhatti Hospital affiliated with NSMC Gujrat. The Cleft Hospital specifically caters from the diagnosis of orofacial defects to the surgical and rehabilitation services of such children. A particular Performa was made for the assessment of various demographic risk factors for various types of CL and CLAP and other anomalies. The parents and the attendants were interviewed to collect the data. The patients with very minor degrees of defects were excluded from the study. This study was not funded and the data was analyzed on SPSS 16.

RESULTS

The total no of the patients included in this study was=81. Isolated cleft lip and cleft palate were 10 and 11 respectively, but 74.07 were cleft palate and lip combined. This classification is important regarding the further surgical and rehabilitation therapy. About 49.38% of the children's fathers were between 25-34 years of age however very young and ageing did not father these children. But this was contrary to the mother's age in which about 71% of the patients belonged to the mothers less than thirty years of age.

Total no the patients=81.

Table No.1: The types of the defects who presented in the hospital

Type of the defect	Frequency	Percentage
Cleft Lip	11	13.58%
Cleft Palate	10	12.34%
CLEFT LIP&PALATE	60	74.07%

Table No.2 : Parental age(Maternal and Paternal) in relation with orofacial defects

Age of the father	Frequency	Percentage
More than 25	18	22.22%
25-34	40	49.38%
35-44	18	22.22
45-55	5	6.17
More than55	0	0
Age of the mother		
<18	01	
18-24	30	
25-29	30	
30-34	11	
35-40	08	
41-45	01	
>45	nil	

Table No.3: Gender and parity of the patient and orofacial defects. Total no. of Cases =81

Gender	No of patients	Percentage
Males	47	58.02
Females	34	41.97
Parity	58	55.76%
P1	19	23.45
P2	20	24.69
P3	15	18.51
P4	11	13.58
P5	2	2.46
>P5	14	17.28

Table No. 4: Age at the time of presentation. Ttotal no the patients=81

Age at the time of presentation	Frequency	Percentage
<1 Week	0	0
<1 Month	0	0
1-6 Months	24	29.62
7-12 Months	35	43.20
1-5 Year	19	23.45
>5-10 Years	0	0
>15	0	0

Males were more affected than the female children in this study but the frequency reduced as the parity increased but again there was increase when the mothers were more than Para 5.

Majority of the patients belonged to the middle class,. Majority of the patients belonged to the non-hilly areas and they were from the North Punjab, however this may

be because of the proximity of Gujarat city to these particular areas.

Table No. 5: Social class and residential area of the patients. Total no of the patients=81

Social class	Frequ-ency	%age	Area of the living	Frequ-ency	%age
Upper	0	0	Hilly	16	19.5
middle	61	75.30	Non hilly	65	80.24
Low	20	24.69	Central Punjab	12	14.81
Very low	0	0	Southern Punjab	04	4.93
			North	55	67.9
			Kashmir	10	12.34

DISCUSSION

The various demographic factors do affect the occurrence of the cleft lips, palates, both or other orofacial defects. Most of the times the cleft lips and palates are associated with each other, as was obvious in this study that majority of the children have a combination of these two defects.

Parental age is an important demographic factor in association with orofacial defects. In this study very young fathers were not having these children, however majority of the mothers were less than thirty years of age. Almost the same results were found in his study by Balgir RS that young mothers are at higher risk of getting a child with congenital oral clefts than the older, above thirty years of age[11,12].

However this was contrary to the study by Berg E and associates[13], they found that borderline risk of isolated cleft lip was 1.15 per 1000, the risk increased with the age of both parents with risk estimates of 1.27 per 1000 and higher for children of patients at an advanced stage. The same was supported by Belle C and associates

In their study they concluded that both high maternal and paternal age were associated with cleft lip with or without cleft palate. High paternal but not the maternal age increased the risk of cleft palates only[14]. The same facts were supported in another study[15] that mothers aged forty years or over were 1.56 times are more likely to have a newborn with cleft lip with or without palate compared to those age between 20 and 29 years, no evidence of early maternal or paternal age association was found.

In this it was found that male gender was more associated with the orofacial defects. This was supported by other studies[16,17] in which there was a statistical analysis difference between syndromic and non syndromic groups regarding gender ($p<0.55$) maternal age of 35 years and above($p<0.50$),alcohol, tobacco consumption, consanguinity and recurrence.

The social status of the parents does affect occurrence of the congenital defects because of the lack of education ,underutilization of health facilities, lack of genetic counseling and drugs used in pregnancy.

It was found in this study that middle class was the most affected and none belonged to the upper class. Young et al in their study[18] found that subjects with the lowest SESC(socioeconomic index) had the greatest risk of all selected birth defects TOFs. This study revealed constantly increased risk of selected birth defects with hose hold SES, but not the individual ones.

Regarding the association of parity and orofacial defects ,the incidence of orofacial defects was 23.45% and 24.69 % in para1 and Para 2 respectively, then it decreased and increased after Para 5.

Ana Thereza et al found in their study that there was a significant association between parity (second on ward, maternal smoking and the occurrence of CL and /or palate in this population[19,20].

CONCLUSION

Demographic and social factors do affect the incidence of the orofacial defects in association with genetic, environmental but also independent of these risk factors also. Parental age does affect the development of these defects. It was found in this study that very young parents did not have these children, but in contrast to other international studies high parental age was not associated with such defects. Male gender was the most affected ones were found in other studies. Middle class was the most affected one, however it may be because of the health seeking behavior also. High parity is another factor which may be associated with the occurrence of the orofacial defects, but was not supported by this study, because majority of the mothers were Para two and three however the incidence increased after Para five. It is suggested that further studies with bigger samples and these factors independent of the other risk factors should be studied.

Conflict of Interest: The study has no conflict of interest to declare by any author.

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