

How Low Socioeconomic Status during Pregnancy Causes Orofacial Clefts in Newborns

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ABSTRACT

Aim: The environmental factors like low socioeconomic status during pregnancy effects the health of fetus and causes orofacial anomalies.

Study design: The study was Convenient Sampling and Case control.

Time span and site of study: The data was collected from Pak Red Crescent Medical & Dental College and Arif Hospital, Kasur from January 1st 2017 to Dec 31, 2019.

Method: sampling technique was case controlled and convenient sample size was 100 Oro facial Clefts (Cleft Lip and Palate) in infants not more than six months age, in designated institute of district Kasur with expertise of managing clefts. Mothers were asked questions according to questionnaire in 1st three month of pregnancy, socioeconomic status of family, visit of mother during pregnancy Antenatal care to health professional, medical department to find any other disease and ultrasound for early diagnosis of any anomaly

Results: Low socioeconomic status of family during pregnancy &, not affording to visit health care professional for antenatal care has contributory role to cause orofacial clefts due to nutritional problems and prone to infection and Never.

Conclusion: Family with low income are prone to numerous health problems including fetal anomalies like orofacial clefts due to multiple reasons.

Keywords: Orofacial Clefts, Environmental factors (Low socioeconomic status, Antenatal care ultrasonography)

INTRODUCTION

Poverty can enhance the adverse outcome of pregnancy, though it effects indirectly but it effects pregnancy in multidimensional manner^{1,2}. During pregnancy mothers need prenatal visit to health care system. In antenatal visit routinely blood pressure is checked, weight is recorded, diabetes is excluded, and growth of fetus is screened by ultrasound examination.

Mothers from low socio-economic group are at risk & need more antenatal care.⁴ Ultrasound is a non-invasive procedure which is needed to detect any fetal anomaly. Early diagnosis and prompt treatment is back bone of public health and ultrasonography is a routine procedure for early diagnosis of anomalies.⁵

A pregnant mother, from low socioeconomic status does not visit the doctor or pays less antenatal visits as compared to well off family. As a result of lack of antenatal visits, things like blood pressure and diabetes are missed which lead to anomalies like orofacial clefts. The important thing is nutritional advise &, recommendations for medical supplements like folic acid, iron and multivitamins are not taken.⁶ The deficiency of folic acid cause neural tube defect and non-closure of neural tube lead to orofacial defect like cleft lip and palate.⁷

A new born with CLP may have numerous issues and one of these is troubled to take milk. A newborn Having CLP feeds at slow pace and milk regurgitate from

nasal cavity. Difficulty in speaking come up as a a common complaint. Some Jaw the teeth are absent or with additional denticals. Intellectual status is important and it becomes difficult for little one to tune with fellowship. Infant having CLP required lengthy therapy starting from birth to childhood.⁸

Low socioeconomic status mother may be not literate and could not care her abnormal baby properly, malnutrition and infection problems are there and a vicious circle of disease may start.⁹ little ones having CLP or anxious about the disability if not cared properly.¹⁰

Defective hearing, pronunciation, ugly, looking face can cause prolong consequences. Care needs finances, hence Socioeconomic status afflicts new born even after delivery.¹¹ If clefts are diagnosed early during antenatal visit and repaired early during infancy, little one can be protected from civilized provocation.¹² Smoking and alcohol intake in pregnant females is another risk factor for cleft palate.¹³ Anomalies in little ones range as high as 63.4% to as low as 4.3%. Skeletal anomalies are 13% and cleft palate is 47%.¹⁴ Folic acid is taken in early twelve weeks of pregnancy, protect anomalies.¹⁵ Central nervous system & skeletal system anomalies are common.¹⁶ Associated abnormalities are 22% in pre mature new born.¹⁷ Twenty four percent anomalies of CVS and 15% others were seen in study at Sweden.¹⁸ In all causes of anomalies low socioeconomic status is a contributory factor.¹⁹

A study conducted at Karachi Pakistan it was noted that women having household income of so rupees also smoke more cigarettes and huqqa, which is a risk factor for pregnancy outcome.²⁰

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MATERIALS AND METHODS

Study Settings: Little one visiting PRCM&DC and Arif hospital with age of two six months were examined and history was taken from mother

Interview: Mothers were asked question about family income and antenatal nutritional history.

Data analysis: SPSS, 20.00 95% confidence intervals Odds Ratio was estimated and duration of exposure was described by Mean USD.

RESULTS

Maternal socioeconomic status has been contributory factor, though, not directly with cleft lip and palate.

Monthly Income of Families of Cases and Controls: The income range of 85% families of cases is between 12000 - 16000 Rupees per month, whereas 15% families, of cases have income range between 18000 - 30000 Rs per month. Nine percent families of control group has income range between 1200 - 16000 Rs per month and 91% families has income range between 18000 - 30000 Rs per month. This shows that relatively low socioeconomic status has some contributory role in CLP. Low income pregnant mothers may have nutritional problems and prone to infection and fever.

Table 1:

| | Cases | Controls |
|-------------|---------|----------|
| 12000-16000 | 85(85%) | 45(9%) |
| 18000-30000 | 15(15%) | 455(91%) |
| Total | 100 | 500 |

Antenatal History of Mothers (Cases & Controls): There were 35 patients whose mother told that during their pregnancy visited doctor/lady doctor/nurse. Mothers of cases are 12.65 times more likely to deliver babies with CL and palate as compared to mothers of control. There is significant association between antenatal history and subjects ($P > 0.05$). In antenatal visit doctor advises some extra diet and also prescribes multivitamins and folic acid which is protective factor for orofacial clefts.

Chi-Square Test= 134.5

p-value= 0.000

Odds Ratio= 12.65

Table 2:

| | Group | |
|-------|-------|----------|
| | Cases | Controls |
| Yes | 35 | 436 |
| No | 65 | 64 |
| Total | 100 | 500 |

DISCUSSION

Environmental factor as low socioeconomic status is contributory sector in development of CLP¹⁸. The income range of 85% family OT cases was 12000-18000 Rs per month and 15% family income range was 18000-30000 Rs per month, and in control it was reverse 91% family income rang was 18000-30000 and 9% family income was 12000-18000 Rs per month. This shows low socioeconomic status has some contributory role in orofacial clefts. In this study there were 35 cases whose mother told that during

pregnancy they visited health care professional Tar prenatal visit.. Mothers of cases were 12.65 time more likely to deliver babies with orofacial clefts as compared to control there was significant association between antenatal history and anomaly. Low socioeconomic status and antenatal visits are interlinked with each other which contribute orofacial clefts because mother is unaware to take folic acid and additional diet and multivitamins.

CONCLUSION

Low socioeconomic status is a contributed factor of CLP in this area. This study will help in health planning and awareness.

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