

Frequency of Low Birth Weight Babies and Scio-Economic Status among the Mothers of Karachi

Low Birth Weight Babies and Scio-Economic Status among Mothers

Tafazzul H Zaidi, Faheem Ahmed and Kiran Mehtab

ABSTRACT

Objective: To access the effects of Scio-economic factors on the low birth weight of the baby.

Study Design: Descriptive / cross sectional study

Place and Duration of Study: This study was conducted at the OPDs of National Institute of Child Health, Karachi from March 2018 to July 2018

Materials and Methods: The sample size of 104 mothers was drawn through non-probability purposive sampling technique. A self-administered structured questionnaire was constructed. Data was collected through the structured questionnaire. Pilot study was done to check the authenticity of questionnaire. Data was entered and analyzed on statistical package for social sciences (SPSS version 20) with 95% confidence interval and 5% margin of error. P-value less than 0.05 was considered statistically significant.

Results: 104 women who gave births to low weight babies participated in this research. All the women were multipara. 68.3% went through normal vaginal delivery. 72.1% women had monthly family income below 10,000 PKR. 30.8% of the women had 6 family members, it was found that women living in rural areas had more family members (72.8%) women living in rural areas had 10 or more family members. 43.3% had taken inter pregnancy interval of 1 year or less. 76% of the women delivered at hospital. 77.9% of the mothers were anemic during their pregnancy. When asked about any, 78.8% women had clinical visited during pregnancy. 58.9% of women did not increase their meals during pregnancy. 28.8% pregnant women took milk once in a week & 39.4% used to take milk once in a month. 53.8% of women used to eat meat once in a week and 31.8% consumed meat once in a month. 76.9% of women replied in negative for HTN, 96.2% of mothers replied in negative for diabetes and 90.4% didn't had TB during last 2 years. 94.2% of women didn't smoke. 40.4% of mothers had delivered low weight babies previously. Results showed that 68.3% women who gave birth to LBW baby were married at the age of 18 years or below. Results also showed that 77.9% were anemic during pregnancy. 51.9% women didn't increase their meals during pregnancy. 62.5% women had consanguineous marriage.

Conclusion: A holistic approach is needed to address the issue of early marriages in our society and strong actions are needed to be taken to spread the awareness of good antenatal care in the mothers.

Key Words: low, birth, weight, economic, status, marriage, nutrition

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INTRODUCTION

One of the important criteria for healthiness and well-being of children is growth status and growth pattern¹. The analysis of growth patterns and the detection of aberrant growth patterns provide crucial information for the detection of pathologic condition. So growth and maturation of children is sensitive index of health and is influenced by many factors^{2,3}.

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Low birth weight (LBW) is introduced as a birth weight of a live born infant of less than 2,500 gram⁴. Some low birth weight babies are healthy, even though they're small. But being low birth weight can cause serious health problems for some babies. Low birth weights outcome of multi factorial factors like wise conditions affecting maternal health as chronic pathologies high blood pressure, diabetes and heart, lung and kidney problems other conditions like preterm labor ,infections, smoking, alcohol⁵ and last but not the least women of low socioeconomic status which are at increased risk for delivering low birth weight babies due to poor nutritional status and lesser care during pregnancy, these all conditions can lead to LBW by causing either of these conditions. Premature birth is defined as birth before 37 weeks of pregnancy and fetal growth restriction. The clinical impression is that LBW children are often underweight and shorter than expected even when corrected for gestational age.⁶ Babies born with low birth weight may be more likely

than babies born at a normal weight to have certain medical conditions later in life. These include high blood pressure, diabetes and heart disease⁷. The focus of public health authorities on low birth weight has been justified for a number of reasons. Firstly, at the individual level, reduced birth weight is an important risk factor in infant mortality; those born with a weight of less than 2,500 grams are at a greater risk of dying within first year of their life whether socioeconomic status is defined by income, occupation, or education. Education may also have independent effects, above and beyond income, because more highly educated mothers may know more about family planning and healthy behaviors during pregnancy. Effects of social factors on the growth rate of children were presented for the first time. They observed urban children were taller and grow faster than rural peers⁸ and Studies revealed that large number of social-economic variables is associated with the physical development of children. These variables are consisting of parental profession, income, education birth order, family size, and urbanization^{9,10}. In this study, we determine the association between low birth weight and socioeconomic status so that in future we can prevent poor fetal outcomes due to low birth weight.

MATERIALS AND METHODS

A descriptive cross-sectional study was conducted at OPDs of National Institute of Child Health OPDs in Karachi from March 2018 till July 2018. A total of 104 participants were taken and the targeted population was mothers of newborns babies with low birth weight. The technique applied for the sampling purpose was a non-probability convenience sampling. The inclusion criteria were all mothers who gave birth to low birth weight babies and the exclusion criteria were language barrier and non-respondents. Self designed questionnaires containing 30 close ended questions were used for data collection by personal interviews and the main variables were family income, age below 18 at time of marriage, gap between present and previous child and increased no of meals during pregnancy. SPSS version 20 was used to analyze and calculate frequency and percentages for categorical variables, mean and standard deviation for numerical variables and chi square was taken to establish an association between the categorical variables. P-value of < 0.05 was taken as statistically significant

RESULTS

104 women who gave births to low weight babies participated in the research. All the women were multipara. Majority of women 68.3% went through normal vaginal delivery, whereas 23.1% and 8.7% had had c section and instrumental delivery respectively. Majority of the mothers belonged to poor families. 72.1% women’s monthly family income was below

10,000 PKR. 20.2% of the women had 4 members, 30.8% had 6, 19.2% had 8, 14.4% had 10 and 15.4% had more than 10 members in their family. 72.8% women living in rural areas had 10 or more family members. 43.3% had taken inter pregnancy interval of 1 year or less and 28.8% had taken interval of 2 years or less whereas 14.4%, 2.9% and 10.6% had had intervals of 3, 4 and more than 4 respectively. Most of the women delivered at hospital (76% deliveries at hospital and 24% deliveries at home).77.9% of the mothers were anemic during their pregnancy. 78.8% had had clinical visits during pregnancy.

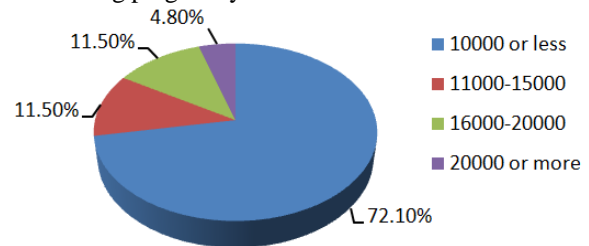


Figure No.1: Frequencies of family income of the participants

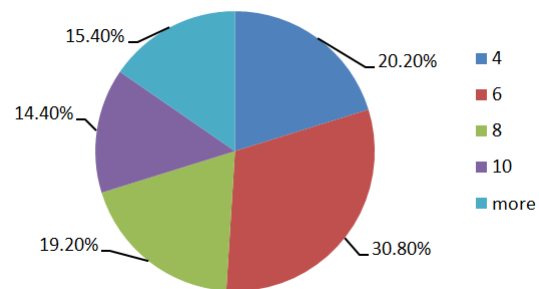


Figure No.2: Frequencies of number of family members of women

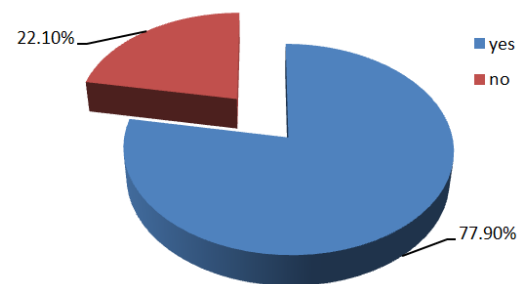


Figure No.3: Frequencies of mothers who suffered from anemia during pregnancy

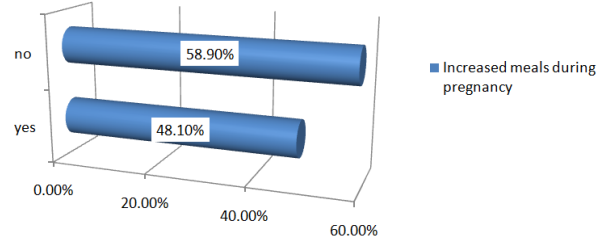


Figure No.4: Frequencies of mothers who increased meals during pregnancy

The diet also played a part in low weight babies as 58.9% of women did not increase their meals during pregnancy. 31.7% of the mothers used to take milk regularly while 28.8% & 39.4% used to take milk once in a week and once in a month respectively. Similarly 14.4% of women used to eat meat daily whereas 53.8% and 31.8% consumed meat once in a week and once in a month respectively. 76.9% of women replied in negative for HTN, 96.2% of mothers replied in negative for diabetes and 90.4% didn't had TB during last 2 years. 94.2% of women didn't smoke. The past obstetric history did affect these pregnancies as 40.4% of mothers had delivered low weight babies previously. 51 out of 71 mothers who got married at/below the age of 18 were also anemic during pregnancy and 38.5% of the total women (40 out of 104) were those who got married at or below the age of 18 years and had done consanguineous marriages.

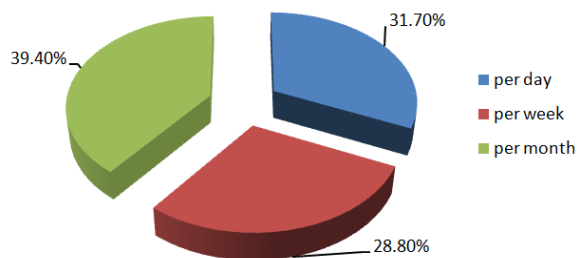


Figure No.5: Frequencies of milk intake of women during pregnancy

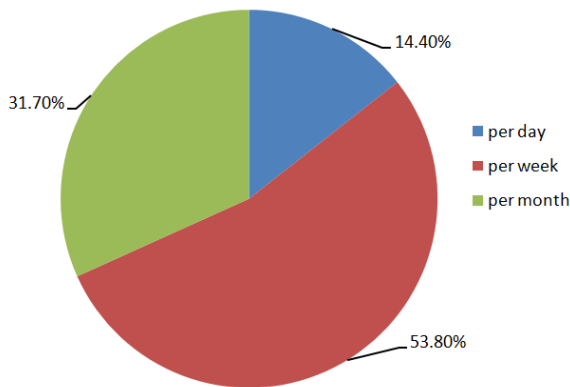


Figure No.6: Frequency of meat intake of women during pregnancy

DISCUSSION

The causes Of LBW have been the focus of a vast number of investigations over the last few decades. The effect of socioeconomic disadvantage on low birth weight has been well established^{11,12,13}. The study demonstrates effect of many factors on birth weight mainly including family income, no. of family members, parity, small age at the time of marriage, anemia during pregnancy, diet during pregnancy, inter pregnancy intervals and previous low weight deliveries. The problem is most common among poor families as the family income of majority of the mothers (72.1%)

was below 10,000 PKR. This result is consistent with the previous research which states thatas the median family income of an area decreased its percentage of low birth weight increased¹⁴.

All of the women were multipara. Inter pregnancy interval and previous low weight deliveries seemed to affect the birth weight in decent amount as 43.3% (n=45) had taken intervals of 1 year or less and 40.4% (n=42) had given birth to low weight deliveries previously. This is comparable to previous researches that reported that low inter pregnancy interval is associated with poor fetal outcomes including low birth weight.¹⁵

Despite the fact that nutrition requirement is increased during pregnancy majority of the mothers didn't increase their meals during their pregnancy that might have led to low weight newborns. Maternal nutrition effect on birth weight has been reported in many studies¹⁶.

Past studies show that Blood Pressure during gestational age is strong risk factor for LBW¹⁷. However the relationship between hypertension and low weight of newborn wasn't convincing as 96.2% weren't hypertensive. This could be due to short number of participants in the study or HTN could have gone undiagnosed. However most of the women (77.9% n=81) were anemic during their pregnancy which proves anemia during pregnancy as one of the most important culprits for low birth weight. Low birth weights in anemic women have been reported in several studies^{18,19}.

Ironically the rate of consanguineous marriages in these mothers of low weight babies was high, as 62.5% of the women got married to their cousins. It is difficult to explain the reason for this surprising finding that we collected but it is certainly an interesting prospect for future research. Secondly there was found to be a relation between consanguineous marriage and early marriage as 38.5% of women were those who got married at 18 years or below of age and did consanguineous marriage. So, consanguineous marriage could be one of the main reasons for early marriage.

Consistent with another research which reported that as the social area deteriorated, the incidence of mothers at risk for low birth weight on the basis of being less than 17 years of age and on the basis of inadequate prenatal care increased.²⁰ our study also showed that out 75 mothers whose monthly family income was less than 10,000 PKR, 52 got married at the age of 18 or below.

Many studies have been conducted relating maternal smoking and low weight newborn stating that cigarette smoking during pregnancy is a strong dose-dependent risk factor for LBW^{21,22}. But we were unable to find this association as most of mothers didn't smoke during pregnancy.

Finally, there are a few limitations of this study. Firstly the participants belonged to different races, a factor which was excluded and second was the language barrier in many patients which might have influenced the study.

CONCLUSION

Socioeconomic factors do affect the pregnancy outcome with disadvantageous factors like lack of education, low family income, and more no. of family members leading to low weight of the newborn. Women belonging to poor families are more likely to be anemic during their pregnancy and this is in part due to lack of prenatal care. Women getting married at younger ages are prone to deliver low weight babies and the risk of being anemic during pregnancy in these young mothers is also elevated. Therefore a holistic approach is needed to address the issue of early marriages in our society and strong actions are needed to be taken to spread the awareness of good antenatal care in the mothers.

Author's Contribution:

Concept & Design of Study: Tafazzul H Zaidi
 Drafting: Faheem Ahmed
 Data Analysis: Kiran Mehtab
 Revisiting Critically: Tafazzul H Zaidi,
 Faheem Ahmed
 Final Approval of version: Tafazzul H Zaidi

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

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