OBJECTIVE: To enlist the risk factors of low birth weight among low birth weight newborns admitted in Pediatric Ward of Sheikh Zayed Hospital.

STUDY DESIGN: A Cross sectional study.

PLACE AND DURATION: This study was conducted from 5th to 30th January 2015, in Pediatric Ward of Department of Sheikh Zayed Hospital, Rahim Yar Khan.

METHODOLOGY: Convenient sampling technique, with all the consecutive low birth weight babies, admitted in pediatric ward, during study period, were included. Data collection: Mothers of 56 low birth weight babies admitted in pediatrics ward were interviewed and data analyzed.

RESULTS: Mean age of mothers was 25±5 years; median family income 10000 Rs, weight of newborn, 1.8±0.4 kg. It was found that 94% babies were premature, 59% mothers were illiterate; 36% fathers were illiterate. Overall 75% belonged to rural areas, 32% mothers were hypertensive and 59% mothers were anemic. We found that 48% had drug history and 64% belonged to Saraiki ethnicity.

CONCLUSION: This study enlisted prematurity, low maternal and paternal education, maternal anemia, less duration birth spacing, rural residence, long distance from health facility were main risk factors found among low birth weight babies admitted in pediatric ward of a tertiary care hospital.

KEY WORDS: Low birth weight, Risk factors, Prematurity.

INTRODUCTION

Low birth weight (LBW) a phenomenon which is multifactorial in origin and defined as a birth weight less than 2500 g, remains a significant public health problem in many developed parts of the world and is associated with a range of both short- and long-term adverse consequences. LBW contributes considerably to neonatal, infant and childhood mortality as well as to morbidity. Infants born with LBW have comparatively high rates of ailments and mortality from infectious disease, malnutrition and are also more likely to have abnormal cognitive development, neurological impairment and poor school performance. The overall public health importance of LBW is determined not only by the risks for subsequent morbidity and mortality, but also by how frequently it occurs. In Pakistan, LBW babies prevalence ranges from 5% to 32% as reported in different studies. Pregnancy complications, prolonged gestation, infection, malnutrition, and socio-economic factors are key risk factors for LBW. Chronic illnesses, gestational age, intrauterine growth retardation (IUGR), infant sex, racial/ethnic origin, maternal height, pre-pregnancy weight, maternal birth weight, parity, history of prior low-birth-weight infants, gestational weight gain and caloric intake, general morbidity and episodic illness, malaria, cigarette smoking, alcohol consumption, anemia, stress and anxiety. Pakistan has high infant mortality and morbidity indicators. The underlying causes may be from diverse background reasons. Low birth weight is one of these factors leading to high mortality among children. So current study was planned to enlist the underlying causes of low birth weight among newborns admitted in pediatric ward of Sheikh Zayed Hospital, Rahim Yar Khan, with the aim to suggest intervention to control this condition among new borns.

METHODOLOGY

A total of 56 children of low birth weight who were admitted in pediatric ward during study period were included by using convenient sampling technique. This Cross sectional study was conducted in Pediatric ward of Sheikh Zayed Hospital Rahim Yar Khan from 5th to 30th January 2015. Study subjects were Low birth weight (less than 2500 gm) children admitted after birth in pediatric ward. Inclusion Criteria Combine of Low birth weight (less than 2500 gm of weight) of either sex and admitted on date of delivery. Exclusion criteria: We were Mothers not willing to participate or not present at the time of data collection. Data was collected from mothers of low birth weight babies after getting informed verbal consent. Institutional Review Board of this College gave permission to conduct this study. The study variables included age of mother, gravida, parity, gestational age, birth weight, weight gain, smoking, alcohol consumption, anemia, stress and anxiety. Data analysis: The data was entered in SPSS version 16 and numerical variables like age, number of children, monthly family income, and number of antenatal visits were presented as Mean ± Standard deviation, whereas qualitative variables like anemia, mode of delivery, education were presented as percentages.
RESULTS

A total of 56 mothers interviewed of included in this study.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>Median</th>
<th>Mode</th>
<th>Standard deviation</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age of mother</td>
<td>26</td>
<td>25</td>
<td>30</td>
<td>5.7</td>
<td>14-40</td>
</tr>
<tr>
<td>Family income</td>
<td>14687.5</td>
<td>10000</td>
<td>5000</td>
<td>16873</td>
<td>3000-10000 **</td>
</tr>
<tr>
<td>Age at marriage</td>
<td>20</td>
<td>19</td>
<td>18</td>
<td>4.97</td>
<td>12-34</td>
</tr>
<tr>
<td>Gravida</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1.8</td>
<td>1-8</td>
</tr>
<tr>
<td>No of children</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1.39</td>
<td>1-6</td>
</tr>
<tr>
<td>Time since last child birth</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1.87</td>
<td>1-9</td>
</tr>
<tr>
<td>Duration of pregnancy (weeks)</td>
<td>34</td>
<td>34</td>
<td>36</td>
<td>2.88</td>
<td>28-38</td>
</tr>
<tr>
<td>Ante natal visit</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>3.1</td>
<td>0-13</td>
</tr>
<tr>
<td>Distance from nearest health facility (km)</td>
<td>31</td>
<td>20</td>
<td>5</td>
<td>34.57</td>
<td>1-200</td>
</tr>
<tr>
<td>Weight of newborn</td>
<td>1.8</td>
<td>2</td>
<td>2</td>
<td>0.43</td>
<td>0.8-2.4</td>
</tr>
</tbody>
</table>

** No, 14687 falls in between the range, i-e 3000-10,000

Table - I shows that mean weight of newborn was 1.8±0.4 kg, mean age of mothers was 25±5 years, mean family income was 14687±16000 Rs, median was 10000 Rs, mean age of mother at marriage was 20±5 years, mean gravida was 2±1, mean number of children was 2±1, and mean duration of pregnancy was 34±3 weeks.

In our study half (50%) of newborn were male, 58.9% mothers were anemic, 48% mothers have had a drug intake history for some disease, 73.2% mothers used to take iron and folic acid, 54% were normally delivered whereas, 46% were delivered by cesarean section. It was noted that 78.6% LBW babies were delivered by doctors, 17.9% by midwife/dais and 3.6% by Lady Health Visitor. It was noted that 75% were belonging from rural area as compared to 25.5% from urban.

DISCUSSION

This study was conducted to enlist risk factors of low birth weight among children admitted in pediatrics ward of sheikh Zayed Hospital, Rahim yar Khan. Our study showed that, mean age of mothers was 25±5 years, duration of pregnancy was 33±3 weeks, number of antenatal visits, 4±3 and distance from nearest health facility (km), 31±34, median was 20 km. A previous study reported, birth spacing <36 months, maternal height 145cm, pre-delivery weight of 55 kg, pregnancy weight gain of 6 kg, exposure to tobacco, inadequate antenatal care, maternal hypertension, low socio-economic status, maternal anemia and less maternal education were associated with delivery of a low birth weight infants. They reported risk factors as; birth spacing in months, 26.42, mother age (years) 23.19, anemia 52.2%, hypertension, 23.4%, inadequate ANC, 62.4%, below poverty line 47.4%, tobacco exposure, 26.6%, maternal illiteracy, 27% and paternal 20.6%. However, in contrast, as far as education is concerned, our study showed that 58.9%
mothers were illiterate and 35% fathers were illiterate, only one mother has history of smoking and 59% were anemic. In a previous study, overall mean birth weight was found to be 2.64±0.444 with 95% confidence interval of 2.59-2.69. This is in contrast to our study where mean new born weight was 1.8±0.4 kg. In their study, primigravida mothers showed the highest prevalence of low birth weight (30.86%, p< 0.001). The main factors which were significantly associated with LBW were maternal education, stature, age at delivery; short inter pregnancy interval, inadequate antenatal care, and per capita income of family.

In our study male and female ratio of newborn was found to be 1:1 but in a previous study it was found that proportion of LBW was 32.59% in males and 36.37% in females; however this difference was not found to be statistically significant.

Our study showed that 75% mothers belonged to rural areas. This is also shown in a previous study which reported that contextual factors were significantly associated with LBW. Being a rural dweller increased the likelihood of having a LBW infant by 43% while living in poverty-concentrated communities increased the risk of having a LBW infant twofold. In neighborhoods with a high coverage of safe water supply the odds of having a LBW infant reduced by 28%.

Our study showed that 32% mothers are hypertensive, 1.8% mothers were smokers, and while in a previous study reported hypertension in 23.4% mothers and tobacco exposure in 26.6% mothers. In that study, they reported 62.4% mothers had inadequate antenatal care, however, our study showed that median number of antenatal visits was 1.

Our study reported that 73.2% mothers used to take iron and folic acid and 78.6% LBW babies were delivered by doctors however a previous study reported antenatal care provided by doctor of 83.6 mothers and daily iron intake of 67.1% mothers.

Our study showed that 53.6% LBW babies were normally delivered. This is also consistent with a previous study which showed that 43% were normally delivered.

Our study showed that 94% of the new born were premature. This is in contrast to a previous study which showed that only 26% new born were premature. Prematurity was the largest single cause of death in children under five in 2013, as reported by WHO. High proportion of premature newborns as reported in our study is partly consistent with WHO findings as prematurity may ultimately be adding to overall mortality pattern among under five. A study reported anemia among 12% mothers and a gap of <1.5 years among 11% of mothers. However, in our study mean duration of gap was 2±1 years and anemic mothers were 58.9%.

CONCLUSION

Our study enlisted prematurity, low maternal and paternal education, maternal anemia, less duration birth spacing, rural residence, long distance from health facility were main risk factors found among low birth weight babies in pediatric ward of a tertiary care hospital.

It is suggested that health education programs should focus on addressing the risk factors found in our area and a larger study with objective of determining the association of risk factors with low birth weight may be conducted.

ACKNOWLEDGMENT

We appreciate the efforts of students of Sheikh Zayed Medical College, Rahim Yar Khan who helped us in data collection and data entry.

REFERENCES