Effect of maternal education on birth weight of tribal and non-tribal Newborns of Udaipur district

Dr. Neha Vijay

Abstract

Introduction: The level of literacy among tribes of Rajasthan is extremely poor, particularly in case of females. As such, the infant & child mortality rate in tribes is comparatively much higher than the average mortality rate.

Material & Methods: 1422 Newborns (680 tribal and 742 Non-Tribal) were included in this study, delivered at Government health institutes of Udaipur district”, at Pannadhay Ward of Maharana Bhopal Government Hospital of RNT Medical College and Hospitals.

Aims and Objectives: To find out the relationship between the Newborn’s Birth Weight and Maternal literacy, if any exists.

Conclusion: Weight of Newborns belongs to Illiterate mothers was significantly lower than the newborns belong to higher educated mothers.

Keywords: Birth weight and literacy

Introduction

Foetus not only spends its time but also gets nourished in mother’s womb; as such Anatomical and Physiological changes occur in the body of a mother during pregnancy to create a suitable environment for the growth of foetus. The level of literacy among tribes of Rajasthan is extremely poor, particularly in case of females. As such, the infant & child mortality rate in tribes is comparatively much higher than the average mortality rate. Antenatal care is either not available or not availed by half of the tribal mothers during their pregnancy by the virtue of customary practices or their ignorance about importance of the same. Below average Body Mass Index in majority of tribal women, represents higher nutritional deficiency resulted in malnutrition infants and that’s why this study is an attempt to focus on anthropometrical issues of tribal women and their newborns.

Material & Methods

Cross sectional study was conducted in the Department of Anatomy, RNT Medical College and Hospitals, Udaipur, Rajasthan, India. 1422 Newborns (680 tribal and 742 Non-Tribal) were included in this study, delivered at Government health institutes of Udaipur district”, at Pannadhay Ward of Maharana Bhopal Government Hospital of RNT Medical College and Hospitals.

Incl Incusion/ Exclusion Criteria

(A) Inclusion criteria
- All the singleton pregnancy without any maternal comorbidity affecting newborns anthropometry.
- Mother should be native resident of Udaipur district willing to participate in this study.
- Patient who was able to cooperate for the study.
- Patient who was able to communicate and understand the nature of question
- Booked patient along with antenatal card.

(B) Exclusion criteria
- All twin babies

Correspondence

Dr. Neha Vijay
Government Medical College, Dungarpur, Rajasthan, India
- Intrauterine death & still born babies.
- Newborns with gross congenital anomalies.
- Newborns born to mother with condition likely to influence fetal growth i.e. hypertensive disorder of pregnancy, gestational diabetes mellitus, chronic infections and illness will be excluded.
- Newborns whose gestational age would not be assessed i.e. greater than 2 weeks difference between obstetrical and clinical assessed Gestational Age.

- Mother taking treatment which is likely to affect fetal growth

Birth weight was taken from hospital record/admission ticket.

**Result & Discussion**

<table>
<thead>
<tr>
<th>Literacy of Mother</th>
<th>Weight of Newborn in Non-tribal subjects</th>
<th>Weight of Newborn in Tribal subjects</th>
<th>Weight of Newborn in All Study subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Illiterate</td>
<td>49</td>
<td>2770</td>
<td>480</td>
</tr>
<tr>
<td>Primary</td>
<td>81</td>
<td>2640</td>
<td>504</td>
</tr>
<tr>
<td>Middle</td>
<td>116</td>
<td>2760</td>
<td>411</td>
</tr>
<tr>
<td>Secondary</td>
<td>136</td>
<td>2770</td>
<td>437</td>
</tr>
<tr>
<td>Senior Secondary</td>
<td>133</td>
<td>2730</td>
<td>422</td>
</tr>
<tr>
<td>Graduation</td>
<td>121</td>
<td>2850</td>
<td>387</td>
</tr>
<tr>
<td>Post Graduation</td>
<td>106</td>
<td>2910</td>
<td>439</td>
</tr>
<tr>
<td>Total</td>
<td>742</td>
<td>2780</td>
<td>439</td>
</tr>
</tbody>
</table>

11.352, (6, 1421) p-value <0.001

Above table shows relationship between Literacy of Mother and Weight of Newborn in Non-tribal and Tribal subjects.

In this study, the relationship was found statistically significant as weight of newborn was found increased as high as maternal literacy.

![Graph 1: Relationship between Literacy of Mother and Weight of Newborn](image)

**Graph 1: Relationship between Literacy of Mother and Weight of Newborn**

**Relationship between Literacy of Mother and Weight of Newborn**

It is observed that Birth Weight variably increases with the high literacy level in mothers of all study subjects including non-tribal and tribal. Weight of Newborns belongs to Illiterate Mothers was significantly lower than the newbons belongs to higher educated mothers as shown in Table - 1. This study is consistent with the study of Rafati S *et al* (2005), who observed that as the education increases, the chance of delivering LBW neonates decreases. No doubt, educated mothers have a better reproductive behaviour. Matin A *et al* (2008) also observed “most of the LBW 50% came from the mother without education but in NBW group 37% came from the mother completed primary education and 53% from mother who completed secondary level or above. These data showed significant relationship between LBW and poor educational status”. Geeta *et al* (2014) also observed linear trend with regard to maternal education. Increasing education status was related to an increase in the Birth Weight. On the other hand Eltahir M *et al* (2008) observed that the duration of maternal education does not significantly affect the risk of LBW. Kheir AEM *et al* (2013) also observed the same.

**Conclusion**

The relationship between literacy of mother and weight of newborn in non-tribal and tribal subjects, was found statistically significant as weight of newborn was found increased as high as maternal literacy. Weight of Newborns belongs to Illiterate mothers was significantly lower than the newbons belong to higher educated mothers.

**References**

1. Eltahir M, Schmalisch E, Schmalisch G. The effect of maternal anthropometric characteristics and social factors on Gestational Age and Birth Weight in...
