



## **Risk Factors Associated with Low Birth Weight Infants Born in Elazig, Eastern of Turkey**

***Ercan ATESSAHIN<sup>1</sup>, \*Edibe PIRINCCI<sup>2</sup>***

1. Board of Health, Family Health Center, Tunceli, Turkey
2. Dept. of Public Health, School of Medicine, University of Firat, Elazig, Turkey

**\*Corresponding Author:** Email: edibepirincci@yahoo.com

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### **Dear Editor-in-Chief**

The aim of this study was to determine the rate and risk factors for low birth weight (LBW) in the all hospitals at Elazig, a city in eastern Turkey. This cross-sectional and descriptive study is carried out between December 1, 2010 and February 28, 2011. The study involved 802 babies who were born in the obstetrics and gynecology units of these seven hospitals. The weight and height of the participating infants were also measured in a standardized manner using the same brand of scale devices and same brand of length measuring tools. The mothers' responses to the questionnaire were recorded and assessed.

The age of the participating mothers was  $27 \pm 5.46$  years. The percentage of low birth weights in our research was 10.7%. For mothers who never attended school the percentage of low weight births was 18.8%, whereas for mothers with high school level or higher education this percentage was 8.9%. The rate of low birth weight falls as the educational level of the parents rises ( $P < 0.005$ ). The rate of LBWs for mothers who gained less than 9 kg during their pregnancy was 4.42 times higher than that of mothers who gained more than 9 kg (Table 1).

The fact that low maternal weight gain causes LBWs has been known since the 1970s (1). Our study also showed that a maternal weight of less than 50 kilograms before pregnancy affects birth

weight. Maternal low weights (<50 kg) before pregnancy are known to increase the risk of LBW significantly (2). We observed in our study that smoking (OR 3.18) or passive smoking (OR 2.14) during any period of pregnancy can significantly increase the risk of low birth weights. Mothers' active or passive exposure to cigarette smoke during pregnancy has negative effects on the newborn. In a study which compared a group of pregnant women passively exposed at least two hours a day to cigarette smoke to a group of women who were not, it was found that the exposed group of women had a higher rate of LBWs (3). The fact that smoking slows down fetal growth has been known for a long time (4). Smoking is one of the most frequently mentioned risk factors for low birth weight (5). The percentage of low birth weights for mothers who married consanguineously was 2.33 times higher than that of mothers who did not. It is a known fact that consanguineous marriages increase the rate of occurrence of genetic diseases. The proportion of consanguineous marriages is higher here than it is in Western nations. An average of one-fifth of marriages is consanguineous (6).

In conclusion, low birth weights are affected by many risk factors. Both the mothers' prenatal condition and a healthy pregnancy affect birth weights. For this reason, knowing the risk factors

that influence LBW and taking precautions, emphasizing prenatal care with the help of obstetricians and neonatologists cooperating with family

physicians and assistant healthcare personnel will help keep babies alive and raise the awareness of families about this issue.

**Table 1:** Logistic regression risk factor for LBW

Factors	Odds ratio	95% Confidence interval	p
Gestational age(weeks)			
>38	1		
≤37	15.85	9.51-26.39	0.0001
Weight gained during pregnancy			
≥14 kilograms	1		
9-13 kilograms	3.70	2.03-9.63	0.0001
<9 kilograms	4.42	1.90-7.20	0.0001
Weight before pregnancy			
>51 kilograms	1		
≤50 kilograms	2.21	1.29-3.80	0.004
Smoking during pregnancy			
No	1		
Yes	3.18	1.76-5.72	0.0001
Passive smoking during pregnancy			
No	1		
Yes	2.14	1.29-3.56	0.003
Consanguineous marriages			
No	1		
Yes	2.33	1.41-3.86	0.001

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