

## Evaluating Maternal Social Support in Low Birth Weight Neonates Comparing With Normal Neonates in 2012

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### Abstract

**Background:** Pregnancy as a stressful event may cause some consequences for both mothers and infants such as low birth weight (LBW). LBW is seen in about 7% of pregnancies in Iran. It was proved there was a correlation between infants' weight and maternal social support. This study was designed to evaluate the maternal perceived social support in LBW infants and infants with normal weight. **Materials and Methods:** This was a case-Control study which was done in Isfahan, Iran, during April-November 2012 on 188 participants in 2 groups. In case group we had evaluated mothers with low birth weight infants and control group were mothers with normal infants. Farsi version of Multidimensional Scale of Perceived Social Support (MSPSS-P) was used for social support evaluation. **Results:** In LBW group mean family support subscale score was  $14.87 \pm 4.33$ , mean friends support subscale score was  $9.65 \pm 5.89$  and significant, the other support subscale mean score was  $15.18 \pm 5.11$ . In normal weight group mean family support subscale score was  $18.46 \pm 3.98$ , mean friends support subscale score was  $15.4 \pm 6.41$  and significant others' support subscale mean score was  $18.46 \pm 4.1$ . **Conclusion:** Maternal perceived prenatal social support could be a predictor for infants' birth weight. Supportive family could help pregnant women to reduce adverse pregnancy outcomes such as low birth weight. [GMJ. 2104;3(3):189-93]

**Keywords:** Social support; Infant; Low Birth Weight; Mothers; Iran.

### Introduction

Pregnancy as a stressful event may cause some consequences for both mothers and infants. Low birth weight (LBW) is one of these consequences for infants who defined as body weight less than 2500 grams [1, 2]. LBW may increase the mortality and morbidity risk in infants. There is also an increased risk for cardiovascular diseases, diabetes,

emotional problems, and psychotic illness in these infants [3-5].

It was reported that global prevalence of LBW was about 15.5% (approximately 20 million babies per year) and most of these infants were from developing countries. According to UNICEF report in 2011, the prevalence of low birth weight in Iran was 7% during 2005 to 2007 [1].

Social support is an important psychological

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factor which is assumed as an important factor of decreasing negative effects of stress or providing positive effects in the absence of any visible stressor [6]. It was proved that social relationships had a positive influence on individuals' psychological and physical health [7].

Perceived social support is important for maternal health and comfort during pregnancy. It was shown in previous studies that women who had more supportive sources such as family and higher perceived social support during pregnancy had infants with higher birth weights [8].

It was proved that mothers who know they can receive supports any time they need, they had better pregnancy outcomes and those who had low satisfaction with their social supports were more likely to have low birth weight infants [9].

According to the importance of social support during pregnancy and its influence on pregnancy outcomes such as low birth weight and because there is limited information about this topic in Iranian population, this study was designed to evaluate social support in pregnant women with low birth weights comparing with the women with normal birth weight infants.

### Materials and Methods

This was a case-control study which was done in Isfahan, Iran, during April-November 2012. In this study we had enrolled 188 participants in 2 groups. In case group we had enrolled mothers who had low birth weight infants (Group A) and in control group we had enrolled mothers with normal weight infants (Group B) (each group contains 94 participants). We included primiparous women and we excluded women with previous psychiatric medication history and those who had not fulfilled our informed consent or questionnaire. We had used convenience sampling method. Patients' information such as age, infants' sex, type of delivery, infants' weight was collected by a checklist and we had evaluated maternal perceived social support in each group too. We had used Farsi version of Multidimensional Scale of Perceived Social Support (MSPSS-P)

for social support evaluation.

This questionnaire contains 12 questions and it was developed by Zimet et al. This questionnaire evaluates social supports in three subscales; family support, friends' support, and significant other support (a person with whom one shares a close relationship). Each subscale has 4 questions and each question has 0-6 scores (from 0-26 points in each subscale). Higher scores show more supportive relationships [10]. In Farsi version, Cronbach's alpha coefficient was 0.84 for the whole questionnaire and 0.90 for friends' support, 0.93 for significant others' support and 0.85 for family support subscales in patient samples, and 0.92 for the whole scales and 0.89 for friends' support, 0.92 for significant others support and 0.87 for family support subscales in healthy population [11].

This study was approved by research committee of Islamic Azad University, Najafabad Branch.

Statistical analysis was done by SPSS software version 18. T-test and Chi-Square and Fisher exact test were used for data analyses. The significance level (p) was set at 0.05.

### Results

One hundred and eighty eight participants enrolled to this study in 2 groups. Mean age in normal birth weight group was  $25.1 \pm 4.1$  years old and mean age in low birth weight group was  $29.8 \pm 5.7$  years old. There was a significant difference between groups in their age ( $P=0.001$ ). 32 (34%) infants in group A and 42 (44.7%) infants in group B were male. Chi-square test showed that there was no significant difference between groups ( $P=0.14$ ). 68 participants in group A versus 66 participants in group B had normal vaginal delivery. Chi-square test showed that there was no significant difference between groups in type of delivery ( $P=0.75$ ).

Mean weight in low birth weight group was  $2250 \pm 319.8$  grams and in normal weight group was  $3193.7 \pm 200.4$  grams. T-test showed that there was a significant difference between groups in weight ( $P=0.001$ ).

Mean family support subscale score in group A was  $14.87 \pm 4.33$  and mean family support

subscale score in group B was  $18.46 \pm 3.98$ . T-test showed that there was a significant difference between groups in family support ( $P=0.001$ ). Six mothers in group A had low, 56 had normal and 32 mothers had high perceived familial support scores. Three mothers in group B had low, 25 had normal and 66 mothers had high perceived familial support scores. Fisher exact test had showed that there was a significant difference between groups ( $P=0.001$ ).

Mean friends support subscale score in Group A was  $9.65 \pm 5.89$  and mean family support subscale score in group B was  $15.4 \pm 6.41$ . T-test showed that there was a significant difference between groups in friends support ( $P=0.001$ ). Forty eight mothers in group A had low, 35 had normal and 11 mothers had high perceived friends support scores. Twelve mothers in group B had low, 41 had normal and 41 mothers had high perceived friends support scores. Fisher exact test had showed that there was a significant difference between groups ( $P=0.001$ ).

In significant others support subscale mean score in group A was  $15.18 \pm 5.11$  and mean score in group B was  $18.46 \pm 4.1$ . T-test showed that there was a significant difference between groups in friends support ( $P=0.001$ ). Ten participants in low birth weigh group had low, 43 had normal and 41 had high scores. Five participants in normal weight group had low, 20 participants had normal and 69 had high scores in significant others support. Fisher

exact test had showed that there was a significant difference between groups ( $P=0.001$ ). Table-1 had summarized social support questionnaire findings between groups.

## Discussion

This study was conducted to evaluate perceived social support in mothers with low birth weight infants comparing to mothers with normal weight infants. Mean age in LBW group was  $29.8 \pm 5.7$  and in the other group was  $25.1 \pm 4.1$  years old. Thirty two infants in low birth weight group and forty two in other group were male. Sixty eight individuals in LBW group and 66 in normal weight group had normal vaginal delivery. Mean weight in low birth weight group was  $2250 \pm 319.8$  grams and in normal weight group was  $3193.7 \pm 200.4$  grams. In LBW group mean family support subscale score was  $14.87 \pm 4.33$ , Mean friends support subscale score was  $9.65 \pm 5.89$  and significant others' support subscale mean score was  $15.18 \pm 5.11$ . In normal weight group mean family support subscale score was  $18.46 \pm 3.98$ , mean friends support subscale score was  $15.4 \pm 6.41$  and significant others' support subscale mean score was  $18.46 \pm 4.1$ .

Abadi et al. had reported in 2013 that there was no significant association between birth weight and general maternal mental health. Their results showed that satisfaction with social support and use of positive reappraisals

**Table 1.** Social support questionnaire findings.

	Score	Low birth weigh group	Normal birth weigh group	P-value
Family Support	Mean	$14.87 \pm 4.33$	$18.46 \pm 3.98$	0.001
	Low	6	3	0.001
	Normal	56	25	
	High	32	66	
Friends Support	Mean	$9.65 \pm 5.89$	$15.4 \pm 6.41$	0.001
	Low	48	12	0.001
	Normal	35	41	
	High	11	41	
Significant Others Support	Mean	$15.18 \pm 5.11$	$18.46 \pm 4.1$	0.001
	Low	10	5	0.001
	Normal	43	20	
	High	41	69	

was significantly associated with higher birth weight [1]. Our findings are agreed with Abadi findings.

Nylen et al. in 2012 had reported that babies of mothers whom were depressed had lower weight, they were born earlier and their APGAR score was lower than babies with normal mothers. They had proved that depressed women had smaller social support network. They had also reported that infants of depressed women with lower social support were born earlier, had lower weight and had lower APGAR score comparing with depressed mothers with higher social support [12]. Our findings are agreed with Nylen et al. report. We had found that mothers with LBW infants had lower social support.

Elsenbruch et al. had reported that pregnant women with low social support had lower quality of life and they had more depressive symptoms. They had reported that lack of maternal social support plays an important roll during pregnancy and it has an adverse effect on pregnancy out comes such as infants' weight and height [13]. Pryor et al. had reported that social support was associated with small for gestational age (SGA). They had also reported that Asian mothers are less likely to receive support from families and friends. They had concluded that social support reduces the risk of SGA births [14]. Our results are agreed with Pryor et al. reports. In

both studies families play an important roll in mothers' social support. Feldman et al. had showed that prenatal social support is associated with infants' birth weight; they also had concluded that behavioral and biological factors may have an association between support and fetal growth [15]. Other factors which could affect infants' weight such maternal nutrition should be considered in further studies. According to the previous studies and our findings we can conclude that maternal perceived prenatal social support could be a predictor for infants' birth weight. As family support had the highest score between social support subscales we can conclude that in Iran supportive family could help pregnant women to reduce adverse pregnancy outcomes.

### Conflicts of Interest

The authors found no conflicts of interest to be reported.

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