



Investigation of The Biological, Cognitive and Environmental Characters in Mother's Underweight and Optimal Weight Infants

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ABSTRACT

Infant mortality rates of the most important indicators of the health of any society which is influenced by several factors. Low birth weight is a major cause of mortality in infants. The present study aimed at examining the biological characteristics, cognitive and environmental underweight infants' mothers and mother's infants with optimal weight. The sample was 400 babies born in Isfahan hospitals in Iran. Sampling stratified according to the population in each of hospitals the was conducted. In order to gather information on the properties of biological and environmental parental questionnaire for the first time by Afrooz framed (AMSS). Results showed that the two groups of variables mother education, mother employment status, blood pressure, birth rank with low weight in birth time there is a significant relationship ($p < 0.5$) Education to increase their awareness on the one hand and on the other hand directly on his health, behavior, pregnancy and family's overall situation, mother employment status that affects a significant effect on birth weight.

Keywords: Under weight infants, Optimal weight infants, Blood pressure, Birth ran

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INTRODUCTION

Infant mortality rates of the most important indicators of the health in each society which is influenced by several factors. Low birth weight is a major cause of mortality in infants. In the most countries, the rate of low birth weight is directly related to mortality during infancy (Kramer et al., 2005). As defined by the World Health Organization, infants weighing less than 2500 K.G at birth, underweight called (Hosseini, Ghavami, Salimzadeh, & Eftekhari Ardabili, 2009). Compared with babies with 2500 grams weight and optimal infant mortality rate is lightweight, extremely lightweight born 40 times and about 200 times more likely to be. One of the goals of the World Health Organization in developing countries that at least 90% of birth weight of 2500 grams or

more, that this implies in terms of health and nutrition during pregnancy the mother's education and the prevention of repeated deliveries (George et al., 2009). According to studies by the World Health Organization, at the global leveling five babies is born with a low birth weight infants, mostly in developing countries (Akin et al., 2010; Kay, 2009). In Iran, about 10percentofbabieswithlow birth weight babies include (Hosseini et al., 2009). In addition, due to medical advances in the number of infants born with low weight and survives increasing and it causes neurological and development al disorders among these patient increased (Chi et al., 2011). Almost adverse prenatal outcomes in pregnancies with chronic hypertension increased incidence and severity of fetal growth restriction is directly

related to the severity of hypertension. Both of these factors (growth of fetal and maternal blood pressure) and other maternal factors, growth charts used to achieve the correct diagnosis and gestational age are dependent. Maternal factors include age, presence or absence of blood pressure control in end-organ damage such as kidney dysfunction or heart, blood pressure is associated with low birth weight baby (Chen, Lin, & Liu, 2010; Rondó, 2007). Several factors, such as low socioeconomic status, poor nutrition, anemia, diseases, lack of access to health care during pregnancy, pregnancy complication and miscarriages, pregnancy at an early age, pregnancy are low, low height and weight and consumption drugs have been linked with low birth weight (Murphy, Schei, Myhr, & Du Mont, 2001). As well as social and cultural education as a variable effect on knowledge and attitude on other social variable such as employment income and access to service affects (Kemp et al., 2006). Low birth weight infant health in addition to the effect on the family's mental state is. Parents of these children typically about getting your child into long-term complications, achieving normal growth and development and in general about health and anxiety are normal with him (Bahru, 2008; Brynhildsen, Sydsjö, EKHOLM-SELLING, & Josefsson, 2009).

The aim of this research is investigation of the biological, cognitive and environmental characters in Mother's underweight and optimal weight infants.

METHODS

According to the purpose, the research methods causal-comparative was conducted. In this study, parents of babies

with low birth weight and parents' weight in terms of the characteristics of biological and environmental birth parents were compared. The study population included all infants born low birth weight and weight between the end of 2012-2013 in Isfahan province with their parents, according to studies on LBW rates in the province reported that about 10% was, the total sample consisted of 400 live births in the period mentioned. Of these, 200 babies with low birth weights and weight are desirable. Stratified according to the population in each city was conducted. In order to gather information on the properties of biological and environmental parental questionnaire (Afrooz Marital Satisfaction Scale) for the first time by Afrooz and Ghodrati (2011) was set to be used. The validity of the questionnaire from experts and tutors and advisers has been approved. Reliability of the questionnaire through Cranach's alpha obtained vary from 0.85 (Silva, Thomas, Caetano, & Aragaki, 2006).

FINDINGS

Question 1: Does the level of education among mothers of low birth weight and infant weight there? The number is in the group of mothers who had an optimal school diploma educated mothers and low birth weight infants, 26 (%6) was observed. %6 of the total cases of mothers of infants with low and optimal birth weight and mothers' education. If mothers had an optimal school diploma and post-graduate education were 12 mothers of low birth weight infants were observed about 3%.

Table 1. Descriptive indices of education, mother and two groups (Mother's Education)

	Maternal low birth weight	Percentage	Frequency	Mothers with Optimal weight	Frequency
Illiterate Mother	-	-	5		5
Under Diploma	26	-	20	0.01	46
Diploma	119	0.06	97	0.05	219
Bachelor	43	0.3	55	0.24	98
Master	12	0.11	23	0.14	35
Total	200	0.3	200	0.06	400

According to Table 1, only 14 percent of mothers with low birth weight had a bachelor degree from the total sample against mothers by weight of the total sample %20 had a bachelor degree.

Also according to Table 2. The relationship between mother's education and low birth weight were significant ($p < 0.05$).

Table2. Test variable independent of maternal education and two group mothers

	DF	Score	P
Chi Square	4	12.950	0.012
Goodness-of Fit chi Square	4	14.950	0.012

Question 2: Does the employment status of mothers with low birth weight and optimal weight there? In Table 3, the group of mothers and working mothers of low birth weight infants, 49 (%12) was observed. Of the total cases, 12 percent

of mothers and working mothers of infants with low birth weight. If homemaker mothers and mothers of 151 infants of low birth weight was observed 38 percent.

Table 3. description Indicators of job mother of two groups (Mother's job)

	Maternal low birth weight	percentage	mothers with optimal weight	percentage
Housewife	151	0.38	105	0.26
Employed	49	0.12	95	0.24
Total	200		200	-

Table 4. Test of independence on the job variable in two groups of mothers

	Score	DF	P
Chi Square	22.960	1	0.001
Goodness-of-Fit chi Square	23.266	1	0.001

According to Table3, %12 of women low birth weight versus %24 of the mothers with optimal weight was employment, also according to Table 4 there are significant relationship between underweight with mother's jobs ($p=0.001$).

Question 3: Is there any relationship between rural areas of babies mothers with low birth weight and optimal weight?

Table 5 in a group of mothers from rural areas and maternal low birth weight infants, 17 with %4 was observed. 4 percent of the total cases of maternal low birth weight infants and mothers were from rural areas. If that were urban mothers and mothers of 183 babies with low weight of 46 percent was observed.

Table 5. Variable descriptive indicators Location and tow group mothers (Mother's Location)

Location	Maternal low birth weight	percentage	Maternal birth optimal weight	percentage	Frequency
Village	17	0.04	27	0.07	44
City	183	0.46	173	0.43	356
Total	200		200		400

Table 6. Test of independent on the location and tow group mothers

	Score	DF	P
Chi Square	2.554	1	0.110
Goodness-of-Fit chi Square	2.574	1	0.109

Assenting Table5, %4 to %7 of mothers of low birth weight against the total sample live in rural areas also vary according to location (Table 6) between rural areas variable and the mother low birth weight weren't observed relationship ($p > 0.05$).

Question 4: Are there any relationship between rates of maternal blood pressure in low birth weight and optimal birth weight infants ?

Table 7. Descriptive index variable blood pressure, and two groups of mothers

	Maternal Low Birth Weight	Percentage	Mothers With Optimal Weight	Percentage	Frequency
Blood Pressure	Yes	178	0.45	191	0.48
	No	22	0.55	9	0.12
	Total	200		200	400

the group of mothers who had optimal blood pressure and mothers of infants with low birth weight, 22 to %55 was observed. Of the total cases, 55 percent of mothers of new

born with low weight and blood pressure. If mothers of low birth weight infants of mothers whose blood pressure 178 mothers (%4) was observed.

Table 8. Test of independent of the two blood pressures in two group mothers

	Score	DF	P
Chi Square	5.910	1	0.015
Goodness-of-Fit chi Square	6.082	1	0.014

According to Table7, %55 of women low birth weight versus %12 of the mothers with optimal weight of total sample with the high blood pressures ,also according to Table

8 there are significant relationship between variables ($p < 0.05$).

Question 5: is there any relationship between rank birth of babies with low birth weight and optimal weight?

Table 9. Variable descriptive indicators rank birth

Rank birth	Maternal low birth weight	Percentage Rank	Mothers with Optimal weight	Percentage Rank	Frequency
First	78	0.19	62	0.16	140
Second	67	0.03	54	0.13	121
Third	35	0.09	35	0.09	70
Fourth	12	0.03	23	0.06	35
Sixth	6	0.01	14	0.03	20
Fifth	2	-	7	0.02	9
Seventh	-	-	2	-	2
Eighth	-	-	2	-	2
Ninth	-	-	-	-	1
Total	200	-	200	-	400

Table9 in the first place birth and low birth weight infants, 78(%19) was observed %19 of all subjects had a low birth weight infant and is ranked first

Table 10. Test independent about Rank birth of infants and mothers

Chi Square	Score	DF	P
Chi Square	17.660	8	0.024
Goodness-of-Fit chi Square	19.913	8	0.011

Given the significant level ($p < 0.05$) observed that there was a significant relationship between the variables. See rankings and percentages show that, especially in the second birth order between the two groups percent (13 percent in infant's favorable weight to %3 in low birth weight) there.

DISCUSSION

As was observed between maternal education was a significant association with low birth weight ($p < 0.05$). This finding is consistent with result of Chevalier and (Takimoto, Yokoyama, Yoshiike, & Fukuoka, 2005), (Andersson, Sundström-Poromaa, Wulff, Åström, & Bixo, 2004), are consistent. Also Muthayya (2009) showed that %50 of mothers of low birth weight infants in Bangladesh are illiterate. As we have seen no significant relationship between the mother's occupation was underweight with results of c, (Li & Chang, 2005), (Hosseini et al., 2009), (Charnigo, Chesnut, LoBianco, & Kirby, 2010) are in line. Pregnant women have jobs that put the mat risk of severe physical stresses to avoid (Bührer, Metze, & Obladen, 2008; Pagel, Smilkstein, Regen, & Montano, 1990), the risk of premature and low birth weight among women being busy with their careers, longer stands in comparison to the women who work at the time, quartile soresst ability, optimal reported (Ashdown-Lambert, 2005), believes that manual jobs generally associated with premature birth and blood pressure during pregnancy. Between mother's employment in the first trimester of pregnancy and low birth weight babies have a significant relationship (Viengsakhone, Yoshida, & Sakamoto, 2010). Thus the employment status of mothers and babies with low birth weight are related weight. As we have seen variable location between mother and low birth weight were observed relationship ($p < 0.05$). This finding contradicts the findings of the (Akin et al., 2010) and (Chung, Lau, Yip, Chiu, & Lee, 2001). As was observed between

blood pressure and there is a low weight. The research results (Bromiker, Glam-Baruch, Gofin, Hammerman, & Amitai, 2004), (George et al., 2009), is consistent. Almost all of prenatal adverse outcomes for pregnancies with chronic hypertension increases. The incidence and severity of fetal growth restriction associated with the severity of blood pressure (Chung et al., 2001); (Brynildsen et al., 2009), (Akin et al., 2010), (Carver, 1977) reported. In a study concluded that birth weight of mothers with optimal blood pressure is less than the weight of babies of mothers with normal blood pressure. Therefore between the hypertensive mothers and babies with low birth weight are related weight. According to the findings of the study showed a significant relationship between low birth weight and birth weight infants. This finding their favorable findings (Edhborg, 2008), (George et al., 2009), was consistent. The results of (Collins Jr, Wambach, David, & Rankin, 2009) shows that between birth order and birth weight, there is a significant relationship. This means that the optimal the birth order, birth weight than most (Mintz & Bieschke, 2009), (Keeley et al., 2004) in their studying India came to the conclusion that the frequency of low birth weighting the first and second is optimal. The birth of babies with low weights the lowest frequency in the third. So the rank birth of babies with low birth weight and optimal weight there is significant relationship.

CONCLUSION

No doubt the competence and success conditions for prenatal care, parents need to know, the right people to health care, adequate eservices in health centers and facilities is essential for optimal-risk mothers. There is no doubt that the awareness of parents about their educational level increase. That's why discussion of the importance of prenatal care, education gives them a special place allocated . Education to

increase their awareness on the one hand and on the other hand directly on his health, behavior, pregnancy and family's overall situation that affects a significant effect on birth weight. So between education level of mothers and babies with low birth weight ideal body weight is related. To explain findings about variable location between mother and low birth weight cannot be said to live the rural and urban infants or pregnant mothers is a determinant of health. What is important and sanitation facilities, health and education, which allows for easy and timely use them to provide people, especially pregnant women. So the accommodation of mothers and babies with low birth weight There is no ideal weight A lot of people who live-in the big city but cannot because of the economic overtly of their facilities, health centers and health houses in rural areas on the one hand

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