

Original article

Studying factors related to the birth of neonates with weight less than 2500 g in Village of Chamazkati during 2008-2014: a retrospective study

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Abstract:

Introduction: The rate of neonates' mortality is one most important indicator of the health of any society influenced by several factors. Therefore, the present study was designed and implemented to investigate the factors related to the birth of neonates with weight less than 2500 g in the village of Chamazkati during 2008-2014.

Methods: In the present descriptive, cross-sectional study, 32 neonates weight less than 2500 g were examined by census method in the village Chamazkati of Qaemshahr from 2008 to 2014. Data were collected through a researcher construed questionnaire and studying documents. The validity and reliability of the questionnaire were confirmed through studying the content by 10 experts and the calculation of the internal similarity. Data were analyzed using SPSS software version 24 and t-test and analysis of variance.

Findings: The findings indicated that the consumption of dairy products, bread and cereals, fruit and vegetables, meat and legumes, and multivitamin are associated significantly with neonate's weight ($P < 0.05$). Also, they showed that the mother's physical features, the amount of income and education are significantly associated with the neonate's weight ($P < 0.05$). Finally, this relationship exists between the fetus multiparity, conditions of pregnancy and birth and diseases of pregnancy period on the one hand and the neonate's weight on the other ($P < 0.05$).

Conclusion: This study showed that low weight of neonates is dependent on numerous causes and the reduction of the rate of low weight birth of them requires to accurate and comprehensive examination and makes necessary a comprehensive planning in the field of prevention of mother's nutritional disorders, taking supplements, mother's consciousness, her physical features, fetus suitable condition during pregnancy cares, good conditions of pregnancy and birth and diseases in pregnancy.

Keywords: birth, neonate, low weight

Introduction:

Children are the future capital of human society and the amount of the neonates' mortality is the most important indicator of the health of any society that is influenced by several factors. According to the latest WHO statistics, the death rate of children less than five years amounts daily to 16000 children and most reasons for neonates' deaths are preventable (1). This indicator has decreased compared to the year before. Neonates' mortality constitutes two-thirds of this statistic. As the major reasons of neonates' mortality in the world we can refer to the early birth, severe infections, neonatal asphyxia, birth abnormalities and underweight neonates. The low weight by birth is one of the main reasons of death in neonates and suckling (2). In different countries, the low weight is associated directly with the mortality rate during suckling. Based on the results of different researches, the birth weight is one of the main factors determining child's future survival and the physical and brain growth and a valid indication of intrauterine growth. Since the underweight at birth leads to death, disability and plethora of diseases in childhood, so identifying factors affecting underweight and removing these factors is very important (3). Low weight at birth is defined by the World Health Organization as the weight less than 2500 g at the birth. This specific value has been determined on the basis of epidemiological observations according to which neonates with the weight less than 2500 grams are exposed to mortality roughly 20 to 40 times more than newborns with natural birth weight; in the meantime, this feature is considered an

important indicator of progress in Iran (4, 5). In Iran the value of this indicator in 2015 is equal to 12799 in neonates and 18067 in suckling children and in less than 5 years, apart from these two groups 15680. In developed countries such as Japan the value of this indicator in 2015 is equal to 941 in neonates and 2093 in suckling children and in less than 5 years, apart from these two groups 2834. In developing countries such as Egypt, the value of this indicator in 2015 in neonates is equal to 35818 and in suckling children 56914 and in less than 5 years, apart from these two groups 65775 (6).

Based on the results of a group of researchers, the age, mother's weight, number of pregnancies, mother's job, history of tobacco use, birth rank, duration of pregnancy and history of bringing to the world a low weight neonate are associated directly with the weight at birth (7). The other group has regarded the favorable socio-economic status, mother's bad nutrition, her low blood hemoglobin and Hematocrit levels, high blood pressure in pregnancy, multiparity, mother's being illiterate, chronic diseases and alcohol use as some causes of neonate's underweight. Other studies have reported that insufficient increase of mother's weight leads to birth of low weight neonate. The increase of weight during pregnancy depends on the several factors, such as height and weight before pregnancy, the number of the previous delivery, physical activity, precedent of tobacco and alcohol use, mother's blood pressure, diseases of pregnancy, taking dietary supplements and mother's nutrition (8). Researcher has classified the known variables into four groups of the conditions

of pregnancy and birth, fetus features, nutrition in the pregnancy period and the mother's (physical, physical, social, economic and scientific) characteristics and examined their impact on the birth of low weight neonates; he has looked for the answer to this question whether these factors were of effect in the birth of low weight neonates in the health center of village Chamazakti?

Methods:

Current research was applied in terms of the objective and descriptive-surveying (retrospective) in terms of collecting data; it was carried out in cross-sectional way from 2008 to 2014 in village Chmazakti of Qaemshahr on neonates with weight less than 2500 grams. At the beginning with the use of the resources available in the health center of the village Chamazakti of Qaemshahr we extracted a list of neonates with the weight less than 2500 grams from 2008 until 2014; then by being determined the number of households we met the mothers of these children; after explaining about the research in order to extract information of their household file and after giving them assurance in terms of being anonymous the questionnaires and the confidentiality of the information we took consents in writing. A researcher construed 49-question questionnaire was used in order to collect data, that had the following variables: taking dietary supplements, physical characteristics and mother's physical, social and academic characteristics, her economic characteristics, fetus gender, fetus multiparity, pregnancy and birth conditions and diseases of

pregnancy period. Its validity was confirmed formally and contently by 10 experts of the family practice. Its reliability was approved through studying the internal similarity and calculating coefficient Cronbach's alpha (0.716).

Ethical considerations

Prior to the study, ethical approval was obtained from the Ethics Committee of the Mazandaran University of medical sciences, Sari, Iran. After obtaining the approval of the Health Deputy of the University, we coordinated with the related officials and informed them about the goals and details of the study. In addition, the mothers' data were kept confidential.

Statistical Analysis

The numerical variables were presented as mean, standard deviation, and range, and the categorical variables were presented as frequency. All analyses were performed using the SPSS version 23.0 and EXCEL. P-value less than 0.05 was considered statistically significant. Statistical t-student and one-way variance tests were used for inferential statistics.

Findings:

The results showed that most of mothers (46.9%) were in the age range of 26 to 30 years. 96.9% of them were housekeeper. 65.6% of them had diploma and above. No one of them was addicted to a special narcotic drug. 87.5 percent announced their mobility is not nothing but working in the home. 40.6% stated their received monthly pay was between 500 thousand to less than 700 thousand Tomans. Their primary weight

(40.6%) was equivalent to 60 kg or less than 70 kg. 40.6% of mothers declared that their body mass is 25 to 29.9. 12.5 percent of them experienced low weight birth and 18.75 percent had a history of abortion. 34.4 percent of the mothers had taking weight during pregnancy between 6 kg and 9 kg. 90.6% of them used multi vitamin during pregnancy and 100% of them folic acid and iron tablets (table 1).

From between the collection of 32 statistical samples 1 participant (3.1%) has placenta previa, 9 participants (28.12%) inappropriate taking weight, 8 participants (25%) urinary tract infection, 6 participants (18.75%) spotting, 2 persons (6.25%) premature rupture of the water bag, 3 persons (9.37%) high blood pressure, 7 persons (21.87%) anemia, 1 person (3.1%) suffering from diabetes, 4 patients (12.5%) hypothyroidism (table 2).

Studying the first question

Was the nutrition in the pregnancy period associated with the birth of neonates with weight less than 2.5 kilograms in the village Chamazkati from 2008 to 2014?

According to table 3 we can say that at the level of confidence ($P < 0.05$) the assumption of dairy products, bread and cereals, fruits, vegetables and meat and legumes have associated significantly with the neonate's weight.

Studying the second question

Were the dietary supplements in the pregnancy period associated with the birth of neonates with weight less than 2.5 kilograms in the village Chamazkati from 2008 to 2014?

According to table 4 we can say that at the level of confidence ($P < 0.05$) the use of multi vitamin has associated significantly with the neonate's weight.

Studying the third question

Were the mother's physical features associated with the birth of neonates with weight less than 2.5 kilograms in the village Chamazkati from 2008 to 2014?

According to table 5 we can say that at the level of confidence ($P < 0.05$) the mother age, mother's primary weight, mother's body mass indicator, mother's taking weight, history of birth of less weight neonate, history of abortion and mother's mobility in pregnancy period have associated significantly with the neonate's weight.

Studying the fourth question

Were the mother's scientific features associated with the birth of neonates with weight less than 2.5 kilograms in the village Chamazkati from 2008 to 2014?

According to table 6 we can say that at the level of confidence ($P < 0.05$) the level of mothers' education has associated significantly with the neonate's weight.

Studying the fifth question

Were the mother's social features associated with the birth of neonates with weight less than 2.5 kilograms in the village Chamazkati from 2008 to 2014?

According to table 7 we can say that at the level of confidence ($P < 0.05$) the relation between the mothers' job (mothers' social status) and the neonate's weight was not specified.

Studying the sixth question

Were the mother's economic features associated with the birth of neonates with weight less than 2.5 kilograms in the village Chamazkati from 2008 to 2014?

According to table 8 we can say that at the level of confidence ($P < 0.05$) the level of household income or mothers' economic situation has associated significantly with the neonate's weight.

Studying the seventh question

Was the fetus' gender associated with the birth of neonates with weight less than 2.5 kilograms in the village Chamazkati from 2008 to 2014?

According to table 9 we can say that at the level of confidence ($P < 0.05$) there was not observed any relationship between fetus gender and the neonate's weight.

Studying the eighth question

Was the fetus multiparity associated with the birth of neonates with weight less than 2.5 kilograms in the village Chamazkati from 2008 to 2014?

According to table 10 we can say that at the level of confidence ($P < 0.05$) the fetus' multiparity has associated significantly with the neonate's weight.

Studying the ninth question

Were the conditions of the pregnancy associated with the birth of neonates with weight less than 2.5 kilograms in the village Chamazkati from 2008 to 2014?

According to table 11 we can say that at the level of confidence ($P < 0.05$) the lack of unwanted pregnancy and care before pregnancy and childbirth in the final weeks of pregnancy and lactation simultaneous

with pregnancy have associated significantly with the neonate's weight.

Studying the tenth question

Were the diseases of the pregnancy period associated with the birth of neonates with weight less than 2.5 kilograms in the village Chamazkati from 2008 to 2014?

According to table 12 we can state that at the level of confidence ($P < 0.05$) the diseases of pregnancy period have associated significantly with the neonate's weight (except for the previa effect).

Discussion:

According to the findings of research, the neonates whose mothers have consumed dairy products, bread and cereals, fruit and vegetables and meat and legumes during pregnancy, have higher weight. A similar study in 2009 showed the importance of the effect of weight before pregnancy and mother's nutrition on the neonate's weight at birth; so it seems that the emphasis will be on nutritional intervention, so that the maternal nutrition status before pregnancy be improved; the nutritional consultation with the mother is recommended on the delay in neonate's growth (9).

The present research showed the neonates whose mothers have consumed multivitamin during pregnancy have higher weight. According to the sample under study (because there did not exist in sample any mother who did not consume iron and folic acid tablets) we cannot ignore and reject the impact of consumption of iron and folic acid tablets as two variables in respect of previous studies. In examining the relationship between taking weight with the

use of supplements in pregnancy and the weight at birth, Rasmussen (2001) indicated that the use of food additives is of impact on neonate's weight (10). Therefore, it seems that taking supplements plays a very important role in the growth and health of the neonate as well as mother herself. Pregnant mother should begin to take multivitamin, folic acid and iron at the appropriate time in the pregnancy. Also it is possible the neonate's low weight is associated with vitamin deficiency of mother's body in pregnancy period. Therefore, the women who use vitamin and supplements during pregnancy are in better condition in terms of weight at birth than women who consume only iron and folic acid tablets.

According to research data, the neonate has a high weight in the following conditions: if the mother has not the precedent of abortion and low weight childbirth and she has the following characteristics: body mass indicator between 25 to 29.9, her taking weight between 11.5 to 16 kg, maternal age between 31 to 35 years, her initial weight between 60 to 70 kilos and 20 minutes of exercise at least 3 times a week. According to the sample under study (because there did not exist in sample any mother who has addiction) we cannot ignore and reject the impact of mothers' addiction on the neonates' weight. Nike et al (2012) concluded that factors such as mother's education, mothers exposed to cigarette smoke, age of pregnancy more than 25 years, interval between pregnancies less than 2 years, precedent of low weight at birth, her taking weight less than 4 kg, blood pressure during pregnancy and mother's weight in the

final weeks of pregnancy less than 45 kg are of effect on the neonate's underweight at birth. Vahabi et al (2013) came to the conclusion that cigarette smoke causes the neonate's underweight and duration of pregnancy. Tabandeh and Kashani (2007) examined 350 pregnant women referring to the health centers. The results showed that the maximum amount of weight increase over the normal limit in BMI was less than and equal to 19.8 kg on square meters and the lowest amount of weight increase over the normal limit in BMI was more than 29. So it seems that the pregnant mother before deciding to become pregnant should take measures for the correction of body mass indicator and its control and performing sufficient sports activities and the mother with a precedent of low weight childbirth and of abortion and maternal diseases should be under the special care of pregnancy.

According to research data and the average expressed it seems the neonates whose mothers have a higher education level, have higher weight. Neaeeas concluded that factors such as mother's education, mothers exposed to cigarette smoke, age of pregnancy more than 25 years, interval between pregnancies less than 2 years, precedent of low weight at birth, her taking weight less than 4 kg, blood pressure during pregnancy and mother's weight in the final weeks of pregnancy less than 45 kg are of effect on the neonate's underweight at birth (11). Therefore, with improving the quality of care in pregnancy, design and implementation of educational programs for high-risk groups particularly young mothers and those with low education, we can play

an effective role in prevention of low weight childbirth.

According to research data and the average expressed, it seems that those neonates who were not unwanted and mothers who were under the cares before pregnancy and those neonates who were born in the final weeks of pregnancy, have higher weight, but there was not observed any impact in relation to variables of which pregnancy and the type of childbirth and pregnancy distance; that is due probably to low sample size. But according to previous studies we cannot ignore and reject the relationship between these variables. Neaeeas concluded that factors such as mother's education, mothers exposed to cigarette smoke, age of pregnancy more than 25 years, interval between pregnancies less than 2 years, precedent of low weight at birth, her taking weight less than 4 kg, blood pressure during pregnancy and mother's weight in the final weeks of pregnancy less than 45 kg are of effect on the neonate's underweight at birth (11).

According to research data and the average expressed, it seems that those neonates whose mothers have the diseases like hypothyroidism, anemia, high blood pressure, premature rupture of water bag, spotting, urinary tract infection and taking inappropriate weight have less weight, and the neonates whose mothers suffer from diabetes during pregnancy have higher weight; the relationship of previa was not observed, but according to previous studies we cannot ignore and reject the relevance of this variable. Euser conducted a research on 502 pregnant women of 18-35-year-old with

gestational age 14-18 weeks; they understand there is a significant correlation between early childbirth and BMI outside the normal range (12). Neaeeas concluded that factors such as mother's education, mothers exposed to cigarette smoke, age of pregnancy more than 25 years, interval between pregnancies less than 2 years, precedent of low weight at birth, her taking weight less than 4 kg, blood pressure during pregnancy and mother's weight in the final weeks of pregnancy less than 45 kg are of effect on the neonate's underweight at birth (11). Therefore, it seems that the mother must regularly refer to her physician, so that she can have under control her conditions, diseases and physical health issues and thus guarantee her health and that of child. Before deciding to be pregnant, the pregnant mother should take measures for removing and controlling her physical diseases and doing sport activities.

Limitations

Limitation of sources regarding the research variables from the local viewpoint is natural due to its being a new topic and the types of statistical communities available. It is expected in the future to be done some wider researches.

Conclusion:

The results of this study showed that the low weight of neonate by the birth is associated with mother's age, gestational age, mother nutrition, taking supplements, history of birth of low weight neonate, abortion history, level of mother's activity during pregnancy, mother's initial weight, body mass indicator, mother's taking weight,

mother's education, her economic characteristics, fetus multiparity, unwanted pregnancy, care before pregnancy, childbirth in which week of pregnancy and lactation simultaneous with pregnancy, mother's disease

Conflicts of Interest

The author(s) declare(s) that there is no conflict of interest regarding the publication of this paper.

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Tables and Charts:

Table 1: Descriptive statistics of examinees

Variable		percentage	frequency
Mother's age	15 to 20 years	9.4	3
	21 to 25 years	31.3	10

	26 to 30 years	46.9	15
	31 to 35 years	9.4	3
	more than 35	3.1	1
job	housekeeper	96.9	31
	employed	3.1	1
education	Illiterate	3.1	1
	Under diploma	31.3	10
	Diploma and above	65.6	21
addiction	Addiction	0	0
	Lack of addiction	100	32
Mothers' sport	Without mobility	6.25	2
	As working in home	87.50	28
	20 minute and less than 3 times in a week	6.25	2
Mothers' economic situation	Less than 300 thousand tomans	3.1	1
	300 thousand to less than 500 thousand tomans	34.4	11
	500 thousand to less than 700 thousand tomans	40.6	13
	more than 700 thousand tomans	21.9	7
Mothers' primary weight	less than 50 k	15.6	5
	50 k to less than 60 k	15.6	5
	60 k to less than 70 k	40.6	13
	70 k and above	28.1	9
Body mass indicator	Less than 18.5	9.4	3
	18.5 to 24.9	34.4	11
	25 to 29.9	40.6	13
	30 to 34.9	12.5	4
	35 and above	3.1	1
Hashish of low	Yes	12.5	4

weight birth	No	87.5	28
History of abortion	Yes	18.75	6
	No	81.25	26
Mothers' taking weight	6 k to less than 9 k	34.4	11
	9 k to less than 11.5 k	25	8
	11.5 k to less than 16 k	21.9	7
	16 k to less than 18 k	3.1	1
	18 k and above	15.6	5
Using multi vitamin	Yes	90.6	29
	No	9.4	3

Table 1: Being continued: descriptive statistics of examinees

Variable		frequency	percentage
Yes	Using iron tablet	32	100
No		0	0
Yes	Using folic acid	32	100
No		0	0
Yes	dairy products	21	65.6
No		11	34.4
Yes	bread and cereals	27	84.4
No		5	15.6
Yes	Fruits and vegetables	14	43.8
No		18	56.2
Yes	meat and legumes	18	56.2
No		14	43.8
female	Neonate gender	18	56.2
male		14	43.8

singleton	Neonate multiparty	24	75
Twin		5	15.6
triplets		3	9.4
One time	Mother's which pregnancy	14	43.8
Two times		13	40.6
Three times		3	9.4
More than three times		2	6.3
Yes	Pregnancy simultaneous with lactation	10	31.25
No		22	68.75
5	Pregnancy distance	1	3.1
6		0	0
7		2	6.3
8		3	9.4
9		1	3.1
10		1	3.1
11		1	3.1
12		0	0
13		1	3.1
First pregnancy		22	68.8

Table 1 being continued: Descriptive statistics of examinees

variable		frequency	percentage
Caesarean	Type of pregnancy	27	84.4
natural		5	15.6
Yes	Unwanted pregnancy	2	6.25
No		30	93.75
27 weeks to less than 37 weeks	Childbirth in which week of pregnancy	9	28.1
35 weeks to less than 37 weeks		7	21.9

37 weeks to less than 40 weeks		16	50
Yes	Care before pregnancy	24	75
No			

Table 2: Studying mother's diseases

Mother's diseases		frequency	percentage
positive	previa	1	3.1
negative		31	96.87
positive	Inadequate taking weight	9	28.12
negative		23	71.87
positive	Urine tract infection	8	25
negative		24	75
positive	Spotting	6	18.75
negative		26	81.25
positive	premature rupture of the water bag	2	6.25
negative		30	93.75
positive	High blood pressure	3	9.37
negative		29	90.62
positive	Anemia	7	21.87
negative		25	78.12
positive	Diabetes	1	3.1
negative		31	96.87
positive	hypothyroidism	4	12.5
negative		28	87.5

Table 3: First question test results

Variables		Number neonates/mothers	Average neonate weight	variance	result (p<0.05)
No	Using dairy products	11	2009.09	296.966	p=0.013
No		21	2281.43	318.658	
No	Using bread and cereals	5	2000.00	182.209	p=0.044
No		27	2189.26	327.284	
No	Using fruits and vegetables	18	1925.00	296.633	p=0.002
No		14	2075.71	309.285	
No	Using	14	1903.57	319.269	p=0.009

No	meat and legumes	18	2058.89	287.298	
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Table 4: Second question test results

variables		Number neonates/mothers	Average neonate weight	variance	result (p<0.05)
No	Using multi vitamin	3	1933.33	57.735	P=0.039
No		29	2056.90	321.860	
No	Using iron	0	-	-	Not specified
No		32	1990.94	306.819	
No	Using folic acid	0	-	-	Not specified
No		32	1990.94	306.819	

Table 5: Third question test results

Variables		Number neonates/mothers	Average neonate weight	variance	result (p<0.05)
15 to 20 years	Mother age	3	1966.67	115.470	p=0.020
21 to 25 years		10	1988.00	293.969	
26 to 30 years		15	1990.01	353.836	
31 to 35 years		3	2226.67	289.194	
More than 35 years		1	1980.00	-	
Yes	Mother's addiction	0	-	-	Not specified
No		32	1990.94	306.819	
Yes	History of birth of neonate with low weight	6	1955.00	188.016	p=0.007
No		26	2049.23	330.574	
No	History of abortion	26	2049.23	330.574	p=0.016
Yes		6	1955.00	188.016	

Nothing	Mother's activity in pregnancy period	2	1900.00	0.000	p=0.006
Working in home		28	1987.14	323.373	
20 minute sport at least 3 times per week		2	2135.00	190.919	
Less than 50 k		5	1991.01	160.873	p=0.011
50 k to less than 60 k	Mother's primary weight	5	1998.24	240.832	
60 k to less than 70 k		13	2061.11	307.761	
70 k and above		9	2001.21	361.713	

table 5 being continued: Third question test results

Variables		Number of neonates/mothers	Average neonate weight	variance	result (p<0.05)
Less than 18.5	Mother's body mass indicator	3	1883.33	166.533	p=0.011
18.5 to 24.9		11	1898.18	360.051	
25 to 29.9		13	2130.33	299.934	
30 to 34.9		4	2082.50	184.097	
35 and above		1	1970.00	-	
6 k to less than 9 k	Mother's taking weight rate	11	1661.10	337.633	p=0.019
9 k to less than 11.5 k		8	1843.75	212.867	
11.5k to less than 16 k		7	2240.00	65.174	
16 k to less than 18 k		1	2000.00	-	
18 k and above		5	1911.43	328.634	

Table 6: Fourth question test results

Variables		Number of neonates/mothers	Average neonate weight	Variance	result (p<0.05)
Illiterate	Mother's education level	1	1900	-	p=0.033
Under diploma		10	1960.00	190.266	
Diploma and above		21	2103.81	320.616	

Table 7: Fifth question test results

Variables		Number of neonates/mothers	Average neonate weight	variance	result (p<0.05)
housekeeper	Mothers' job (social status)	31	1990.65	311.886	p=0.977
Employed		1	2000.00	-	

Table 8: Sixth question test results

variables		Number of neonates/mothers	Average neonate weight	variance	result (p<0.05)
Less than 300 thousand tomans	Mother's economic features	1	1900	-	p=0.024
300 thousand tomans to less than 500 thousand tomans		11	1940.91	329.255	
500 thousand tomans to less than 700 thousand tomans		13	1994.92	327.144	
more than 700 thousand tomans		7	2054.29	51.270	

Table 9: Seventh question test results

variables		Number of neonates/mothers	Average neonate weight	variance	result (p<0.05)
female	Fetus gender	18	1960	363.108	0.527
male		14	2030.71	221.445	

Table 10: Eighth question test results

Variables		Number of neonates/mothers	Average neonate weight	variance	result (p<0.05)
singleton	fetus multiparity	۲۴	۲۰۷۳.۳۳	۲۵۸.۷۰۴	p=۰.۰۰۱
Twin		۵	۱۹۳۰.۰۰	۱۹۸.۷۴۶	
Triplets		۳	۱۴۳۳.۳۳	۲۳۰.۹۴۰	

Table 11: Ninth question test results

Variables		Number of neonates/mothers	Average neonate weight	variance	result (p<0.05)
1 time	Nth pregnancy	14	1871.43	346.118	p=0.093
2 times		13	2154.62	250.220	
3 times		3	1900.00	100.00	
More than 3 times		2	1900.00	0.0	
Yes	Lactation simultaneous with pregnancy	10	1960.00	190.266	p=0.012
No		22	2281.43	318.658	
No	Unwanted pregnancy	30	1990.33	317.213	p=0.026
Yes		2	2000.00	0.0	
Caesarean	Type of childbirth	27	1981.85	321.774	p=0.704
natural		5	2040.00	230.217	
No	Care before pregnancy	8	1805.50	236.205	p=0.001
Yes		24	2057	321.010	
5	Pregnancy distance	1	1900.00	-	p=0.731
7		2	2425.00	25.00	
8		3	2116.67	368.556	
9		1	2000.00	-	
10		1	2270.00	-	
11		1	2430.00	-	

13		1	2330.00	-	
27-35	Childbirth in which week of pregnancy	9	1722.22	334.581	p=0.001
35-37		7	1950.00	175.594	
37-40		16	2160.00	218.906	

Table 12: Tenth question test results

variables		Number of neonates/mothers	Average neonate weight	variance	result (p<0.05)
positive	previa	1	1980.0	-	p=0.458
negative		31	1991.91	305.421	
Positive	Inadequate taking weight	9	1805.22	185.164	P=0.026
negative		23	2012.16	317.467	
Positive	Urine tract infection	8	1882.21	251.249	P=0.017
negative		24	2009.19	314.156	
Positive	Spotting	6	1867.49	186.484	P=0.021
negative		26	2001.48	312.471	
Positive	premature rupture of the water bag	2	1675.50	58.456	P=0.037
negative		30	2215.33	318.146	
Positive	High blood pressure	3	1786.33	142.149	P=0.019
negative		29	2123.33	345.478	
Positive	anemia	7	1834.22	241.485	P=0.013
negative		25	2134.20	315.356	
Positive	Diabetes	1	2410.00	-	P=0.016
negative		31	1931.15	304.152	
Positive	hypothyroidism	4	1910.00	181.467	P=0.027
negative		28	2002.50	305.741	