Comparing Some Blood Indices in Term and Pre Term Childbirth in Women of Farideh Behbahani Maternity Center of Behbahan

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ABSTRACT

Childbirth is a natural process in a normal path(pregnancy) and women nutrition is so important. The anemia rate in the world is 51% in pregnant and 35% in non-pregnant women. Now about 350 million women have anemia caused by mal nutrition. More than 1.5 milliards in the world suffers from anemia that 50% is because of blood shortage or its complications. Is descriptive, analytical and sectional in 1395 in Farideh Behbahani maternity center among term and preterm women. In this study sample size is 80term and 30 preterm women. (For each preterm woman 3 term women have been chosen.) Demographic data gathering inventory was based on instructions and blood tests which was about 3 ml taken by an expert with women satisfaction were delivered to laboratory and tested by Cell counter device (Sysmex KX-2W) and the results were registered .Data analyze were done by SPSS software VL.21 BU USING Dependence T ,Kay score and Fisher tests. Results showed a meaningful difference between white cells in term and preterm women.(p<0.05) Term women had 63.75% normal white cells but preterm ones ad 26.7%. Results showed that 70% of term women and preterm women had 56.7% normal red cells. Also there is a meaningful difference in blood platelets average.80% of term and 40% of preterm women had normal platelets. It is about blood factors and preterm women had special blood factors, platelets, hematocrit, and white cells quantity so they need more care.

Keywords: Childbirth, Cell counter device, blood platelets

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INTRODUCTION

Childbirth is a natural process in a normal path (pregnancy) which may become pathological or abnormal by different factors .One of the pathological trends in natural childbirth is preterm delivery which is observed in 8-10% pregnancies. Despite improvements in midwifery, still 705 of death and complications in infants is preterm delivery so it is very important.

Anemia is one of the common causes of death in the world especially in 3rd world countries which has bad effects such as cardiovascular diseases and it is 50% in pregnant women near to childbirth date but it receives to 80% in developing countries.

Abnormal weight of mother is an important matter can has an effective role on health and hygiene of fertility .It is necessary for the mother to have normal weight before pregnancy which the most normal way for defining it is body mass index. The complications attributed to overweight are preeclampsia, pregnancy diabetes, multiple, cesarean, and fetal asphyxia and ones related to low weight are anemia, premature rupture of water bag, infant Apgar low score or weight, preterm childbirth and prenatal death increase.

Preterm childbirth means delivery before 37 weeks and it is an important factor in infant mortality and morbidity. Despite science development related to risk factors and pre term delivery mechanism .lypr preterm has been increased for example preterm delivery in USA has reached from 9.5% in 1980 to 12.7% in 2005.Preterm spread in most of the developed countries is 5-6%. In a study has been done in Tehran in 1381 the spread was estimated 7.2%. The nutrition of women is important. Anemia rate is 51%in pregnant and 35% in non- pregnant women .Now about 350 million women have anemia caused by mal nutrition .More than 1.5 milliard in the world have anemia that 50% is because of blood lack or its complications.

Pregnancy anemia is a risk factor in mother and infant death and rampant of premature and low weight infants.

One of the pathological processes is preterm delivery it means beginning of obstetric pains and live product output of pregnancy before 37 weeks. Different pathological processes caused preterm childbirth have been introduced that premature rupture of water bag is the main one .There are different hypothesis in this field such as urogenital infections, mother anemia and trauma, type and intensity of anemia ,hemoglobin , hematocrit, and MCHC are recognized. MCHC lack in pregnant women with natural childbirth (54.6%) is 2% more than abortion women (37.5%). So it seems that anemia in natural childbirth is hypocromic, microcytic and all body iron stores will decreased first hemoglobin syntheses and then MCHC by improvement of anemia .In a survey in USA 44% of term and 94% abortion women had bleeding .

According to the importance of improvement of healthy fertile mother and infant health indices and giving proper solutions in this line and due to the spread of some blood factors spread and its complications in pregnancy and high risk childbirth this research is necessary and its results can improve preterm delivery statues.

EXPERIMNTAL SECTION

It is descriptive, analytical and sectional which has done in 1395 in Fareedeh Behbahani maternity. First it was done by an introduction from Marvdasht Azad university to Behbahan science medical and health hygienic services about research plan, the related licenses had gotten from science medical university then the related data had gathered from the maternity.

Tools of Demographic gathering data inventory have been provided based on instructions of health and hygiene ministry in health care forms of pregnant women.

Findings: This research was in1395 in Behbahan and 30 preterm women were chosen(for each preterm woman 3 term women were chosen but 10 were omitted because of non- cooperativeness.) and some blood factors (hemoglobin, hematocrit , MCH, MCV,MCHC, platelets, red & white cells average) were investigated.

Table 1: Blood index statues in term and preterm women in Farideh Behbahani maternity center in 1395

MCH	MCV	hematocrit	hemoglobin	Blood indices Women statues	
(67.5%)54	(78.75%)63	(85%)68	68.75%)55	normal	Preterm women
(17.5%)14	(10%)8	(8.75%)7	(22.5%)18	<normal	
(15%)12	(11.25%)9	(6.25%)5	(8.75%)7	>normal	
(100%)80	(100%)80	(100%)80	(100%)80	total	
(36.7%)11	(53.3%)16	(56.7%)17	(43.3%)13	normal	Term women
(36.7%)11	(36.7%)11	(36.7%)11	(46.7%)14	<normal	
(13.3%)4	(10%)3	(6.7%)2	(10%)03	>normal	
(100%)30	(100%)30	(100%)30	(100%)30	total	

Table 2: Table 1:blood index statues in term and preterm women in Farideh Behbahani maternity center in 1395

RED CELLS	WHITE CELLS	PLATELETES	MCHC	Blood indices Women statues	
(70%)56	(63.75%)51	(80%)64	63.75%)51	normal	Preterm women
(8.75%)7	(28.75%)23	(28.75%)23	(7.5%)6	<normal	
(21.25%)17	(7.5%)6	(12.5%)10	(17.5%)14	>normal	
(100%)80	(100%)80	(100%)80	(100%)80	total	
(16.7%)5	(26.7%)8	(40%)12	(63.3%)19	normal	Term women
(56.7%)17	(16.7%)5	(33.3%)10	(16.7%)5	<normal	
(26.6%)8	(56.6%)17	(26.7%)8	(20%)6	>normal	
(100%)30	(100%)30	(100%)30	(100%)30	total	

Results showed there are meaningful differences in term and preterm red cells average.70% of term women had normal red cells but 56.7% of preterm women had this .Taati et al showed there is no difference in red cells of term and preterm women in pregnancy and blood cells decrease is not consistent with pregnancy .His findings are not consistent with Berg's that preterm women hemoglobin is more normal than term ones.

Results showed in P<0.05 level there is a meaningful difference between blood white cells of term and preterm women.63.75% of white cells of term women were in a normal level while in preterm ones it was 26.7%. Comparing these 2 groups showed preterm women had more normal white cells and it may be because of infectivity that is created in them and the more the white cells are because of infectivity pre term childbirth will be increased. Increase of white cells in term and preterm women is meaningful compared to Nadafi et al findings in relationship with using vitamins effects on blood factors and in P<0.05 there is a relationship between vitamins usage and white cells increase and also the findings shows that as Bandoric et al says white cells are normal in preterm women.

The findings showed there is a meaningful difference between average of blood platelets of term and preterm women (p<0.05). 80% of term women had normal platelets but it was 40% in preterm ones and the former were more normal. Its cause may be lack of iron and low blood factors in preterm women. Whatever the platelets be higher preterm childbirth will not occurred. By comparing this findings with Taati et al iron usage has effects on platelets decrease. This study is not consistent with Bro et al that preterm women blood factors are not normal.

Also findings showed that there is a meaningful difference between hemoglobin level in term and preterm women.(P<0.05)Especially in term women 68.75% were at normal range,22.5% were upper than normal and 8.75 were lower and in preterm women 46.7% were at normal range, 43.3% were upper and 10% were lower .Term women had more normal hemoglobin .It may be effected by other causes. According to the meaningful relationship between hemoglobin level and preterm child birth .This study is in line with Norouzian findings that pregnant women hemoglobin is in a normal level but is not consistent with Gape's et al that hemoglobin and preterm child birth are not related.

Finding showed a meaningful relationship between hematocrit of term and preterm women (p<0.05).85% of term and 56.6% preterm women had normal hematocrit and it was more normal in the former. The more the hematocrit be preterm childbirth probability will be lower and it should be controlled clinically during pregnancy .This study is in line with Cracy et al and the relation between hematocrit and preterm child birth but not consistent with Jacobson who said there is no relation.

 Findings showed that there is a meaningful difference between MCV f term and preterm women.(p<0.005).78.5% of term and 53.3% preterm women had normal MCV and results showed the former had more normal MCV.MCV may be one of the effective factors on preterm childbirth. This study is in line with Judfery findings that investigated acid folic effect on blood factors of pregnant women and also there is a relationship between acid folic usage and MCV increase .But it is not consistent with Khalijinia findings about preterm childbirth in Qom that showed only 25% of preterm women had MCV lower than normal.

Also this study showed there is a meaningful difference between MCH of term and preterm women.(p<0.05) 67.5% of term and 50% of preterm women had normal MCH and the former were more normal. MCH factor has effect on preterm child birth and a biochemical factor which is low in preterm women and has caused it. These findings are consistent with Norouzian hypothesis who said pre term women have normal MCH but not in line with Sing et al. The findings showed there is no meaningful difference in term and preterm women MCHC(P<0.05).MCHC index in term women were 63.75% normal,18.75% lower than normal and 17.5% upper and in preterm women it was 63.35 normal, 16.35 lower and 16.35 upper than normal. These results are in line with Bandoik findings that considered blood factors and showed MCHC factor is proper in pregnant women but not consistent with Mohamadian who considered high risk factors and said there is no relation between preterm childbirth and MCHC.

CONCLUSION

The findings showed the most important factor of preterm childbirth in women referred to Fariedeh Behbahani mandatory is related to blood factors and preterm women in comparison with term women had more blood factors ,platelets, hematocrit and white cells and their difference is in P<0.05 level and this factors had the main effect on preterm childbirth.

REFERENCES

[1] Hauth JC, Cunning FG,Levine RJ,Esterlitz JR, Sibai B. *Obstet Gynecol,* **2000**; 24.

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[2] Gabbe SG, Niebbyl JR, Simpson JL. Obstetrics: normal and problem pregnancies. 4th ed. New York:Churchill Livingstone:2002:1224-5

[3] Demaeyer Em: prevention and controlling Iron deficiency anemia througli primarj lealtl care. WHO. Genva **1987**;78,

[4] Leush SS, Futornyĭ SM. *Lik Sparva.* **1997**; 4 :107–110.

[5] Demaeyer Em: prevention and controlling Iron deficiency anemia througli primarj lealtl care. WHO. Genva 1987;78,

[6] U N D P: natrition situation in development countries ciled in: Global clild Health news Review 1992; 7: 37.

[7] Sclol to , Hediher ml, Fiscler Rl, Sheaner JW. *Am-din nutr*, **1992**; 55: 785-8.

[8] Berg CJ, Atrash HK, koonin LM, Tucker M. *Obstet Gynecol,* **1996**; 88: 161.

[9] Bondevik GT, Lie RT, Ulstein M, Kvale G. *Acta Obstet Gynecol Scand,* **2001**; 80(5): 402-8.

[10] Burrow GN, Duffy TP and Copel JA. Medical Complications During Pregnancy. 6th ed.:Elsevier;2004.P. 69-86.

[11] Gabbe SG, Niebbyl JR, Simpson JL. Obstetrics: normal and problem pregnancies. 4th ed. New York:Churchill Livingstone: **2002**: 1224-5

[12] Creasy RK, Renisk R, Iams JD. Maternal-fetal medicine: principles & practice. 5 th ed. Philadelphia: Sounders; **2014**: 1114-3.

[13] Jakobsson M, Gissler M, Paavonen J. *BJOG,* **2008**; 115 (1): 38-48.

[14] Godfrey KM, Redman CW, Barker DJ, Osmond C. *Br J Obstet Gynaecol* , **199**9; 98(9): 886-91.

[15] Singh K, Fong YF, Arulkumaran S. *Eur J Clin Nutr*, 2004; 52(1): 65-70.

[16] Bondevik GT, Lie RT, Ulstein M, Kvale G. *Acta Obstet Gynecol* Scand **2001**; 80(5): 402-8.

[17] Mohammadian S,Vakili MA, Tabandeh A. *Journal of Guilan University of Medical Sciences,* **2000**; 9(33-34):117-22.

[18] Pakgohar, Minoo; Dr. Taghiabadi, Narges; Isroos, Narges; & Mehran, Abbas; *science-research journal of Shahed University,* 14th year, vol. 66, 1385.

[19] Taati, Zahra; Jahanloo, Shahab; Sobhani, Alireza; (**1382**) *Science journal of Hormozan*,7th year, vol.2, summer 82, p 66.

[20] Nadaffi, Mojgan; Mohamadossieni, Sima; & Afrasiabifar, Ardeshir; (**1389**) *Armaghan journal*, science period 15, vol.2, p 176 & 177.

[21] Sameiazad, Aliakbar; Halali, Mahmood; Jazayeri, Abolghasem; Golestan, Banafshe; "Nutritious anemia in pregnant women"; Kerman science university journal, 4th period, vol.1, p **1914**, 1375.

[22] Norouzian, Ali; Ebrahimi tabas, Ebrahim; Harance, Hamed; Qalche, Mokhtar; Yaqobinia, Fariba; "Considering iron deficiency anemia in pregnant women referred to Zahedan health & hygiene centers, fertility & non fertility quarterly", summer 85, p 132-138.

[23] Khalijinia Farideh (**1386**); *Health Journal*, p 21-35.