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Original Article

The comparison of Hemoglobin and Mean Corpuscular Volume in gestational diabetes mellitus women and healthy women

Vasegh Rahimparvar* F (MSc.) - Rezaeepoor* A (MSc.) - Kazemnejad** A (Ph.D) - Nazari*** S (MSc.).

* Instructor, Midwifery Department, Faculty of Nursing and Midwifery, Tehran University of Medical Sciences, Tehran, Iran.

** Professor of Biostatistics, Biostatistics Department, Tarbiat Modares University, Tehran, Iran.

*** Master of Sciences in Midwifery.



Corresponding Author:

fatemeh Vasegh Rahimparvar

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Abstract:

Background & Aim: Screening methods of gestational diabetes mellitus (GDM) diagnosis is controversy. The survey of relation between GDM and its risk factors helps to determine screening methods. This study was performed to find whether the prevalence of gestational diabetes mellitus (GDM) is influenced by higher hemoglobin (Hb) level and mean corpuscular volume (MCV) before 14 weeks gestation in GDM women and healthy women.

Methods & Materials: In this case-control study, 33 pregnant women with GDM in case group (diagnosed according to the Carpenter and Costan criteria) were compared with 33 pregnant women in control group without GDM after 24-28 weeks' gestation. Data were gathered using a questionnaire and a data registration form by interview and biophysical methods. The data were analysed by descriptive and inferential statistics (Chi-squared, Fisher exact test, two samples Kolmogrov-Smirnov test, and Pearson correlation coefficient).

Results: There was no significant difference between two groups in demographic factors and medical history. T-test showed a significant difference between the amount of Hb in the control group (13.23±0.078 gr/dl) and the case group (12.23±0.70 gr/dl) before 14 weeks gestation ($P<0.001$). There was no significant difference between MCV level in two groups ($P=0.294$). Also MCV level before 14 weeks' gestation was 86.92+ 4.51 fl in the case group and 85/56+5/84 fl in the control group.

Conclusion: The result showed that GDM women had higher Hb level than the control group before 14 weeks' gestation. It seems that a high maternal Hb in the first trimester is a risk factor for GDM and it can be used for screening and diagnosing of GDM. Also more investigations of the logic of routine iron supplementation in pregnant women who have a high level of Hb are suggested.

Key words: Hemoglobin (Hb), Mean Corpuscular Volume (MCV), Gestational Diabetes Mellitus (GDM)

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