

the correct answer. Midwives were the most responders who answered that vaccination is recommended throughout the entire pregnancy. Obstetricians-gynecologists mentioned that they were up to date on the developments surrounding the flu vaccine nevertheless, those who knew that the flu vaccine is recommended for the general population were midwives.

### Conclusions

This study's major goal was to pinpoint the variables that might be influencing the low vaccination rates, which might include a variety of misconceptions or a lack of information regarding the flu vaccine. To sum up, it is essential for health professionals to continue their professional development if they want to advance their level of knowledge and offer high-quality maternity care.

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### Conflicts of interest

The authors have no conflicts of interest to disclose.

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## Investigation of biomarkers regarding their predictive value in the development of gestational diabetes mellitus. An overview

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### Introduction

Gestational diabetes mellitus (GDM) has been associated with various short- and long-term adverse perinatal outcomes for both mothers and their offspring. Its incidence is estimated to be 14% of all pregnancies worldwide. GDM screening and diagnosis delay as they take place between the 24th and 28th week of gestational age. Discordance among GDM diagnostic criteria has increased research interest regarding biomarkers since they may provide useful information when clinical and laboratory findings are still lacking. The present review provides evidence through an overview of biomarkers investigated in the blood of pregnant women early in pregnancy who subsequently developed GDM.

### Material and Methods

PubMed and Google Scholar were searched for articles published between 2010 – 2023. Key words "gestational diabetes mellitus", "biomarkers", "biochemical markers", "blood", "serum", "pregnancy", "prediction" were used to identify relevant articles.

### Results

Totally, 12 studies were included. Sex hormone binding globulin (SHBG), Osteocalcin, Follistatin-like 3 (FSTL3), Malondialdehyde (MDA), Glutathione Peroxidase Activity (GPA), Triglyceride, YKL-40, microRNAs, plasma-glycated CD59 (pGCD59), Irisin and Ferritin have been investigated early in pregnancy in the blood of pregnant women who subsequently developed GDM. Osteocalcin, pGCD59, MDA,

GPA, microRNA-16-5p, -17-5p and -20a-5p demonstrated higher levels in the serum of GDM-women compared to non-GDM while SHBG, Irisin and FSTL3 demonstrated lower levels. No association was found between YKL-40 serum levels and the early identification of women at risk for GDM.

### Conclusions

Several potential biomarkers with promising results relating to GDM predictive value have been explored in the blood of pregnant women during early pregnancy. However, currently, an ideal biomarker does not exist. As a result, further research is needed on this topic.

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## The effect of mindfulness-based stress reduction (MBSR) program on stress, anxiety, and prenatal attachment of the high-risk pregnant women

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### Introduction

The present study was conducted to examine the effects of the Mindfulness-Based Stress Reduction (MBSR) Program on stress, anxiety, and prenatal attachment of the high-risk pregnant women.

### Material and Methods

This randomized controlled study was conducted with 94 high-risk pregnant women (48 participants in the experimental group, 46 participants in the control group) who were registered at the 15th Family Health Center in a city center in the Southeastern Anatolia Region of Turkey and diagnosed with high-risk pregnancies and reported to the Healthy Living Center. In the study, a total of eight sessions of the mindfulness-based stress reduction program were applied to the pregnant women in the experimental group for one month, each week, and two sessions per week. Data of the study was collected with "Prenatal Distress Questionnaire-Revised (NuPDQ)", "Pregnancy-Related Anxiety Questionnaire-Revised 2 (PRAQR2)" and "Prenatal Attachment Inventory (PAI)". Descriptive statistics, chi-square test, t-test for independent and dependent samples were used in the analysis of the data.

### Results

After the intervention, it was determined that the NuPDQ total mean score was 9.52±7.39 in the experimental group and 21.87±4.09 in the control group; the post-test PRAQR2 total mean score was 22.96±8.94 in the experimental group and 37.11±4.38 in the control group; the post-test PAI total mean score was 54.65±8.33 in the experimental group and 43.83±7.71 in the control group. After the intervention, the PRAQR2 total mean score in the experimental group was significantly lower than that in the control group. In addition, the PAI total mean score in the experimental group was significantly higher than that in the control group (p<0.05).