



## Exercise Biochemistry Review

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### Status of Relationship of Risk of Gestational Diabetes Mellitus and Physical Activity intervention

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**Objective** Gestational diabetes mellitus is the first time or any degree of glucose tolerance abnormalities discovered during the pregnancy. In the global the incidence of GDM can reach 15%. In China also reached 6.6%. Numerous studies have demonstrated that lifestyle intervention for the pregnant woman, especially to increase physical activity can significantly reduce the risk of GDM. Our research aims to search and analyze researches about the relationship of risk of gestational diabetes mellitus and physical activity intervention. Then we clear the effect of physical activity intervention and provide some advices for the future in this field.

**Methods** The literature data were used though Pubmed, Web of Science, EBSCO, CNKI et al. database and we searched with the keywords of “physical activity”, “exercise”, “exercise intervention”, “gestational diabetes mellitus”, “glucose tolerance”, “postpartum diabetes prevention” in all these database. Finally we reviewed researches on physical activity interventions in GDM patients, discussed the relationship of before pregnancy, during pregnancy and postpartum physical activity intervention between the GDM risk. And we used the comparative analysis to get the corresponding conclusions.

**Results** 1. Women of European and American countries during pregnancy who participated in physical activity and achieve the recommended amount was common, but only about 1/5 of Chinese women can achieve the physical activity amount which was recommended. 2. Join in regular physical activity before, during and after pregnancy, women could reduce the risk of GDM. 3. Aerobic training and/or resistance training could effectively improve glucose metabolism and insulin in patients with GDM and the recommended exercise prescription was moderate intensity, 3 to 5 days a week, last longer than 6 weeks.

**Conclusions** The incidence of GDM is closely connected with pregnancy lifestyle changes. Women take part in regular physical activity before, during and after pregnancy could reduce the risk of GDM. But this kind of research is rare and behindhand in China. In the future, we should put forward the corresponding suggestions for our country to make pregnancy physical activity guidelines. In the other hand, researchers should verify the effect of health of pregnant women after the exercise intervention.