

Current status of research on nutritional interventions to prevent and improve gestational hypertension and pregnancy outcomes

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Abstract:

This study hopes to comprehensively evaluate the current effectiveness and future potential of nutritional interventions in preventing and improving blood pressure levels in patients with gestational hypertension through comparative analyses of clinical data as well as comparing the different dietary structures and treatment standards of pregnant patients in different regions. Comparing the statistical differences in blood pressure, blood lipids and other data indicators among patients with different dietary nutritional structures, comparing whether nutritional interventions are conducted or not as well as the differences in the theoretical knowledge of nutritional structure teaching on the autonomous dietary structure of the pregnant population or the differences in the data of the clinically collected samples, we will continue to explore the possibilities of nutritional interventions in improving and preventing gestational hypertension as well as the outcomes of pregnancies. As well, it is hoped to further explore the contribution of targeted dietary nutritional structure in the direction of modifying pregnancy outcomes, and to provide more possibilities and theoretical foundations for the formalization of dietary nutrition into treatment protocols for the prevention of pregnancy complications in patients with gestational hypertension or in pregnant populations. Summarize the collection and summarize whether existing therapies for improving or treating gestational hypertension in conjunction with nutritional interventions can provide more significant clinical outcomes. On this basis, provide more ideas and possibilities for the incorporation of nutritional therapies into clinical treatment programs.

Keywords: dietary nutrition, gestational hypertension, pregnancy outcome, blood pressure level

1. Preface

1.1 Background

Nowadays, with the continuous innovation of the world's science and technology, the overall socio-economic level of countries is also gradually improving. Among them, people's living, clothing, food, housing and transportation quality of life has also improved significantly. But the ensuing health problems are also endless, obesity has become one of the world's health problems worthy of widespread concern and great harm, obesity is no longer an adjective, but has become a disease. Obesity is no longer an adjective, but a disease. This shift has also affected the pregnancy community. And with the increase in economic resources and changes in national policies, the number of pregnant patients suffering from a range of complications due to excessive nutritional intake is increasing year by year. One of these complications, gestational hypertension, has become one of the most serious and frequent diseases of pregnancy. It has been estimated that the prevalence of hypertensive disorders of pregnancy is about 5-10% globally^[1].

1.2 Hypertension disorder complicating

pregnancy

Hypertension disorder complicating pregnancy is often characterized by hypertension, hyperlipidemia, nausea and vomiting, and edema^[2]. Studies have shown a strong association with metabolic disorders, inflammation and dyslipidemia^[3]. Hypertension in pregnancy can be categorized into five stages: preeclampsia, gestational hypertension, eclampsia, chronic hypertension with preeclampsia, and chronic hypertension in pregnancy^[4]. In addition, gestational hypertension may lead to serious problems such as placental abruption and disseminated intravascular coagulation in pregnant women, as well as varying degrees of fetal damage, which in severe cases can lead to maternal and fetal death outcomes. Some studies have shown that patients with chronic hypertension are significantly more likely than normal pregnant women to develop sudden cerebrovascular disease, pulmonary edema, renal failure, and other sudden illnesses^[5]. Hypertension in pregnancy is also an important cause of poor maternal and fetal prognosis and even death^[6-7]. Many therapeutic drugs are not recommended for use in patients during pregnancy because of the uncertainty of the patient^[5]. One of the main causes of hypertension in

pregnancy is elevated blood pressure and lipids due to overnutrition.

1.3 Significance of the study

In view of this phenomenon, countries have also launched a series of studies in this area, and there are many studies showing that controlling nutritional intake has a good performance in affecting this aspect of hypertension in pregnancy, and the research in this paper also centers around the effectiveness of dietary structure on the treatment of hypertension in pregnancy in various countries, and proves the feasibility of nutritional therapy by summarizing the results of domestic and foreign studies. The theoretical organization of this study also helps to have a follow-up study to provide more theoretical support for subsequent studies.

2. Literature Review

Based on the literature that the author has read, nutritional interventions have had positive results beyond what was expected in preventing complications in pregnancy. Whether from theoretical research or from the actual effect of clinical data, the method of nutritional intervention has performed well. The results of the clinical data of domestic scholars Feng Qiming et al. can also fully prove that nutritional intervention has an extremely important position in the clinical control of hypertension in pregnancy in the treatment program. The research of foreign scholars such as Simmons D is more inclined to the theoretical summary, and has a certain standardized nutritional intervention system, which is different from the domestic one, which is based on personalized customization. The results of these studies can also provide more theoretical basis and data support for the analysis of this study, which can greatly enhance the persuasive power of this study and make the study established.

Whether the data provided by domestic scholars or the theories provided by foreign scholars, for hypertension in pregnancy, there are many studies that can prove its feasibility and effectiveness. Although most of the studies remain in the theoretical guidance, but has begun to show results, many clinical studies have also designated targeted nutrition programs for the patient's own situation, have achieved ideal results, which further confirms the significance of this research. First, it strengthens the pregnant women themselves for the nutritional intake and regular diet of the correct understanding of the implementation of the method is more efficient, the second is for the follow-up of further research to provide a certain amount of ideas, so that the follow-up of the investigation has a more dispersed way of thinking, the third is to consolidate the position of this area of research

in the field, but also so that more researchers can be seen, the present day to devote themselves to the improvement of the field.

3. Current status of research

Gestational hypertension, like gestational diabetes mellitus, is a high-risk complication of pregnancy, the course of which is detrimental both to the pregnant woman herself and to the physiological and intellectual development of the fetus. The current treatment of hypertension in pregnancy is different from the conventional treatment program for non-pregnant patients due to its specific pathologic and physiologic mechanisms^[8].

The aim of the treatment of hypertension in pregnancy is to prevent subsequent eclampsia and to reduce the incidence of subsequent complications and mortality in both the patient and the fetus^[9]. For patients with severe hypertension, antihypertensive medication is the preferred treatment at home and abroad, while for patients with mild hypertension, different countries have different standards, with some countries choosing not to give medication, while others believe that some patients with higher values still need medication, but the standard of measurement is not the same in different countries^[10].

However, in any case, drug treatment is always a risk for pregnant women because of its side effects, many researchers began to find another way, and dietary control and dietary guidance are one of the necessary means in the treatment of patients with gestational hypertension, nutritional interventions have also become the focus of many researchers. The traditional method of controlling hypertension in pregnancy through nutritional intake is generally to limit sodium and water intake, but also need to limit the intake of fat, increase the intake of protein in pregnant women, active supplementation of high-quality protein, but energy intake needs to be controlled. Increase the intake of vegetables and fruits, timely and sufficient calcium and zinc^[11].

3.1 Nutritional interventions and gestational hypertension

A number of studies have shown that dietary interventions can have a positive effect on improving the indicators of gestational hypertension in patients with gestational hypertension. In terms of diet and nutrition and gestational hypertension, if pregnant women are provided with correct and reasonable dietary guidance during pregnancy, it can effectively improve the incidence of gestational hypertension, which shows that controlling diet and nutritional intake and preventing overnutrition is one of the effective ways to prevent gestational hypertension^[12]. In an earlier study by foreign scholars, data showed that

increased intake of vitamins can effectively reduce the incidence of gestational hypertension^[13]. In China, a study by Feng Qiming et al, through the variable control of whether or not to configure dietary recipes, and subsequent comparison of the incidence of pregnancy complications in different groups, the data show that effective and scientific nutritional control of the incidence of gestational hypertension plays a very good role in controlling the incidence of gestational hypertension, and can be achieved by improving the nutritional knowledge of pregnant women, attitudes and behaviors to achieve a comprehensive improvement in the nutritional status of pregnant women and reduce the incidence of gestational hypertension^[14].

In a follow-up clinical study, patients with dyslipidemia in early pregnancy but not diagnosed with gestational hypertension were divided into two groups, one with dietary guidance and the other without, and it was inferred that dietary guidance could effectively prevent the occurrence of gestational hypertension by recording and comparing the levels of blood lipids and blood pressure and the occurrence of complications in the follow-up collection^[15]. In the same year, Qiu Caifeng et al. also demonstrated the positive impact of nutritional interventions during pregnancy on the prevention of gestational hypertension, and pointed out that nutritional interventions should be based on the pre-pregnancy BMI of different patients to calculate the corresponding weight gain and set up a targeted meal plan, which can not only effectively disseminate positive nutritional knowledge during pregnancy, but also play the role of symptomatic treatment^[16].

To date, there have been several data and studies that further support the contribution of dietary and nutritional interventions to the prevention of hypertension in pregnancy^[17-20], all of which have used diet as a variable to examine the correlation between nutritional intake and the incidence of hypertension in pregnancy. Nutritional intake has been shown to be positively associated with morbidity. The data from these studies show that nutritional interventions play an important role in the control and prevention of hypertension in pregnancy and even complications during pregnancy. The exploration of nutritional therapy is also of great research significance.

3.2 Nutritional intervention combined with medication

In recent years, there has also been much clinical data suggesting that when medication is used to control a patient's blood pressure, it is not as effective as it could be, but nutritional interventions implemented during pregnancy have been effective in controlling the prevalence of hypertension in pregnancy^[21]. In

addition to targeting the effect of nutritional intervention alone as a variable on morbidity, further programs that combine nutritional guidance with reliable medication can also demonstrate the positive guidance of nutritional intervention.

In a clinical study by the national scholar Gao Qin^[22], the variable of nutritional guidance was added to medication, setting up further dietary guidance at the level of what would have been medication coverage. And the results of that study showed that nutritional intervention combined with medication is better compared to medication alone, not only can play a role in controlling blood pressure, but also ensure that pregnant patients as well as the fetus can consume enough nutrition to improve the adverse outcome of pregnancy. The importance of nutritional interventions was demonstrated earlier in the study by Soranjan et al^[23].

3.3 Alteration of pregnancy outcome

Hypertension in pregnancy not only affects the pregnant woman herself and fetal development, but also causes great changes to the outcome of pregnancy, and the research of scholars in the early years^[24], the control group used conventional pregnancy guidance, while the experimental group used nutritional guidance during pregnancy combined with exercise guidance, and when comparing the pregnancy outcomes of the two groups of pregnant women, it was found that the use of exercise guidance during pregnancy could effectively control the patient's When comparing the two groups, it was found that the exercise guidance for pregnant patients could effectively control the patient's body weight, prevent the increase of blood pressure and blood lipids caused by too large a weight base, and significantly reduce the incidence of complications. In addition, reasonable nutritional intake can also effectively control body weight, inhibit the further increase of fetal weight, resulting in a reduction of macrosomia, effectively improving the outcome of pregnancy. It can be seen that controlling nutritional intake and regular diet can not only effectively reduce the incidence of hypertension in pregnancy, but also effectively change the outcome of pregnancy and prevent more tragedies from occurring.

4 Conclusion.

In summary, the application and effectiveness of nutritional interventions have contributed to the prevention of the prevalence of gestational diabetes mellitus, the improvement of blood pressure and lipid levels in patients with gestational hypertension, as well as adverse pregnancy outcomes. Although dietary intervention is an important part of the treatment plan for patients with gestational hypertension, there is a need to further incorporate it into the treatment rather than controlling

the daily nutritional intake of patients by simply telling them to avoid foods or approximate the structure of their diet. This study will also help to advance the research on nutritional interventions in the improvement and treatment of gestational hypertension, and will continue to explore the potential application of different types of nutritional structures to the treatment of different individuals.

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