

## The Effect of Maternal Age on Pregnancy Outcomes and the Role of Dietary Patterns Associated with Low Birth Weight

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### Opinion

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### INTRODUCTION

A processed dietary pattern refers to behaviours that favour savoury, fried, and processed food products, such as dressings, and condiments, which have a negative effect on the individual's health with high levels of saturated fat, free sugars, sodium, and trans-fats, such as baked goods, savoury snacks, and can also affect infant birth weight. Changes in dietary patterns are associated with a reduction in daily calorie consumption, higher consumption of unsaturated fats, added sugar, and processed foods, and lower consumption of fruits and vegetables in Taiwan, as in other countries.

This dietary pattern is concerning at all stages of life, but especially during pregnancy, when it is linked to poor maternal health and jeopardises foetal growth and development. A lack of or excess of nutrients during pregnancy can cause morbid complications for both the mother and the foetus, as well as have an impact on a child's health later in life. Studies have shown an association between maternal dietary [1-3] patterns during pregnancy and infant birth weight; however, the findings are inconsistent. According to a study conducted in northern Ghana, healthy eating patterns during pregnancy (vegetables, fruits, cereals, legumes, roots and tubers, and a few high sugar/energy snacks) protect against low birth weight.

### DESCRIPTION

A recent systematic review of women's observational studies found that an unhealthy diet (e.g., refined grains, processed meat, and saturated fat and sugar sources) during pregnancy causes inflammation in physiological systems. Such inflammation reduces placental foetal blood flow even further, which is linked to lower birth weight and an increased risk of prematurity. The maternal diet's composition is critical during the early stages of pregnancy, particularly for organ development and differentiation. Furthermore, poor maternal nutrition during the later stages can have a negative impact on foetal growth rate and brain development.

However, research on the relationship between foetal growth and dietary patterns during pregnancy has been limited to Western countries. Assessments of associations between foetal development and maternal diet based on dietary patterns and diets during pregnancy vary greatly across cultures. Eastern diets contain less cheese, alcohol, fruits and vegetables, and potatoes as staple foods than Western diets. Pregnant women in the East tend to eat more fruit during their pregnancy. Pregnant women should limit their intake of vegetables, eggs, fish, and shellfish during pregnancy to avoid neonatal allergies [4,5]. Because dietary habits are frequently influenced by culture and the type of food available, investigating the characteristics of diets and practises in a study population may provide a foundation for future research.

To generate dietary patterns, an exploratory factor analysis was first performed. It is common practice to pre-group food items before calculating the principal components through an optimal weighted linear combination of food groups based on their correlation when deriving dietary patterns. Only a few of the principal components that explain the most variation are retained for further analysis. All 27 food items in the questionnaire were used in the analysis to determine the characteristics of the dietary patterns. The factors were rotated using Varimax, and the extracted (retained) factors were defined using a graphic scree plot. A priori dietary patterns can be deduced, in which foods are classified into patterns based on their known functions.

### CONCLUSION

We defined two dietary patterns and demonstrated how they are related to LBW in mothers. Diets high in processed foods

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were linked to an increase in LBW. Fried meat, processed meat and poultry, refined grains, sweets, desserts, fast food, snack foods, soda, and sweetened beverages comprised a "processed" dietary pattern, whereas fresh fruit, vegetables, whole grains, fish and seafood, legumes, poultry, nuts, seeds, and non-processed meat comprised a "healthy" dietary pattern. A healthy dietary pattern provided greater protection against LBW in this study. Similarly, a study of pregnant women in northern Ghana found two food consumption patterns: healthy (local preparations containing maize flour and maize meal, yams, fruits, vegetables, meat, and eggs) and unhealthy (sweetened drinks, ice cream, chocolate drinks, and soda); the healthy pattern was also associated with lower birth weight.

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