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Original Research

Pregnant immigrant Nigerian women: an exploration of dietary intakes



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ABSTRACT

Objective: The aim of the study is to explore the dietary intakes of a prominent ethnic minority group of women from Sub-Saharan Africa during pregnancy, in order to identify nutritional issues of concern which may impact on pregnancy outcomes and whether different food based dietary guidelines may be required to meet their needs.

Study design: This is an observational study with quantitative assessment of nutrient intakes and an exploration of meal composition and food choices.

Methods: Fifty-two Nigerian pregnant women in their second or third trimester of pregnancy were recruited from antenatal clinics in the National Maternity Hospital, Dublin, Ireland. Early pregnancy weight was measured and body mass index recorded. A 24 h dietary recall was used to assess food and nutrient intakes.

Results: Eighty-nine per cent of the study population were classified as overweight or obese. These women appear to be maintaining traditional African dietary habits and have a healthy macronutrient composition in the diet. The intake of key pregnancy micronutrients such as calcium, vitamin D and folate may be insufficient from diet alone to meet requirements and supplements may be inadequately utilized in a timely manner.

Conclusions: These women represent a vulnerable obstetric group that may be at risk of adverse pregnancy outcomes due to high obesity rates and inadequate micronutrient status in early pregnancy. Provision of dietary advice should be tailored to suit their cultural dietary practices and food preferences. Pre-conception counselling on healthy lifestyle and appropriate supplement usage may be beneficial, although larger studies are required to assess the need for specific nutrition policy recommendations.

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Introduction

Pregnancy is a critical stage of development during which optimal maternal nutrition can positively influence obstetric and neonatal outcomes.^{1,2} Dietary guidelines and advice for pregnant women are often tailored to suit the cultural food preferences of the nation from where they are produced. For example, in Ireland, pregnant women are advised to consume five portions of fruit and vegetables and five portions of dairy products each day, and oily fish once per week.³ A study which analysed the dietary patterns in a predominantly Irish pregnant cohort identified a 'health conscious' dietary pattern, which was characterized by greater compliance to dietary guidelines, lower intake of total and saturated fat and higher intake of folate, iron and vitamins A and C, compared to women identified as part of the 'unhealthy' cluster.⁴ However, with increasing migration trends worldwide, obstetric populations now consist of mixed ethnic groups with varying dietary practices and what is considered a healthy dietary pattern for one ethnic group, may not be applicable to another. Cultural and religious beliefs, as well as different taste preferences, are some of the factors which influence dietary habits among ethnic minority groups. Poor knowledge among healthcare professionals of ethnic diets and nutritional needs of minority populations, particularly during critical life stages such as pregnancy, may be a barrier to the provision of appropriate and effective dietary advice.⁵

Consideration of traditional foods and cultural and religious factors that affect dietary choices were highlighted in a recent review of studies describing the provision of dietary advice to type 2 diabetic patients from ethnic minority groups.⁶ Furthermore, a pilot study of dietary approaches to the treatment of gestational diabetes among a multi-ethnic pregnant cohort reported that the provision of ethnic-specific meal plans improved pregnancy outcomes compared to standard dietary advice.⁷ Given the importance of maternal nutrition for optimal health and pregnancy outcomes, there is a need to identify women from minority ethnic groups that may be at risk of marginal nutritional status in the preconception and antenatal periods, and to adapt established nutritional policies and dietary advice to meet their individual and cultural needs.

Migrant women from developing countries, such as those in Sub-Saharan Africa (SSA), are one such ethnic group at risk of poor pregnancy outcomes, arising from a background of poverty, food insecurity, suboptimal healthcare facilities, frequent infections and frequent pregnancies.⁸ Nigerians are the most prevalent African population living in several developed countries, including the United States,⁹ United Kingdom¹⁰ and Ireland.¹¹ Studies conducted among pregnant Nigerian women living in Nigeria have revealed a high prevalence of both under- and over-nutrition, various micronutrient deficiencies and subsequent obstetric complications including hypertension, anaemia, low birth weight and maternal and perinatal mortality.¹² However, there are few published studies to date which describe the pregnancy outcomes of immigrant Nigerian women living in Western countries, and no studies to our knowledge which examine the link between nutrition, diet and pregnancy outcomes among this immigrant group.

Although there is a paucity of literature on the dietary habits of pregnant immigrant Nigerian or other SSA women living in developed countries, this ethnic minority group in the UK has been identified as being at high risk of obesity and deficiencies of calcium, iron and vitamin D outside of pregnancy.⁵ If such nutritional issues translate into pregnancy, it would be imperative that these women receive appropriate nutritional and antenatal care to reduce their risk of adverse pregnancy outcomes. The current study aims to explore the dietary intakes of a sample of Nigerian pregnant immigrant women living in Ireland, in order to identify any nutritional issues of concern and whether different food-based dietary guidelines may be required to meet their needs.

Methods

The study group comprised of Nigerian women in the second and third trimesters of pregnancy, attending antenatal clinics at the National Maternity Hospital, Dublin, Ireland. Healthy, non-diabetic women, of Nigerian ethnicity, aged ≥ 18 years and >12 weeks gestation were recruited into the study. Exclusion criteria were diabetes (gestational or pregestational), patients attending the clinic as an emergency case, non-Nigerian ethnicity, age <18 years, ≤ 12 weeks gestation and poor understanding of the English language. Recruitment took place between May and September 2011 and informed written consent was obtained from all participants. This study was conducted according to the guidelines laid down in the Declaration of Helsinki and ethical approval for the study was granted by the National Maternity Hospital Ethics Committee in April 2011.

Each participant was interviewed once by the research dietitian at the time of recruitment, which involved an informal discussion about the study aims, an explanation of the questionnaire and completion of the dietary assessment. A structured questionnaire was used to obtain background information including number of years lived in Ireland, level of education, smoking habits, alcohol consumption and nutritional supplement usage. Prepregnancy anthropometric data was unavailable, however, weight and height are routinely measured by clinical staff on first antenatal visits and these were recorded from participants' charts to calculate early-pregnancy body mass index (BMI). Women were considered 'late-bookers' to the antenatal clinic if they were greater than 22 weeks gestation at their first hospital visit and in such cases, a reliable early-pregnancy BMI could not be calculated.

Dietary intakes were assessed by means of a single 24 h recall for a weekday, which was conducted by the same research dietitian for all participants using the multiple pass method. The 24 h recall method was chosen as it is simple to administer in a busy clinical setting and is also recommended by the European Food Safety Authority (EFSA) for assessing dietary intakes among adults across Europe, including pregnant women and ethnic minority groups.¹³ EFSA report it to be a cost-effective method which increases participation rates and does not rely on literacy levels of participants. Furthermore, dietary recalls are frequently used in clinical studies to assess dietary intakes in pregnancy.^{14–17} Portion sizes were

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