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From the onset: impact of nutrition and lifestyle during the preconception period in urban South African young adults

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From the onset: Impact of Nutrition and Lifestyle during the Preconception period in Urban South African Young Adults

Abstract

Background

In South Africa, 22% of adolescents are overweight or obese, the onset of tobacco smoking is shown to peak between the ages of 15 and 22, 1 in 3 adolescents watch more than 3 hours of television per day, and nearly half of all adults are insufficiently active. Physical inactivity, poor diet, risky alcohol use, illicit drug use are among the behavioural risk factors associated with obesity and mental health problems, all of which have morbidity and mortality implications for adult health. Risks in later life include premature death, long-term disability, childbirth complications, gestational diabetes, diabetes and cardiovascular diseases. However, there is data paucity showing the personal, social, and environmental factors that are determinants of health, especially diet, physical activity (PA), obesity, and associated NCDs in South African adolescents and young adults.

Aim

To investigate the individual, household, and environmental factors that influence adolescents' dietary and physical activity habits and to identify ways in which these factors can be leveraged for interventions to better ensure the health of future generations, especially during the crucial preconception years.

Methods

This thesis was purposely designed to use a sequential mixed-methods approach that integrates quantitative (Chapter 3 paper 1: cross-sectional and Chapter 6 paper 4: longitudinal) and qualitative (Chapter 4 paper 2: longitudinal and Chapter 5 paper 3: cross-sectional) analyses in order to meet the four specific objectives of my research. The methods selected for this series of investigations were primarily influenced by the substantive research questions that arose, as opposed to methodological and epistemological concerns alone. I utilized three pre-existing data sources, including the "Birth-to-Twenty Cohort," the "Determinants of Type 2 Diabetes Mellitus (T2D)" study, and the "Soweto household

enumeration survey." I have gathered new prospective data that is quantitatively and qualitatively longitudinal and cross-sectional.

Results

The findings of this thesis in the context of Soweto show that the relationship between dietary patterns and nutritional status (BMI) is independent of socioeconomic status (SES). Adolescents and young adults face a variety of intersecting barriers resulting from personal preferences and their living conditions, which influence their dietary and physical activity habits while occurring at the time; this is important to consider when designing interventions to promote healthy behaviour change. Unexpected stressors, such as the outbreak of the COVID-19 pandemic, contributed to exacerbating adolescents' and young adults' poor health conditions, and as a result, the prevalence of poor nutrition intake, a lack of physical activity, and mental health issues increased. Although the nutrient patterns of adolescents and adults were comparable over time, their associations with BMI were not. The associations with BMI of the "plant-driven nutrient pattern," "fat-driven nutrient pattern," and "animal-driven nutrient pattern" revealed sex differences.

Conclusion

Adolescent diet and lifestyle continue to be important research areas in the intent to enhance preconception health and reducing maternal and infant mortality.