

## **Influence of Maternal Factors on Growth Patterns of Schoolchildren in a Rural Health and Demographic Surveillance Site in South Africa: A Mixed Method Study**

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**Abstract :** Background: The growth patterns of children are good nutritional indicators of their nutritional status, health, and socioeconomic level. However, the maternal factors and the belief system of the society affect the growth of children promoting undernutrition. This study determined the influence of maternal factors on growth patterns of schoolchildren in a rural site. Methods: A convergent mixed method study was conducted among 508 schoolchildren and their mothers in Dikgale Health and Demographic Surveillance System Site, South Africa. Multistage sampling was used to select schools (purposive) and learners (random), who were paired with their mothers. Anthropometry was measured and socio-demographic, obstetrical, household information, maternal influence on children's nutrition, and growth were assessed using an interviewer administered questionnaire (quantitative). The influence of the cultural beliefs and practices of mothers on the nutrition and growth of their children was explored using focus group discussions (qualitative). Narratives of mothers were used to best understand growth patterns of schoolchildren (mixed method). Data were analyzed using STATA 14 (quantitative) and Nvivo 11 (qualitative). Quantitative and qualitative data were merged for integrated mixed method analysis using a joint display analysis. Results: Mean age of children was  $10 \pm 2$  years, ranging from 6 to 15 years. Substantial percentages of thinness (25%), underweight (24%), and stunting (22%) were observed among the children. Mothers had a mean age of  $37 \pm 7$  years, and 75% were overweight or obese. A depressed socio-economic status indicated by a higher rate of unemployment with no income (82.3%), and dependency on social grants (86.8%) was observed. Determinants of poor growth patterns were child's age and gender, maternal age, height and BMI, access to water supply, and refrigerator use. The narratives of mothers suggested that the children in most of their households were exposed to poverty and the inadequate intake of quality food. Conclusion: Poor growth patterns were observed among schoolchildren while their mothers were overweight or obese. Child's gender, school grade, maternal body mass index, and access to water were the main determinants. Congruence was observed between most qualitative themes and quantitative constructs. A need for a multi sectoral approach considering an evidence based and feasible nutrition programs for schoolchildren, especially those in rural settings and educating mothers, cannot be over-emphasized.

**Keywords :** growth patterns, maternal factors, rural context, schoolchildren, South Africa

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