



Original article

Relationships Between Maternal Factors and Weight Loss Attempts Among Urban Male and Female Adolescents Living in Soweto, Johannesburg, South Africa



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ABSTRACT

Purpose: South Africa is undergoing rapid urban transition favoring ideals of thinness, which increases eating disorders risk for female adolescents, whereas older women continue to uphold corpulence as a female cultural value. This study aimed to assess the potential conflicting relationship between urban male and female adolescents' weight loss attempts (WLA) and maternal body image norms within households.

Methods: The study included a longitudinal sample of mother–daughter and mother–son pairs from the Birth to Twenty Plus Cohort (N = 1,613), using data collected at 13, 17, and 22 years. Sociodemographic characteristics, eating attitudes, WLA, and body mass index were assessed in mothers and their offspring. Relationships between maternal factors and offspring's WLA were assessed using both logistic regression and structural equation modeling.

Results: More females had WLA compared with their male counterparts at 13, 17, and 22 years. Multivariable models showed an independent positive association between maternal household socioeconomic status and boys' WLA at 13 years, whereas independent negative associations were found between mothers' body mass index and boys' WLA at 17 and 22 years. Mothers' age and sons' WLA at 22 years showed an independent positive association. No association was found between maternal factors and daughters' WLA.

Conclusions: Strong gender-differentiated intergenerational patterns were observed between maternal factors and offspring's WLA from early adolescence to early adulthood. The lack of relationship between

IMPLICATIONS AND CONTRIBUTION

Public health interventions must help adolescents and their families better understand the multiple factors influencing their attitudes and behaviors around eating and body image so as to promote healthy weight status and minimize eating disorder risk.

Conflicts of interest: The authors have no conflicts of interest to declare.

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maternal factors and daughters' behavior in contrast to that of sons suggests that Western acculturation may pose a greater risk for females to modern body image disturbances and eating disorders.

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Over the past several decades, there has been increasing stigmatization of body weight alongside rising rates of obesity in high-income countries [1]. Body weight norms promoting thinness as the preferred body size have been reported to exacerbate psychological and eating attitude disturbances among overweight and obese people, including African populations [2,3]. In addition, with increasing urbanization and exposure to Western media and obesity prevalence in sub-Saharan Africa [4], African countries are increasingly affected by emerging norms on thinness [5]. This is accentuated in emerging transitional countries such as South Africa and among younger generations.

Although media can influence contemporary thinking in favor of thinner body sizes among South African youth as well as African migrants [6–8], traditional African norms around stoutness as a symbol of wealth, peacefulness, health, and fertility remain [9–11]. In transitional contexts, stoutness is perceived to be a protective factor against modern body image disturbances and eating disorders, serving to counteract Western norms of thinness. Young people occupy a critical position between these two cultural models [12–14].

Moreover, many South African studies show coexistence between admiration and stigmatization of stoutness. Older black populations perceive stoutness as a symbol of health and prosperity, whereas younger people consider body fat as indicative of disease and sexual undesirability [15,16]. Although parents may still transmit traditional perceptions around large body size to their children [16,17], young people acculturated by modernization increasingly eschew overweight and obesity [18,19]. Some studies also show that parents' lifestyle and behaviors can influence their children's body weight perceptions and management [20,21], with the potential for intergenerational transmission of body image disturbances and eating disorders [20–23].

Recent South African studies show that adolescents are exposed to modern body image norms in urban areas from an early age [18]. The impact of Western media is reported to be greater among adolescent females than males regarding body weight perception and management [15], but the influence of maternal behaviors and lifestyle on sons' and daughters' body image and weight management remains underexplored. As in other studies conducted in Western countries [24,25], we assume that the familial environment of adolescents, including maternal body mass index (BMI) and eating attitudes, could impact on their body image and weight management. Therefore, this study aimed to examine the intergenerational association between maternal factors (sociodemographic characteristics, body size, and eating attitudes) and weight loss behaviors among adolescent sons and daughters within families living in Soweto, a poor urban South African township with high rates of obesity [26].

Methods

Sample

The present study consisted of a sample of 1,613 mother–adolescent (both sexes) pairs from the Birth to Twenty Plus cohort study (Bt20+). The Bt20+ study aimed to investigate the determinants of health and development among children and families in Soweto, Johannesburg [27]. Data were collected longitudinally on sociodemographic characteristics, maternal and adolescent eating attitudes, weight loss behaviors, and BMI of both mothers and their children when aged 13 (early adolescence), 17 (late adolescence), and 22 years (early adulthood). Mothers were studied once when their child was aged 12 years.

Measures

Data instruments were administered to both adolescents (males and females) and mothers.

Sociodemographic characteristics. Maternal sociodemographic characteristics that were assessed included age, socioeconomic status (SES), and level of education. SES was assessed by enumeration of the assets in the household, and education was assessed by collecting the highest academic grade (e.g., grade 7) reached by the mother [28].

Weight loss attempt. Participants were asked if they had engaged in behaviors with an aim to lose weight during the past year. A positive response coded as “weight loss attempt” indicated a WLA and a negative response coded as “no weight loss attempt” indicated an absence of WLA.

Eating attitudes. The risk of eating disorders was measured using a 26-item questionnaire, the Eating Attitudes Test-26 (EAT-26) administered by study field workers [29]. The EAT-26 is one of the most widely used standardized measures to assess eating disorders risk based on feelings and behaviors related to symptoms and concerns characteristic of eating disorders (e.g., vomiting after meal, food phobia and restriction, and body weight concern). The EAT-26 can be used as a whole to assess a global eating disorders risk (as in this study) but can also be divided into three subscales (Dieting, Bulimia and Food Preoccupation, and Oral Control subscales) to more specifically assess these main dimensions of eating disorders risk. The 26 items were on a Likert scale and coded using the system developed by Garner et al. [29]. The EAT-26 varies from 0 (minor value) to 78 (major value). An EAT-26 score of ≥ 20 indicates the need for clinical referral because of risk of eating disorders. The instrument's reliability in other South African studies ranged from α (Cronbach's) of .75 to .79 [14].

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