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Perceived stress and eating behaviors in a community-based sample of African Americans ☆

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Abstract

Previous studies have reported that psychological stress is associated with greater food consumption, particularly consumption of high fat foods. We are unaware of any studies that have examined stress-induced eating among African Americans (AAs). The goals of the current study were to examine the relationship between perceived stress and high fat eating behaviors in a sample of AAs, to examine whether this relationship is stronger among overweight and obese participants, and to examine whether haphazard meal planning mediates the relationship between perceived stress and high fat eating behaviors. One hundred fifty-nine adults from a metropolitan area completed the Perceived Stress Scale (PSS-10), the Eating Behaviors Pattern Questionnaire (EBPQ), a demographic questionnaire, and body mass was assessed with BMI. Perceived stress was associated with haphazard planning and emotional eating, but not related to other high fat eating domains in the overall sample. These findings held for overweight and obese participants with the addition of snacking on sweets. High fat eating behaviors were not mediated by haphazard meal planning. These findings are consistent with other studies which demonstrate a link between stress and eating. Long-term interventions for high fat consumption and obesity should include an examination of perceived stress among AAs.

Keywords: Eating; Stress; African Americans; Dietary fats; Food habits; Adults

1. Introduction

It has been widely reported that psychological stress and food consumption are related (Greeno & Wing, 1994; Lattimore, 2001; Oliver & Wardle, 1999; Roemmich, Wright, & Epstein, 2002). Various kinds of psychological

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stressors are implicated in overeating and poor eating choices. For example, prolonged work stress is associated with higher energy consumption, saturated fat and sugar intake, and possible weight gain, especially in restrained eaters, or those who intentionally restrict their consumption (Wardle, Steptoe, Oliver, & Lipsey, 2000). Stress induced by social situations also leads to the increased consumption of foods that are sweet, high in fat, and more energy dense (Oliver, Wardle, & Gibson, 2000). When individuals are asked to reflect upon and report their stressful experiences, perceived stress is associated with greater food consumption. Perceived stress predicts binge eating frequency three times greater than that reported by individuals with low negative stress (Pendleton, Poston, Goodrick, & Foreyt, 2001). In addition, greater perceived stress in both men and women is associated with a higher fat diet and less frequent exercise, both risk factors for obesity (Ng & Jeffery, 2003).

While greater levels of stress result in overeating, the health risks may be compounded if individuals tend to eat foods with a high fat content, primarily because high fat intake is a significant risk factor for obesity (Dreeben, 2001). Among stress-driven eaters, body-mass index (BMI) tends to be greater compared to nonstress-driven eaters. In addition, stress-driven eaters tend to eat more sausages, hamburgers, pizza, and chocolate, which are traditionally high in fat content, and consume more alcohol (Laitinen, Ek, & Sovio, 2002). Adolescents report that stress is associated with a shift toward more unhealthy dietary practices (Cartwright et al., 2003).

Greater perceived stress has been linked to poorer health outcomes for African Americans (AAs) in previous studies. More perceived stress, as measured by the Perceived Stress Scale (PSS-10-10), was shown to be negatively correlated with self-reports of health status and well-being among AA women (Young et al., 2004). The data suggest that stress reduction interventions may improve minority health outcomes thereby reducing mortality. We are unaware of any studies that have examined the relationship between perceived stress and the eating behaviors of AAs.

While the relationship between stress and eating has been supported in the literature, stress-induced eating which includes the consumption of foods that are high in fat content is of particular concern. A measure which examines the high fat eating behaviors of AAs was appropriate for this investigation. The high fat eating behaviors examined in the current study include emotional eating, snacking on sweets, cultural/lifestyle behaviors, haphazard planning, and meal skipping. These eating behavior domains were derived from the construction of the Eating Behavior Patterns Questionnaire (EBPQ) (Schlundt, Hargreaves, & Buchowski, 2003). During test construction, 40 AA women were enrolled in focus groups where they discussed food consumption patterns, completed the Meharry Food Frequency Questionnaire (Schlundt, Hargreaves, & Buchowski, 2000), and provided a 24-hour dietary recall. Utilizing these resources, items were generated which described eating attitudes and behaviors. Factor analysis was utilized to create subscales of the generated items. Ten categories of food-related attitudes and eating behaviors were reduced to six eating behavior domains using principal components analysis. The remaining items were validated with the Eating Styles Questionnaire and the Barriers to Low Fat Eating and Barriers to Eating Fruits and Vegetables questionnaires (Hargreaves et al., 1999; Schlundt et al., 2000). Scale items were deemed to be sufficiently reliable.

Due to the absence of studies concerning perceived stress and eating behaviors in the AA population, this study attempted to examine these relationships to stimulate further investigation of the stress-eating link among ethnic minorities. As such, one of the goals of the current study was to examine the relationship between perceived stress and high fat eating behaviors in a community-based sample of AAs. The second goal of the study was to examine whether the relationship between perceived stress and high fat eating behaviors is stronger among overweight participants in the sample. The final goal of the study was to examine whether the relationship between perceived stress and high fat eating behaviors is mediated by haphazard meal planning.

2. Method

2.1. Participants

The participants were 159 African American adults recruited from the Washington, D.C. metropolitan area. A total of 32 participants were excluded from the analyses due to missing data. There were 76 males and 83 females that remained. Participants were enrolled in a larger study that examined the relationship between stress and psychoneuroimmunological factors and renal health outcomes in a community-based sample of AAs. Recruitment took place at local community events, churches, and health fairs as well as through recruitment of non-patient individuals at the University hospital. Exclusion criteria included a recent history of drug abuse or psychiatric illness.