



Validation of the intuitive Eating Scale for pregnant women



Sajeevika Saumali Daundasekara ^{a,*}, Anitra Danielle Beasley ^b, Daniel Patrick O'Connor ^a, McClain Sampson ^c, Daphne Hernandez ^a, Tracey Ledoux ^a

^a Department of Health and Human Performance, University of Houston, 3875 Holman Street, Garrison Gym, Room 104, Houston, TX 77204-6015, USA

^b Obstetrics and Gynecology, Baylor College of Medicine, One Baylor Plaza, Houston, TX 77030, USA

^c Graduate College of Social Work, The University of Houston, 110HA Social Work Building, Houston, TX 77204-4013, USA

ARTICLE INFO

Article history:

Received 17 August 2016

Received in revised form

30 January 2017

Accepted 2 February 2017

Available online 3 February 2017

Keywords:

Intuitive eating

Pregnant women

Intuitive eating scale

Validation

Confirmatory factor analysis

ABSTRACT

Pre-pregnancy maladaptive eating behaviors have predicted inadequate or excess gestational weight gain and poor dietary intake during pregnancy, but little is known about effects of pre-pregnancy adaptive eating behaviors on pregnancy outcomes. The purpose of this study was to produce a valid and reliable measure of adaptive pre-pregnancy eating behaviors for pregnant women using the Intuitive Eating Scale. Data were collected from 266 pregnant women, aged 18 and older who were attending a private prenatal clinic at Texas Children's Hospital Pavilion for Women in Houston, TX using self-administered questionnaires. Confirmatory factor analysis was performed to validate the factor structure of the Intuitive Eating Scale (IES). Concurrent validity was determined using correlations between the three subscale scores [unconditional permission to eat (UPE), eating for physical not emotional reasons (EPR), and relying on hunger/satiety cues (RIH)], perinatal depression status (Edinburgh Postnatal Depression Scale), and pre-pregnancy body mass index (BMI) calculated from self-reported height and weight. After discarding 6 items, the second order model did not fit the data, however, the first order model with three latent factors had reasonable fit (RMSEA = 0.097, CFI = 0.961, TLI = 0.951 and WRMR = 1.21). The internal consistency of the scale was confirmed by Cronbach's alphas (UPE = 0.781, EPR = 0.878 and RIH = 0.786). All subscale scores were inversely related to perinatal depression status. EPR and RIH subscale scores were inversely related to pre-pregnancy BMI, supporting the measure's validity. Among pregnant women, the revised 15 item pre-pregnancy IES (IES-PreP) should be used to evaluate pre-pregnancy adaptive eating behaviors.

© 2017 Elsevier Ltd. All rights reserved.

1. Introduction

The Institute of Medicine, Gestational weight gain (GWG) recommendations for pregnancy is based on the pre-pregnancy body mass index (BMI). Women who are normal weight prior to pregnancy are recommended to gain 11.5–16 kg, the recommendation for overweight women is 7–11.5 kg and for obese women it is 5–9 kg. Inadequate and Excessive GWG are used to describe weight gain below and above this recommendation respectively. Excess GWG and poor dietary intake are related to adverse health outcomes including postpartum weight retention, gestational

diabetes, pregnancy induced hypertension, pre term deliveries, fetal growth restriction, fetal macrosomia, large for gestational age infants, neonatal hypoglycemia, and infant and childhood obesity (Dietrich, Federbusch, Grellmann, Villringer, & Horstmann, 2014; Grieger, Grzeskowiak, & Clifton, 2014; Margerison Zilko, Rehkopf & Abrams, 2010; Thangaratinam et al., 2012). According to 2012–2013 United States data, prevalence of inadequate GWG ranged from 12.6% to 25.5% and prevalence of excessive GWG ranged from 38.2% to 54.7%, while only 32.1% of women had adequate weight gain according to Institute of Medicine recommendations (Deputy, Sharma, & Kim, 2015). Additionally, a recent study showed that on average, pregnant women do not adequately conform to federal dietary guidelines (United States Department of Agriculture (USDA) Center for Nutrition Policy Promotion, 1995) with 40% of pregnant women not meeting the minimum recommended number of servings of most food groups, dietary fiber, calcium, vitamin D, iron and folate (Pick, Edwards,

* Corresponding author.

E-mail addresses: saumali88@gmail.com (S.S. Daundasekara), Anitra.Beasley@bcm.edu (A.D. Beasley), dpoconno@central.uh.edu (D.P. O'Connor), mmsampson@uh.edu (M. Sampson), dherna32@Central.UH.EDU (D. Hernandez), TALedoux@uh.edu (T. Ledoux).

Moreau, & Ryan, 2005). It is important to identify modifiable determinants of poor diet quality, excess GWG, and negative pregnancy outcomes that clinicians can assess early in pregnancy or before so that early interventions to target these factors can be developed.

In non-pregnant samples, eating behaviors regarding what, when, and how much to eat influence dietary quality and weight. Common eating behaviors linked to obesity and poor diet quality among non-pregnant adults are emotional eating, external eating and restrained eating (Van Strien, Frijters, Roosen, Knuiman-Hijl, & Defares, 1985; Van Strien, Schippers, & Cox, 1995). Eating behaviors leading to negative health consequences may be considered maladaptive (Tylka, 2006). For example, restrained eating is characterized by rigid restrictions in caloric or food intake with occasional episodes of disinhibited eating (Herman & Polivy, 1980) and is positively related to obesity, weight cycling and binge eating (Andrés & Saldaña, 2014; Johnson, Pratt, & Wardle, 2012). Pre-pregnancy maladaptive eating behaviors (e.g. restraint, disordered eating) have been related to excess and inadequate GWG and poor dietary intake during pregnancy (Conway, Reddy, & Davies, 1999; Mumford, Siega-Riz, Herring, & Evenson, 2008; Sollid, Wisborg, Hjort, & Secher, 2004). Women with eating disorders such as anorexia nervosa and bulimia nervosa prior to pregnancy were found to be at higher risk of impaired pregnancy outcomes including pre-term deliveries, small for gestational age babies and low birth weight infants (Micali, Treasure, & Simonoff, 2007; Sollid et al., 2004; Ward, 2008). Pre-pregnancy maladaptive eating behaviors have been linked with negative pregnancy outcomes, which implies these maladaptive eating behaviors should be treated before pregnancy. However, there is little information available as to what types of pre-pregnancy eating behaviors should replace pre-pregnancy maladaptive eating behaviors.

Intuitive eating (IE) was originally conceptualized by Evelyn Tribole and Elyse Resch, who are both clinical dietitians. The IE theory posits that strict food rules that ignore 'body wisdom' (i.e., hunger/satiety cues), lead to preoccupation with food and loss of control eating prompted by emotions and external cues. Tribole and Resch also suggest that honoring 'body wisdom' will normalize eating and reduce preoccupation with food and loss of control eating (Tribole & Resch, 2003). Among non-pregnant adults, IE has been related to lower BMI, stable weight, and fewer dieting behaviors and food anxieties (Schaefer & Magnuson, 2014; Smith & Hawks, 2006; Tylka & Wilcox, 2006; Tylka, 2006; Tylka & Kroon Van Diest, 2013). Interventions that promote IE among non-pregnant overweight and obese populations show weight maintenance and improved body image (Cole & Horacek, 2010; Katzer et al., 2008), and cross sectional studies of IE show higher levels of IE have been positively related to psychological well-being and negatively related to BMI making this an adaptive eating behavior among the general adult population (Augustus-Horvath & Tylka, 2011; Tylka & Wilcox, 2006; Tylka, 2006; Tylka & Kroon Van Diest, 2013). However, to date, there are no studies investigating the relationship between pre-pregnancy IE and pregnancy outcomes. To conduct this type of research, a validated measure of pre-pregnancy IE is required. If pre-pregnancy IE is protective of negative pregnancy outcomes including excess GWG, then perhaps this measure could also be used to screen for pregnant women at risk of pregnancy complications so that interventions can be initiated as early in pregnancy as possible.

The Intuitive Eating Scale (IES) is a 21-item scale with three subscales: (1) unconditional permission to eat (UPE, 9 items), (2) eating for physical rather than emotional reasons (EPR, 6 items), and (3) reliance on internal hunger and satiety cues to determine when and how much to eat (RIH, 6 items). This scale was developed and the 3-factor second order factor structure based on Tribole and

Resch's theory and was validated among predominantly female college students (Tylka, 2006). Some studies have shown that the original measure is valid with other populations but requires minor adjustments in scoring given a different factor structure (e.g. adolescents) (Dockendorff, Petrie, Greenleaf, & Martin, 2012). Before the IES can be used to assess pre-pregnancy intuitive eating among pregnant women, the validity of this measure with this population should be confirmed.

The goal of this study was to confirm the validity and reliability of the IES to test pre-pregnancy intuitive eating among pregnant women. Following procedures used by Tylka (2006) the factor structure of the scale was analyzed using a confirmatory factor analysis to determine: (1) the overall fit of data to the scale model, (2) the item loadings, and (3) the relationship between the latent factors. We hypothesized that the IES items would load on their respective latent factors as identified by Tribole and Resch (Tribole & Resch, 2003; Tylka, 2006). In addition, the latent factors would be related, load on the higher order IE factor, and the overall model would provide adequate fit to the data in a sample of pregnant women. According to the previous findings we also hypothesized that the total IES scores would demonstrate concurrent validity and be inversely related to pre-pregnancy BMI and perinatal depression status.

2. Methodology

2.1. Procedure

This study was conducted at the Texas Children's Hospital Pavilion for Women in Houston, TX, USA. The participants were pregnant women attending a private prenatal clinic at this location. Data for the study were collected from spring 2013 to summer 2014. The participant inclusion criteria for the study were women 18 years of age or older, singleton pregnancy confirmed by a physician, and willingness and ability to complete the survey in English. Women below 18 years or with current multiple pregnancy were excluded from the study.

A research coordinator distributed recruitment flyers to women entering the clinic waiting room, and women who were interested in participating in the survey were given a survey packet including: a screening checklist, a consent form, a resource list, and the questionnaire. The study was described to potential participants as an investigation of health behaviors of pregnant women.

A self-screening checklist was used in determining participant's eligibility. Written informed consent was obtained from participants while they were waiting for their appointments in the waiting room. Participants were asked to complete the survey in the same waiting room or at the examination room. No financial compensation was given to participants, however a prenatal care resource list containing contact information of community agencies, or places to get help during pregnancy was given to each participant to help find support for specific needs they have regarding the pregnancy. The survey packet was given to 300 interested and eligible participants. Nineteen women returned the questionnaires without completing any of the items and 15 women answered $\leq 90\%$ of the given measures, so they were excluded. The final was 266 participants. This study was approved by the Institutional Review Boards of the University of Houston and Baylor College of Medicine.

2.2. Socio-demographic data and body mass index

Socio-demographic data including age, race, marital status, education, employment, gestational age and household income were collected through a questionnaire consisting of items taken

Download English Version:

<https://daneshyari.com/en/article/5044137>

Download Persian Version:

<https://daneshyari.com/article/5044137>

[Daneshyari.com](https://daneshyari.com)