

**BRIEF REPORT**

Menopausal status and disordered eating and body image concerns among middle-aged women

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Abstract

Objective: Eating disorders are present among middle-aged women, yet most eating disorder knowledge comes from adolescents and young adults. There is arguably a need for research specific to middle-aged women and eating pathology. One biological factor that may contribute to eating disorder symptoms and is unique to middle-aged women is menopause, given the changes in body shape and weight that direct women's bodies away from the young, thin beauty standard.

Method: This study explored group differences in disordered eating and body image by menopausal status. Participants were 310 middle-aged women between the ages of 40 and 68. They completed an online survey about their menopausal status, disordered eating, and body image concerns. We compared disordered eating behaviors and attitudes across three groups: premenopausal women, perimenopausal women, and postmenopausal women.

Results: Results indicated no group differences on either disordered eating or body image concerns by menopausal status.

Discussion: These findings suggest the perimenopausal period may not be a window of vulnerability for women in general. Given these mixed findings, future research should examine moderators to determine when there are menopausal status group differences on eating pathology.

KEYWORDS

body image concerns, disordered eating, menopause, middle-aged women

1 | INTRODUCTION

Body image and eating disorders researchers have long studied samples of adolescent girls and young adult women. However, middle-aged women are not immune to eating disorder symptoms as approximately 4.6% of women age 40–60 meet full-threshold DSM-IV criteria for an eating disorder, and 4.8% display subthreshold eating disorder symptoms (Mangweth-Matzek et al., 2014). Further, there is evidence of increased prevalence of inpatient admissions for eating disorders among middle-aged women, with the proportion increasing from 4.7% (1989–2001) to 11.6% (2002–2006) (Ackard, Richter, Frisch, Mangham, & Cronemeyer, 2013). Thus, without a doubt, eating disorders are present among middle-aged women and eating disorder inpatient admission is possibly on the rise in this age group (although this could be due to changes in hospital policies and reimbursement practices, and not just incidence; Wiseman, Sunday, Klapper, Harris, & Halmi, 2001). Yet most eating disorder knowledge comes from

adolescents and young adults. There is arguably a need for research specific to middle-aged women and eating pathology.

One factor that could contribute to eating disorder symptoms that is unique to middle-aged women compared to younger women is menopause (Slevec & Tiggemann, 2011b). Menopause occurs when a woman experiences the permanent absence of a menstrual period for at least 12 months (Kaufert et al., 1986). The perimenopausal phase, the time during which a woman transitions to menopause, centers around changes to the hormonal system (Kaufert et al., 1986) that are associated with both an increase in weight gain and fat mass (Ho, Wu, Chan, & Sham, 2010), and a redistribution of body fat from the lower body (i.e., hips) to the upper body (i.e., waist and torso) (Voda, Christy, & Morgan, 1991). Given that these changes are in direct contrast to Western society's young, thin, beauty standard, menopause may be a particularly critical window of vulnerability for the development or exacerbation of disordered eating attitudes and behaviors.

Some research indicates that postmenopausal women report greater dietary restraint and eating disinhibition compared to premenopausal women (Copeland, Martin, Geiselman, Rash, & Kendzor, 2006; Drobnjak, Atsiz, Ditzen, Tuschen-Caffier, & Ehlert, 2014). Controlling for age, Deeks and McCabe (2001) found no differences in eating disorder symptoms between menopausal women (both perimenopausal and postmenopausal grouped) and premenopausal women; however, Mangweth-Matzek et al. (2013) found perimenopausal women reported a greater prevalence of eating disorders, higher rates of feeling fat, and greater body shape and weight preoccupation compared to premenopausal women. Discrepancies among these results could have a methodological explanation, including different menopausal groupings and variability in age minimums. More research is needed to clarify how menopause may relate to eating disorder symptoms.

The goal of the current study was to evaluate disordered eating and body image concerns among women across varying stages of menopause, using the distinction of premenopause, perimenopause, and postmenopause because evidence suggests the risk for psychopathology may change as a woman progresses through menopause (Bromberger et al., 2007). We predicted that perimenopausal women would report more disordered eating and body image concerns compared to the other groups given the changes in body shape and weight caused by hormonal fluctuations.

2 | METHOD

2.1 | Participants

Participants were the middle generation in a study of body dissatisfaction and disordered eating among three generations of women (young adult women, their mothers/middle-aged women, and their maternal grandmothers/older women). Young adult women were recruited from psychology classes at a large, public, southeastern university, and their mothers, the focus of this study, were recruited using contact information provided by their daughters.

A total of 365 mothers between the ages of 35 and 68 years old completed this study. Given prior research of midlife or menopausal women typically setting a lower age limit of 40 (Cumella & Kally, 2008; Mangweth-Matzek, Hoek, & Pope, 2014), we excluded 15 mothers who were younger than 40 years old, and two due to missing age data. Further, following prior research of menopause, we also excluded 38 women who reported a surgical induction of menopause (Mangweth-Matzek et al., 2013). These exclusions yielded a final sample of 310 women with an average of 50.14 years old ($SD = 4.59$; range 40–68 years). In terms of race/ethnicity, about 80% identified as White ($n = 249$), 10% as Asian ($n = 31$), 6% as Black ($n = 18$), and 2% as biracial or multiracial ($n = 7$); 2% ($n = 5$) did not report race/ethnicity. Mean body mass index (BMI) was 25.70 kg/m² ($SD = 5.88$; range 17.72–51.76 kg/m²) and, as an indication of socioeconomic status, participants had completed 16.17 years of education on average, the equivalent of about a 4-year college degree ($SD = 2.27$; range 9–21 years).

2.2 | Procedure

Participants received an emailed link to complete a survey as well as a recruitment phone call when phone information was available. After electronic consent, participants completed questionnaires and were compensated by entry into a drawing for ten \$15 gift cards. Completing the survey also earned their daughters course credit, providing another incentive for their participation. This study was approved by the institutional review board of the University of North Carolina at Chapel Hill.

2.3 | Measures

2.3.1 | Demographics

Self-reported demographic data were obtained for age, highest level of education, race, ethnicity, and height and weight (the latter two used to compute BMI).

2.3.2 | Menopausal status

Women self-reported their menopausal status using definitions from prior research (Mangweth-Matzek et al., 2013) and World Health Organization guidelines (World Health Organization, 1996): (a) premenopausal (i.e., menstruating regularly throughout the past 12 months with no change in normal pattern—or, if not menstruating regularly, due to use of hormonal contraception, being at a very low weight [e.g., due to anorexia nervosa], or a history of irregular periods, and not due to menopause); (b) perimenopausal (i.e., missing menstrual periods or having menstrual irregularities, e.g., changes in menstrual flow, duration, or intensity lasting for at least 3 months but less than 12 months); (c) naturally postmenopausal (i.e., amenorrhea, or the absence of a menstrual period, for more than 12 months, not attributable to medical interventions); or (d) surgically postmenopausal (e.g., due to the surgical removal of the ovaries or a total hysterectomy).

2.3.3 | Interventions for menopause

Participants were asked which of a set of interventions they used to relieve symptoms and signs of menopause, specifically interventions used at any point perimenopause and postmenopause. Given the known link between certain medications (e.g., antidepressants, hormone-related medications) and disordered eating (Baker, Girdler, & Bulik, 2012; Stunkard & Costello Allison, 2003), endorsement of the use of hormone therapy, vaginal estrogen, and low-dose antidepressants was evaluated as a potential covariate.

2.3.4 | Disordered eating

Participants completed three well-established measures of disordered eating with good psychometric support: the Eating Attitudes Test–26 (EAT-26; Garner, Olmsted, Bohr, & Garfinkel, 1982) for a broad range of eating disorder attitudes and behaviors, using the total score; the Bulimia subscale of the Eating Disorder Inventory (EDI-Bulimia; Garner, Olmsted, & Polivy, 1983) for bulimic symptoms; and the Restraint subscale from the Eating Disorder Examination-Questionnaire–4 (EDE-Q; Fairburn & Beglin, 1994) for frequency of engaging in restrictive dieting behaviors over the past 28 days. Scores for the EDI-Bulimia subscale were computed using the full 1–6 response

format in accordance with research on the validity of the EDI among nonclinical samples (van Strien & Owens, 2003). Although data collection occurred across three semesters, the Restraint subscale of the EDE-Q was added after the first data collection wave began. Thus, we only collected dietary restraint data in the latter two semesters (258 of the 310). In the current sample, coefficient alphas were 0.80 for the EAT-26, 0.85 for EDI-Bulimia, and 0.81 for EDE-Q Restraint.

2.3.5 | Body image concerns

Participants completed the Weight Concern and Shape Concern subscales of the EDE-Q (Fairburn & Beglin, 1994) to assess their body dissatisfaction related to weight and shape. Consistent with past research (Peterson et al., 2007), weight and shape concern were evaluated together as a single construct of body image concern. In the current sample, coefficient alpha for the combined Weight Concern and Shape Concern items was 0.92.

2.4 | Data analytic plan

To compare disordered eating and body image concerns across menopausal status groups, multivariate analysis of variance (MANOVA) was used for the set of disordered eating dependent variables (EAT-26, Bulimia, and Restraint), and analysis of variance (ANOVA) was used for the body image concerns dependent variable. Potential covariates considered were pharmacological interventions for menopause and demographic variables that were significantly different across menopausal group and related to dependent variables. All statistical analyses were conducted using IBM SPSS Statistics version 24.

3 | RESULTS

Across the 310 participants, mean scores, standard deviations, and minimum/maximum values were as follows: EAT-26 – $M = 6.89$ ($SD = 6.27$; range = 0.00–43.00), Bulimia – $M = 11.35$ ($SD = 4.38$; range = 7.00–35.00), Restraint – $M = 1.24$ ($SD = 1.23$; range = 0.00–6.00), and body image concerns – $M = 2.06$ ($SD = 1.42$; range = 0.00–5.83).

Descriptive statistics of demographic variables for premenopausal, perimenopausal, and postmenopausal women, along with results from chi-square analyses and ANOVAs, are presented in Table 1. Age significantly differed by group; based on follow-up pairwise comparisons using Tukey's test, postmenopausal women were significantly older than the perimenopausal women, who were significantly older than the premenopausal women. Additionally, race significantly differed by menopausal group whereby a significantly higher percentage of women self-identified as White in the postmenopausal group, compared to the premenopausal and perimenopausal groups ($ps < 0.05$). Groups did not differ significantly by Latina ethnicity, BMI, or level of education.

In examining correlations involving potential covariates, age was not significantly correlated with any of the three disordered eating constructs ($rs = -0.07$ to -0.004 , $ps > 0.241$), but was significantly negatively related to body image concerns ($r = -0.11$, $p = 0.044$). Neither race nor use of menopausal interventions was significantly related to the dependent variables ($rs = -0.03$ to 0.03 , $ps > 0.130$). Given that age was the only variable that both differed by menopausal group, and was significantly correlated with a dependent variable (body image concerns), the analysis involving body image concerns included age as a covariate. For models considering all other disordered eating outcomes, no covariates were included.

TABLE 1 Descriptive statistics and group comparisons on demographic and outcome variables

	Premenopause ($n = 104$)	Perimenopause ($n = 97$)	Postmenopause ($n = 109$)	ANOVA	Chi-square
Age (years)	46.66 (3.45)	49.53 (3.17)	54.01 (3.60)	$F(2, 307) = 125.21$, $p < 0.001$, partial $\eta^2 = 0.45$	
Race (% identifying as White)	69.2%	79.4%	91.7%		$\chi^2(2, N = 310) = 17.14$, $p < 0.001$
Ethnicity (% identifying as Latina)	6.7%	5.2%	3.7%		$\chi^2(2, N = 310) = 1.02$, $p = 0.620$
Highest level of education (years)	15.88 (2.39)	16.33 (2.12)	16.32 (2.28)	$F(2, 307) = 1.30$, $p = 0.274$, partial $\eta^2 = 0.01$	
BMI (kg/m^2)	25.75 (5.99)	25.84 (6.21)	25.54 (5.51)	$F(2, 304) = 0.07$, $p = 0.934$, partial $\eta^2 = 0.0004$	
Interventions for menopause (% using any intervention)	0.0%	21.6%	32.1%		$\chi^2(2, N = 310) = 29.45$, $p < 0.001$
EAT-26	6.95 (6.08)	7.51 (6.58)	6.29 (6.17)		
Bulimia	11.19 (4.62)	12.05 (4.88)	10.89 (3.55)		
Restraint	1.16 (1.13)	1.35 (1.31)	1.22 (1.27)		
Body image concerns	2.09 (1.51)	2.17 (1.44)	1.95 (1.33)		

Note. BMI = body mass index; EAT-26 = Eating Attitudes Test–26; EDE-Q = Eating Disorder Examination-Questionnaire; EDI-Bulimia = Bulimia subscale of the Eating Disorder Inventory.

Descriptive statistics are presented as means (standard deviations) or percentages. Highest level of education is presented in years (12 = high school graduation, 16 = 4 year college, 21 = PhD or MD). Interventions for menopause include use of hormone replacement therapy, vaginal estrogen, or antidepressants. Possible ranges of scores were as follows: EAT-26 (0–78), EDI-Bulimia (7–42), EDE-Q Restraint (0–6), and body image concerns, calculated from a combined score of the EDE-Q Weight Concern and Shape Concern subscales (0–6). For all continuous constructs, higher scores reflect greater levels of the constructs.

Comparing disordered eating and body image concerns across menopausal status groups, results indicated no significant group differences for either disordered eating behaviors using MANOVA ($F[6, 504] = 0.83$, Wilks' Lambda = 0.98, $p = 0.546$, partial $\eta^2 = 0.01$) or body image concerns using analysis of covariance, controlling for age ($F[2, 306] = 0.51$, $p = 0.599$, partial $\eta^2 = 0.003$). These findings remained the same even after controlling for age, race, and BMI (see Supporting Information).

4 | DISCUSSION

In general, the current sample reported comparable levels for EAT-26 (Johnson & Bedford, 2004), Bulimia (Mangweth-Matzek et al., 2013), and Restraint and body image concerns (Rø, Reas, & Rosenvinge, 2012) compared to other community samples of middle-aged women. This finding provides some support for the current sample accurately representing the eating pathology of the broader population of middle-aged women.

Our hypothesis, that perimenopausal women would report more disordered eating and body image concerns compared to both the premenopausal and postmenopausal women was not supported by the data. In fact, there was no support for any group differences, which is inconsistent with some prior research. However, one recent study found similar results to the current study in that perimenopausal women reported no differences in bulimic symptoms compared to premenopausal women (Baker et al., 2017). One potential explanation for this lack of consistency across research is that moderators may be important in determining when there are menopausal status group differences on eating pathology.

A strength of the current study is the large sample which let us consider menopausal status with more nuance (premenopause, perimenopause, and postmenopause) than studies only comparing premenopausal and postmenopausal women. As limitations, the study design was cross-sectional, precluding the ability to test developmental questions about menopausal transitions, and the absence of data regarding eating pathology history meant that we cannot make any conclusions regarding the development, maintenance, or exacerbation of disordered eating during this midlife period. The recruitment strategy of mothers with children in college also limits generalizability.

Future studies should evaluate potential moderators to identify who might be most vulnerable to developing an eating disorder during menopause. For example, evidence suggests that a woman's attitudes and anxieties toward aging are associated with a drive for thinness (Lewis & Cachelin, 2001) and disordered eating among middle-aged women (Slevec & Tiggemann, 2011a), suggesting negative attitudes about aging may elevate a woman's risk for disordered eating during menopause. Additionally, future studies should examine mechanisms of risk and protection throughout the menopause transition using prospective designs.

Clinically, these results suggest that patterns of eating disorder symptoms do not differ according to menopausal status. Clinicians should continue to screen for disordered eating behaviors and attitudes among all middle-aged women in general rather than focusing on a specific developmental period throughout menopause.

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SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section at the end of the article.

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