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RESEARCH

Stages of Change in the Trajectory of Postpartum Weight Self-Management

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ABSTRACT

Objective: To identify women's patterns of readiness to engage in weight self-management behaviors during the postpartum period.

Design: Prospective, longitudinal design with repeated measures, guided by the transtheoretical model of behavior change (TTM).

Setting: A tertiary perinatal center in an urban setting in the midwestern United States with approximately 3,000 births annually.

Participants: One hundred ninety-one (191) adult postpartum women.

Methods: Participants were surveyed in person during their postpartum hospitalizations, and by telephone at 4 and 8 weeks postpartum using the Stages of Change for Weight Management (SOCWM) and the Decisional Balance for Weight Management (DBWM) tools.

Results: There was a significant effect of time on stage of change for women in the postpartum period, with women in a higher stage of change at 8 weeks than during the postpartum hospitalization. There were no significant differences in stage of change at any of the three time points by prepregnant weight category or by race. Nearly one half of the sample was in the contemplation stage during the postpartum hospitalization, and more than 80% were in action or maintenance stages by 8 weeks postpartum.

Conclusions: The early postpartum period is an opportune time to influence stage of change in women's weight management behaviors. Assessment of readiness to engage in or continue weight management behaviors will allow providers to use stage-matched interventions guided by the TTM to facilitate women's self-management of weight.

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A woman experiences tremendous physical and psychosocial changes after she gives birth to an infant (George, 2005; O'Reilly, 2004), including changes in body weight and body composition. As women navigate the postpartum transition, they make many behavior choices as they assume the new or expanded motherhood roles. Their ability to manage weight during this time can be optimized or compromised depending on the behaviors adopted (Oken, Taveraas, Popoola, Rich-Edwards, & Gillman, 2007; Olson, 2005).

The postpartum period is a particularly important time for women's lifetime health as well as for future pregnancies. Women who do not lose the weight they gained during pregnancy before the end of the postpartum year are at greater risk for overweight and obesity in later adulthood than those who successfully lose their pregnancy weight (Rooney, Schauberger, & Mathiason, 2005). There is also a cumulative effect: those who retain weight gained in pregnancy carry that weight into subsequent pregnancies, irrespective of interpregnancy interval (Gore, Brown, & West, 2003; Linne & Rossner, 2003). Although the amount of weight retained after pregnancy and the time interval measured vary widely in published reports, there is consistent evidence of approximately 1.1 to 6.6 pounds (0.5 to 3 kg) of weight gain attributable to pregnancy that women retain past the postpartum year (Gore et al.).

Many personal factors place women at higher risk for retaining gestational weight. One of the most significant predictors of postpartum weight retention is a pregnancy weight gain that exceeds the amounts recommended by the most recent Institute of Medicine (IOM; 2009) guidelines. Other predictors include being an adolescent or older than age 35, of non-White ethnicity, single, low-income, having less than a college education, having high depressive symptomology, and having

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more than two children (Durham, 2008; Lyu, Lo, Chen, Wang, & Liu, 2009; Oken et al., 2007; Rubio & Montgomery, 2003; Siega-Riz et al., 2009; Sterling et al., 2009; Thame, Jackson, Manswell, Osmond, & Antoine, 2009; Walker, Fowles, & Sterling, 2011). There have been varied findings regarding whether prepregnancy weight category is predictive of weight retention, with some studies finding it to be a significant predictor of retention (Nohr et al., 2009), and others that have found it to not be a significant predictor (Huang, Wang, & Dai, 2010; Maddah & Nikooyeh, 2009). Walker (2009) provided evidence that examining the combination of a woman's prepregnancy weight status and her gestational weight gain provides a stronger predictor of postpartum weight retention than either alone. In this study, Walker examined women divided into clusters based on these two factors; the women who retained the most weight were women who were overweight or obese prior to pregnancy and who also gained more weight than was recommended.

Women's self-management of their postpartum weight is dependent on other factors, such as adoption of weight management behaviors and body image. Women with a low income and those with more than two children were also found to be less likely to adopt healthy behaviors that would lead to successful management of postpartum weight (Olson, 2005; Pereira et al., 2007; Walker et al., 2004). Cultural and social value placed on ideal weight also influences body image perceptions. White and Hispanic women place a higher value on being at a healthy weight than do Black women (Groth & David, 2008), and postpartum women of high socioeconomic status selected a thinner figure as their desired figure than did women of medium and low socioeconomic status (Shrewsbury, Robb, Power, & Wardle, 2009).

In the past decade, there has been a shift in perspectives concerning women's health—rather than thinking of women's health as a series of disconnected life stages—researchers and providers now view women's health and weight management from a life course perspective (Johnson, Gerstein, Evans, & Woodward-Lopez, 2006). What happens in one stage has cumulative effects on subsequent stages, and all are interconnected (Lu & Halfon, 2003). This shift in thinking has led to reorienting the focus of care after childbirth from immediate postpartum care needs to initiation of care for the interconceptional period, which begins immediately after the birth of a baby, continues until a subsequent pregnancy, and throughout the childbearing years (American Academy of Pediatrics and the American College of Obstetricians and Gynecologists, 2007; Centers for Disease Control and Prevention [CDC], 2006). Interconceptional care focuses on resolution of pregnancy-related physiologic and psychosocial adjustments and continuation or establishment of health behaviors targeted at comprehensive women's health. This perspective encourages providers to take advantage of episodic heath care contacts to affect future pregnancies and the woman's life-long health course. Helping women achieve a healthy weight by adopting appropriate self-management behaviors is one of the identified priorities for interconceptional care (CDC; Moos, 2010).

Weight management is a self-management process involving dietary and physical activity choices a woman must make every day (Wing, Tate, Gorin, Raynor, & Fava, 2006). On average, at 6 weeks postpartum, women retain between 3 kg and 7 kg of their gestational weight and two thirds of women are heavier than they were prior to pregnancy. At 6 weeks, most postpartum women have their follow-up visit with a provider (Walker, Sterling, & Timmerman, 2005). Because many women will have no further contact with a health care provider until their next yearly checkup or until they are pregnant again, women are on their own to manage their weight. Although providers cannot make daily choices for women, they do have an opportunity to influence women's values, beliefs, knowledge, and skills by arming women with the tools they need to successfully self-manage their weight (Ryan, 2009). It is essential that providers take into account the circumstances affecting weight and weight management choices that are unique to the postpartum period of a woman's life (O'Toole, Sawicki, & Artal, 2003; Pereira et al., 2007) while taking advantage of the fact that, in the perinatal period, women are more aware of the impact their behaviors have on their own health and the health of their child (Lewallen, 2004).

Transtheoretical Model

The transtheoretical model (Prochaska, Redding, & Evers, 1997) is a model of health behavior change that can be used to assess a person's