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Jennifer Ohlendorf

Marquette University, jennifer.ohlendorf@marquette.edu

Marianne E. Weiss

Marquette University, marianne.weiss@marquette.edu

Polly Ryan

University of Wisconsin - Milwaukee

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Weight-Management Information Needs of Postpartum Women

Jennifer M. Ohlendorf

College of Nursing, Marquette University, Milwaukee, WI

Marianne E. Weiss

College of Nursing, Marquette University, Milwaukee, WI

Polly Ryan

University of Wisconsin-Milwaukee and Froedtert Healthcare, Milwaukee, WI

Abstract

Purpose: To describe the weight loss information-seeking behaviors of postpartum women.

Study Design and Methods: The study is part of a larger longitudinal descriptive study of factors associated with women's self-management of their gestational weight loss after birth. Participants answered questions about weight loss information they planned to access, had received, wished they had received, and desired sources of information. A total of 250 women were enrolled during the postpartum hospital stay; 179 completed a 4-month follow-up.

Results: A large portion of the sample (53.3% of normal weight women, 79% of overweight women, and 81.4% obese women) identified plans to seek weight loss information, yet nearly 85% received no information from healthcare providers by 4 months postpartum. The most frequently reported desired information topics fell under the category of specific strategies to lose weight. The majority of women in the sample had access to online health information from home, work, or a library; however, more White women had this access than did Black or Hispanic women.

Clinical Implications: Postpartum hospital nurses are in a unique position to provide high-quality information with strategies for managing postpartum loss of gestational weight. Provision of high-quality online or print information can provide the foundation for successful weight-management support for prevention of gestational weight retention and long-term maintenance of a healthy weight.

Keywords

Information-seeking behavior, Postpartum, Self-management, Weight loss

Women who retain weight gained during pregnancy are at increased risk for having lifelong health complications. Research indicates that retention of pregnancy weight past the postpartum year is associated with being overweight as long as 15 years later (Viswanathan et al., 2008). In addition, women who have more than one pregnancy are likely to carry retained weight into future pregnancies. Cumulative weight retention increases their risk for poor outcomes in future pregnancies and long-term risks of obesity-related health conditions (Gore, Brown, & West, 2003).

Weight gained during pregnancy (referred to as gestational weight [GW]) retained past the postpartum period has been found to range between a net loss of 29.7 lb (13.5 kg) to a net retention of 38.9 lb (17.7 kg). This wide range does not accurately represent the scope of the problem. More telling is the fact that as many as 40% of women who were not obese prior to pregnancy retain at least 14 lb (6.4 kg) (Gore et al., 2003). Women who retain GW and are overweight or obese later in life are much more likely to develop chronic health conditions (Rooney, Schauburger, & Mathiason, 2005). Nurses are in a unique position to intervene during the postpartum hospitalization or during follow-up care to influence women's management of their GW during the postpartum period reducing their lifespan risk for being overweight and its associated health problems.

Weight management is a self-management process involving nutrition and physical activity choices women makes every day (Wing, Tate, Gorin, Raynor, & Fava, 2006). Although a healthcare provider has an opportunity to influence the daily choices, healthcare providers cannot make those choices for women. Women in the postpartum period have unique life circumstances that can present barriers to making good choices (Pereira et al., 2007). However, there is evidence that the perinatal period is a particularly good time to influence women's decision making as women report being more aware of choices they are making that may influence their health and the health of their child during this time than at other times in their life (Lewallen, 2004).

An important first step in preparation for development of a successful postpartum weight-management intervention is an understanding of what information women need to successfully self-manage their weight, as well as the types of sources women are likely to access to obtain that

information. Although providing information is not sufficient to create behavior change, women cannot make good choices without the proper information, presented in a way that will motivate and reinforce their efforts. Healthcare providers could include information about strategies to access social support for efforts to diet or exercise, strategies to overcome unhealthy social influence, information about what goals are achievable, and specific strategies to work within the constraints unique to this time in a woman's life (Bar-Ilan, Shalom, Shoham, Baruchson-Arbib, & Getz, 2006; Ryan, 2009). Lambert and Loiselle (2007) described the concept of health information-seeking behavior (HISB) in order to produce an understanding that healthcare providers can use to inform their information-providing interventions. There are two main dimensions that make up HISB. The first is the information dimension, which refers to the characteristics of the information sought and the amount of information desired. The second is the method dimension, which refers to the actions used to obtain information and the sources accessed to find that information. The initial trigger for an individual to seek health information is a gap between what they know and what they feel they need to know. Any given person may have a tendency toward being more or less likely to seek information, but the HISB within that tendency is always dependent on current personal circumstances.

There is a large and growing body of literature describing the general population's preferences for sources of health information, and a modest amount of literature addressing women's HISB in the perinatal period. Childbearing women desire information that is culturally appropriate and congruent with their life stage (Berman, 2006; Carolan, 2007). Barriers to accessing desired information are more common among women of lower socioeconomic status, as are unmet learning needs at the end of the postpartum period (Shieh, McDaniel, & Ke, 2009; Sword & Watt, 2005).



Over 50% of normal weight women, 75% of overweight women, and 82% of obese postpartum women reported plans to find information about losing the weight gained during pregnancy.

Women in the perinatal period report seeking information from a variety of sources, including printed material, childbirth educators, family or female friends, and trusted healthcare providers (Berman, 2006; Shieh et al., 2009). Use of online sources to access health information by the general public is increasing (Trotter & Morgan, 2008). The Pew Foundation (2010) has reported use of mobile devices to connect to online health information is increasing rapidly. Those most likely to use cell phones or other mobile devices to access health information are young (18-49), African American, and live in urban areas. Despite this emerging trend, the “digital divide,” evident in disparities in access to or skill with online health information resources, is still a concern and may affect those most vulnerable to health problems (Baker, Wagner, Singer, & Bundorf, 2003; Shieh et al., 2009).

Although women report a number of different sources they would use to find information on their own, research provides evidence that many pregnant and postpartum women prefer that a healthcare provider guide them through the information-seeking process, helping them find information congruent with their needs. Information obtained from healthcare providers is perceived as more useful and reliable than information sought on their own (Berman, 2006; Carolan, 2007).

Knowledge regarding women’s HISBs and patterns of information access during the perinatal period provide a foundation for understanding childbearing women’s information needs, yet there is very little information specifically addressing the health information-seeking patterns and learning needs of postpartum women. The study reported here addresses this gap by describing the information women receive about postpartum weight management, the information they would like to receive, and the sources from which they would prefer to access postpartum weight-management information. This information will aid the development of weight-management interventions for postpartum women.

Study Design and Methods

This study is part of a larger exploratory study that aimed to describe women’s concerns, goals, and behaviors related to weight management following childbirth. This analysis specifically addresses the following research questions:

1. What sources of information about postpartum weight self-management do postpartum women plan to access after childbirth?
2. What sources of information about postpartum weight loss do postpartum women actually access in the first 4 months postpartum?
3. Are there differences in women’s plans to access postpartum weight loss information by women’s race or weight classification?
4. What postpartum weight self-management information do postpartum women receive from healthcare providers and what information do they desire to receive?
5. What electronic sources do postpartum women prefer, and which do they already access?

The parent study (Ryan, Weiss, Traxel, & Brondino, 2011) was a longitudinal descriptive study guided by the Integrated Theory of Health Behavior Change [ITHBC] (Ryan, 2009). Participants completed a

survey during the post-birth hospitalization and at 4 months postpartum in which they responded to questions related to weight-management information content and sources in addition to questions guided by the ITHBC (Ryan et al., 2011).

The sample consisted of postpartum mothers at an urban tertiary-level perinatal center in the midwestern United States. The sampling plan for the study targeted enrollment of equal numbers of White, Black, and Hispanic women within normal weight (BMI 18.5-24.9), overweight (BMI 25.0-29.9), and obese (BMI 30.0 and above) weight categories (Centers for Disease Control and Prevention, 2009). Potential participants were excluded if they (a) had any major complication of childbirth resulting in an expected length of stay greater than 5 days for either the mother or newborn or if the baby was stillborn; (b) were underweight (less than a BMI of 18.5); (c) were less than 18 years of age; (d) did not read and speak sufficient English to complete study consent and interview procedures; and (e) did not have a telephone for contact for follow-up interviews.

Institutional Review Board approvals were obtained from the authors' university and the participating hospital system. Research assistants (RAs) were hired and trained by the principal investigator in the study procedures for screening for eligibility, obtaining informed consent, and collecting and recording data. RAs identified eligible participants during their postpartum hospitalization through medical record screening, obtained informed consent, and completed the enrollment questionnaire, which included questions about sources of information on losing the weight they had gained during pregnancy and what information they planned to seek about weight loss. The Ras then called each participant at 4 months after the birth of their baby to collect follow-up information, including questions about information women had received regarding loss of pregnancy weight during that 4-month period, information women would like to have received about losing their pregnancy weight, and from what sources they would have liked to have received it.

Results

A total of 250 women were enrolled and completed the initial survey; 179 (71.6%) completed the follow-up telephone interview at 4 months. The enrolled sample included a relatively equal number of White and Black women and a small sample of Hispanic women (due primarily to language barriers). Distribution across the three weight classification groups (normal, overweight, and obese) was approximately equivalent. Approximately two-thirds of women had a vaginal birth and slightly more than half were multiparous women (56.8%). The majority of women (74.4%) were married or living with the father of the baby and had some education beyond high school (61.7%). At the 4-month interview, more Black, single, and less-educated mothers were lost to follow-up. See Table 1 for a complete listing of sample demographics at enrollment and at follow-up.

Enrollment occurred during the post-birth hospitalization. At that time, few women reported that they had received any professionally provided information about how to lose their GW. Twenty-two of the 250 women (8.8%) had received information from their doctors, and 22 women (8.8%) had received information in the hospital from any healthcare professional. Only 60 of the women in the sample (24.0%) had received information from family or friends.

During the post-birth hospitalization, women also identified sources from which they planned to seek information about losing their GW. A small portion of the entire sample planned to seek GW loss

information from their healthcare providers—53 women (21.7%) planned to seek information from their doctors and 21 women (8.6%) planned to seek that information from the nurses caring for them in the hospital. At the 4-month follow-up, very few of the women who had been normal weight pre-pregnancy reported having received GW loss information from their healthcare providers (4 of 64, 6.3%). Slightly more overweight and obese women reported having received information from their healthcare providers about GW loss (23 of 112, 20.5%).

Sources of weight loss information women planned to seek differed across weight categories. For women who were normal weight pre-pregnancy, almost half (46.7%) did not plan to seek any information. The other half of women who had been normal weight prior to pregnancy planned to seek information from books or magazines, family, and Internet. By comparison very few pre-pregnancy overweight (79%) and obese women (81.4%) did not plan to seek weight loss information. For the overweight and obese women who planned to seek weight loss information, the most common lay sources were books or magazines, Internet, commercial weight loss programs, and family or friends. Table 2 provides a complete listing of sources from which women planned to access GW loss information.

In order to explore whether there were differences in plans to access postpartum weight loss information by women’s race or weight classification, χ^2 tests for independence were performed. The results indicated no significant association between race and whether women planned to seek information from their doctor ($\chi^2[2, 236] = .16, p = .06$), their nurses in the hospital ($\chi^2[2, 234] = .09, p = .43$), or from their family and friends ($\chi^2[2, 241] = .13, p = .12$). The second set of χ^2 tests indicated no significant association between pre-pregnancy weight category and whether women planned to seek information from their doctor ($\chi^2[2, 228] = .10, p = .30$), their hospital nurses ($\chi^2[2, 226] = .07, p = .57$), or from their family and friends ($\chi^2[2, 232] = .05, p = .73$).

Table 1: Sample Characteristics.

	Post-Birth	N = 250	4 months	N =179
	M (SD)		M (SD)	
Maternal age at birth	27.4 (6.0)		28.4 (6.0)	
Newborn gestational age	39.0 (1.5)		39.0 (1.5)	
	N	%	N	%
Race/Ethnicity				
White	118	47.2	105	58.7
Black	108	43.2	57	31.8
Hispanic	24	9.6	17	9.5
Weight				
Normal	93	37.2	64	35.8
Overweight	71	28.4	54	30.2
Obese	86	34.4	61	34.1
Parity				
Primipara	108	43.2	75	41.9
Multipara	142	56.8	104	58.1
Type of Birth				

Vaginal	169	67.6	115	64.2
Cesarean	81	32.4	64	35.8
Marital Status				
Married or Living with/ Father of Baby	186	74.4	144	80.5
Single, living without Father of Baby	62	25.8	34	19.0
Unknown	2	0.8	1	0.6
Education				
<High School	30	12.0	14	7.9
High School	65	26.0	37	20.7
Technical/Junior College	62	24.8	48	26.8
College Graduate	92	36.9	79	44.0
Unknown	1	0.4	1	0.6

Similar to the information obtained at the time of enrollment (postpartum hospitalization), a small number of the women in the sample (28 of 179 [15.6%]) had received information about losing their GW by the 4-month follow-up. Among the women who had received weight loss information by the 4-month follow-up, the most commonly received information in order of frequency was physical activity/exercise after childbirth, diet after childbirth, how to lose pregnancy weight, when to expect to return to pre-pregnancy weight, usual weight loss after childbirth, and specific information about breastfeeding and weight loss. Among all women, including the large number of women who received no information, the most commonly reported information that women would have liked to have received all fell under the concept of specific strategies for losing weight, such as physical activity and diet after childbirth, and how to lose the pregnancy weight or more weight than was gained during pregnancy. Several women reported they would have liked referrals to exercise classes, nutritionists, or weight-management programs. See Table 3 for a complete listing of topics participants identified as information they did receive and that they would have liked to have received.

Table 2: At Enrollment, Planned Sources for Access to Postpartum Weight Loss Information.

	Information on how to lose the weight I gained during pregnancy		
	Normal Weight Women N = 90	Overweight Women N = 70	Obese Women N = 86
Source of Info	N (%)	N (%)	N (%)
Professional Sources			
Doctor or Midwife	20 (22.2)	4 (5.7)	11 (12.8)
Hospital Nurses	10 (10.1)	5 (7.0)	7 (8.1)

Staff in Doctor's Office	5 (5.6)	4 (5.7)	6 (7.0)
Printed Information from Hospital	6 (6.7)	6 (8.5)	3 (3.5)
Lay Sources			
Books or Magazines	20 (22.2)	25 (35.2)	33 (38.4)
Family	13 (14.4)	7 (9.9)	19 (22.1)
Internet	12 (13.3)	13 (18.3)	22 (25.6)
Television	7 (7.8)	5 (7.0)	7 (8.1)
Commercial Weight Loss Program	5 (5.6)	12 (16.9)	18 (20.9)
Community Health Education Programs	7 (7.8)	8 (11.3)	7 (8.1)
Other	7 (7.8)	3 (4.2)	8 (9.3)
I will not be looking for weight loss information	42 (46.7)	22 (31.0)	16 (18.6)

The three preferred sources to access GW loss information were the same across all race and weight categories: newsletters were the most popular, followed by hospital Web site and e-mail. The majority of this sample had access to the Internet in some location, whether it was home, work, or a library. However, when Internet use was analyzed by race, more White women had Internet access at home, or had accessed the hospital's Web site in the past for health information than did Black or Hispanic women. This difference is also reflected in frequency of use of the Internet to seek health information. White women were more likely to use the Internet once a month or more to access health information than were Black or Hispanic women. Internet access and Internet use to access health information was nearly equal across weight categories. See Table 4 for a complete listing of preferred sources of information for women in this sample, as well as for information on Internet use and access.

Clinical Nursing Implications

The results of this study demonstrate a lack of professional guidance to facilitate women's GW loss self-management. In order to successfully self-manage, women must have good quality information to make the daily choices necessary to achieve a healthy weight. When analyzed by weight, half of the normal weight women, most of the overweight women and nearly all of the obese women planned to seek out weight loss information from healthcare professionals. However, on follow-up, nearly 85% of all women had received no information about weight loss from their healthcare providers. Both women who are overweight and those who are normal weight prior to pregnancy are at risk for retaining pregnancy weight after the postpartum period (Gore et al., 2003). The fact that such a small number of women who were normal weight pre-pregnancy and only one-fifth of the overweight and obese women received professionally provided information about GW loss despite plans to access that information is concerning. Healthcare providers should examine reasons for lack of attention to this critical healthcare need and reexamine our healthcare delivery models for women at this time in their life.

Our current model of postnatal care includes the post-birth hospitalization and, typically, one postpartum outpatient visit during the 6 weeks after the birth of a baby. This model has been designed to address the physical healing after a birth, but it is not well suited for facilitation of health management. It may be necessary to redesign the timing and mode of contact in order to provide professional guidance that will facilitate adoption of healthy behaviors. The realization that postpartum weight management is a normative topic for contemporary American women should provide the impetus for intentional planning of preventative interventions for postpartum weight retention.

Table 3: Four Months After Childbirth, Information Received and Information Desired.

	Among Those Who Received Information, the Types of Information That Were Received <i>N</i> = 28	The Information Women Would Have Liked to Have Received <i>N</i> = 159
Weight Loss Information	<i>N</i> (%)	<i>N</i> (%)
Specific Strategies for Losing Weight		
Physical activity/exercise after childbirth	14 (50.0)	21 (13.2)
Diet after childbirth	12 (35.7)	22 (13.8)
How to lose pregnancy weight	5 (17.9)	31 (19.5)
How to lose more than pregnancy weight	1 (3.6)	8 (5.0)
Help with specific plans	1 (3.6)	6 (3.8)
Setting realistic goals	1 (3.6)	4 (2.5)
Making good choices about weight control	1 (3.6)	3 (1.9)
Exercise with my baby	0	5 (3.1)
Specific food plan/recipe ideas	0	5 (3.1)
Alternatives	0	5 (3.1)
Hunger management	0	4 (2.5)
Tips on engaging support persons in the weight-management plan	0	3 (1.9)
Learn about self-monitoring	0	2 (1.3)
General Postpartum Weight Loss Information		
Usual weight loss after childbirth	4 (14.3)	7 (4.4)
When I should expect to return to prepregnancy weight	4 (14.3)	6 (3.8)
Specific info about weight loss while breastfeeding	3 (10.7)	7 (4.4)
Referral/Resources		

Referral to/information about exercise classes	1 (3.6)	10 (6.3)
Referral to/information about nutritionist	1 (3.6)	4 (2.5)
Referral to/information about weight-management programs	0	2 (1.3)
Referral to/information about support groups	0	2 (1.3)
Online resources	1 (3.6)	0
No need for info	N/A	22 (13.8)
Other	5 (17.9)	6 (3.8)

When women do not receive information from their healthcare providers, they are essentially on their own to seek out this information—and, indeed, many women in this sample indicated that they planned to seek weight loss information from nonprofessional sources (family, books or magazines, or the Internet). The postpartum hospitalization and post-discharge follow-up visits are times of interaction between women and a trusted healthcare provider that present a unique opportunity to promote the importance of weight-management values and beliefs, facilitate acquisition of high-quality information, provide resources proven to enhance skill and ability of women to manage their weight, and to provide social influence.

Weight management affects general health as well as future pregnancies. Healthcare professionals have opportunities to maximize health outcomes related to weight management by sharing knowledge and beliefs with women following the birth of a baby. There is a growing effort to improve care of women by identifying health priorities for the inter-conceptional period, which begins in the postpartum period of a preceding pregnancy. Priorities for the care of women during this period include promoting health behaviors and achieving healthy weight (Moos, 2010).

Table 4: Electronic Resources Used by and Preferred by Women in the Sample.

	Race Category			Weight Category		
	White N = 118 N (%)	Black N = 108 N (%)	Hispanic N = 24 N (%)	Normal N = 93 N (%)	Overweight N = 71 N (%)	Obese N = 86 N (%)
E-mail	54 (45.8)	25 (23.1)	6 (25.0)	32 (34.4)	26 (36.6)	27 (31.4)
Hospital Web site	63 (53.9)	29 (26.9)	10 (41.7)	37 (39.8)	33 (46.5)	32 (37.2)
Newsletter	72 (61.0)	36 (33.3)	13 (54.2)	42 (45.2)	39 (54.9)	40 (46.5)
Computer disk	18 (15.3)	19 (17.6)	7 (29.2)	18 (19.4)	11 (15.5)	15 (17.4)
Other	5 (4.2)	5 (4.6)	1 (4.2)	3 (3.2)	3 (4.2)	5 (5.8)
Internet Access						
At home	91 (77.1)	32 (29.6)	8 (33.3)	49 (52.7)	37 (52.1)	45 (52.3)
At work	57 (48.3)	21 (19.4)	5 (20.8)	27 (29.0)	25 (35.2)	31 (36.0)
Library or community center	56 (47.5)	41 (38.0)	12 (50.0)	40 (43.0)	32 (45.1)	37 (43.0)
Had ever looked at the hospital's Web site	46 (39.0)	9 (8.3)	4 (16.7)	17 (18.3)	21 (29.6)	21 (24.4)
Accesses Health Information Online						
Once a month or more	42 (35.6)	17 (15.7)	4 (16.7)	17 (18.3)	23 (32.4)	23 (26.7)
Occasionally	44 (37.3)	16 (14.8)	8 (33.3)	27 (29.0)	18 (25.4)	23 (26.7)
Never	19 (16.1)	24 (22.2)	5 (20.8)	20 (21.5)	13 (18.3)	15 (17.4)

Among women who would have liked to have received information, the most commonly desired information was on specific strategies for losing GW. This is an example of the inter-conceptual period as an opportunity for women who are receiving care for one reason (postpartum care in hospital or follow-up visits after childbirth) to receive interventions that influence their overall health and future pregnancies. Nurses can best use their time with patients by providing information about how to incorporate weight-management strategies into their life that will work in the context of having a new baby. The study's results speak directly to nurses on inpatient postpartum units, as well as nurses and advanced practice nurses who work in obstetrical outpatient clinics—it is imperative that healthcare providers see every contact with women as an opportunity to improve their long-term health.

Healthcare providers have identified several barriers to providing effective weight-management counseling to perinatal women, including not being prepared with accurate information or a risk of offending women who are sensitive about weight (Stotland et al., 2010). In this study, the healthcare providers who did provide GW loss information included topics that were identified by the overall sample as the information that women desired. Our results also showed that there was no difference in plans to access weight-management information by race or weight category. If nurses were to include this information in the care of all patients, they would be meeting the information needs of their patients and they would promote a normalization of weight concerns as something that is important for every woman.

There are multiple, competing education needs during the postpartum period (Bowman, 2005). During inpatient and outpatient postpartum encounters, nurses can ensure that women have access to weight self-management information by providing (a) guidance and links to high-quality information sources that the patient can access on their own at a time when they are personally activated to engage in weight self-management, (b) pre-prepared information on specific strategies to self-manage their GW loss, and (c) referrals to weight-management healthcare professionals and hospital- or community-based services such as postpartum exercise classes.

A large number of women in this sample indicated that they would like to receive information from their healthcare provider via the hospital's Web site, in an e-mail, or a newsletter. This result parallels a trend in the general population toward increased patient use of Internet and mobile communication resources for personal and health use (Pew Foundation, 2010; Trotter & Morgan, 2008). Most of those women indicated that they already use the Internet to access health information at least occasionally, and that they have a desire to access weight loss information using electronic sources. Future research could explore use of high-quality online resources accessible by women as a resource for weight self-management.

Clinical Nursing Implications

Nurses who work with postpartum women should:

- Make special efforts to discuss plans for postpartum weight loss, giving the women specific examples of how this might be best accomplished.

- Provide guidance and links to high-quality information sources that the women can access on their own at a time when they are personally motivated to engage in health promoting behaviors including weight self-management.
- Encourage referrals to weight management healthcare professionals and to a variety of hospital or community-based services, including postpartum exercise classes.
- Consider conducting future studies examining factors that motivate women to engage in weight self-management behaviors in the postpartum period.

This study investigated information sources planned and used by women of three ethnic backgrounds. Women of other cultures may access different information sources. The study did not address the values or beliefs attributed to personal weight that may affect information-seeking; however, it was noted that more overweight and obese women had plans to access lay, but not professional, sources of information regarding loss of GW.

The role of healthcare providers in helping women to achieve their goals for GW loss requires attention in practice and research. Future studies should examine factors that motivate women to engage weight self-management behaviors in the postpartum period to address their needs for loss of retained pregnancy weight as well as excess body weight, and the impact of the healthcare provider in assisting the activation of these behaviors. This knowledge is essential for the development of successful interventions to deliver professional guidance for women's GW self-management.

Although promotion of healthy weight should begin long before childbearing, the postpartum period provides a perfect opportunity to engage with women in planning health promoting weight self-management behaviors. Reversing the trend to retain weight from one pregnancy to the next will contribute to the lifetime health of individual women and the national obesity epidemic.

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