

Maternal Body Mass Index and Breastfeeding Duration

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Subjects and Methods

A retrospective chart review was conducted using the records of patients who specified the intention to breastfeed and were exclusively breastfeeding at the time of hospital discharge. Additionally, to provided control for variables that are known to be highly associated with early discontinuation of breastfeeding or pose significant added stress on the mother to continue, the records included in the review were solely those of non-smokers who delivered full term healthy infants.

Height and weight measurements were obtained from the record for three points over time, prior to conception, at term and at 6 weeks postpartum. The BMI (kg/m²) for all three periods was calculated respectively. The pre-conceptual, at term and postpartum BMI measurements were categorized as underweight, normal weight; overweight and obese (Table 1). The total weight gained during pregnancy was also obtained from the chart and was examined for its potential relationship to breastfeeding duration. Breastfeeding duration was measured in days from initiation at birth until weaning. Demographic data was recorded for the purpose of describing the convenience sample. Seventy-five charts were reviewed. Forty records contained data that met the review criteria.

Results

The sample consisted of 40 women with a mean age of 28.9 years (SD= 4.79). Eighty percent of the women had a normal or below normal BMI prior to conception, 10% were overweight and another 10% were obese. The mean pregnancy weight gain was 36.77lbs (SD=12.8) with a range 8lbs-59lbs. At 6 weeks postpartum 62% of the women had returned to a normal BMI, 15% were overweight and 23% were obese. The mean duration of breastfeeding was 272 days (SD=212) with a range of 15 -764 days. Duration of breastfeeding was significantly inversely correlated with the postpartum BMI, $r = -.318$ ($p < .05$). This indicated that higher BMI at 6 weeks postpartum is associated with earlier discontinuation of breastfeeding. Individuals with a BMI score < 25 prenatally breastfed for a longer duration, $r = -.314$ ($p < .05$). No differences were found with regard to infant Apgar's, or newborn problems. The prenatal BMI and term BMI was positively correlated $r = .848$ $p < 0.01$, the term BMI was positively correlated with the postpartum BMI $r = .917$ $p < 0.01$ for all individuals.

Discussion

A key point to consider is that a normal BMI preconceptually is not assurance that a woman is without risk for postpartum complications that may negatively effect her plans to breastfeed and ultimately effect the health of her newborn.

>Women who are overweight pre-conceptually should be re-evaluated at the postpartum visit for an incremental weight related risk for early discontinuation of breastfeeding.

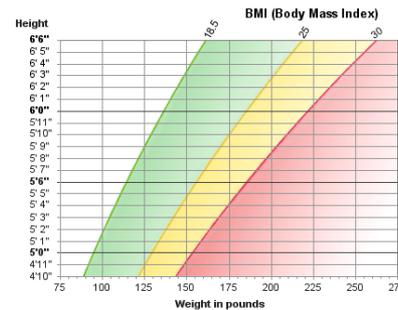
Conclusion

Breastfeeding is recognized as the superior method of feeding by many health care organizations and has been linked to a reduction in childhood obesity.

>Obesity is an epidemic in the United States and a significant public health concern. Primary prevention efforts are of critical importance.

>Early identification of women at increased risk of discontinuation of breastfeeding may be instrumental in

>Lactational support and nutritional intervention are recommendations for any woman with an elevated BMI during the reproductive cycle.



BMI Range	Frequency	Percent	Valid Percent	Cumulative Percent
17-24	32	80	80	80
25-29	4	10	10	90
30-40	4	10	10	100
Total	40	100	100	

Table 1 Study BMI Distribution

BMI Range	Study Sample		Prepreg to 6-8 Week Migration		
	Prepregnancy	6-8 Weeks Postpartum	Below / Normal	Overweight	Obese
Below/Normal	80%	60%	60.0%	0.0%	0.0%
Overweight	10%	20%	17.5%	2.5%	0.0%
Obese	10%	20%	2.5%	7.5%	10.0%

Table 2. BMI MIGRATION .

Kendall's tau_b	Prepregant BMI	Correlation Coefficient	Prepregant BMI	Birth Method
			1.000	*.0316
		Sig. (2-tailed)		0.020
		N	40	40
	Birth Method	Correlation Coefficient	*.0316	1.000
		Sig. (2-tailed)	0.020	
		N	40	40

* Correlation is significant at the .05 level (2-tailed).

Table 3 CORRELATIONS

References

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Abstract

Obesity in women is a major health concern in the United States and women of reproductive age are part of the national obesity epidemic. Excessive weight prior to conception not only presents a serious health risk to the mother and fetus during pregnancy, but also poses health concerns after the birth of the infant. One concern is the lower rate of initiation and continuation of breastfeeding among women with a high pre-pregnant body mass index (BMI). Breastfeeding behavior is multifactorial having an extensive range of variables associated with the decision to initiate breastfeeding as well as to continue. In this investigation the objective was to further explore the relationship between maternal body mass index (BMI) and breastfeeding duration. In addition to the pre-conceptual BMI, the BMI at term and at the postpartum BMI were analyzed with regard to breastfeeding duration. Of key interest in the findings from this investigation was that women who had a normal pre-conceptual BMI, but are significantly overweight or obese at 6-8 weeks postpartum assessment experienced early termination of breastfeeding and additional obstetrical interventions. The pre-pregnant BMI, when within normal range should again be re-evaluated to provide optimum care.

Introduction

Breastfeeding is recognized as a superior method of infant feeding by many health organizations including the World Health Organization (WHO), American Academy of Pediatrics (AAP), American College of Nurse Midwives (ACNM), Association of Women's Health, Obstetrics and Neonatal Nurses (AWHONN), and the American Diabetic Association (ADA) as well as others. The WHO recommends exclusive breastfeeding for the first six months of the newborns life with the continuation of breastfeeding for the first 2 years of life. The US Department of Health and Human Services has included specific targets for the initiation and duration of breastfeeding in the 2010 Healthy People goals. New reports suggest women with a higher than normal body mass index (BMI) prior to conception is less likely to initiate breastfeeding ^{1, 2}. Among women who were overweight or obese pre-conceptually and did initiated breastfeeding, the rate of early termination was considerably higher than among those with a normal pre-pregnant BMI ³. This is a public health concern as the obesity rate continues to rise among women of childbearing age, and the outcome has negative sequela for the mother and the infant as well. Breastfeeding allows the infant to respond to internal hunger and satiety cues and exert more control over the feeding interaction. Infant feeding occurs during a critical period of brain development. The self-regulating component of breastfeeding has been identified as a critical factor in the development of life time patterns of healthy eating ⁴. Researches have also reported that the obesity risk for toddlers was reduced for the children who were breastfed for at least 16 weeks without exposure to formula ⁵. A large scale prospective investigation of breastfeeding duration (<20 weeks) and infant weight gain during the first year of life found that women with a pre pregnant BMI > 30 breastfed less than 20 weeks, and introduced solid food sooner. Infants in this situation gained and additional 0.7 kg of weight during the first year. Infants who received solid food, but continued to be breastfed did not have the additional weight gain ⁶.