



Are health science students' beliefs about infant nutrition evidence-based?

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SUMMARY

Background: Globally, breastfeeding is a fundamental health promotion strategy, improving the health of mothers and infants, well beyond childhood. Healthcare professionals have the responsibility of providing breastfeeding education to families. Worldwide, most healthcare professionals do not receive sufficient evidence-based education to adequately support breastfeeding families.

Objectives: (1) What experiences have university health science students had with breastfeeding? (2) What are university health science students' beliefs and attitudes toward breast and formula feeding of infants? (3) What are the perceptions of university health science students about how other important people in their lives regard breastfeeding? (4) What are the relationships between students' personal experiences with breastfeeding and their beliefs and attitudes about infant feeding choices?

Design: A descriptive cross-sectional survey conceptualized using the Theory of Planned Behavior.

Setting: The health science college within a major metropolitan research university in the United States.

Participants: Health science undergraduate and graduate students (N = 514), who were over the age of 18 and who were enrolled during the spring of 2011.

Methods: Validated survey instruments were used to collect the data on the Theory of Planned Behavior variables. The request for participants was done by emailing all health science students. If students chose to participate, they filled out an anonymous on-line survey.

Results: Most participants were not parents; however, the majority of the 95 (21.05%) students who were parents reported their child was breastfed. Significantly more positive attitudes and beliefs were found in graduate students (n = 101; 20.10%) when compared to undergraduates (n = 403; 89.9%).

Conclusions: Health science students' beliefs and attitudes toward infant nutrition often were not evidence-based. However, all students were remarkably consistent in their responses concerning formula feeding. Incorporating adequate education about human lactation is an unmet responsibility of university health science programs.

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Introduction

Breastfeeding is a fundamental health promotion strategy, improving the health of mothers, and infants, well beyond childhood. For optimal health and nutrition, the World Health Organization (WHO, 2009) recommended that infants be breastfed exclusively for the first six months, and continued breastfeeding with complementary foods for at least two years. Despite the well-documented benefits of breastfeeding and recommendations, globally many women chose not to breastfeed or to discontinue breastfeeding within the first few postpartum months. A significant contributing factor in this cessation is the lack of evidence-based lactation management skills among healthcare providers, which has been linked to lack of didactic and

clinical content in academic programs (Bartick et al., 2010; US Department of Health and Human Services (US DHHS), 2011). This education deficit was first documented in professional literature during the early 1990s (Freed et al., 1995). Over the intervening years improvements have been less than adequate (US DHHS, 2011). The lack of momentum for curricular change has been attributed to the marketing practices of formula manufacturers and to persistent societal beliefs that human milk and manufactured formulas are equally beneficial (American Academy of Pediatrics, 2012; Palmer, 2009). The United States (US) Surgeon General (2011) recommended “education and training in breastfeeding for all health professionals who care for women and children” (p. 46). One of the key components of this recommendation is to “improve the breastfeeding content in undergraduate and graduate education” and to “establish and incorporate minimum requirements for competency in lactation into health professionals' credentialing” (p. 47). The American Academy of Breastfeeding Medicine (2011) has designed educational objectives for both undergraduate and medical school students, which they recommend as an international standard. Before curriculum can be developed to successfully implement these

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recommendations and objectives, we must understand students' current beliefs and attitudes. The purpose of this study was to determine the beliefs and attitudes of health science university students toward formula feeding and breastfeeding.

Background

Worldwide, most healthcare professionals do not receive sufficient evidence-based didactic and/or clinical education to adequately support breastfeeding families (Payne et al., 2007; Spatz et al., 2007; Spear, 2010). Therefore, faculties who teach in professional health sciences education often do not have the knowledge base to adequately prepare health science students. The lack of this curriculum in professional education has several additional causes, which include (1) a lack of an agreed upon international standard for breastfeeding curriculums, (2) a poor understanding of the importance of the extensive health benefits of breastfeeding (e.g., reduced infections in infancy and lower rates of diabetes and other chronic diseases later in life) and (3) the societal norms (American Academy of Pediatrics, 2012). As a result, many healthcare providers do not feel confident or knowledgeable in handling breastfeeding situations (Brodrribb et al., 2010; Taveras et al., 2004; WHO, 2009). This situation creates a self-perpetuating cycle that needs intentional actions to rectify this responsibility falls directly on health educators.

Brodrribb et al. (2010) found that Australian medical students had a poor understanding of the benefits of feeding breast milk vs. formulas. Prompted by this continuing situation, the American Academy of Pediatrics (AAP) developed a breastfeeding curriculum for medical residents (Feldman-Winter et al., 2010). An evaluation of this program examining participants' (N = 417) knowledge, practice patterns and confidence found that pediatric residents significantly improved in all three variables. In addition, researchers found that infants born in the institutions offering this program were significantly more likely to be breastfed for the recommended 6 months. Enhancing breastfeeding curriculum does change patient outcomes (Feldman-Winter et al., 2010).

Healthcare professionals (e.g., nurses, dietitians, physicians, and social workers) have the responsibility of providing breastfeeding education to mothers. Although the WHO (1998) recommends that all staff working in maternity services have a minimum of 18 h of breastfeeding education, not all healthcare providers do (US DHHS, 2011). Further complicating the issue is the vast majority of birthing facilities only serve the mother–infant dyad for a few days. After this time, the mother and infant are most likely to be seen by healthcare and social service providers in their community. Currently no local or international community-based standards of care exist for breastfeeding families. The Centers for Disease Control and Prevention (CDC) (2012) has documented the scarcity of community resources for US breastfeeding women. Therefore, breastfeeding women most often seek guidance from family and friends (Smith et al., 2012), highlighting the importance of all healthcare and social service providers be well versed in basic evidence-based breastfeeding information. Understanding health science students' attitudes, beliefs and previous experiences with breastfeeding is fundamental to designing curriculum that provides the necessary evidence-based education.

Several researchers have examined selected groups of university students' attitudes and beliefs. Ahmed and El Guindy (2011) examined the breastfeeding knowledge and attitudes of baccalaureate nursing students (N = 110) in Cairo, Egypt. While 80% of students reported receiving adequate knowledge and 70% were confident in their skills, researchers found low breastfeeding knowledge scores and neutral attitudes toward breastfeeding. Other researchers in Hong Kong, Australia and the US have found health science students' exposure to breastfeeding either in the university or personally associated with more positive attitudes and beliefs (Dodgson and Tarrant, 2007; Radcliffe and Payne, 2011; Tarrant and Dodgson, 2007).

Fairbrother and Stanger-Ross (2010) surveyed Canadian female undergraduate students (N = 285) regarding their knowledge, attitudes, and intentions about infant feeding. Participants significantly underestimated the health benefits and optimal duration of breastfeeding. The lack of appropriate and sufficient content about breastfeeding within nutrition and dietetics programs has been described (Payne et al., 2007). Researchers surveyed senior undergraduate nutrition and dietetics students and found that none of the participants (N = 27) perceived they had received adequate education on breastfeeding. Radcliffe and Payne (2011) provided dietitian students (N = 34) with an enhanced breastfeeding curriculum across their 4-year undergraduate program. They measured changes in knowledge, attitudes, beliefs and motivation to provide evidence-based care from entry and upon completion of the program. Student scores showed significant changes in all the measured variables. The importance of exposing all healthcare students to evidence-based breastfeeding support and promotion during their studies is suggested by these research findings.

Over the past 15 years, many researchers have found that university students are uncomfortable with both the idea and the act of breastfeeding in public (Ahmed and El Guindy, 2011; Fairbrother and Stanger-Ross, 2010; Vari, 2007). Despite greater public health efforts to normalize breastfeeding, the attitude toward breastfeeding in public has not changed in educated young adults (Acker, 2009). Using a qualitative design, Cricco-Lizza (2006) interviewed student nurses (N = 12) to explore breastfeeding attitudes, beliefs, and personal experiences with breastfeeding. She found that experiences with breastfeeding were rare for 9 (75%) participants, and that many of the U.S. born students lacked knowledge about the process of breastfeeding and verbalized their trust in the formula companies, while the students that were immigrants to the U.S. were more supportive of the benefits of breastfeeding. Despite its small sample size and the length of time ago it was published, issues regarding cultural differences in healthcare students' attitudes and knowledge were raised and still have not been adequately explored in the literature.

Conceptual Framework

The Theory of Planned Behavior (TPB) provided the framework for this study (Ajzen, 1988). The TPB is a mid-range theory that has been widely used in both breastfeeding and health promotion research (Dodgson et al., 2003; Duckett et al., 1998). This theory categorizes determinants of personal motivation to perform a specific activity into measurable concepts, making it appealing to health providers seeking to facilitate patients' behavior change (Fig. 1). To modify behavior requires understanding the beliefs and attitudes that contribute to one's intention to perform the desired behavior (Ajzen, 1988). Beliefs about the outcomes of a particular behavior (e.g., breastfeeding) influence one's attitudes toward that behavior, which in turn affect intention and behavior. In this study, we are interested in understanding students' beliefs and attitudes toward breastfeeding. In addition, the beliefs other people in general (subjective norm) and in particular (referent beliefs) affect one's intentions and behaviors. Referent beliefs for most health science students would be those beliefs about breastfeeding held by their family and friends. Subjective norm and referent beliefs of health science students may affect their intention to perform breastfeeding supportive behaviors. An individual's personal and situational attributes (e.g., ethnicity, gender, level of education) are conceptualized within the TPB theory as antecedents to their beliefs.

Purpose

Healthcare professionals play a major role in educating the public about breastfeeding, highlighting the importance of enhancing

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