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Knowledge and Attitude toward Breastfeeding among Nursing Students

Dr. Wajed Hatamleh, Dr. Zeinab Abu Sabeeb
Prince Sultan Military medical City, Center for Health Studies -Department of Nursing, Saudi Arabia

Abstract

Objectives: To evaluate breastfeeding knowledge and attitudes of nursing students while they were enrolled in the nursing college. Methods: A cross sectional design was used to collect data from a convenience sample of 113 nursing students. Data were collected using a pre-tested self administered questionnaire. Results: The majority of students were female (81.4%) and between the ages of 18-25 years (85%). Overall, 88.5% of the nursing students had adequate knowledge and positive attitude toward breastfeeding. Only 18.6% and 81.4% of male and female students respectively had a correct response to questions related to breastfeeding. This indicated a statistically significant difference by gender, p = .002. The demographic variables related to marital status, age and level of study were not statistically related to breastfeeding knowledge scores, $p > .05$. Conclusion: Gender is obviously important socio-demographic factor that influence knowledge towards breastfeeding. Therefore, in order to make sure that breastfeeding is successfully promoted, optimal breastfeeding practices must be taught equally for male and female students at all levels of nursing education. Nursing students need to inculcate high knowledge via comprehensive training programs to meet the needs of mothers and their infants.
Keywords: breastfeeding, breastfeeding Knowledge, breastfeeding attitude, nursing student

Introduction

Breastfeeding has long been recognized as the preferred method of feeding in the first year of life (ADA, 2001). Extensive research confirms the nutritional, economic, biomedical, immunological, and psychological advantages of breast milk. Considering the extensive benefits of breastfeeding, the World Health Organization and the American Dietetic Association recommend exclusive breastfeeding of infants for the first six months and continued breastfeeding with complementary foods up to 12 months of age (ADA, 2001. Despite widespread efforts to encourage breastfeeding, the rates in the Saud Arabia have remained low (Saied, 2013). In Saudi Arabia, the declining trend of exclusive breast-feeding from 90% to 50% at the age of 3 months has been reported, and the incidence of the continuation of breast-feeding for up to 2 years has dropped from 32% in 1998 to 3.2% in 2009 (Saied, 2013, Al- Sekait, 2008) .

Because the decision to breastfeed is often made long before a woman becomes pregnant, breastfeeding promotion programs should focus on educating women during their preconceptual years. Several factors can influence the initiation, duration, and exclusivity of successful breastfeeding including provision of accurate information and support to breastfeeding mothers by healthcare providers during the early weeks of breastfeeding establishment (Bernaix, 2000). Inconsistent or inaccurate information and lack of support by healthcare professionals are reported factors affecting breastfeeding failure (Bernaix, 2000; Karipis & Spicer, 1999; Narramore, 2007). Several studies suggest that nurses' knowledge and attitudes predict their intention to provide breastfeeding support (Bernaix, 2000; Register et al., 2000; Siddell et al., 2003). In order to facilitate positive attitudinal changes in individuals, health care professionals with adequate knowledge and positive attitudes about breastfeeding are critical. Although students majoring in health-related fields, who receive nutrition education, including optimum infant feeding methods, are considered future role models or advocates of breastfeeding, there is a paucity of research that explores or assesses their breastfeeding knowledge, and attitudes, and beliefs in these students. Provided that they have adequate knowledge and positive attitudes about breastfeeding, they can influence cultural beliefs and social norms to support breastfeeding. A number of studies have been conducted to assess breastfeeding practices throughout the world, but there is a lack of research that adequately assesses breastfeeding knowledge, attitudes, and intentions of health care professionals working in developed and undeveloped countries. Gaining an international perspective on how health professionals view breastfeeding will provide insight into some of the factors influencing breastfeeding rates, in addition to breastfeeding education. Schools of medicine, nursing and public health failed to include breastfeeding in their curricula in the past and even students were taught on the preparation and handling of breast milk substitutes (Hillenbrand, 2002). Although many studies identified the knowledge about breastfeeding among mothers, little is known about the knowledge and attitudes towards breastfeeding among university students or young adults in Saudi Arabia and other countries in the Gulf region.

This study will provide information regarding how nursing students, in the Saudi Arabia view breastfeeding while they are in school and later in their professional roles.

Method

Aim

The aim of this study was to investigate breastfeeding knowledge and attitudes of nursing students while they were enrolled in the nursing college.

Design and setting

A descriptive-study design was used to determine knowledge of and attitudes towards breastfeeding and breastfeeding support among a single sample of student nurses. Institutional Review Board (IRB) approval was obtained from the study center. The setting for this study was a nursing school in the middle region of the Kingdom of Saudi Arabia.

Participants

A convenience sample of undergraduate nursing students was recruited from a government nursing college/ Saudi Arabia. All student participants were made aware of the purpose of the study was explained. Prior to data collection, informed consent was obtained.

Instruments

Demographic data was collected using a tool developed for this study by the investigator. Subjects were asked to give information on age, gender, education, number of children, marital status, and, lactation status and breastfeeding education. The breastfeeding knowledge was measured using the self administered Breastfeeding Knowledge Survey which was originally developed by Sullivan (Sullivan, 2010). The breastfeeding knowledge survey consisted of a series of factual true/false questions addressed the following domains: benefits of breastfeeding to mother and child (8 questions), properties of breast milk (6 questions), the health educator profession (5 questions), and practical knowledge (12 questions). Scoring of the survey was based on the summation of correct responses, with 31 possible points.

The initial Cronbach's Alpha coefficient for Breast feeding Knowledge Survey was .67. Pearson's correlation coefficients indicated significant reliability for total scores ($r=0.69$, $P<0.001$), and for three domains: benefits of breast feeding $r=0.70$, $P<0.00I$), properties of breast milk ($r=0.83$, $P<0.001$), and practical knowledge ($r=0.71$, $P<0.001$).

The survey took approximately 20 minutes for participants to complete and was administered by two nursing instructor.

Results

Demographic

Demographic information for the students is presented in Table 1. The total number of respondents was 113 nursing students. The majority of the participants (85%) were between the ages of 18-25 years and single (77.9%). Only 15% of the students had children. Only 3.5 % (4) of the participants are pregnant. The majority of the pregnant students (75%) are planning to breastfeed their children in the future. Thirty two percents only indicated never learning about breastfeeding.

Table 1. Sociodemographic Characteristics.

Variable	**Students, n (%) N=113**
Gender	
Female	92 (81.4%)
Male	21(18.6%)
Age	
18-25	96(85%)
26-39	15(13.3%)
40-45	2(1.8%)
Educational level	
Associate	73(64.6%)
RN to BSN (Bridging)	17(15%)
Internship	23(20.4%
Marital Status	
Single	88(77.9%)
Married	23(20.4%)
Divorced	2(1.8%)
Number of Children	
0	96(85%)

1-2	5(4.4%)
3	2(1.8%)
>3	1(0.9%)
Pregnant	
Yes	4(3.5%)
no	88(77.9%)
If you are pregnant do you Plan to BF	
Yes	3(75%)
No	1(25%)
Undecided	0(0.0%)
Prior Breastfeeding(BF) Knowledge	
I have never learned about BF	32(28.2%)
I have read books about BF	35(31%)
I have attend presentations	27(23.9%)
Others	19(16.8%)

Knowledge on Breastfeeding

Knowledge of nursing students on breastfeeding was assessed by their correct responses to 31 questions given. Table 2 shows the correct responses to questions related to knowledge on breastfeeding. Overall, 88.5% of the nursing students had adequate knowledge and 11.5% of them had inadequate knowledge concerning breastfeeding. A Pearson chi-square test was conducted to determine whether male and female students differed in their breastfeeding knowledge scores. Only 18.6% and 81.4% of male and female students respectively had a correct response to questions related to breastfeeding. This indicated a statistically significant difference by gender, p = .002. The demographic variables related to marital status, age and level of study were not statistically related to breastfeeding knowledge scores, $p > .05$. Results of the chi-square tests are summarized in Table 3.

Table 2. Number and percentage of students with correct responses to the breastfeeding knowledge questions

Question related to breastfeeding	**n**	**%**
Because breastfeeding requires additional calories, women who breastfeed may take longer to return to their pre-pregnancy weight.	67	49.3
Infants who are breastfed are less likely to develop allergies and asthma than children who are formula fed	91	80.5
Infants who are formula fed are less likely to develop diabetes or become obese later in life compared to infants who are breastfed	67	59.3
Women who breastfeed will likely decrease their risk for uterine, endometrial, breast and ovarian cancer.	99	87.6
Breastfed infants will form a closer bond with the mother than formula-fed infants because of the increased skin-to skin contact between the mother and child.	95	84.1
Ear infections and diarrhoea are less common in breastfed infants	80	70.8
Breastfeeding can decrease an infant's risk of sudden infant death syndrome (SIDS)	64	56.6
Women who breastfeed have no decreased risk of postpartum depression compared to women who formula-feed their infants.	52	46
Colostrum is the antibody-rich first milk which can help the infant pass its meconium or first bowel movement.	94	83.2
With the addition of ingredients such as DHA, ARA, and iron, formula has become almost identical in composition to breast milk	50	44.2
Breast milk changes in composition and volume produced depending on the age and needs of the infant.	55	48.7
Question related to breastfeeding	**n**	**%**
Breast milk and formula are equal in their digestibility.	56	49.6
It is safe to take most medications while breastfeeding even though they can pass into breast milk.	66	58.4
A health educator has an important role in promoting breastfeeding as a preventive	98	86.7

health tool.		
The World Health Organization and the American Academy of Pediatrics recommend exclusive breastfeeding for the first 3 months of infant life	22	19.5
Health educators are required to complete breastfeeding education as part of job training	97	85.8
Health educators can help women talk through cultural, professional and other perceived barriers associated with the decision to breastfeed	95	84.1
lactation consultant are the breastfeeding professionals who have completed specific training, practice hours and passed a board certification exam about breastfeeding.	76	67.3
Mothers can help infants learn to sleep through the night by limiting feeding at night	73	64.6
To avoid a decrease in length of breastfeeding duration, it is recommended that pacifiers be avoided until one week after birth	64	56.6
To facilitate the initiation of breastfeeding, mothers should initiate skin-to-skin contact and breastfeeding within first hour of birth.	83	73.5
Most babies who are breastfed will need supplemental formula during growth spurts.	47	41.6
No additional water or food is required by breastfed infants until 4 to 6 months of age	70	61.9
During periods of hot weather, breastfed infants may need supplemental water to prevent dehydration.	31	27.6
A mother will not be able to continue exclusive breastfeeding once she goes back to work or school.	46	40.7
Infants should be breastfed on demand	87	77
The amount of milk a baby consumes is directly related to how long he or she breastfeeds.	74	65.5
A woman with smaller breasts may not produce enough milk to breastfeed her infant exclusively.	70	61.9
In most cases, a mother should keep breastfeeding even if she becomes sick or gets an infection.	48	42.5
Mothers should avoid alcohol during the months when they are breastfeeding	91	80.5

Table 3. Comparative analysis between demographic variables and breastfeeding knowledge survey score (n=113)

Demographic variable	**Level of significance (*p* value)**
Gender	0.002
Level of education	0.370
Age	0.105
Marital status	0.409
Number of children	0.627

Students Attitude toward Breastfeeding

Overall most of the participants has positive attitude towards breastfeeding. 92.9% of the nursing students thought that husband played a vital role in encouraging his wife to breastfeed their baby, the majority of them (91.2%) believed that all mothers should breastfeed their baby and they will breastfeed their baby even though no family support. However, 43.4% of them agreed that breastfeeding could spoil modern mother's image. Seventy one percent agreed that opinions from close family members should be taken into account when deciding infant feeding method. Results of nursing students' attitude are summarized in Table 3.

Table 3. Attitude of Nursing Students towards Breastfeeding (n=113)

Questions	Strongly agree (%)	Agree(%)	Disagree(%)	Strongly disagree(%)
1. All mothers should breastfeed their children	67.3	29.2	2.7	.9
2. Husband should always encourage and give moral support to his wife to breastfeed their baby	51.3	41.6	6.2	.9
3. Breastfeeding is much successful in an extended family compared to nuclear family	24.8	46.0	26.5	2.7
4. I feel that opinions from close family members should be considered in making decision whether to breastfed or not	12.4	54.9	22.1	10.6
5. In my opinion, a modern woman should not breastfeed her baby because it can spoil her image	12.6	24.8	22.1	40.7
6. I feel that breastfeeding is troublesome and time-wasting for a working mother	11.5	31.9	28.3	28.3
7. In my opinion, breastfeeding is only done by those who are poor and has low social status	7.1	25.7	28.3	38.9
8. For the sake of my baby's health, I will encourage breastfeeding even though my family does not support.	51	34.8	9.7	4.4

Discussion

The primary aim of this study was to assess knowledge, and attitudes among nursing students regarding breastfeeding in Saudi Arabia. Results suggest that, in general, the majority of the students had adequate breastfeeding knowledge and positive attitudes and beliefs regarding breastfeeding. Female nursing students demonstrated significantly greater breastfeeding knowledge score than male nursing students, $p = .002$. Kavanagh, et al. (2012) similarly reported that female participants had significantly higher breastfeeding knowledge scores than their male counterparts (9.08 vs. 8.56, $p = .02$). Marrone, et al. (2008) also found that female students showed significantly higher breastfeeding knowledge scores than male students (13.83 vs. 12.48, $p = .02$). Thus, the current findings are in line with Analysis of results for this project showed that demographic factors did not have statistically significant effects on breastfeeding knowledge scores ($p > .05$). This may be so because breastfeeding benefits and guidelines knowledge were more than likely imparted to these students in the classroom. It may be likely that the knowledge that was garnered by these students in the classroom superseded any effects of their life experiences on their knowledge level. This may speak to the influence of nursing education and its importance in molding students' knowledge and future behaviours, regardless of unique life experiences.

Although the overall knowledge on the benefits of breastfeeding was high, knowledge on the exclusiveness of breastfeeding in the first 6 months of life seems to be poor. Sixty percent of the students recommended that breastfed babies need supplemental formula during growth spurst. Knowledge on the exclusiveness of breastfeeding in the first 6 months of life remains low among university students in other settings. similarly, knowledge on the time that mothers should initiate breastfeeding was also poor (Anjum, 2007). Seventy percent of the students knew that mothers should start breastfeeding in the first few hours of delivery. This is lower than that reported from India and Hong Kong, where more than 90% of the university students agreed that mothers should start breastfeeding as soon as possible after the baby is born (Kapil, 1999, Tarrant, 2007). Efforts should be made to increase the awareness of the students on the recommendation for exclusive breastfeeding in the first 6 months of life and time of initiation.

The quality of knowledge on breastfeeding was also compromised by several misconceptions that are common among nursing students. Only 42% of the students thought mother should keep breastfeeding even if she becomes sick or gets an infection. The concern that breast milk may transmit the disease from a mother to her child could be the reason for this misconception (Cricco, 2006). Qualitative research would be better to further investigate misconceptions on breastfeeding and thus guide the efforts to minimize their impact on breastfeeding practices.

Overall, majority of nursing students had positive attitude towards breastfeeding. This is similar to that reported among university medical students in Malaysia. However the findings by Kim, H (1996) showed neutral attitude towards breastfeeding among obstetricians. Most of nursing students in this study agreed that all mothers should breastfeed their babies and that husbands play a major role in encouraging their wives to breastfeed. Arora *et al.*,

(2000) reported that the most significant factor for mothers to initiate bottle-feeding was the mother's perception of father's attitude. Therefore, it is very important for husband to discuss with his wife on the most beneficial infant feeding methods. More than 90% of them showed positive attitude by disagreeing with the common breastfeeding misconceptions such as breastfeeding could spoil image, troublesome or only for low social status. These are some of the common misconceptions that discourage modern women from breastfeeding (Tan, 2009). Therefore, it is important for nursing students to have the right attitude so that they can educate the public in the future. Nursing students, as future nurses and who will be dealing with pregnant mothers and breastfeeding related problems, should have positive attitude towards breastfeeding.

Conclusion

Although knowledge on the benefits of breastfeeding for mother and child seems to be adequate among female students, their knowledge on several aspects of breastfeeding was poor. In particular, knowledge on the exclusiveness of breastfeeding was lacking among the majority of students. Misconceptions on reasons to stop breastfeeding were also common. Being the overall main source of information, syllabus contents still considered inadequate, especially in male campus. The knowledge of students improves, as their level of education gets higher. Overall, the attitudes of students are positive. Gender is obviously important socio-demographic factor that influence knowledge towards breastfeeding. Therefore, in order to make sure that breastfeeding is successfully promoted, optimal breastfeeding practices must be taught equally for male and female students at all levels of nursing education. Nursing students need to inculcate high knowledge via comprehensive training programs to meet the needs of mothers and their infants.

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