

KNOWLEDGE OF BREASTFEEDING AMONG E-DISTANCE LEARNING NURSING UNDERGRADUATE STUDENTS AT THE UNIVERSITI TEKNOLOGI MARA

Sarimah Chan¹, Salmiah Daud¹ & Khairil Anuar Md Isa^{2*},

¹Bachelor of Nursing (Hons), Faculty of Health Sciences, Universiti Teknologi MARA, Puncak Alam, Selangor, Malaysia.

²BioStatistics and Research Methodology lecturer, Faculty of Health Sciences, Universiti Teknologi MARA, Puncak Alam, Selangor, Malaysia.

Email: khairil1996@puncakalam.uitm.edu.my Tel: 0332584300 ext: 4401 / 0332584401 Mobile: 019 9805501

*Corresponding author

ABSTRACT

Introduction: Knowledge played a major role in breastfeeding practices among nurses to provide health-education to mothers of new-born babies. The students are relentlessly involved in task of encouraging mothers to breastfeed. The purpose of this study is to investigate the level of breastfeeding knowledge among e-distant learning undergraduate nursing students at the faculty of health sciences, Puncak Alam, UiTM, Selangor.

Methods: A cross-sectional study was conducted among 136 students. Close-ended questionnaire was used to assess student's knowledge on breastfeeding of mothers.

Results: This study showed that students were highly educated, especially in terms of (a) Physiology of lactation with a mean score of 90.1% and (b) Benefits of breastfeeding with a mean score of 88.5%. But in term of breastfeeding management the mean score was only 63%. However, regarding the findings about overall knowledge level the mean score revealed 71.3% respondents with higher level score, 28% moderate score and 0.7% with a low score.

Conclusion: Therefore, we can conclude that, the majority of the students generally have high knowledge towards breastfeeding. They not only function as knowledgeable individuals but also as health care professionals who may be effective educators and promoters of breastfeeding.

Keywords: Knowledge, Breastfeeding, Nursing undergraduate student

INTRODUCTION

Nurses are the primary promoter of exclusive breastfeeding and it is only reasonable to expect that they should promote successful breastfeeding and spread awareness regarding usefulness of breast milk to the infant in the first six month. The increasing modernization confounded by the existing cultural beliefs and false practices on breastfeeding may have contributed to this phenomenon. As nurses, continue to be one of the main advocates for breastfeeding, they need to sustain a high level of knowledge on all topics pertaining to breastfeeding. The nurses being a part of this cultural milieu should not be influenced by such practices. They should not only function as knowledgeable individuals, but also must act as health

care professionals who may be effective educators and promoters of breastfeeding.

Over the past years, improvements in promoting and supporting breastfeeding have led to a dramatic increase in the number of women who choose to breastfeed. Three out of four women who leave hospitals after delivery have initiated breastfeeding, but unfortunately, rates of continuation for the recommended length of time are very low (Diamond, 1997).

If women do not have support from healthcare providers, or other knowledgeable people, to address their problems and encouragement to continue breastfeeding, it can be difficult for them and as a result many women will discontinue this act of

breastfeeding. Therefore, it is crucial that all healthcare providers who work with pregnant women and mothers of infants are well-informed about breastfeeding (Dytrych 2012). Brodribb, *et al.*, (2008) have identified gaps in breastfeeding knowledge, counselling skills, professional education, and training. Unfortunately, many studies have found that nursing and non-nursing healthcare providers lack appropriate knowledge, training, skills, and education to effectively support the act of breastfeeding. However continuing breastfeeding education to these nurses improves their knowledge, clinical skills and practices, and counselling skills (WHO, 2003).

The aim of this study lies in investigating the level of breastfeeding knowledge among e-distant learning nursing undergraduate students at the Faculty of Health Sciences, Universiti Teknologi MARA, Puncak Alam, Selangor.

METHODS

A cross-sectional study was conducted among e-distance learning nursing undergraduate students at the Faculty of Health Sciences, Universiti Teknologi MARA, Puncak Alam, Selangor, Malaysia, from April to June 2012. The sample size are n=136 out of 210 students in the three cohort. Data were collected by using self-administrated and close ended questionnaire based on a dichotomous scale, (True, not sure and false) and the score was used to detect the level of breastfeeding. These questions were adobe and selected from Brodribb *et al.*, (2008). The items was added and excluded according to the objective of the present study. Content validity of the adapted items was assessed by a panel of three nurse educators. Internal consistency was calculated, and the total score was calculated by summing the individual score of the 16 questions. Item difficulty, discrimination, and the clarity of language of the items were tested during the pilot study with 10 students. The Ethical approval from the UiTM's director was obtained for commencing this study. All respondents were provided with a statement of information and consent form was signed before participation in this study. All information gathered from respondents was kept confidential. The Statistical Package for Social Sciences software (SPSS, version 17) and Microsoft Excel, 2010 were used for data analysis.

RESULTS

Characteristics of respondents

The majority of the respondents, or 85.3% (n=116) are married and 14.7% (n=20) are not married. Majority of them have been in some post-basic courses, namely Midwifery 38.2% (n=52), Paediatric 6.6% (n=9) and others 55.1% (n=75). All the respondents are working as nurses, and the majority of them (86.6%) are government servants and 13.2% (n=18) come from the private sector. Majority of them (39%) have the total household income of more than RM 4000 per/month and 79.4% of respondents reported to have an experiences regarding breastfeeding with their children (Table 1).

Table 1: Socio-demographic characteristics of the respondents (n=136).

Characteristic	Variables	n	%
Age	24 – 29 Years	30	22.1
	30 – 35 Years	44	32.4
	36 – 40 Years	32	23.5
	>40 Years	30	22.1
Marital Status	Not married	20	14.7
	Married	116	85.3
	Divorced	–	–
Specialist course	Midwifery	52	38.2
	Paediatrics	9	6.6
	Others	75	55.1
Employment	Government	118	86.8
	Private	18	13.2
Household income	<RM 1000	–	–
	RM1001 – RM2000	4	2.9
	RM2001 – RM3000	37	27.2
	RM3001 – RM4000	42	30.9
	>RM4001	53	39.0
Experience with breastfeeding	Yes	108	79.4
	No	28	20.6

Analysis of Breastfeeding Knowledge among the study sample

The result of breastfeeding knowledge has shown that some of the respondents or 31.6% do not know that breastfeeding is more easily digested than the infant baby food. 25.7% thought that when the mother's milk was insufficient, they would not hesitate in giving their babies infant formula baby food. Some of them (42.6%) did not know, that mothers who have mastitis should continue breastfeeding at all times.

40.4% thought that if they had cracked nipples they should breast-pump their milk and let the nipples rest for 24 hours.

However, the majority of the respondents 99.3% (n=135) agreed that breastfeeding is the ideal feeding choice for babies. Almost all of them (98.5%) (n=134) knew that breastfed babies develop better immune system compared to the babies fed with infant formula baby food. 99.3% (n=135) of the respondents knew

that breastfeeding must be given during the first hour after birth. Around 92.6% (n=126) agreed if they had lower supply of milk they should increase the frequency of breastfeeding. 94.1% (n=128) knew that mother should be encouraged to breastfeed 8 to 10 times/day and the majority of the respondents or 91.9% (n=125) knew that exclusive breastfeeding was recommended until 6 months and no other supplement should be given during this time (Table 2).

Table 2: Breastfeeding knowledge among respondents (n=136).

Variable	Question No	Breastfeeding Knowledge Classified	True n (%)	False n (%)	Don't know n (%)	Correct Answered
Benefits of breastfeeding	Q1	Breastfeeding is the ideal feeding choice for babies	135 (99.3%)	1 (0.7%)	–	True
	Q2	Breastfeeding is more easily digested than infant formula baby food.	92 (67.6%)	43 (31.6%)	1 (0.7%)	True
	Q3	Immune systems of breastfeeding are more developed than immune systems of the infant formula baby food.	134 (98.5%)	2 (1.5%)	–	True
Physiology of Lactation	Q4	It is recommended for them to start breastfeeding during the first hour after birth.	135 (99.3%)	1 (0.7%)	–	True
	Q5	In general, the most appropriate practise for a woman with low milk supply is to increase the frequency of breastfeeding.	126 (92.6%)	7 (5.1%)	3 (2.2%)	True
	Q6	Mothers should be encouraged to breastfeed 8 –10 times/day.	128 (94.1%)	7 (5.1%)	1 (0.7%)	True
	Q7	If the mother feels that she has insufficient milk she can give a bottle of infant formula to her baby.	35 (25.7%)	101 (74.3%)	–	False
Breastfeeding Management	Q8	Exclusive breastfeeding is recommended until 6 months, and no other supplements are required.	125 (91.9%)	9 (6.6%)	2 (1.5%)	True
	Q9	If the mother has mastitis, she should continue to breastfeed at all time.	62 (45.6%)	58 (42.6%)	16 (11.8%)	True
	Q10	A woman with cracked nipples should breast-pump their milk and let the nipple rest for 24 hours.	55 (40.4%)	70 (51.5%)	11 (8.1%)	False

Analysis of knowledge level scored

The knowledge level score was divided into 3 categories, Low, Moderate, and High.

Out of 136 respondents, the mean score of the knowledge level shows that 71.3% (97) have the higher level score, whereas 17.5% (17) respondents obtained full marks. 28% (38) respondents had obtained moderate score and for the low score, only one respondent was reported, where she obtained 4 marks out of 10 (Table 3).

Table 3: The Knowledge Score Level among respondents (n=136).

Knowledge level Score	Correct Mark Over 10 questions	n (%)	Cum. n (%)
Low (< 4/10)	1/10	0	1 (0.7%)
	2/10	0	
	3/10	0	
	4/10	1 (0.7%)	
Moderate (5/10 – 7/10)	5/10	3 (7.9%)	38 (28.0%)
	6/10	6 (15.7%)	
	7/10	29 (76.3%)	
Higher (8/10 – 10/10)	8/10	39 (40.2%)	97 (71.3%)
	9/10	41 (42.2%)	
	10/10	17 (17.5%)	

DISCUSSION

An interesting finding of this study is that the majority of the nurses have a good knowledge of breastfeeding. Majority of them or 90.1% have higher level of accurate knowledge score about the lactation physiology of breast milk than compared to their knowledge of the benefits of breastfeeding and breastfeeding management. These scores were higher when compared with studies done in the western countries, where the score levels among the nursing students in the United State America (USA) were only 60% (Spear, 2006). Marzalik (2004) has found a low breastfeeding knowledge score of 66.21 out of 100 in USA.

Overall finding indicate that the respondents are highly knowledgeable about breastfeeding. If we look at the 3 categories of respondents, some of the higher results for the answer 'false' concerning the benefits of breastfeeding are shown in question number 2 – "that breastfeed is more easily digested than the infant formula", showed 31.6% do not know

this fact. But in another study at Purdue University, where the nursing students served as sample, showed that 76% respondents already knew that breastfeeding is easily digested than the infant formula (Ahmed and El Guindy, 2011). In this finding, it has been shown that among the respondents, they still did not know about the contents of the breast milk and the benefits of breastfeeding. A previous study about the nutrition, growth and complementary feeding of infant, suggests that human milk is ideal for infant growth and development and also the composition of breast milk changes throughout the breastfeeding period according to each infant's requirement and has an appropriate balance of nutrients that is easily digested and is bio-available (Dewey, 2001).

Regarding the question number 4 about initiation of breastfeeding during the first hour after birth, 99.3% (n=135) of the respondents knew the answer and this factor scored the highest marks compare to others questions. The American Academy of Pediatrics now recommends that healthy infants should be placed and must remain in direct skin-to-skin contact with their mother immediately after delivery until the first feeding is accomplished. The initial assessment can be completed while the baby lies on the mother and the anthropometric assessment and bathing should be delayed until the first feeding is completed (American Academy of Paediatrics, 2005). Other recent research has shown that practicing skin-to-skin contact has a positive effect on successful latching and feeding by the newborn as well as regulating infant body temperature. Handlin and associates (2009) found that skin-to-skin contact before the onset of sucking contributed to the decrease in cortisol levels observed during breastfeeding and that the longer the period of skin-to-skin contact before sucking of the breast, the lower the median cortisol levels recorded during the breastfeeding session. Skin-to-skin contact has previously been demonstrated to stimulate social interaction and bonding between mother and infant, to calm, to decrease the sensation of pain, to stimulate vagal nerve activity, and to induce anti-stress effects (Handlin et al., 2009).

According to the question (number 8) of breastfeeding regarding the category of management of exclusive breastfeeding recommended that until 6 months no other supplements are required. The majority of the respondents or 91.9% (n=125) knew

that exclusive breastfeeding was recommended until 6 months and no other supplement should be given during this time. The National Breastfeeding Policy formulated in 1993, and revised in 2005 in accordance with guidelines of the World Health Organisation, recommends exclusive breastfeeding for the first six months of life, and continued up to two years. Complementary foods should be introduced to the babies at the age of six months, before which breast milk alone is insufficient to meet their nutritional needs. Supplements, such as sugar water, formula, or any other fluid should not be given to the breastfeeding newborn unless medically indicated (*American Academy of Pediatrics, 2005*).

Another topic that was covered on in this issue of breastfeeding management is questions number 9 and 10, regarding mastitis and cracked nipples. 42.6% had wrongly assumed that if the mother has mastitis, she should not continue breastfeeding at all times and 40.4% wrongly considered that a woman with cracked nipples should pump out their milk and let the nipple rest for 24 hours. These results are too low compared with other studies done among nursing students at the Purdue University, where 62% answered 'True' for mastitis and 67% had answered the same about the issue of cracked nipples (*Ahmed and El Guindy, 2011*). It reflects that the nurses' knowledge is still rather weak. Further study is needed to identify the underlying causes why they still lack knowledge in important issues like breastfeeding management.

IMPLICATION

The findings of this study will help to improve breastfeeding education in the nursing syllabus. Thus this is a strong first step in preparing future nurses with essential and extensive breastfeeding knowledge and skills needed to support the breastfeeding mothers. Institutional support will be helpful for policy makers in making plans and programs for promoting breastfeeding practices. The hospital administrators should also help to recognize the need to reinforce and provide education for new graduates on breastfeeding management skills. Breastfeeding should be a widely discussed topic at state and local institution meetings and conferences.

RECOMMENDATION

The results will help shape recommendations

in order to expand scientific body of professional knowledge upon which further researches can be directed. These data will aid future comparative studies between nursing students and non-medical students or on other faculties of the hospitals. Further studies are also needed to identify the underlying causes why the knowledge of these nurses is still restricted in regard to breastfeeding management. Additionally, further research is needed on a national level to compare nurses with a variety of ethnic, gender and racial backgrounds.

LIMITATION OF THE STUDY

One of the limitations of this study is inadequate resources at hand due to inappropriate timing, and lack of resource collecting data and references. The duration of the research is very brief and rushed, resulting in a less-than-perfect questionnaire. The difficulty that emerged in the data collection among respondents can be explained by the fact that the seminar session was run only once in two weeks. Moreover it was time-consuming on the part of the investigator as it consumed 10–15minutes of the break time to explain to the subjects the format of the study, and data was collected at the end of the class seminar. Due to time constraint, the respondents might be hurrying, causing them to misunderstand, or read the questions rather carelessly before answering the questionnaire. The answers that were given might be biased to certain extent. Another limitation of this study is the lack of ethnic, racial and gender diversity. Hundred percent of participants were Malay and female.

CONCLUSION

The results of this study showed that the majority of students generally have high degree of knowledge. The outcome of this study can help the faculty of health sciences to enhance the breastfeeding syllabus, so that students will be able to help and guide breastfeeding mothers. In the finding of this study, the respondents not only function as knowledgeable individuals, but also as health care professionals who may be effective educators and promoters of breastfeeding in future.

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