

Original Research Article

Exclusive breastfeeding knowledge and attitude among nursing students in Beni-Suef

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ABSTRACT

Background: Previous research conclude small amount of exclusive breastfeeding among the mothers of Egypt and reflect the obvious requirement for appropriate approaches to improve exclusive breastfeeding. The study objective was to evaluate the exclusive breastfeeding attitudes and knowledge among students of nursing in Beni-Suef, Egypt.

Methods: A cross-sectional study was performed among 800 undergraduate students in the Faculty of Nursing at Beni-Suef University; convenience sampling was applied in this study, by anonymous self-administered questionnaire composed of 20 items to evaluate the students' knowledge, 17 items to assess attitudes towards breastfeeding and socio-demographics characteristics questions.

Results: Overall the majority of study participants (80.2%) had inadequate knowledge, (54.4%) of the participants has negative attitude towards breastfeeding, a statistically significant association between gender and the score of knowledge, $p=0.03$. and a statistically significant association was found between the score of knowledge and attitude $p=0.001$.

Conclusions: The conducted study illustrated inadequate knowledge and a negative attitude of undergraduate nursing students of University of Beni- Suef to exclusive breastfeeding.

Keywords: Exclusive breastfeeding, Knowledge, Bottle feeding, Nursing students

INTRODUCTION

Despite the existence of evidence of the social and health benefits of breastfeeding (BF), still, the majority of mothers breastfeed their babies for a short time and choose bottle feeding.

High prevalence of poor practices of BF and complementary feeding is detected. according to UNICEF 2018, Global exclusive BF during 0-5 months of life was reported in 41% of infants also in the Middle East and Egypt, the exclusive breastfeeding rate was 33% and 40% respectively.¹

Previous studies conclude that Egypt's mothers have a low exclusive breastfeeding (EBF) rate and that effective strategies for improving exclusive breastfeeding are essential. Considering defective breastfeeding practices along with late introduction of breast milk and early additional (pre-lacteal) substances. That adversely affects EBF and causes Egyptian mothers to stop breastfeeding.^{2,3}

The maternal decision for initiation and maintenance of EBF influenced by a variety of factors including the emotional support, practical, and encouragement from health professionals especially nurses.⁴

Many studies have found that nursing healthcare providers lacked sufficient knowledge, training, and skills to successfully support breastfeeding.⁵ Many nursing programs offer little to no breastfeeding topics in curriculums; thus, nursing students have limited knowledge and skills to support breastfeeding practices.⁶

Spear (2006) stated that breastfeeding goals and recommendations can be achieved through appropriate preparation of nursing students to provide breastfeeding support to mothers.⁷ Thus, it is nurse educator's responsibility to ensure competence of graduates to provide basic BF support in any community or healthcare setting.⁸

Therefore, knowledgeable health-care providers especially nurse has a critical role to support and promote breastfeeding. WHO (2009a) affirmed the importance of medical and nursing students preparations to support infant and young child feeding.⁹

To date, in Egypt, no studies have been carried out to evaluate nursing students' knowledge and attitudes towards exclusive breastfeeding. For exclusive breastfeeding health benefits of and the crucial role of nurses in promotion of breastfeeding, this study directed at quantifying the exclusive breastfeeding attitudes and knowledge among nursing students in Beni-Suef, Egypt.

METHODS

Setting and design

A cross-sectional design was performed among undergraduate students from the Faculty of Nursing, Beni-Suef University, Northern Upper Egypt, to assess the undergraduate nursing students' knowledge and attitude regarding exclusive breastfeeding, conducted from February to May /2019

Egypt's baccalaureate nursing program is a five-year program that involves theoretical and clinical courses for four years, and internship in different clinical settings for 1 year.

Target population

Convenience sampling was applied to this study, involving all undergraduate students from all grades and both genders. Among 1050 students enrolled in the Faculty of Nursing, 800 students participated in this study giving a response rate 76%.

Inclusion criteria

All undergraduate students from all grades and both genders in the Faculty of Nursing was included in this study.

Exclusion criteria

Absent and unwilling students were excluded in this study.

Data collection

For data gathering, an anonymous self-administered questionnaire was designed and included the following segments:

Socio-demographics characteristics

Generally, characteristics such as age in years, sex, grade, residence, and family income are being considered as socio-demographics

EBF knowledge

After an extensive review of the literature, authors developed this section that composed of 20 items to evaluate the students' knowledge about breastfeeding.¹⁰⁻¹² Two closed-ended formats were used for the knowledge part, seventeen questions of true/false and do not know option and three questions of multiple-choice options. A score of more than 11 out of the possible 20 is considered as an adequate level of knowledge and lower than 11 is considered as an inadequate level of breastfeeding.

Items were selected for optimal infant feeding based on the WHO and UNICEF breastfeeding guidelines.^{9,13} The items were also selected considering the fact that nursing students will be engaged in providing care and support to mothers in different settings where fundamental breastfeeding knowledge and skills are expected.

BF knowledge items were translated into Arabic by a jury of qualified professionals then another independent expert subsequently translated into English.

Each correct answer is scored as one point with the possible score ranges from 0 - 20. The higher the score is the higher knowledge of breastfeeding. A score of more than 11 out of the possible 20 is considered as an adequate level of knowledge and lower than 11 is considered as an inadequate level of breastfeeding.

The Arabic version of Iowa Infant Feeding Attitude Scale (IIFAS)

This scale was initially adopted by De la Mora et al as a measure of infant feeding attitudes.¹⁴ attitudes towards breast and formula feeding have been evaluated by 17 items using a Likert scale ranging from 5 (strongly agree) to 1 (strongly disagree), the IIFAS items evaluate convenience, father's involvement and health benefits of BF.

Approximately half of the items were worded to be favorable for formula-feeding and were reverse-scored

then summed with the remaining items to find out the overall score with a possible range of 17-85 points, the higher the scores, the more positive attitudes to breastfeeding.

Pilot testing

The tool was operated by 42 other faculty students, to explain terminology and identify possible difficulties with the administration of questionnaire. During the pilot process, the BF knowledge items internal consistency reliability coefficient (Cronbach's alpha) of 0.735 and content validity was evaluated by a panel of experts to explore questionnaire items for readability, clarity and comprehensiveness while the Iowa infant feeding scale (IIFAS), yielded an internal consistency reliability coefficient (Cronbach's alpha) of 0.776.

Ethical considerations

After obtaining institutional approvals, the protocol was approved by the Faculty of Medicine, University of Beni-Suef Research Ethics Committee. The students were told of the study's intent and its implications with confirmation of confidentiality of data. All participants had the right not to participate in the study.

Statistical analysis

Statistical package for the social sciences (SPSS) version 18 (SPSS Inc., Chicago, Illinois, USA) was used to analyze the research data. Frequency distribution and descriptive statistics were calculated. χ^2 Test, *t*-test, and ANOVA were done when indicated. P values below 0.05 were perceived significant.

RESULTS

Descriptive statistics of the students showed that more than half of students were males (55.4%), and (44.6%) of them were females, with ages ranged between 18-25 years. The majority of the participants were from rural areas (60.3%) and (39.7%) were from urban areas, graded from 1st to 4th grade with almost equal numbers from each grade. more than half of the students (52.2%) has sufficient income but not saving, (30.8%) has sufficient and saving income while (17%) has not sufficient income (Table 1).

Overall the majority of the participants (80.2%) had inadequate knowledge concerning exclusive breastfeeding and 19.8% of them had adequate knowledge.

A significant association between gender and knowledge, $p=0.01$ and between Grade and knowledge $p=0.007$ was detected, While demographic variables related to income and residence were not statistically linked to knowledge of breastfeeding, $p>0.05$ (Table 2).

Table 1: Socio-demographic profile of studied students.

Variable	N (%)
Age (mean±SD)	20.65±1.38
Gender	
Male	443 (55.4)
Female	357 (44.6)
Residence	
Urban	318 (39.8)
Rural	482 (60.3)
Educational stage	
1 st grade	207 (25.9)
2 nd grade	207 (25.9)
3 rd grade	197 (24.6)
4 th grade	189 (23.6)
Family Income	
Sufficient and stored	246 (30.8)
Sufficient and not stored	418 (52.2)
Not-Sufficient	136 (17.0)

Table 2: Relation between knowledge type and socio-demographic characters.

Socio-demographic characters	Knowledge		P value
	Inadequate N (%)	Adequate N (%)	
Sex			
Male	372 (84.0)	71 (16.0)	0.01*
Female	274 (76.8)	83 (23.2)	
Residence			
Urban	256 (80.5)	62 (19.5)	0.886
Rural	390 (80.9)	92 (19.1)	
Grade			
1 st	184 (88.9)	23 (11.1)	0.007*
2 nd	161 (77.8)	46 (22.2)	
3 rd	155 (78.7)	42 (21.3)	
4 th	146 (77.2)	43 (22.8)	
Income			
Enough and stored	189 (76.8)	57 (23.2)	0.172
Enough but not stored	345 (82.5)	73 (17.5)	
Not enough	112 (82.4)	34 (17.6)	

Logistic regression model employing cutoff of knowledge score as (≥ 11) points as being adequate knowledge (dependent) against the independent variables (age, sex, grade, residence and income).

Logistic regression analysis revealed that significant possible factors for predicting adequate knowledge in the nursing students were female gender and students' age ($p=0.006$ and 0.036 for gender and age respectively); (OR: 0.603 and 1.293 for gender and age respectively) (Table 3).

Table 3: Logistic regression analyses indicating associations between socio-demographic variables and adequate knowledge.

Variables	β	P value	AOR	95% C.I. for OR	
				Lower	Upper
Age	0.257	0.036*	1.293	1.017	1.644
Female	0.505	0.006*	0.603	0.420	0.867
Grade		0.139			
1st	0.002	0.997	1.002	0.389	2.583
2nd	0.533	0.130	1.704	0.854	3.401
3rd	0.193	0.493	1.213	0.698	2.109
Urban residence	-0.001	0.996	0.999	0.688	1.451
Income		0.148			
Enough and stored	0.371	0.177	1.449	0.846	2.484
Enough but not stored	-0.009	0.974	0.991	0.591	1.664
Constant	-6.834	0.013	0.001		

About (54.4%) of the participants has negative attitude towards breastfeeding.

Table 4: Relation between attitude and socio-demographic characters.

Socio-demographic characters	Attitude		P value
	Positive N (%)	Negative N (%)	
Sex			
Male	261 (58.9)	182 (41.1)	1.000
Female	211 (59.1)	146 (40.9)	
Residence			
Urban	181 (56.9)	137 (43.1)	0.340
Rural	291 (60.4)	191 (39.6)	
Grade			
1 st	120 (58.0)	87.0 (42)	0.942
2 nd	120 (58.0)	87.0 (42)	
3 rd	119 (60.4)	78 (39.6)	
4 th	113 (59.8)	76 (40.2)	
Income			
Enough and stored	128 (52)	118 (48)	0.12
Enough but not stored	258 (61.7)	160 (38.3)	
Not enough	86 (63.2)	50 (36.8)	

No significant association between breastfeeding attitude and demographic variables was found, $p > 0.05$ (Table 4).

A significant association has been identified between knowledge and attitude $p = 0.0001$ (Table 5).

Table 5: Relation between knowledge score and attitude.

Attitude	Knowledge		P value
	Inadequate N (%)	Adequate N (%)	
Negative	423 (89.6)	49 (10.4)	0.0001*
Positive	223 (68.0)	105 (32.0)	

DISCUSSION

The main objective of this research was to test the knowledge and attitudes of nursing students with respect to exclusive breastfeeding.

The study showed that the majority of the students (80.2%) had inadequate exclusive breastfeeding knowledge, in contrary to an Indian study, which declared an overall adequate knowledge for the majority of students to exclusive breast feeding.¹⁵ This inadequate knowledge may be due to the insufficient topics on breast feeding and nutrition in nursing student's curriculum, and may be due to lack of the clinical experience which improve their breastfeeding knowledge and skills Thus indicate the importance of breastfeeding education and its influence in improving nursing students' knowledge and then future behaviors.

A statistically significant difference was found between gender and knowledge, $p = 0.01$, where female nursing students showed adequate breastfeeding knowledge than male nursing students.

Similar results in North Dakota, as demonstrated that girl students had a significant high level of breastfeeding knowledge than their boy students ($p = 0.02$).¹⁵

Kavanagh, et al also declared that female students had significant adequate breastfeeding knowledge than male ones ($p = 0.02$).¹⁶ That explained while learning both male and female students are equally done, the nature of the female six make her more interested and concerned about the advantages of exclusive breast feeding as she will be a mother in the future.

Regarding the grade of nursing student, a statistically significant difference was found between student's grade and knowledge, $p = 0.0007$, where 4th grade nursing students showed greater breastfeeding knowledge level than 1st grade nursing students. As nursing students accept more knowledge through their studies in nursing faculty.

Through conducting Multivariate analysis by logistic regression, it revealed that significant possible factors for predicting adequate knowledge in the nursing students were female gender and students' age. While other study showed that limited education associated with lack of

breastfeeding knowledge and no association with other factors as family income, and age.¹⁷

The study showed nearly a negative attitude to exclusive breastfeeding that is because of the participant poor knowledge, Similar to an Egyptian study which showed also a negative attitude toward exclusive breastfeeding.¹⁸ Nursing students should have positive attitude as they will be dealing with and educate pregnant and lactating mothers.

A statistically significant difference between knowledge score and attitude, as significantly higher knowledge scores were observed among participants with positive attitude, similar results shown in a study conducted among female undergraduate university students in Syria and Lebanon.¹⁹ While the fair level of awareness among physicians to breastfeeding; more focus should be given to lactation education for nursing students to train future nurses to encourage breastfeeding among mothers and remove any wrong lactation skills.

CONCLUSION

The study showed an inadequate knowledge and a negative attitude of undergraduate nursing students of Beni-Suef University regards exclusive breast feeding. With a significant difference between gender and knowledge score, $p=0.03$. And a statistically significant difference was found between knowledge score and attitude $p=0.001$.

Limitations of the study

Choosing a convenient sample of students who filled out the questionnaires and delivered them to the investigators, making them a less representative sample. So, the stratified random sample is preferable for study design.

The studied population does not fairly capture all undergraduate students around Egypt, as one university has drawn the study participants.

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