

# The Effects of Two Different Breastfeeding Workshops on Improving Knowledge, Attitude, and Practice of Participants: a Comparative Study

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**Abstract-** Health professionals play crucial roles on the self-confidence of nursing mothers and their knowledge of breastfeeding. The aim of this study was a comparison of two different breastfeeding workshops on participants' knowledge, attitude, practice (KAP) and related factors. A cross-sectional study took place in Fetal and neonatal Research Centre (2011- 2012). The intervention composed of two different training courses in breastfeeding. Two workshops were held during three days in two parts: lectures and practical. Each speech regarded the most important aspects of breastfeeding. In training part, a breastfeeding consultant managed the practical exercises. In the second workshop the lecturers used different methods (didactic, strategies to enhance active involvement, educational devices and so on). A questionnaire was used to evaluate participants' KAP before and after each workshop. Among 40 participants in the first workshop, the average age was 37.78 years old, 32 were midwives-nurses and 8 were GPs-residents. Twenty six had children from which 19 breastfed successfully. Of 27 participants in a second workshop with an average age of 38.59 years, 19 were midwives-nurses. Fourteen reported having children from which 11 breastfed successfully. Our data showed that both workshops improved participants' KAP scores significantly. No significant differences were seen between two groups' attitude before workshops ( $P$ . Value =0.093) but this difference, after the workshop was noticeable ( $P$ . Value =0.000). The pertained background factors in changing KAP were: having children, successful breastfeeding experience and age ( $P$ . Value < 0.05). In-service breastfeeding training program improves KAP; however, the interactive, practical method is much more effective in changing attitudes of participants.

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## Introduction

There is no doubt that breastfeeding is the preferred nutrition for babies below six months. It is an important preventive factor in pediatric infectious disease, allergies, juvenile diabetes, and obesity and so on. It is also beneficial to the mothers' health by delaying fertility, protection of ovarian and breast cancers, and helping to return pelvic organs to prior pregnancy condition (1). At the 65<sup>th</sup> World Health Assembly in May 2012, WHO's Member States further reinforced the Global Strategy by endorsing a comprehensive implementation plan for

maternal, infant and young child nutrition. The plan sets six targets, one of which was for at least 50% of babies under 6 months-of-age to be exclusively breastfed by 2025. Emphasis is placed on early and exclusive breastfeeding for its substantial benefits in reducing child mortality and morbidity. Suboptimal breastfeeding is responsible for 45% of neonatal infectious deaths, 30% of diarrheal deaths and 18% of acute respiratory deaths in children under 5 (2).

In 1997, American Academy of Pediatrics suggested that mothers should attempt to breastfeed their children for at least one year or exclusively during the first 6

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months (3). According to a study, only 32.2% of women were still breastfeeding at 6 months when breastfeeding rate was 70% at hospital discharge. Stopping breastfeeding is seen more frequently in young mothers (<30 years). In The USA tendency to breastfeeding in Caucasian, highly educated, married and elder mothers are observed more than others (4).

In Korea, the main reasons for the low rate of breastfeeding were lack of knowledge and negative attitudes towards breastfeeding. Infant feeding decision depends on attitudes toward it, so early training for both male and female provide opportunities to boost their feeling against conflict and anxiety about breastfeeding (5).

Some researchers found that the reasons which cause breastfeeding failure were: back to work, social pressure, and breastfeeding problems; mastitis and sore nipple. However, physicians who are not adequately skillful in handling the breastfeeding problems could be another major cause (3). Khoury *et al.*, in 2002 pointed that many professionals are not qualified enough to provide good breastfeeding counseling to nursing mothers. In addition, the gaps in nurses' knowledge and attitude toward breastfeeding are noticeable. They also found that lactation training program, improving knowledge, promoting and supportive activities in hospitals impact positively on ability to support nursing mothers. These results were also seen after workshops in Australia and Tasmania (6). Because of crucial role of health professionals on newly mothers, the World Health Organization (WHO) in 1996 suggested that all staffs in hospitals which give maternity services should participate in at least 18 hours of breastfeeding training program (7).

Based on Iranian Health Ministry Report in 2006, only 28% of infants less than 6 months breastfed exclusively. In developing countries, lots of complications such as malnutrition, infections, neonatal mortality and morbidity occur due to infants' deprivation of breastfeeding (8).

Although some investigations showed the effects of training program on changing the knowledge, attitude and practice of health staffs, there was a paucity of data regarding comparing different methods of promoting breastfeeding. The aim of this study was to assess and compare the effects of two workshops with different methods "traditional and new style" on knowledge, attitude, practice and related factors. The study was performed in Maternal-Fetal and Neonatal research center of Tehran University of Medical Science (Tehran-Iran) in 2011- 2012.

## Materials and Methods

### Study design

A cross-sectional, non-random experimental study with a non-equivalent control group was conducted. In this study, the effectiveness of two educational interventions and related factors were surveyed. The study took place from 2011 to 2012 in Research Centre of Vali-e-Asr hospital (Tehran-Iran). The intervention composed of two different training courses (traditional and new style) in breastfeeding.

### Participants

Lecturers were professors of TUMS (Tehran University of Medical Science) who were expert in breastfeeding education. Participants, who were nurses, midwives, GPs, pediatric, gynecology, neonatology and perinatology residents registered for the two workshops.

### Intervention

The first workshop was held in three days. Each speech was 20-30 minutes regarding the most important aspects of breastfeeding consulting, problems and challenges. The topics of the program are included in Table 1.

**Table1. Contents of breastfeeding workshop**

<b>Didactic</b>	<b>Clinical Practice</b>
<b>Benefits of breastfeeding</b>	Positions and preparations for breastfeeding
<b>Global breastfeeding initiatives</b>	Latch on techniques
<b>Anatomy and physiology of lactation</b>	Assessment of infant feeding
<b>Scientific evidence to support WHO's Ten Steps to Successful Breastfeeding</b>	Assist breastfeeding mothers
<b>Problems in breastfeeding nutrition, diseases, drug usage and backing to work in nursing mothers</b>	Problem-solving of breastfeeding difficulties in the early postpartum
<b>feeding of premature, sick infants and indirect breastfeeding methods</b>	Kangaroo Mother Care (KMC)
<b>How to save the breast milk</b>	Indirect feeding with breast milk (tube, cup...)
<b>Assessment of infant growth</b>	How to extract the breast milk (hand and pump)
	Problem-oriented discussion with role playing

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In the last 10 minutes of each session, the chairman briefed and formulated the subjects. In training part of the workshop, a breastfeeding consultant managed the practical exercises with nursing mothers and infants. This practical approach was chosen to promote the participants' role as breastfeeding consultant. Then participants attended in the nursing room and practiced different breastfeeding methods and Kangaroo Mother Care as well. A questionnaire, designed as Likert, was used to evaluate learners' knowledge, attitude and practice before and after the workshop. Background information including: sex, age, marital status, parity, education, job classification, years of clinical experience, current employment area, previous attendance in breastfeeding workshop, personal breastfeeding experience including spousal, were gathered.

Outcome variables included: 1) attitudes towards breastfeeding, positive effects of consulting on nursing mothers and families' personal beliefs in breastfeeding, 2) knowledge of benefits and advantages of breastfeeding, barriers to breastfeeding, disadvantages of formula feeding and failure of breastfeeding, 3) confidence in breastfeeding consulting and practice.

The questionnaire was evaluated by experts then filled in before and after the workshop by participants in a pilot study.

After the first and before the second workshop, lecturers were invited to participate in a specific educational workshop. In this one-day workshop, professors got familiar with performing a standard workshop which besides knowledge and skills, the satisfaction of participants was considered. Then, the second workshop with some interventions in components and style of education was held.

The second breastfeeding promotion workshop was held for 27 participants in 3 days. The lecturers used different methods including didactic, strategies to enhance active involvement (making examples, group discussion, question and answer), educational devices and implementation of multiple teaching modalities. Each session was divided into two parts; giving a lecture and question-answer discussion. Learners had enough time to explain problems in the group. In training part of the workshop, a breastfeeding consultant managed the practical exercises with nursing mothers and their infants. Then some problems were expressed and practiced by role playing and problem orientation. Finally, all participants revised what they learned during sessions. A questionnaire was used to evaluate

participants' knowledge, attitude and practice before and after the workshop. Participants' background data were gathered.

### Ethical consideration

All participants were volunteers, signed and informed consent forms. Before data collection, the Review Board of University granted ethical approval. Personal data was kept confidentially.

### Statistical methods

Data were analyzed using SPSS software Version 15.0. Background data and comparison of two groups in knowledge, attitude, and practice, were done using Independent t-test, Pearson correlation test, and one-way ANOVA. *P*-value less than 0.05 were considered significant. Participants got 1 point for a response in the desired direction and 0 points at the end of the other direction. Each index had a range of scores of 0 to 5, a higher score for the most desired response based on current thinking about the matter.

## Results

Among 40 participants in the first workshop (group 1) 38 were female, ranging in age from 24 to 52 years old, the average age was 37.78 years. Thirty two people were midwives and nurses (BS, MSc.) and 8 were GPs and residents including pediatric, gynecology, neonatology and perinatology. Twenty three of 26 participants, who reported having one or more children, breastfed their babies. Nineteen of them (82.6%) breastfed successfully.

Of 27 participants in the second workshop (intervention group), 23 were female. The range of age was 21 to 70 years, the average 38.59 years. Nineteen (70.5%) were midwives-nurses, and the rest were GPs or residents. Fourteen (52%) reported having one or more children from which 11 (78.6%) breastfed successfully. Table 2 describes background data of participants of both groups.

### Pre-test data

According to an analysis of the pre-test questionnaire, two groups were similar in knowledge, attitude and practice before intervention Table 3.

In term of knowledge, more than 90% of responders in two groups indicated that breastfeeding have benefits for infant and mother and protects their health. About 50% in both groups knew disadvantages of formula on

infant's health and maintenance of breastfeeding. About 55-65% knew how to approach the breast complications.

The majority of respondents had positive attitudes

about breastfeeding, but 30% did not believe that consumption of formula is the most preventive reason of breastfeeding.

**Table 2. Demographic characteristics of participants in 2 workshops**

Characteristic	Group1 (n=40)		Group2 (intervention) (n=27)	
	Number	Percent	Number	Percent
<b>Gender</b>				
Men	2	5	4	14.8
Women	38	95	23	85.2
<b>Education</b>				
Bs/MSc.	32	80	19	70.5
GP/ Resident	8	20	8	29.5
<b>Marital status</b>				
Single	9	22.5	5	18.5
Married	31	77.5	22	81.5
<b>Having children</b>				
Yes	26	65	14	52
No	14	35	13	48
<b>Main office</b>				
Ob,gyn, delivery	16	40	5	18.5
Neonatal, Pediatric	21	45	20	74
Other	2	5	2	7.5
<b>Breastfeeding workshop experience</b>				
Yes	20	50.0	13	48.1
No	20	50.0	14	51.9
<b>Work in breastfeed consulting center experience</b>				
Yes	6	15.0	5	18.5
No	34	85.0	22	81.5
<b>Breast-fed a child in the past(yourself or your wife)</b>				
Yes	23	57.5	14	51.9
No	17	42.5	13	48.1
<b>Breastfeeding experience positive</b>	19	82.6	11	78.6
<b>Breast-fed as a child</b>				
Yes	36	90.0	21	77.8
No	4	10.0	6	22.2
	<b>Mean</b>	<b>SD</b>	<b>Mean</b>	<b>SD</b>
<b>Age( years)</b>	37.78	7.255	38.59	9.704

**Table 3. Comparison of participants' attitude, knowledge, and practice before and after two workshops**

	Workshop	P Value
<b>Attitude</b>	Before W1 & W2	0.093
	After W1 & W2	0.000
<b>Knowledge</b>	Before W1 & W2	0.12
	After W1 & W2	0.78
<b>Practice</b>	Before W1 & W2	0.202
	After W1 & W2	0.52

In terms of confidence and abilities, most of the participants in two groups were ready to consult mothers about breastfeeding and breast complications. Less than 20% in both groups were able to advise and help mothers to use devices for milking. Tables 4, 5 and 6 list

the association between background data and changing the scores of knowledge, attitude and practice. There was no association between background data and attitude, knowledge and practice in intervention group before the workshop. These factors were the same in

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changing attitude in group 1 except for having children. It also indicated that among all participants' characteristic in first workshop, personal or spousal breastfeeding experience, age, and having children were significant in participants' knowledge increasing

( $P < 0.05$ ).

Moreover, the only significant difference was found between age and participants' practice in the first workshop.

**Table 4. Correlation between breastfeeding attitude and background data**

Background factors	<i>P</i> value 1 <sup>st</sup> workshop	<i>P</i> value 2 <sup>nd</sup> workshop
Age	0.43	0.47
Education	0.2	0.62
Sex	0.33	0.50
Marital status	0.39	0.81
Having children	0.01	0.61
Breastfeeding counseling experience	0.45	0.28
Breastfeeding experience	0.30	0.21

**Table 5. Correlation between breastfeeding knowledge and background data**

Background factors	<i>P</i> -value 1 <sup>st</sup> workshop	<i>P</i> -value 2 <sup>nd</sup> workshop
Age	0.02	0.31
Education	0.35	0.83
Sex	0.2	0.80
Marital status	0.4	0.42
Having children	0.007	0.13
Breastfeeding counseling experience	0.42	0.55
Breastfeeding experience	0.000	0.29

**Table 6. Correlation between breastfeeding practice and background data**

Background factors	<i>P</i> -value 1 <sup>st</sup> workshop	<i>P</i> -value 2 <sup>nd</sup> workshop
Age	0.01	0.48
Education	0.17	0.71
Sex	0.20	0.47
Marital status	0.31	0.31
Having children	0.12	0.89
Breastfeeding counseling experience	0.51	0.53
Breastfeeding experience	0.67	0.55

### Post-test data

Post-test data showed that both workshops improved participants' attitude, knowledge, and practice scores

significantly; (Table 7). The intervention had a positive impact on variables overall.

**Table 7. Mean  $\pm$ STD of attitude, knowledge, and practice score in before and after workshops**

Score	1 <sup>st</sup> workshop		<i>P</i> -Value	2 <sup>nd</sup> workshop		<i>P</i> -Value
	Before	After		Before	After	
Knowledge	14.28 $\pm$ 2.01	15.50 $\pm$ 0.961	0.000	13.74 $\pm$ 2.22	15.41 $\pm$ 0.931	0.000
Attitude	13.25 $\pm$ 0.870	13.58 $\pm$ 0.594	0.002	12.89 $\pm$ 1.15	13.78 $\pm$ 0.641	0.001
Practice	11.92 $\pm$ 2.34	14.20 $\pm$ 1.18	0.000	11.15 $\pm$ 2.52	14 $\pm$ 1.38	0.000

As shown in Table 3, no significant differences were seen between 2 groups' attitude before workshops

( $P = 0.093$ ) but this difference after the workshop was noticeable ( $P = 0.000$ ). Moreover, no significant changes

in participants' knowledge of breastfeeding were noted before and after both workshops ( $P=0.12$ ,  $P=0.78$ ). Our intervention also had not any influence on participants' practice before and after workshops too, ( $P=0.202$ ,  $P=0.52$ ).

## Discussion

Each clinical-educational method including breastfeeding training relies on special criteria. These include: biological and behavioral factors, logical values, validity, compatibility with scientific and humanitarian basis, clinical contents, methods of delivery, type of professionals trained, and support of the staff involvement in the administration (9,10). To increase the efficacy of training program, different methods are usually applied simultaneously because each educational method has its own advantages and disadvantages. Labarere *et al.*, pointed to training of maternity health professionals as a necessity in breastfeeding promotion (9). Osband *et al.*, reported that residency training program should shift from traditional to more observational and practical methods in mother-infant wards. This type of training could be combined with Web-based training under skillful and expert faculties' supervision (11).

Conferences, workshops, breastfeeding courses, workplace in-service sessions, job experiences and Lactation consultants are indicated as valuable sources of rising breastfeeding information (12). One of the popular interventions in improving health professionals' capabilities is holding the workshops.

In the present study, two groups of health professionals were trained in two breastfeeding promotion workshops with different training methods. We compared changing in participants' knowledge, attitude/belief and confidence/practice. We also considered some affecting factors on these changes.

No significant differences were seen in participants' knowledge, attitude and practice before the intervention, on the other hand, these differences were noticeable after workshops in each group. Present results were compatible with other studies that showed continuing medical, educational programs will increase health professionals' knowledge and will lead improvement in practice and subsequently better patients' outcome (6,9,13).

In a comparison of two workshops; participants' attitudes were improved in the intervention group significantly. Most published studies confirmed that training program could be effective in professionals' breastfeeding knowledge and practice as well (9).

However, long-lasting of this efficacy may depend on training method. In this study in the second workshop advanced didactic and interactive components (clinical practice, question and answer, group discussion, role playing, and making examples) improved the efficacy of educational program on changing learners' attitudes. The significant improvement in professionals' attitudes in the second workshop showed the positive intervention impact of advanced educational methods. Breastfeeding knowledge was gathered by different ways; however, participation in the workshop is one of the most valuable sources of information (12). In addition Cantrill *et al.*, showed a significant correlation between improvement of midwives' breastfeeding knowledge and at least three months breastfeeding experience in their study (14). Learning based on didactic method may improve knowledge immediately but not enough to change professionals' behaviors and practice in long time. Unfortunately, we did not follow our participants later. In addition due to electronically workshop registration, participant's practice (before the workshop) had been evaluated by some questionnaires that may affect our results.

We found that among all background data in group 1 only having children had an important role in changing attitude. It seems participants' who had children suggest breast milk as a preferred nutrition to mothers in maternity wards. They believe that human milk is more healthful than formula. However, they did not have the breastfeeding chance themselves (4,10).

Present findings suggested that participation in group one increased participants' knowledge. Personal breastfeeding experience, age and having children were the significant affecting factors. Age (25-40 years) and having children in this study were found as affecting factors on participants' knowledge. It seems that older mothers choose breastfeeding significantly compared to young mothers (4). In present study older mothers who had children, had successful personal or spousal breastfeeding. Helling *et al.*, indicated that personal experience was a valuable source of information in which can increase professional's interest in dealing with mothers' breastfeeding concerns, as well (13). On the other hand, Kemp and Palmer showed a negative impact of midwives' breastfeeding experience and their interaction with nursing mothers (15). Moreover, some midwives indicated that use and suggestion of their breastfeeding experience would be offensive (12).

In the first workshop, a positive correlation was seen between professionals' practice improvement and age. It might be due to facing mothers' problems and finding

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some questions during work, and more job experience that made more participants' attention and involvement in the workshop. In French study, a 3-day educational program in an Obstetrics-Gynecology hospital improved professionals' practice and breastfeeding promotion. A number of participants, course duration, and clinical, practical time were important factors in practice improvement (9). In another investigation in Wisconsin (USA) a 4.5 hours' workshop improved residents' abilities and skills in tackling mothers' breastfeeding problems (3).

Although participants' knowledge, attitude and practice scores improved after the second workshop in our intervention, none of participants' background data affected significantly by these values. We thought it could be related to the smaller sample compared to the first workshop or due to the new type of training methods that was useful for all, independently.

### Limitations

We assessed participants' practice just based on some questions instead of observational evaluation and some checklist. We were not able to contact with participants before workshops because of their electronically registration. A study design that matches participants in both group and allows for following them for a longer period of time would have been stronger.

Lack of knowledge and supportive behavior, negative health professionals' attitudes, insufficient breastfeeding encouragement and recommendation may necessitate revising training methods. The current study showed that in-service breastfeeding training program improves professionals' attitudes, knowledge and practice; however, the interactive, practical method is much more effective in changing attitudes of participants. The pertained back ground factors in changing attitude, knowledge and practice were having children, successful breastfeeding experience, and age. As a matter of fact updated and continuing breastfeeding educations consider essential for all maternity, neonatal and pediatrics staffs.

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## References

1. Froehlich J, Boivin M, Walter KC, et al. Influencing university students' knowledge and attitudes toward breast feeding. *J Nutr Educ Behav* 2013;45(3):282-4.
2. Maternal, newborn, child and adolescent health. (World Health Organization. (Accessed in May 2015, 1, at [http://www.who.int/maternal\\_child\\_adolescent/news\\_events/news/2012/30\\_07\\_2012](http://www.who.int/maternal_child_adolescent/news_events/news/2012/30_07_2012)).
3. Haughwout JC, Eglash AR, Plane MB, et al. Improving residents' breastfeeding assessment skills: a problem-based workshop. *Fam Pract* 2000;17(6):541-6.
4. Spear HJ. Nurses' attitudes, knowledge, and beliefs related to the promotion of breastfeeding among women who bear children during adolescence. *J Pediatr Nurs* 2004;19(3):176-83.
5. Kanga NM, Songb Y, Im EO. Korean university students' knowledge and attitudes toward breastfeeding: A questionnaire survey. *Int J Nurs Stud* 2005;42(8):863-70.
6. Khoury AJ, Hinton A, Mitra AK, et al. Improving breastfeeding knowledge, attitudes, and practices of WIC Clinic Staff. *Public Health Rep* 2002;117(5):453-61.
7. Dogson JE, Tarrant M. Outcomes of a breastfeeding educational intervention for baccalaureate nursing students. *Nurse Educ Today* 2007;27(8):856-67.
8. I.R.I Breastfeeding Promotion Society. Atieh Hospital Research Center. Assessment of breastfeeding continuity and ab lactating reason. *Breastfeeding J* 2010:44.
9. Labarere J, Castell M, Fourny M, et al. A training program on exclusive breastfeeding in maternity wards. *Int J Gynaecol Obstet* 2003;83(1):77-84.
10. Beshgetoor D, Nordahl L, Master KL. Attitudes toward breastfeeding among WiC employees in San Diego Country. *J Am Diet Assoc* 1999;99(1):86-8.
11. Osband YB, Altman RL, Patricck PA, Edwards KS. Breastfeeding education and support services offered to pediatric residents in the USA. *Acad Pediatr* 2011;11(1):75-9.
12. Cantrill RM, Creedy DK, Cooke M. How midwives learn about breastfeeding. *Aust J Midwifery* 2003;16(2):11-6.
13. Hellings P, Howe C. Breastfeeding knowledge and practice of pediatric nurse practitioners, *J Pediatr Health Care* 2004;18(1):8-14
14. Cantrill RM, Creedy DK, Cooke M. An Australian study of midwives' breast-feeding knowledge. *Midwifery* 2003;19(4):310-7.
15. Palmer G, Kemp S. Breastfeeding promotion and the role of the professional midwife. In: Murray S, editor. *Baby Friendly Mother Friendly*. 1st ed. London: Mosby: 1996.