

# **Effectiveness of an Educational Program on Nurses' / Midwives' Knowledge and Practices about Managements of Breastfeeding Disorders among Women during Lactation at Hospital in Holy Karbala City**

By

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## **Abstract**

**Objectives:** The study aimed to evaluate nurses/midwives' knowledge about management of breastfeeding disorders among postpartum women and to evaluate nurses' / midwives' practices about management of breastfeeding disorders among postpartum women. **Methodology:** The study design is a quasi-experimental design. The study was conducted in Karbala Health Directorate / Maternity & Delivery Teaching Hospital from (June 6 / 2021 to August 25 / 2022). The non-probability sample (Purposive sample) was selected and included (54) nurses / midwives. Data were collected using a questionnaire regarding knowledge and practice about managements of breastfeeding disorders among women during lactation. Data analysis was performed by applying descriptive statistics and inferential statistics. **Results:** The results of the study indicated that the study group of nurses / midwives benefited from implementing the educational program and adequately improving and developing their knowledge and practice. There was a statistical significance at ( $P \leq 0.05$ ) between the improvement of nurses' / midwives' knowledge and (age, education level and Training courses) for the study group. **Conclusion:** The nurses' / midwives' knowledge about and practice about managements of breastfeeding disorders among women during lactation in the study group was poor in the pretest before the implementation of the educational program, while it increased to a high level after the implementation of the educational program. **Recommendations:** Increase awareness and knowledge of nurses and midwives working in maternity hospitals with regard to breastfeeding and the correct methods for its success and how to deal with its problems through a workshop that includes everything related to breastfeeding.

**Keywords:** Nurses\midwives, breastfeeding disorders.

## **Introduction**

Breastfeeding is the norm for infants, and nurses should encourage and facilitate this practice as the standard against which newborn nutrition is measured (American Academy of Pediatrics [AAP] 2012). Association of Women's Health, Obstetric, and Neonatal Nurses (AWHONN) (2015) states that nurses should collaborate with other health care providers and activists to eliminate social, cultural, economic, and educational barriers to breastfeeding.

There are several health and developmental risks for babies who are not nursed, thus encouraging breastfeeding should be seen as a public health priority and not just a personal preference. Understanding the nutritional demands of a baby and the methods to satisfy those needs is a crucial part of breastfeeding and is essential when assisting mothers in selecting and becoming comfortable with a feeding style (AAP, 2012).

## Methodology

A quasi-experimental design (Nonequivalent control group pretest – posttest design) was used to determine the effectiveness of an educational program on nurse's /midwives knowledge and practices about managements of breastfeeding disorders among women during lactation. The study group and control group were evaluated using a pre- and post-test approach. It was conducted in order to accomplish the initial stated objectives. The study began on 6th June 2021 and will conclude on 18th August 2022.

The study took place in the Holy Karbala Governorate / the Karbala Health Directorate / Maternity & Delivery Teaching Hospital. The interview was conducted with the nurses / midwives from (26th August 2021 to 21st February 2022), after obtaining official permission from the hospital director. A non-probability (Purposive) sample of (64) nurses who work in Maternity & Delivery Teaching Hospital were chosen based on the study's criteria and after obtaining their consent.

Validity and Reliability: The content validity of the instrument was established through a panel of (10) experts, the reliability of the items was based on the internal consistency of the checklist was assessed by calculating Cronbach s' Alpha which as= 0.972. Statistical analysis: The statistical data analysis approach by using (SPSS-ver.24) is used in order to analyze and evaluate the data of the study. A descriptive statistical data analysis approach used to describe the study variables: Frequencies and Percentages. Inferential statistical data analysis approach: by used the One-Way ANOVA test and independent sample T test.

## Results

**Table (1): Distribution of the Demographical Characteristics of the sample**

Variables	Groups	Study		Control	
		Freq.	%	Freq.	%
Age	21 – 27	4	14.8	4	14.8
	28 – 34	2	7.4	1	3.7
	35 – 41	19	70.4	20	74.1
	42 – 48	2	7.4	1	3.7
	49 – 55	0	00.0	1	3.7
	Total	27	100.0	27	100.0
Marital status	Mean ± SD	38.22 ± .143		38.93 ± 7.780	
	Single	9	33.3	6	22.2
	Married	18	66.7	20	74.1
	Divorcee	0	0.0	1	3.7
	Widow	0	0.0	0	0.0
Residence	Total	27	100.0	27	100.0
	Urban	21	77.8	22	81.5
	Suburban	2	7.4	2	7.4
	Rural	4	14.8	3	11.1
Education level	Total	27	100.0	27	100.0
	Graduated from nursing school or midwifery	5	18.5	5	18.5
	Graduated from high school nursing or midwifery	5	18.5	5	18.5
	Graduated from nursing institute or midwifery	13	48.1	14	51.9
	Nursing college graduate or more	9	33.3	8	29.6
Experience years	Total	27	100.0	27	100.0
	1 – 6 Years	20	74.1	21	77.8
	7 – 12 Years	3	11.1	3	11.1
	13 – 18 Years	2	7.4	2	7.4
	≥ 19 Years	2	7.4	1	3.7
	Total	27	100.0	27	100.0
Training courses	Yes	5	18.6	6	22.3
	No	22	81.4	21	77.7
	Total	27	100.0	27	100.0
Self-education	Yes	24	88.9	25	92.6
	No	3	11.1	2	7.4
	Total	27	100.0	27	100.0
Sources of self - education	None	3	11.1	2	7.4
	Internet & social media	14	51.9	9	33.3
	Books & lectures	3	11.1	6	22.2
	Library	0	0.0	1	3.7
	All	2	7.4	1	3.7
Total	27	100.0	27	100.0	

**Freq.:** Frequencies, **%:** Percentages, **≥:** more Than or Equal.

According to Table (1), the majority of nurses \ midwives who participated in the two

samples were between the ages of (35 - 41) years and accounted (70.4 %) for the study group and (74.1 %) for the control group. In addition, the study and control groups had a higher percentage of married nurses/midwives (66.7 % and 74.1 %, respectively). In terms of residence, the majority of nurses/midwives in both samples (study and control groups) lived in urban areas (77.8 % & 81.5 % respectively). In terms of educational attainment, the higher percentage of nurses/midwives in the two samples (study and control groups) are (48.1%) (51.9%) Graduated from nursing institute or midwifery respectively. The Experience years was within (1 - 6 years) interval for the vast majority of nurses/midwives in both samples (study and control groups) (74.1%) (77.8%) respectively. In relation to Training courses most of nurses/midwives were have no training courses in the study group (81.4%) and (77.7%) in the control group. Regarding self-education, the majority of the sample from the study group and the control group carry out the self-education process, and their percentage is (88.9%) and (92.6%) respectively. Finally, with regard to sources of self-education, social media was the majority of the answers for both the study and control groups, and its percentages were (51.9%) and (33.3%) respectively. There is no statistically significant difference between the study and control groups in terms of (age, marital status, residence, and level of education, Experience years, Training courses, self-education, and sources of self-education).

**Table (2): Significant Differences of nurses\ Midwives' knowledge related to main domains of breastfeeding disorders during the lactation period for the study group at pretest & posttest.**

No.	Main Domains Related to Nurses\midwives' Knowledge about:	Study Pretest			Study Posttest			t	Sig.	C.S
		*No=27			*No=27					
		M.S	RII	Ass.	M.S	RII	Ass.			
	General knowledge of nurses / midwives about									
1.	breastfeeding and its importance during the breastfeeding period	1.53	0.5049	L	2.948	0.9728	H	9.274	.000	H.S
2.	The knowledge of nurses / midwives about the causes and symptoms of breastfeeding disorders	1.161	0.3831	L	2.85	0.9405	H	32.528	.000	H.S
3.	The knowledge of nurses / midwives about prevention methods for the most important problems of breastfeeding	1.126	0.3715	L	2.889	0.9533	H	42.831	.000	H.S
	Total mean	1.272	L.M. S		2.895	H.M. S		41.900	.000	H.S

**No.:** Number of samples, **M.S.:** Mean score, **L.M.S:** low mean score (1 - 1.66), **M M.S:** moderate mean score (1.67 - 2.33), **H.M.S:** high mean score (2.34 – 3.00). **RII:** Relative Important Index, **Ass.:** assessment, **t:** t - value at  $P \leq 0.05$ , **Sig.:** Significant (2-tailed), **C.S.:** Comparison Significant, **S:** Significant, **N.S:** No Significant.

According to Table (2), the mean score and Relative Important Index of nurses/midwives' knowledge were higher in the posttest than they were in the pretest for the study group on all items, as indicated by the total mean score and grades of the Relative Important Index (low, moderate, high). Additionally, this table demonstrates that there are significant differences in the majority of domains related to nurses \ midwives' knowledge of breastfeeding disorders during the lactation period for the study group at pretest & posttest.

**Table (3): Significant Differences of nurses' / Midwives' knowledge related to main domains of breastfeeding disorders during the lactation period for the study and control group at posttest.**

No.	Main Domains Related to Nurses/midwives' Knowledge about:	Study Post *No=27			Control Post *No=27			t	Sig.	C.S
		M.S	RII	Ass.	M.S	RII	Ass.			
1.	General knowledge of nurses / midwives about breastfeeding and its importance during the breastfeeding period	2.948	0.9728	H	1.717	0.5666	L	9.034	.00 0	H. S
2.	The knowledge of nurses / midwives about the causes and symptoms of breastfeeding disorders	2.85	0.9405	H	1.20	0.396	L	29.653	.00 0	H. S
3.	The knowledge of nurses / midwives about prevention methods for the most important problems of breastfeeding	2.889	0.9533	H	1.18	0.3894	L	37.215	.00 0	H. S
Total mean		2.895 H.M. S			1.365 L.M. S			36.252	.00 0	H. S

**No.:** Number of samples, **M.S.:** Mean score, **L.M.S:** low mean score (1 - 1.66), **M M.S:** moderate mean score (1.67 - 2.33), **H.M.S:** high mean score (2.34 – 3.00). **RII:** Relative Important Index, **Ass.:** assessment, **t:** t - value at  $P \leq 0.05$ , **Sig.:** Significant (2-tailed), **C.S.:** Comparison Significant, **S:** Significant, **N.S:** No Significant.

As shown in Table (3), the mean score and Relative Important Index of nurses\midwives' knowledge for the study group were higher than those for the control group in all items during the post-test, as indicated by the grades of the Relative Important Index (low, moderate, high). Additionally, this table demonstrates that there are highly significant differences in the overall main domains of nurses\midwives' knowledge of breastfeeding disorders during the lactation period between the study and control groups at posttest.

**Table (4): Significant Differences of nurses' \ Midwives' Practice related to main domains of breastfeeding disorders during the lactation period for the study group at pretest & posttest.**

No.	Main Domains Related to Nurses / midwives' practice about:	Study Pre *No=27			Study Post *No=27			t	Sig.	C.S
		M.S	RII	Ass.	M.S	RII	Ass.			
1.	First axis: Breast engorgement	1.44	0.4752	L	2.98	0.9834	H	9.274	.000	S
2.	Second axis: obstruction of the ducts and mastitis	1.12	0.3696	L	2.75	0.9075	H	32.528	.000	S
3.	Third axis: inverted or flat nipples	1.13	0.3729	L	2.85	0.9405	H	42.831	.000	S
4.	Fourth Axis: Breast abscess	1.15	0.3795	L	2.67	0.8811	H	30.433	.000	S
5.	Fifth Axis: Cracked and ulcerated nipples	1.11	0.3663	L	2.82	0.9306	H	52.453	.000	S
6.	Sixth Axis: Candidiasis (fungi)	1.17	0.3861	L	2.85	0.9405	H	32.528	.000	S
Total mean		1.186 L.M. S			2.82 H.M. S			41.900	.000	S

**No.:** Number of samples, **M.S.:** Mean score, **L.M.S:** low mean score (1 - 1.66), **M M.S:** moderate mean score (1.67 - 2.33), **H.M.S:** high mean score (2.34 – 3.00). **RII:** Relative Important Index, **Ass.:** assessment, **t:** t - value at  $P \leq 0.05$ , **Sig.:** Significant (2-tailed), **C.S.:** Comparison Significant, **S:** Significant, **N.S:** No Significant.

As shown in Table (4.5), the mean score and Relative Important Index of nurses\midwives' practice in the posttest were higher than in the pretest for the study group on all items, as indicated by the total mean score and grades of the Relative Important Index (low, moderate, high).

Additionally, the table demonstrates that there are significant differences between the pretest and posttest scores of the study group in the overall nurses' \ Midwives' Practice related to main domains of breastfeeding disorders during the lactation period.

**Table (5).** Significant Differences of nurses \ Midwives' Practice related to main domains of breastfeeding disorders during the lactation period for the study and control group at posttest.

No.	Main Domains Related to Nurses\midwives' Knowledge about:	Study Post *No=27			Control Post *No=27			t	Sig.	C.S
		M.S	RII	Ass.	M.S	RII	Ass.			
1.	First axis: Breast engorgement	2.98	0.9834	H	1.17	0.3861	L	52.453	.000	S
2.	Second axis: obstruction of the ducts and mastitis	2.75	0.9075	H	1.20	0.396	L	32.528	.000	S
3.	Third axis: inverted or flat nipples	2.85	0.9405	H	1.14	0.3762	L	9.274	.000	S
4.	Fourth Axis: Breast abscess	2.67	0.8811	H	1.21	0.3993	L	32.528	.000	S
5.	Fifth Axis: Cracked and ulcerated nipples	2.82	0.9306	H	1.10	0.363	L	42.831	.000	S
6.	Sixth Axis: Candidiasis (fungi)	2.85	0.9405	H	1.14	0.3762	L	30.433	.000	S
	Total mean	2.82	H.M.	S	1.16	L.M.	S	36.252	.000	S

No.: Number of samples, M.S.: Mean score, L.M.S: low mean score (1 - 1.66), M M.S: moderate mean score (1.67 - 2.33), H.M.S: high mean score (2.34 – 3.00). RII: Relative Important Index, Ass.: assessment, t: t - value at  $P \leq 0.05$ , Sig.: Significant (2-tailed), C.S.: Comparison Significant, S: Significant, N.S: No Significant.

As shown in Table (4.7), the mean score and Relative Important Index of nurses \ midwives' practice for the study group were higher than those for the control group in all items during the post-test, as indicated by the grades of the Relative Important Index (low, moderate, high). Additionally, this table demonstrates that there are highly significant differences in the overall main domains of nurses\midwives' practice related to breastfeeding disorders during the lactation period between the study and control groups at posttest.

**Table (6):** The correlation among nurses\midwives' demographical characteristics in the study group and their knowledge and practice improvement due to applying for an educational program by application one way ANOVA.

Predicted variables		$\bar{X}$	S. D	Bt.	df		F	Sig.	C.S
					Wi	To.			
Age	21 – 27	76.42	3.776	4	22	26	41.48 <sub>9</sub>	.000	S
	28 – 34	83.00	4.243						
	35 – 41	113.00	12.570						
	42 – 48	96.00	11.314						
	49 – 55	0	0						
Marital status	Single	75.33	2.872	2	24	26	5.167	.062	NS
	Married	88.00	16.435						
	Divorcee	0	0						
Residence	Urban	81.24	11.384	2	24	26	2.257	.126	NS
	Suburban	83.00	7.071						
	Rural	97.50	26.388						
Level of education		192.56	17.089	2	24	26	.536	.050	S
	Nursing Prep graduate	80.20	7.050						
	Nursing Institute graduate	81.33	12.728						
Experience years	Nursing College graduate	86.85	17.995	3	23	26	33.10 <sub>3</sub>	.000	S
	1 – 6 Years	76.90	4.254						
	7 – 12 Years	96.33	14.224						
	13 – 18 Years	121.50	13.435						
Sources of self - education	$\geq 19$ Years	96.00	11.314	6	20	26	3.60 <sub>8</sub>	.014	S
	Social media	83.7 <sub>9</sub>	12.179						
	Books and lectures	74.0 <sub>0</sub>	1.000						
	Library	0	0						

$\bar{X}$ : Arithmetic Mean, S.D.: Standard deviation, df: degree of freedom, Bt.: between group, Wi: within group, To.: Total, F: test statistic value, Sig.: significant 2-tailed, C.S.: Comparison Significant, S: significant at  $P \leq 0.05$ , NS: no significant at  $P \leq 0.05$ .

Table (6) demonstrates a significant correlation between nurses \ midwives' knowledge and practice regarding the most important breastfeeding problems and their age, level of education, years of experience, and source of self-education in the pretest group. While there was a non-significant correlation between nurses\midwives' knowledge and their residence, as well as their marital status, in the study group's pretest,  $P \leq 0.05$ . Additionally, this table demonstrates a significant correlation between nurses \ midwives' knowledge and practice regarding the most important breastfeeding problems, as well as their age group and level of education, in the study group's posttest. While there was a non-significant correlation between nurses\midwives' knowledge and their marital status, residence, years of experience, and source of self-education in the study group's the posttest by  $P \leq 0.05$

**Table (7):** *The correlation among nurses\midwives' demographical characteristics in the study group and their knowledge improvement due to applying for an educational program by application independent sample T test.*

Predicted variables		$\bar{X}$	S. D	df	t	Sig.	C.S
Training courses	Yes	76.80	4.280	25	3.214	.004	S
	No	92.50	18.392				
Self-education	Yes	84.92	15.214	25	1.145	.263	NS
	No	74.67	2.887				

$\bar{X}$ : Arithmetic Mean, S.D.: Standard deviation, df: degree of freedom, t: independent sample T test statistic value, Sig.: significant 2-tailed, C.S.: Comparison Significant, S: significant at  $P \leq 0.05$ , NS: no significant at  $P \leq 0.05$ .

This table demonstrates a statistically significant correlation between nurses\midwives' knowledge and practice regarding the most important breastfeeding problems and their training courses in the pretest and posttest of study group. While there was a non-significant correlation between nurses \ midwives' knowledge and practice and self-education in the study groups in the pretest and posttest by  $P \leq 0.05$ .

## Discussion

### 3.1. *Discussing the Demographic Characteristics (Study and Control Groups)*

The study's findings in Table (1) indicated that the majority of the study sample was between the ages of (30– 39) years. And they account for (70.4 %) of the study group and (74.1 %) of the control group. This finding is consistent with a study conducted by Folami F, et al., (2018) who found that that majority of the respondents (54.4%) were within the age group (30-39) years. This finding also corroborates a study conducted by AL-Nuaimi K, et al (2019) which indicated that (25.6%) of them were between the ages of 31 and 35 years.

While this finding contradicts a study conducted by Barbara J et al., (2014) who discovered that the majority of nurses' staff (42 %) whith in age (25-40) years. Another study of ElenaAntoñanzas-, et al (2020) found that more than 80% of the participants were older than 36 years. According to study done by Stephen Dajaan Dubik, et al., (2021). The nurses and midwives had a mean (SD) age of 30.3 (7.3) years. According to the researcher, these findings indicate that the age of nurses is critical in terms of enhancing their knowledge and practice. Younger nurses are more ambitious, put in more effort, are in better physical health, and are more creative in their approach to nursing performance. On the other hand, older nurses with more years of work have more experience related to the subject of study

The table (1) also shows that the majority of nurses in both groups are Graduated from nursing institute or midwifery. this finding contradicts a study conducted by AL-Nuaimi K, et

al (2019) who found that (63.4%) of staff nurses held a Bachelor, (18.75%) of nurses, and 25.6% held a Diploma degree in nursing. This result also contradicts Mahmood & Mohammed, (2016) study, which found that 50% of staff nurses were nursing institute graduates. The table (1) also shows that most of the nurses have years of experience ranging between (1-6) years and formed a ratio (74.1%) in study group and (77.8%) in control groups. According to study done by Elena Antoñanzas-, et al (2020) found that Most of them (79%) had more than 5 years of experience working with BF women, and this agree with study of AL-Nuaimi K, et al (2019) that most of them had  $\leq 5$  years of experience. Another study done by Stephen Dajaan Dubik, et al., (2021) found that Work experience more than 4 years. In the researcher's view, these results suggest that the fact that there is frequent rotation from one unit to another within the hospital may explain the few years of nursing experience in units where breastfeeding problems exist. On the other hand, when nurses are young, the score shown will have a greater willingness to improve their skills compared to other nurses in the higher age group.

The table (1) also shows that the results indicated that the majority of the study sample lacked training courses, accounting for (51.9 %) of the study group and (63 %) of the control group. This finding is consistent with a study conducted by Stephen Dajaan Dubik, et al., (2021) who discovered that more than half of the study sample (64.4%) have no service training experience.

### ***3.2. Discussion of the Assessment of Significant Differences of nurses \ Midwives' knowledge and practice related to main domains of breastfeeding disorders during the lactation period for the study group at pretest & posttest.***

Table (2) indicated that the mean score and Relative Important Index of nurses \ midwives' knowledge were higher in the posttest than they were in the pretest for the study group on all items, as indicated by the total mean score and grades of the Relative Important Index (low, moderate, high). Additionally, this table demonstrates that there are significant differences in the majority of domains related to nurses \ midwives' knowledge of breastfeeding disorders during the lactation period for the study group at pretest & posttest.

Table (3) shows the Knowledge of nurses \ midwives about measures for breastfeeding disorders during the lactation period at pretest and posttest of the study group. The results indicate that changes of responses have been reported between the two periods and this outcome would be more reliable and suitable for the studied design since highly significant differences at  $P \leq 0.05$  were recorded along with all items of the study. In addition, these results must underlie the effectiveness of applicable of educational program. This result agrees with AL-Nuaimi K, et al (2019) use independent samples t-tests were used to compare knowledge before and after the workshop, and to compare this between groups. The results showed no significant difference in the means and standard deviations of the intervention group ( $n=42$ ;  $M=8.14$ ;  $SD=1.88$ ) and the control group ( $n=40$ ;  $M=8.98$ ;  $SD= 2.31$ ) at baseline ( $t=1.79$ ;  $P>0.05$ ), which indicates homogeneity of variance. The results showed a significantly higher mean and standard deviation in the intervention group ( $M=11.73$ ;  $SD=2.6$ ) compared to the control group ( $M=8.38$ ;  $SD=2.59$ ) after the workshop ( $P<0.001$ ), indicating that the workshop was beneficial in improving participants' knowledge of breastfeeding.

### ***3.3. Discussion of the Assessment of Significant Differences of nurses \ Midwives' knowledge and practice related to main domains of breastfeeding disorders during the lactation period for the control group at pretest & posttest.***

The table (4) demonstrates that there are no statistically significant differences between the pre- and post-tests of the control group in terms of the overall main domains of nurses \ midwives' knowledge of breastfeeding disorders during the lactation period. The table (5)

demonstrates that there are no significant differences between the pretest and posttest scores of the control group in the overall nurses' \ Midwives' Practice related to breastfeeding disorders during the lactation period. This result agrees with Awano M & Shimada K (2010) that show The results revealed no significant differences on the item level at the baseline between the intervention and control groups; however, significant differences were revealed on the post-test comparisons between the two groups, in which practice items to control group were no significantly after the study intervention.

### ***3.4. Differences between Knowledge Improvement of the Study Group and their Demographic Data (Age, Gender, Marital Status, Residence, Level of Education, Years of Experience, Training Courses, Self-Education, and Sources of Self-Education) at Pretest and Posttest***

Table (6) show that demonstrates a significant correlation between nurses \ midwives' knowledge and practice regarding the most important breastfeeding problems and their age, level of education, years of experience, and source of self-education in the pretest group. While there was a non-significant correlation between nurses\midwives' knowledge and their residence, as well as their marital status, in the study group's pretest,  $P \leq 0.05$ . This result disagrees with AL-Nuaimi K, et al (2019) who found that showed a Pearson test to assess associations between baseline knowledge and continuous variables such as age, breastfeeding education and years of experience revealed no significant results. Spearman's rho tests for associations between baseline knowledge and level of education, department, and work experience also showed no significant correlations. The researcher confirms that the study indicates that nursing care in breastfeeding units for mothers, depend on information and practices learned by nurses and midwives

### ***3.5. Discussion nurses\midwives' knowledge and practice related to main domains of breastfeeding disorders during the lactation period for the study and control group at posttest.***

Table (7) demonstrates that there are highly significant differences in the overall main domains of nurses\midwives' knowledge of breastfeeding disorders during the lactation period between the study and control groups at posttest. Table (7) demonstrates that there are highly significant differences in the overall main domains of nurses\midwives' practice related to breastfeeding disorders during the lactation period between the study and control groups at posttest. This conclusion is backed up by AL-Nuaimi K, et al (2019) who showed that most nurses and midwives did not have adequate knowledge of breastfeeding and who dealing with its problem thus, training courses need to be developed and implemented in order to enhance competencies and skills for the prevention and management of breastfeeding problem

Paired samples t-tests were used to compare knowledge before and after the program within groups. There was a highly significant improvement in the intervention group's knowledge after the workshop compared to control group. However, there was no significant difference in the results of the control group. The post-test score was ( $M=8.38$ ;  $SD=2.59$ ;  $t=1.09$ ;  $P>0.05$ ), indicating that the workshop improved study group breastfeeding knowledge. This study compares group differences in the pre-test and post-test practices and shows the group differences in the pre-and post-test practice scores. The results revealed no significant differences on the item level at the baseline between the intervention and control groups; however, significant differences were revealed on the post-test comparisons between the two groups, in which practice significantly improved after the study intervention.

The educational program was effective in the study group (Fig. 5) as evidenced by the high percentage of nurses and midwives who answered questions about breastfeeding and its

problems and the majority of the respondents in the study group who passed the post-program test compared to the control group. Based on the researcher's point of view, these findings imply that the nurses and midwives who work in breastfeeding ward and other wards have a low level of knowledge regarding breastfeeding and how to manage its problems. So they should take part in a regular refreshing educational course for the purpose of updating their knowledge. It is essential that nurses and midwives have knowledge about breastfeeding and how to manage or prevent breastfeeding problems and be able to provide breastfeeding women with the basic information they need. Through this study, most junior nurses and midwives lacked basic knowledge of breastfeeding. Most of them were not adequately prepared and did not feel confident and knowledgeable in managing breastfeeding problems. So they can take advantage of targeted programs to increase knowledge and attitudes about breastfeeding, and their confidence in helping and guiding breastfeeding mothers. To ensure that in the future they are well prepared to support breastfeeding.

## Conclusions

1. The study presented that the majority of nurses / midwives who participated in the sample were between the ages of (35 – 41) years old. Having (1-6) years of experience hospital and have not attended any training session regarding Breastfeeding which established by hospitals or establish in inside or outside Iraq. Also, the study presented that most of the nurses who participated in the study were married, urban residence, and doing self-education depending on Internet & social media.
2. The nurses' / midwives' level of knowledge toward breastfeeding disorders during the lactation period for the study sample, was poor. Most of the participant fail in answer of main domain questions.
3. There is a significant relationship between nurses' knowledge about breastfeeding disorders during the lactation period and their age group, marital status, level of education, years of hospital experience, and source of self-education.

## Recommendations

1. Through a course that covers everything connected to breastfeeding, increase the awareness and understanding of nurses and midwives working in maternity hospitals with regard to breastfeeding, the proper ways for its success, and how to deal with its complications.
2. Providing and distributing a pamphlet on breastfeeding and how to avoid and address breastfeeding issues to employees in the women's halls.
3. Making scientific publications accessible and highlighting how crucial it is to inspire nurses to learn how to handle breastfeeding issues and instruct moms on how to prevent and avoid them while they are lactating.
4. More investigation into the adoption of educational programs that instruct nurses and midwives in proper breastfeeding knowledge and techniques.

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