Journal of Neonatal Surgery
ISSN(Online): 2226-0439
Vol. 14, Issue 27s (2025)
https://www.jneonatalsurg.com

OPEN ACCESS

Assessing the impact of an Educational Program on Nurses and Midwives' Knowledge regarding the Use and Barriers of Skin-to-Skin Contact in Kirkuk City Hospitals

Noor Raad Ridha[1], Rabab Hamody Hanon[2]

[1]MSc Student @ University of Kirkuk, College of Nursing, Kirkuk, Iraq

[2]Dr. Maternity Health Nursing. Kirkuk University, Nursing College, Maternity Health Nursing Department, Iraq

***Corresponding Author:**

Email ID: nsrm23013@uokirkuk.edu.iq Email ID: Rabab1983@uokirkuk.edu.iq

Cite this paper as: Noor Raad Ridha, Rabab Hamody Hanon, (2025) Assessing the impact of an Educational Program on Nurses and Midwives' Knowledge regarding the Use and Barriers of Skin-to-Skin Contact in Kirkuk City Hospitals. *Journal of Neonatal Surgery*, 14 (27s), 848-858.

ABSTRACT

Background: Skin-to-skin contact (SSC) between the mother and newborn post-birth is a crucial strategy that facilitates nursing, fosters bonding, ensures essential stability, and regulates temperature, Despite its advantages (SSC) remains unused because of barriers including inadequate provider training, early separation of neonates, and insufficient institutional support, especially in resource-limited settings.

Aim: To Identify the Applicability and Barriers of Non Application of Skin-to-Skin Contact in Kirkuk City Hospitals.

Methods: A quasi-experimental study using a pre-test/post-test design was applied. A purposive sample of 60 nurse-midwives was selected to participate. Participants completed a knowledge assessment before the intervention, attended an educational session about SSC, and then completed a post-intervention assessment to measure changes in knowledge.

Results: The applicability of skin-to-skin contact between the pretest and posttest. During the pretest, the overall average knowledge score was 0.26, categorized as poor, with incorrect responses dominating most of the items. The posttest results show a remarkable improvement, with the overall average score increasing to 0.91, categorized as good. Most participants (over 83% across all items) provided correct answers after the intervention.

Conclusion: The study proves that structured educational programs enhance nurses' knowledge in SSC interpretation

Keywords: *Educational program, Knowledge, Barriers, skin-to-skin-contact*

1. INTRODUCTION

Early skin-to-skin contact (SSC), commonly perceived as a simple parenting practice, is considered an art by experienced mothers. Commonly referred to as kangaroo mother care, skin-to-skin contact (SSC) is positioning a nude infant on the mother's bare chest or belly, preferably between her breasts, within the initial minutes following birth or immediately thereafter, generally for a length of under 10 minutes(Young, 2020).The best period to establish unique interactions between a mother and her infant is within the first few hours of life. The first hour after delivery, when skin-to-skin contact occurs, initiates interaction between the mother and the newborn. Based on such circumstances, this approach enhances the mother's capacity to care for her child in order to boost her sense of self-worth and attachment(Mejbil et al., 2018). The advantages of skin-to-skin contact were first identified in the 1970s in Bogotá, Colombia, when a hospital experienced a shortage of incubators for premature infants. To substitute the incubators, two pediatricians encouraged mothers to engage in skin-to-skin contact with their infants as frequently as feasible(Cañadas et al., 2022).The WHO defines SSC as the practice of placing a newborn in a prone position on the mother's abdomen or chest, establishing direct ventral-to-ventral skin-to-skin contact. Immediate skin-to-skin contact occurs within 10 minutes post-delivery. Early skin-to-skin contact was defined as commencing from the moment of delivery up to 23 hours post-birth. Uninterrupted skin-to-skin contact should persist for a minimum of 60 minutes(Organization, 2017). Before the WHO's definition, there was no standardized definition of SSC, which may contribute to the significant variations in definitions employed across research(Organization, 2017).Various approaches exist regarding the timing of initiating skin-to-skin contact. Research identifies three main categories of early skin-to-skin contact for healthy, full-term infants: immediate skin-to-skin contact, initiated within the first minute of birth; early skin-to-skin contact, occurring within the first 24 hours after birth; and delayed skin-to-skin contact

(Ciavarella, 2023).Furthermore, newborns experience several benefits, including reduced crying, improved thermoregulation lasting through the initial days, and a mitigation of the adverse effects associated with the "stress of being born "It has been demonstrated that skin-to-skin contact increases breastfeeding initiation and exclusive breastfeeding while lowering the use of hospital formula supplements, resulting in a more successful initial nursing experience and better sucking (Séassau et al., 2023).Consequently, utilizing skin-to-skin contact (SSC) techniques enables mothers to fully capitalize on the opportunity for breastfeeding. Furthermore, initiating breastfeeding alongside SSC at birth may help prevent both the occurrence and severity of postnatal hemorrhage (PPH). Additionally, reduced rates of PPH could contribute to a decrease in maternal morbidity and mortality on a global scale. (Ginnane et al., 2024).Daily skin-to-skin contact between the mother and newborn is a promising, easy, and natural technique that may effectively reduce postpartum depressive symptoms in women. During SSC, the unclothed infant, clad solely in a diaper, is positioned on the bare chest of the mother(Cooijmans et al., 2017).The SSC method was developed as an alternate therapy to incubators for low birth weight and preterm newborns(Carneiro et al., 2024),In preterm infants, numerous studies have demonstrated that daily skin-to-skin contact (SSC) correlates with reduced maternal depressive symptoms(Cooijmans et al., 2022). Besides the potential efficacy of SSC on maternal postpartum depressive symptoms, SSC may also be associated with additional beneficial consequences for the mother. Research with preterm newborns indicates that daily skin-to-skin contact (SSC) correlates with reduced levels of maternal anxiety and stress as reported by mothers(Ulmer-Yaniv et al., 2023).Nurses play a significant role in promoting SSC to address newborn development in healthcare since they regularly care for moms and newborns admitted to facilities. Hence, the improvement of Their expertise and talents are quite important. Sustaining the practice of SSC requires a multi-faceted approach, including comprehensive staff training programs, regular reinforcement through practical demonstrations, and the cultivation of positive interdepartmental communication (Joseph, 2020).The American College of Nurse-Midwives (2019) has suggested that "direct SSC should be used between mothers and their healthy newborns soon after delivery and the primary breastfeeding is done." Such a method will also reduce the occurrence of breastfeeding difficulties, and this has already proved to have a negative impact on children's health, according to research (Hewedy et al., 2023).

2. METHODOLOGY

Design and Setting

A quasi-experimental study pre-test/post-test design was carried to assess nurses-midwives‟ knowledge regarding SSC ,The study was conducted on the nurses who work in the maternity department (labor room) from Kirkuk teaching hospital & Azadi teaching hospital& Maternity&child (Al-Naser) hospital At Kirkuk Health Director.The sample recruitment takes place from December 12th 2024 to May 5th 2025.

Sample

Study sample A purposive non probability sampling technique was used to recruit 60 nurses in maternity (labor room) departments of the selected hospitals.

Inclusion Criteria: Participants were eligible they include: Nurses who consent to participate, Nurses with over two years of experience in the labor room, Nurses chosen for morning shifts, and Nurses employed in the maternity (labor room) department.

Exclusion Criteria

who declined to partake in the study, Had less than one year of experience ,Nurses participating in the pilot study, nurses chosen for night shifts, and nurses who do not work in maternity (labor room).

Methods of data Collection

Data were gathered by an organized questionnaire that was self- administered.The questionnaire is derived from a literature review and previous study (Mejbel et al., 2012; Omer, 2021; Turenne et al., 2016).

Part (1) : Nurse_Midwive Sociodemographic

Include(5)items covering age, marital status, educational background, place of residence, and socioeconomic status.

Part(2) :Functional characteristics

This part consist of (7)questions regarding the functional characteristics of the study samples nurse, including job description, years of service ,years of experience in midwifery, specific training about Socratic in occupation, working timeliness to work.

P**art(3): Knowledge of nurses – midwives**

This section focused on (2)domains assessed through close-ended items (“I know” or “I don’t know”):

1-Nurses-midwives' knowledge about the applicability of skin-to-skin contact (23 items)

2- Nurses-midwives' knowledge about the Barriers of Non-Application of Skin-to-Skin Contact (7 items)

Tool Validity and Reliability

A council of nine experts verified the content validity of the educational program and the questionnaire. A doctor from the College of Medicine at the University of Kirkuk, a couple from the College of Nursing at the University of Kirkuk, the two from the College of Nursing at the University of Mosul, two from the University of Baghdad, and a couple working gynecologists were among the participants. Cronbach's alpha was employed to evaluate internal consistency, and Pearson's correlation coefficient was employed to investigate item correlations.

Data Analysis

The data and results were analyzed and interpreted by the Statistical Software for Social Sciences (SPSS), version 26.0. The computation of Mean (M), Standard Deviation (SD), Frequency (f), and Percentage (%) are fundamental elements of descriptive data analysis. Cronbach's Alpha (α), Kolmogorov-Smirnov Test, the Pearson correlation coefficient (r), Spearman's Rank Correlation Coefficient, Point Biserial Correlation, and Wilcoxon Signed-Rank Test are statistical methodologies employed in inferential data analysis.

3. RESULTS AND DISCUSSION

Table 1: The distribution of Nurse-Midwives by Socio-Demographic Characteristics

The findings in Table (1) detail the demographic details of the 60 nurses involved in the study.The results demonstrate that the highest percentage of nurse-midwives is comprised of younger individuals, Forty percent of the total population is within the age group of 20 to 29 years , followed by an age group of 30 – 39 years (37.7%). The average age for nurse-midwives refers to 33.5 ± 7.7 years. My result agreement with a study conducted in Kirkuk city hospitals(Mehammed-Ameen et al., 2019) who found most of nurses age between (20_29)years.The findings of participants outcomes results showed that most of the nurse-midwives were in the early age group this may because midwives often start young due to the demanding nature of the profession, the direct transition from education, and the need for a sustainable workforce with long career spans.These findings are congruent with the study by(Hussein & Abbas, 2021),in Baghdad City/Iraq which showed that more than (20%) of total nurse-midwives were between the age group (21 and 27) years.Ongoing the interpretation of patients' nurse-midwives findings results in a marital status variable showing more than half of nurse-midwives are married, while one-third of them are still unmarried because this age is the appropriate period for marriage according to the sample community. This finding agreed with a study by (Hamood & Khairi, 2017) in Bagdad which found that most midwife was married with (47%) from total sample.

By reviewing the findings of the level of education for nurse-midwives reveals that one third of sample are with bachelor degree in nursing (30%) followed by one quarter who graduated from nursing preparatory schools (25%). My study agreement with a study conducted by (Shakor & Salih, 2020) in Kirkuk city hospitals they founded a (35%) of nurses have bachelor drgree in nursing.In controversial to this finding a study done by(Ali & Ghafel, 2022) found the proportion ratio more than two-third of the total sample had midwifery secondary school. The present study indicated that most participants were categorized as "Urban Residency," aligning with previous research conducted in Saudi Arabia by (Abdulghani et al., 2020). Over three-quarters of the study participants were categorized as having "high" or "moderate" economic status. This finding aligns with comparable studies conducted by (Esan et al., 2020) in Nigeria.

Table (1): Distribution of Nurse-Midwives according to their Socio-demographic Characteristics

List	Characteristics		F	%
1	**Age (year)** **M±SD= 33.5 ± 7.7**	20 –29	24	40
		30 –39	22	36.7
		40 –49	12	20
		50 and more	2	3.3
		Total	***60***	***100***
2	**Marital status**	Married	33	55

		Unmarried	22	36.7
		Divorced	3	5
		Widowed	2	3.3
		Total	***60***	***100***
3	**Level of education**	Nursing Intermediate school	4	6.7
		Nursing preparatory school	15	25
		Midwifery Preparatory sch.	8	13.3
		Nursing Diploma	4	6.7
		Midwifery Diploma	11	18.3
		Bachelor	18	30
		Total	***60***	***100***
4	**Residency**	Urban	49	81.7
		Rural	11	18.3
		Total	***60***	***100***
5	**Perceived socioeconomic status**	Low	1	1.7
		Moderate	17	28.3
		High	42	70
		Total	***60***	***100***

f: Frequency, %, %: Percentage, M: Mean, SD: Standard deviation

Table (2): Distribution of Nurse-Midwives according to their Professional Characteristics

The data analysis in Table (2) show the professional characteristics of nurse-midwives ,The years of experience in nursing indicates that higher proportion of nurse-midwives Approximately more than one third precent of the sample have "6 – 10" years.The distribution of experience among nurse-midwives, characterized by a greater percentage possessing "1–5" years of midwifery experience. this study align findings in Australia by (Sheehy et al., 2019)This study indicates that numerous midwives are either in the early periods of their profession or have gone into midwifery professions following previous nursing experience.This may because the years of experience category signifies an important professional phase that integrates job stability with new clinical skills, thereby improving midwives' effectiveness in delivering quality care. This group is frequently favored in healthcare employment because of its combination of skill and relatively moderate employment costs in comparison to other experience levels.The participants comprised nurses with a minimum of five years of experience at hospitals associated with Mashhad Medical University. The requirements of five years of experience was derived from Benner, who considers it essential for professional advancement. They possessed 5 to 20 years of professional experience in Iran by (Amiri & Heydari, 2017). This may be because this period was considered essential for advancement in the profession. The findings indicate that most competent nurse-midwives began their professional life in nursing first before shifting to midwifery. The progressive development in this field has led to a larger accumulation of nursing experience compared to midwifery, highlighting the notable difference in average years of experience between the two professions.

Regarding participation in training courses about skin-to skin contact, a significant proportion has not participated in such courses half of them . About third of them that they participated in "1 – 3" training courses.The study's findings are not consistent with A study conducted by (Almutairi, 2022)in Saudi Arabi, that third of nurses did not receive training on SSC during orientation, while 42.5% perceived SSC guidelines and protocols as unclear and lacking comprehensiveness. This may because that nurse possessed a moderate understanding of SSC, revealing significant correlations among their knowledge, attitudes, education, and the execution of SSC practices.These finding agree with A study by (Abd Elhakm & Elbana, 2018) in Benha, Egypt. Shows that just 23% of nurses and midwives engaged in training courses aimed at enhancing their knowledge and practical skills by . The low participation rate may because a larger problem of inadequate training facilities or dedication to job development for skin-to-skin contact (SSC).This result contradict by A study (Adeli &

Azmoudeh, 2016) in Iran. This cross-sectional study was conducted on 50 midwives working in hospitals of Torbat Heydariyeh, Iran in 2015, Over 90% of midwives identified training programs, service accessibility, and adequate facilities as significant factors in the effective implementation of SSC.The participation' rate in training courses relevant to this vital practice can be ascribed to numerous primary issues, Insufficient Institutional Support For Continuing Education, there is a significant

lack of institutional support from hospitals and healthcare organizations for the ongoing professional development of nurses and midwives. Hospital administrations frequently neglect to commit essential resources—be they financial or logistical—to support consistent and focused training programs. Moreover, personnel are infrequently allocated designated time away from clinical responsibilities to participate in these courses.Concerning interest for working in midwifery, more than half of nurse-midwives are responding their interest to work in midwifery, while more than third forty have no interest. these finding agree with A research conducted among preparatory students in Ethiopia indicated that merely 18.1% want to pursue a profession in midwifery. The reasons for the disinterest were a lack of enthusiasm for the field (49.4%), apprehension over blood exposure (17.4%), the view of the occupation as stressful (11.2%), excessive workload (3.7%), and inadequate information about the profession (0.2%), The perceived public disdain for the profession and the necessity of nightshift work constituted substantial obstacles(Tadesse et al., 2020) in Ethiopia.So, the very limited interest in a long-term career in midwifery , this may be linked to various causes and interrelated variables. The challenges encompass the emotionally and physically demanding elements of midwifery, frequently resulting in professional burnout; insufficient financial and professional rewards that fail to acknowledge the job's difficulty; inadequate methods for ongoing professional development, leading to job decline; and, in certain instances, midwifery being chosen as an additional or externally influenced career choice rather than a personally driven aspiration. These issues may collectively prevent midwives' commitment for years to the profession.

Table (2): Distribution of Nurse-Midwives according to their Professional Characteristics

List	Characteristics		F	%
1	**Job description**	Nurse	36	60
		Nurse-midwife	7	11.7
		Midwife	17	27.3
		Total	***60***	***100***
2	**Years of experience in nursing** **M±SD= 10 ± 6**	1 – 5	11	18.3
		6 – 10	26	43.3
		11 – 15	17	28.3
		16 – 20	0	0
		21+	6	10
		Total	***60***	***100***
3	**Years of experience in midwifery** **M±SD= 4.7 ± 4.6**	1 – 5	41	68.3
		6 – 10	13	21.6
		11 – 15	4	6.7
		16 – 20	1	1.7
		21+	1	1.7
		Total	***60***	***100***
4	**Training courses**	None	29	48.4
		1 – 3	23	38.3

		4 – 6	6	10
		7 +	2	3.3
		Total	***60***	***100***
5	**Practice in occupation**	Hospital only	38	63.3
		Public & private Hosp.	21	35
		Hospital & home	1	1.7
		Midwife's home	0	0
		Client's home	0	0
		Total	***60***	***100***
6	**Working shift**	Morning	60	100
		Night	0	0
		Total	***60***	***100***
7	**Interest to work in Midwifery**	No	24	40
		Yes	36	60
		Total	***60***	***100***

f: Frequency, %: Percentage, M: Mean, SD: Standard deviation

Table (3): Assessment of Nurses-Midwives' Knowledge about the Applicability of Skin-to-Skin Contact during Pretest and Posttest

The findings Table (3) shows the significant improvement in nurses-midwives' knowledge about the applicability of skin-to-skin contact In the pretest, the total average knowledge score was 0.26, classified as inadequate, with wrong responses prevailing in the majority of items. For instance, merely 18.3% of participants accurately comprehended the requirement for cleansing the mother's belly and chest prior to skin contact, and only 15% recognized the imperative to observe the mother's respiration when the newborn is positioned on her chest.This findings agree with the efficacy of specific education in providing healthcare professionals with the procedural knowledge required for SSC application.(Organization & Fund, 2020). The gap in knowledge results not only from inadequate training but also from institutional limitations in newborn care. The disproportionate emphasis on obstetric interventions, including deliveries , compromises holistic maternal-infant care, leading to the neglect of critical practices like skin-to-skin contact (SSC) and, as a result, insufficient compliance and reduced awareness of its significance among nursing and midwifery staff.

Table (3): Assessment of Nurses-Midwives' Knowledge about the Applicability of Skin-to-Skin Contact during Pretest and Posttest (N=60)

List	Knowledge about the Applicability of Skin-to-Skin Contact	Scale	Pre-test			Post-test		
			f (%)	M	Ass.	F (%)	M	Ass.
1	Nurses' midwives' knowledge about the preparation of the expectant mother	**Incorrect**	25(41.7)	.58	Fair	3(5)	.95	Good
		Correct	35(58.3)			57(95)		
2	Is it necessary to clarify the procedure for skin seam for the expectant mother?	**Incorrect**	35(58.3)	.42	Fair	4(6.7)	.93	Good
		Correct	25(41.7)			56(93.3)		
3	Is it necessary to obtain consent from the expectant mother before applying the skin seam necessary?	**Incorrect**	49(81.7)	.18	Poor	3(5)	.95	Good
		Correct	11(18.3)			57(95)		
4	Is it necessary for the delivery room to be at 27-28	**Incorrect**	47(78.3)	.22	Poor	6(10)	.90	Good

	degrees Celsius?	**Correct**	13(21.7)			54(90)		
5	Does the nurse prepare a headdress for the mother and a diaper for the newborn?	**Incorrect**	40(66.7)	.33	Poor	6(10)	.90	Good
		Correct	20(33.3)			54(90)		
6	Is it necessary to provide a clean blanket or sanitized sheet?	**Incorrect**	48(80)	.20	Poor	6(10)	.90	Good
		Correct	12(20)			54(90)		
7	Does the nurse prepare all the necessary tools for childbirth?	**Incorrect**	40(66.7)	.33	Poor	6(10)	.90	Good
		Correct	20(33.3)			54(90)		
8	Does the nurse support the mother during childbirth?	**Incorrect**	48(80)	.20	Poor	5(8.3)	.92	Good
		Correct	12(20)			55(91.7)		
9	Is it necessary to have an escort with the expectant mother at this stage?	**Incorrect**	45(75)	.25	Poor	6(10)	.90	Good
		Correct	15(25)			54(90)		
10	Is it necessary to clean the mother's abdomen and chest before skin contact?	**Incorrect**	49(81.7)	.18	Poor	7(11.7)	.88	Good
		Correct	11(18.3)			53(88.3)		
11	Is it necessary to clean the face of a newborn immediately after birth?	**Incorrect**	48(80)	.20	Poor	3(5)	.95	Good
		Correct	12(20)			57(95)		
12	Is the umbilical cord cut after the pulse stops in it?	**Incorrect**	42(70)	.30	Poor	4(6.7)	.93	Good
		Correct	18(30)			56(93.3)		
13	Is the body of the newborn dried and cleaned?	**Incorrect**	38(63.3)	.37	Fair	5(8.3)	.92	Good
		Correct	22(36.7)			55(91.7)		
14	Should the nurse calculate the Abkar Score schedule during the first five minutes of birth?	**Incorrect**	48(80)	.20	Poor	7(11.7)	.88	Good
		Correct	12(20)			53(88.3)		
15	Does the nurse place the newborn on his mother's chest and abdomen?	**Incorrect**	41(68.3)	.32	Poor	7(11.7)	.88	Good
		Correct	19(31.7)			53(88.3)		
16	Does the nurse cover the mother and her newborn with one cover so that the mother's skin is in contact with the baby's skin?	**Incorrect**	47(78.3)	.22	Poor	4(6.7)	.93	Good
		Correct	13(21.7)			56(93.3)		
17	Should the nurse encourage the mother to breastfeed the baby?	**Incorrect**	41(68.3)	.32	Poor	4(6.7)	.93	Good
		Correct	19(31.7)			56(93.3)		
18	Does the nurse encourage the mother to change her clothes after giving birth?	**Incorrect**	43(71.7)	.28	Poor	5(8.3)	.92	Good
		Correct	17(28.3)			55(91.7)		
19	Does the nurse monitor cyanosis in the limbs of the newborn?	**Incorrect**	49(81.7)	.18	Poor	4(6.7)	.93	Good
		Correct	11(18.3)			56(93.3)		
20	Is it necessary to assess the health status of the breast before breastfeeding?	**Incorrect**	48(80)	.20	Poor	5(8.3)	.92	Good
		Correct	12(20)			55(91.7)		
21	Does the nurse measure the mother's pulse and blood pressure?	**Incorrect**	46(76.7)	.23	Poor	6(10)	.90	Good
		Correct	14(23.3)			54(90)		

22	Is it necessary to monitor the screaming of the newborn?	**Incorrect**	46(76.7)	.23	Poor	10(16.7)	.83	Good
		Correct	14(23.3)			50(83.3)		
23	Is it necessary to monitor the mother's breathing while placing the newborn on her chest?	**Incorrect**	51(85)	.15	Poor	9(15)	.85	Good
		Correct	9(15)			51(85)		
Total Average				***.26***	***Poor***		***.91***	***Good***

Ass: Assessment, M: Mean, (Poor= 0-0.33, Fair= 0.34-0.66, Good= 0.67-1).

Table (4):Assessment of Nurses-Midwives' Knowledge about the Barriers of Non-Application Skin-to-Skin Contact for the Newborn during Pretest and Posttest

The findings in Table (4) demonstrate a substantial improvement in nurses-midwives' knowledge about the barriers to non-application of skin-to-skin contact for newborns , only thirteen-point three percent correctly recognized low Apgar scores as a barrier, and more than half were unaware of the impact of insufficient staff awareness and time on skin-to-skin contact implementation. Posttest results showed a significant increase in correct responses, with scores improving from poor to good across all items, culminating in a total average score increase from 0.24 to 0.91. These discrepancies align with a study by (Boundy et al., 2016) in Boston, That global data demonstrating that institutional obstacles, such as insufficient staff training and excessive workload, impede SSC compliance.

Also, These findings align with previous studies according to (Turenne et al., 2016). That confirm these educational interventions can promote evidence-based modifications in nursing practices about skin-to-skin contact during birth.

These findings agree with (Crenshaw, 2014) in the United Kingdom, The significant proportion more than half of participants uninformed about staff-related concerns indicates an absence between clinical theory and practical workplace conditions. Time constraints, personnel deficiencies, and excessive workloads are prevalent in numerous maternity units, particularly in resource-limited environments; yet, they are frequently overlooked as barriers rather than as "difficulties." This knowledge deficit may arise from a culture where systemic constraints are normalized and hence disregarded as alterable obstacles.

The large proportion of participants unaware of staff-related barriers indicates a disconnect between theoretical understanding and practical limitations. In numerous clinical environments, particularly those experiencing understaffing, the implementation of SSC may be postponed or disregarded due to conflicting priorities. However, if healthcare workers are not instructed to critically analyze systemic barriers, they may fail to recognize them as such (Pulse & DiCioccio, 2021).

The educational intervention probably addresses this deficiency by specifically addressing workplace-related barriers, such as workflow problems and a lack of workers. These results indicate that the issue is not a deficiency in motivation among nurse-midwives, but rather an absence of structured, scientific training regarding the particulars of SSC implementation. To address this gap, it is essential to reevaluate training methodologies, provide a comprehensive overview of both advantages and barriers, and cultivate critical analysis regarding the impact of systemic elements on clinical treatment. Educational interventions should instruct not just on actions to take, but also on the timing, rationale, and contextual factors for such actions.

Table (4):Assessment of Nurses-Midwives' Knowledge about the Barriers of Non-Application Skin-to-Skin Contact for the Newborn during Pretest and Posttest (N=60)

List	**Knowledge about the Barriers of Non-Application Skin-to-Skin Contact**	**Scale**	**Pre-test**			**Post-test**		
			f (%)	**M**	**Ass.**	**f (%)**	**M**	**Ass.**
1	Apgar scores less than 7 scores of newborns	**Incorrect**	52(86.7)	.13	Poor	7(11.7)	.88	Good
		Correct	8(13.3)			53(88.3)		
2	The mother has a chronic disease (blood pressure, diabetes….)	**Incorrect**	44(73.3)	.27	Poor	5(8.3)	.92	Good
		Correct	16(26.7)			55(91.7)		
3	Abnormal delivery (CS, foresees birth ….)	**Incorrect**	40(66.7)	.33	Poor	5(8.3)	.92	Good
		Correct	20(33.3)			55(91.7)		

4	Maternal fatigue or discomfort during labor	**Incorrect**	46(76.7)	.23	Poor	4(6.7)	.93	Good
		Correct	14(23.3)			56(93.3)		
5	The mother has an infectious disease (hepatitis, tuberculosis...)	**Incorrect**	46(76.7)	.23	Poor	7(11.7)	.88	Good
		Correct	14(23.3)			53(88.3)		
6	Lack of staff awareness about its SSC importance	**Incorrect**	46(76.7)	.23	Poor	4(6.7)	.93	Good
		Correct	14(23.3)			56(93.3)		
7	Insufficient time during shifts to facilitate SSC	**Incorrect**	46(76.7)	.23	Poor	4(6.7)	.93	Good
		Correct	14(23.3)			56(93.3)		
Total Average				***.24***	***Poor***		***.91***	***Good***

Ass: Assessment, M: Mean, (Poor= 0-0.33, Fair= 0.34-0.66, Good= 0.67-1).

4. CONCLUSION

The findings of this study show that educational program significantly enhance nurse-midwives' knowledge of SSC, its applicability, and its associated barriers. The results demonstrate the importance of continuous training and institutional support for the effective implementation of SSC in clinical environments

5. RECOMMENDATION

The study concluded that improvement in nurses-midwives' knowledge about the barriers to non-application of skin-to-skin contact for newborns following the intervention, Pretest results revealed poor knowledge across all assessed barriers, with the majority of participants unable to correctly identify factors such as low Apgar scores, maternal chronic or infectious diseases, abnormal delivery methods, and staff-related constraints.

Adding the SSC into the hospital system's rules will facilitate procedures in the labor room. planning a strategy for continuing education programs to enhance the clinical abilities of nurses and midwives every six months, and to increase their knowledge and performance in this area.

REFERENCES

[1] Abd Elhakm, E. M., & Elbana, H. M. (2018). Effect of simulation based training on maternity nurses' performance and self-confidence regarding primary postpartum hemorrhage management. *American Journal of Nursing*, *6*(6), 388-397.

[2] Abdulghani, N., Edvardsson, K., & Amir, L. H. (2020). Health care providers' perception of facilitators and barriers for the practice of skin-to-skin contact in Saudi Arabia: A qualitative study. *Midwifery*, *81*, 102577.

[3] Adeli, M., & Azmoudeh, E. (2016). Influential factors of mother-infant skin-to-skin contact based on the precede-proceed model from the perspective of midwives in Torbat Heydariyeh hospitals.

[4] Ali, S. H., & Ghafel, H. H. (2022). Nurse-Midwives' Knowledge and Practices About Immediate Newborn Care. *International journal of health sciences*, *6*(S1), 8915-8940.

[5] Almutairi, W. M. (2022). Survey of skin-to-skin contact with obstetrics and pediatric nurses. *Nursing Reports*, *12*(1), 13-21.

[6] Amiri, R., & Heydari, A. (2017). Nurses' experiences of caring for patients with different cultures in Mashhad, Iran. *Iranian journal of nursing and midwifery research*, *22*(3), 232-236.

[7] Boundy, E. O., Dastjerdi, R., Spiegelman, D., Fawzi, W. W., Missmer, S. A., Lieberman, E., Kajeepeta, S., Wall, S., & Chan, G. J. (2016). Kangaroo mother care and neonatal outcomes: a meta-analysis. *Pediatrics*, *137*(1).

[8] Cañadas, D. C., Perales, A. B., Belmonte, M. d. P. C., Martínez, R. G., & Carreño, T. P. (2022). Kangaroo mother care and skin-to-skin care in preterm infants in the neonatal intensive care unit: A bibliometric analysis. *Archives de Pédiatrie*, *29*(2), 90-99.

[9] Carneiro, L., Al Sarout, S., Jeanneaud, C., Clenet, N., & Favrais, G. (2024). Skin-to-skin contact for transferring preterm infants from the delivery room to the neonatal intensive care unit is promising despite moderate heat loss during the procedure. *American Journal of Perinatology*, *41*(S 01), e1037-e1044.

[10] Ciavarella, J. (2023). *Promoting Skin-To-Skin Contact Immediately After Birth to Improve Early Breastfeeding*

Grand Canyon University].

[11] Cooijmans, K. H., Beijers, R., Brett, B. E., & de Weerth, C. (2022). Daily mother-infant skin-to-skin contact and maternal mental health and postpartum healing: a randomized controlled trial. *Scientific reports*, *12*(1), 10225.

[12] Cooijmans, K. H., Beijers, R., Rovers, A. C., & de Weerth, C. (2017). Effectiveness of skin-to-skin contact versus care-as-usual in mothers and their full-term infants: study protocol for a parallel-group randomized controlled trial. *BMC pediatrics*, *17*, 1-16.

[13] Crenshaw, J. T. (2014). Healthy birth practice# 6: Keep mother and baby together—It's best for mother, baby, and breastfeeding. *The Journal of perinatal education*, *23*(4), 211.

[14] Esan, D. T., Adedeji, O. A., Bello, C. B., & Omolafe, M. C. (2020). Knowledge and practices of immediate newborn care among midwives in selected health care facilities in Ekiti State, Nigeria. *Pan African Medical Journal*, *37*(1).

[15] Ginnane, J. F., Aziz, S., Sultana, S., Allen, C. L., McDougall, A., Eddy, K. E., Scott, N., & Vogel, J. P. (2024). The cost-effectiveness of preventing, diagnosing, and treating postpartum haemorrhage: A systematic review of economic evaluations. *PLoS medicine*, *21*(9), e1004461.

[16] Hamood, H. I., & Khairi, S. H. (2017). Determination of the outcomes of an instructional program on nurse/midwife knowledge concerning genital warts in Al-Karhk maternity hospital at Baghdad city. *IOSR Journal of nursing and health science (IOSR-JNHS)*, 2320-1959.

[17] Hewedy, A. A., Shalaby, N. S., Nasr, E. H., & Osman, S. A. R. (2023). Effect of Immediate Mother and Newborn Skin–to-Skin Contact on Maternal and Neonatal Health. *Port Said Scientific Journal of Nursing*, *10*(2), 250-276.

[18] Hussein, W. A., & Abbas, I. M. (2021). Effectiveness of Education Program on Nurse-Midwife's Knowledge Regarding Immediate Newborn Care in Delivery Rooms at Maternity Hospitals in Baghdad City/Iraq. *Indian Journal of Forensic Medicine & Toxicology*, *15*(3), 5069-5074.

[19] Joseph, E. L. (2020). *Promoting Newborn Skin-to-Skin Contact to Increase Breastfeeding Initiation and Exclusivity in Cesarean Deliveries* Seton Hall University].

[20] Mehammed-Ameen, O. H., Hasenb, N. N., & Ali, S. M. (2019). Prevalence and risk factors of Low Back pain among nurses in Kirkuk general hospitals. *Indian J Public Health Res Dev*, *10*(6), 905-910.

[21] Mejbel, M. K., Ali, R., & Assist, P. (2012). Effectiveness of Skin-to Skin Contact on duration of third stage of labor in Baghdad Teaching Hospital: Comparative Study. *kufa Journal for Nursing sciences*, *2*(3), 1-13.

[22] Mejbil, M., Ali, R. a. M., & Aziz, A. R. (2018). Effectiveness of Education Training Program on Nurse-Midwives' Knowledge about Immediate Mother and Newborn Skin to Skin Contact at Birth in Baghdad Maternity Hospitals.

[23] Omer, N. M. (2021). *Assessment Of Nurses' And Midwives' Knowledge, Beliefs And Barriers Regarding Kangaroo Care In Erbil* Master Thesis in the Nursing Program of the Near East University Institute …].

[24] Organization, W. H. (2017). Guideline: protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services. In *Guideline: protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services* (pp. 136-136).

[25] Organization, W. H., & Fund, U. N. C. s. (2020). *Protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services: the revised Baby-friendly Hospital Initiative 2018 implementation guidance. Frequently asked questions*. World Health Organization.

[26] Pulse, W. S., & DiCioccio, H. C. (2021). Immediate and sustained skin-to-skin contact for healthy late preterm and term newborns after birth: AWHONN practice brief number 14. *JOGNN-JOURNAL OF OBSTETRIC GYNECOLOGIC AND NEONATAL NURSING*, *50*(6), E13-E15.

[27] Séassau, A., Munos, P., Gire, C., Tosello, B., & Carchon, I. (2023). Neonatal care unit interventions on preterm development. *Children*, *10*(6), 999.

[28] Shakor, S. Q., & Salih, H. S. (2020). Blood transfusion knowledge and practices among nurses in kirkuk city hospitals. *Mosul Journal of Nursing (Print ISSN: 2311-8784 Online ISSN: 2663-0311)*, *8*(1), 14-24.

[29] Sheehy, A., Smith, R. M., Gray, J. E., & Homer, C. S. (2019). Midwifery pre-registration education and mid-career workforce participation and experiences. *Women and birth*, *32*(2), e182-e188.

[30] Tadesse, D., Weldemariam, S., Hagos, H., Sema, A., & Girma, M. (2020). Midwifery as a future career: Determinants of motivation among prep students in harar, eastern Ethiopia. *Advances in medical education and practice*, 1037-1044.

[31] Turenne, J. P., Héon, M., Aita, M., Faessler, J., & Doddridge, C. (2016). Educational intervention for an evidence-based nursing practice of skin-to-skin contact at birth. *The Journal of perinatal education*, *25*(2), 116-128.

[32] Ulmer-Yaniv, A., Yirmiya, K., Peleg, I., Zagoory-Sharon, O., & Feldman, R. (2023). Developmental Cascades Link Maternal-Newborn Skin-to-Skin Contact with Young Adults' Psychological Symptoms, Oxytocin, and Immunity; Charting Mechanisms of Developmental Continuity from Birth to Adulthood. *Biology*, *12*(6), 847.

[33] Young, M. K. (2020). Creating a learning resource for developmental care in the NICU: embracing a holistic approach.