Early Skin-to-Skin Contact: It's Effect Up On Third Stage of Labor and Breastfeeding Initiation

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Abstract

Background: Early skin-to- skin contact between the mother and newborn after birth creates an optimal environment for the adaptation of newborn to extra uterine life. This simple and cost-free procedure is recommended as an important improvement in care immediately after delivery. The aim of this study was to determine the effect of mother- newborn early skin-to-skin contact on duration of third stage of labor and breastfeeding initiation. A quasi-experimental design was utilized. The study conducted in the delivery room at Benha University Hospital. A purposive sample was used to include 100 mother and her neonate these mothers were divided equally into study group apply early skin-to-skin contact technique and control group follow the routine hospital care. Three tools were used for data collection (1)Women Bio demographic characteristic tool, (2) Third stage assessment tool (3) Breastfeeding assessment tool. Results indicated statistically significant differences between study group and control groups as the study group were more positively passed the third stage of labor and success of first breastfeeding compared to control group. Conclusion and recommendation: Mother-newborn early skin-to-skin contact significantly reduced duration of the third stage of labor, reduced the time to initiate first breastfeed and enhanced the success of first breastfeed. The study recommended that mother-newborn early skin-to-skin contact should be started immediately after birth.

Key Words: Early Skin-to-skin contact, Breastfeeding initiation, Third stage of labor.

Introduction

Early skin-to- skin contact between the mother and newborn after birth creates an optimal environment for the adaptation of newborn to extra uterine life. This simple and cost-free procedure is recommended as an important improvement in care immediately after delivery. Skin-to-skin contact comforts the newborn, prevents heat loss, preserves carbohydrate stores, facilitates metabolic adjustment, reduces crying and pain sensibility. It also promotes early mother-infant interaction and bonding, Extended and uninterrupted early mother-infant body contact after birth was identified as a factor influencing effective sucking at the breast. Some studies indicate that it can also have a long-lasting effect on the duration of breastfeeding and help in stimulating the delivery of the placenta as well as provides lower risk breast cancer as result of breastfeeding. The action of oxytocin

and the movements of the newborn feet pressing on the uterus leads to a decreased risk of postpartum hemorrhage ***(D' Artibale, Bercini 2014)***

Breastfeeding is the healthiest and most natural way of infant feeding and successful lactation mainly depends on early initiation of breastfeeding. World Health Organization (WHO) states that over 1.5 million baby deaths per year occur because of inadequate intake of breast milk. Non-breastfed infants affected by diseases at least 2.5 times more than breastfed infants ***(World Health Organization, 2013).*** Key initiatives to improve successful breastfeeding include skin-to-skin contact soon after birth, initiation of breastfeeding within an hour of birth, limited maternal-newborn separation, and frequent breastfeeding on-demand. ***(Labardee, 2016).*** Early skin-to-skin contact and initiation of breastfeeding in the first hour after birth leading to a reduction of infants mortality in the first month of life. ***(Holmberg, et al., 2014).***

UNICEF, (2011) reported that the step four of the ten steps to successful breastfeeding, developed by the Baby-Friendly USA hospital designation is "help the mothers to initiate breastfeeding within one hour of birth." This step calls for placing infants skin-to-skin with their mother immediately following birth for at least one hour and as often as possible after that. Mothers and newborns that experience early skin-to-skin contact are more likely to have a successful breastfeeding experience during the early postpartum period. ***(Bramson et al., 2010)***. Skin-to-skin contact is defined as the holding of the newborn undressed in a prone position against the mother's bare chest between breasts while exposed back of the infant covered by blankets or towels. This action is also named and known as Kangaroo Mother Care. (***Venancio & Almeida, 2010).***

The third stage of labor is the most important time for the health and wellbeing of both mother and baby, and the beginning of their special life-long relationship. Which begin immediately after the delivery of the fetus and contains separation and expulsion of the placenta and membranes. ***(Begley et al. 2011)***. Early skin to skin contact and initiation of breastfeeding may facilitate the delivery of the placenta. ***(Marin et al, 2010; Fahy, et al. 2013).*** In a spontaneous, un-medicated, normal delivery, it is important to plan a physiological or natural third stage, without increasing the risk of hemorrhage. In natural third stage, the baby's cord is usually not clamped or cut and the mother and baby stay in skin-to-skin contact in a warm, non stimulating birthing environment until after the placenta has been delivered***. (Burke, 2010).***

During the third stage of labor, uterus contract strongly and continuously at regular intervals, under influence of oxytocin. Muscle fibers of the uterus shorten, or retract, with each contraction uterine size gradually decrease which helps the placenta to "shear" away from its attachment site. When the placenta is delivered the third stage had completed. Mothers naturally provides oxytocin with peak levels, the hormone of love, and endorphins hormones of pleasure for both baby and mother. Skin-to-skin contact with first attempts of the baby's to breastfeed further augment maternal oxytocin levels, strengthening contractions of the uterus that will help separation of the placenta and the uterus to contract down. In this way, oxytocin acts to prevent postpartum hemorrhage. ***(Buckley, 2009)***.

All health professionals have an ethical responsibility to promote, support, and protect breastfeeding and to be competent in breastfeeding care and services. Educating mothers about healthy birth practices, including keeping mothers and babies together, is a significant strategy for improving breastfeeding initiation, duration, and exclusivity. Ensuring evidence-based maternity policies that facilitate "no separation" is an essential responsibility for all health professionals**. *(United States Breastfeeding Committee, 2010).***

An essential practice for safe and healthy birth is to keep mothers and babies together and ensure unlimited opportunities for skin-to-skin contact and breastfeeding. Mothers and babies have a physiologic need to be together during the moments, hours, and days following birth, and this time together significantly improves maternal and newborn outcomes. Childbirth educators and other health-care professionals have a responsibility to support this physiologic need through education, advocacy, and implementation of evidence-based maternity practices. Routine separation of healthy mothers and babies can be harmful and can negatively influence short- term and long-term health outcomes and breastfeeding success**. *(Lamaze International Care Practices, 2012).***

Significance of the study

Separation of the babies from their mothers at birth has become standard practice and may have harmful effects. However, delivery room and postpartum hospital routines may significantly disrupt early maternal-newborn interactions including breastfeeding. ***(Anderson et al,. 2011). The American Academy of Pediatrics Section on Breastfeeding (2012)*** had recommended that "healthy babies should be placed and remain in direct skin-to-skin contact with their mothers immediately after delivery until accomplished the first feeding ". Skin contact is a

cheap and a very simple method for providing better care post-delivery, shorten the duration of the third stage of labor, increasing the duration of breastfeeding, and encouraging exclusive breastfeeding. A search of the literature found no study conducted at benha university hospital in this topic. So, the researcher conducted this study to determine the effect of early mother- newborn skin- to-skin contact on third stage of labor and breastfeeding initiation.

The aim of the study:

The study aimed to determine the effect of mother- newborn early skin -to-skin contact on third stage of labor and breastfeeding initiation.

Hypotheses of the study:

H1. Early skin -to-skin contact positively affect the third stage of labor and breast feeding process.

Subjects and Method

Study design: A quasi-experimental design was utilized.

Setting: The study carried out in the delivery room of obstetrics department at Benha University Hospital.

Sample type: Purposive sample

Sample size: A total of 100 mother and her newborn were recruited in the study according to the following **criteria**: Primigravida mother, anticipated normal vaginal delivery and desire to breastfeed the baby, did not receive any pharmacological pain relief substance and willing to join in the study. Regarding the newborn; single, healthy full-term (37 to 42 weeks of gestation), with Apgar scores (7-10).

Sample technique

The selected mothers were divided into two equal groups. Study and control group according to mothers choosing were the study group apply early mothers-newborn skin-to-skin contact and control group follow the routine hospital care This was done to avoid sample contamination.

Tools of data collection:

Three tools were used to collect data:

Tool (I): Women Bio demographic characteristic tool : It was developed by the researchers and includes: Socio-demographic data such as (age, level of education, address, occupation). And obstetric history included (weeks of

gestation, number of antenatal visits, and knowledge received about breastfeeding during antenatal care).

Tool (II): The third stage assessment tool.

Assessment the contraction of uterus immediately after delivery, examination of the placenta, membranes for separation and completeness, the presence of uterine atony or excessive blood loss, giving methargene, assess the funds level of the uterus and estimate the duration of the third stage of labor.

Tool (III): Breastfeeding Assessment Tool: It included two parts:
Part 1: The Infant Breastfeeding Assessment Tool (IBFAT**):** ***(Mathews, 2000)*** The IBFAT evaluate four parameters of infant breastfeeding competence including the readiness to feed, rooting reflex, fixing (Latch onto the breast) and sucking pattern.

Scoring system:

Each item take score of 0 to 3 for a maximum total score of 12. A score of 10-12 was considered as successful first feeding. Scores less than 10 represented difficulty in first breastfeeding and for this study was considered as a failure.

Part 2: Assessment the outcome of first breastfeeding: Including the time to initiate first breastfeed was measured in minutes from birth till newborn started first breastfeed, duration (minutes) of first breastfeeding, did the newborn attach to the nipple without help, did the newborn end the first breastfeeding by him/herself. Estimating a newborn's first breastfeeding experience and success of subsequent breastfeeds before discharge will be based on the IBFAT tool. Maternal satisfaction with the prescribed care received was rated as satisfied, fairly satisfied, unsatisfied. Maternal preference for the same post-delivery care in future was rated as certain, quite certain, not certain.

Validity: Content validity was done by panel expertise. The developed tool was reviewed for appropriateness of items and measuring the concepts through 5 an expert jury panel in the field of maternity nursing and obstetric medicine specialty to assure content validity. The questionnaire was modified according to the panel judgment on the clarity of sentences and appropriateness of content.

Reliability: Test-retest reliability was applied by the researcher for testing the internal consistency of the tools. It refers to the administration of the same tool to the same subjects under similar conditions on two or more occasions. Scores from repeated testing were compared.

Ethical considerations

This study was conducted under the approval of the Faculty of Nursing Ethical Committee, Benha University. An official permission was obtained from the directors of the pre- mentioned settings. Each Participants were given explanations about the purpose of the study and was informed that participation is voluntary and they are free to withdraw from the study at any time before the completion of the study, those who agreed to complete in this study were asked to sign a consent form before starting the data collection. Confidentiality was ensured throughout the study process, and the mothers were assured that all data were used only for research purpose.

Pilot Study:

The pilot study was carried out on 10 % from the total number of sample (10) subjects to test the clarity, objectivity, feasibility and the applicability of the tool, find out the possible obstacles and problems that might face the researcher and interfere with data collection, detect any problems peculiar to the statements as sequence of questions and clarity and estimate the time needed for data collection. The subjects involved in the pilot study were excluded from the main study sample.

Procedure :

A written official letter from the Faculty of Nursing, Benha University was directed to the responsible authorities to obtain their permission to conduct the study after explaining its purpose. The aim of the study was explained to each mother and an oral consent for participation in the study was obtained. Then the participants were assured about confidentiality, privacy and their right to withdraw from the study at any time. The study was conducted from beginning of January till the end of June 2016 covering a long period of 6 months. The previously mentioned settings were visited by the researchers three days/week (from 9.00 am to 4.00 pm.

Eligible mothers were divided into two equal groups. The researcher have collected the socio-demographic and obstetric history from the mothers during the first stage of labor and stayed with each mother in both groups from the beginning of the 2^{nd} stage of labor till 2 hours after birth when effective breastfeeding was established. During this time the tool (II) was used to assess the mothers during the third stage of labor in both groups.

In control group, immediately when the babies were expulsion completely from the mother, quickly dried gently, and immediately after cutting the umbilical cord APGAR score was measured. Then the baby was placed under a radiant warmer to perform actions like physical assessment, suctioned if medically indicated, given a vitamin K injection and erythromycin ophthalmic ointment. Vital signs and blood glucose also were measured by the staff nurse and finally weighting and measuring the baby were done. After delivery of the placenta and repair the perineal laceration or episiotomy, the babies were wrapped in the pre-warmed blanket and returned to their mothers and the mothers were encouraged to begin breastfeeding.

In study group, immediately after delivery naked the newborn in diapers and positioned between their mother breasts in a prone position during the first minute post birth, the APGAR score was measured before delivery of placental, also the baby was suctioned while on the mother's abdomen or chest, gently dried and covered with a pre-warmed blanket over both mother and baby. To preserve the newborn temperature and prevent from loss the head was covered with hats that was replaced when it became damp and their backs with suitable covers. Ideally, all other interventions as weighting, measuring the baby, bathing, needle-sticks, and eye prophylaxis delayed until after the first feeding is completed. In both groups, time from birth to start of first feed was noted. All breastfeed were scored on IBFAT till the baby had successful breastfeeding and time to effective breastfeeding was noted. In each group, maternal satisfaction with the care received and preference for same post-delivery care in future was rated.

Statistical analysis:

Data were verified prior to computerized entry. The Statistical Package for Social Sciences (SPSS version 20.0) was used for that purpose, followed by data analysis and tabulation. Descriptive statistics were applied (e.g., mean, standard deviation, frequency, and percentages). Test of significance (chi-square, Fisher Exact test and paired t-test) were used to test the homogeneity of the outcome variables between the groups and to test the study hypothesis. A statistically significant difference was considered at p-value $p \leq 0.05$ and a highly statistically significant difference was considered at p-value $p \leq 0.001$.

Results

Table 1: Shows that about three quarter of study and the control groups were in age group (21-25) years with the mean age (23.80 ± 2.31) (23.46 ± 2.33) years for both groups respectively. Less than half of study and the control group had secondary education (48% & 42%) respectively. Less than three quarter (72%) of

study group were housewives, compared to more than three quarter (78%) of the control group. More than half of study and control group (52% &62%) respectively were live in urban area. The majority of study and control group (84% & 78%) respectively had 5 time or more antenatal visits. The majority of study and control group (90% & 92%) respectively didn't receive prior knowledge about breastfeeding.

Table 2: Shows that all subject in study group(100%) had a contracted uterus immediately after birth, with a complete placenta, no uterine atony or excessive blood loss compared to (70%, 82% & 84%) of the control group. These findings were highly statistically significant ($P < 0.001$). Almost all of study group (94% & 94%) had no need for methargine and the level of the uterus were at or below the level of umbilicus compared only (16 % & 64%) of the control group. Also, shows there are significant differences between study and control group in the duration of placental separation with mean duration (3.68 ± 1.01 minute) in study compared to (10.02 ± 2.91) minute ($P < .001$).

Figure (1) Shows that the most of the study group (92%) had successful first breastfeeding compared to (62%) of the control group.

Table 3: Shows that the majority of the newborn in study group(90%) had self-initiated attachment to the nipple compared to only (30%) of the control group ($p < .001$). In addition, (84%) of newborns in the study group ended the first breastfeeding by themselves compared to only (46%) of the control group ($p <.001$). On asking the mothers to evaluate the newborn's first breastfeeding, (80%) of the study group reported good breastfeeding compared to only (48%) of the control group ($p<.001$). The duration between the birth of the baby and first breastfeeding was shorter in the study group than in control group with the mean duration (33.32 ± 4.99 minutes) in study group as compared to (105.90 ± 21.80 minutes) in the control group. Also, duration of first breastfeeding was longer in the study group than in control group. The difference between the two groups was highly statistically significant. ($p<.001$).

Figure (2) Reveled that relatively all (99%) of the study group and (75%) of the control group were successfully breastfeeding before discharge.

Table 4: Revealed highly significant differences between the two groups regarding their satisfaction with care received and preference for same post-delivery care in future ($p < .001$).

Table 1: Distribution of the studied sample according to their socio-demographic characteristics (n= 50 each group).

Variable	Study Group (50)		Control Group (50)		FET/ $\chi 2$	P Value
	No	%	No	%		
Age (years):						
< 20	3	6.0	4	8.0	2.87	0 .57
21- 25	38	76.0	35	70.0		
26 - > 30	9	18.0	11	22.0		
Mean ± SD	23.80 ± 2.31		23.46 ± 2.33			
Educational level						
Illiterate/read & write	5	10.0	5	10.0	15.92	0.68
Primary/ preparatory.	15	30.0	16	32.0		
Secondary	24	48.0	21	42.0		
University	6	12.0	8	16.0		
Occupation:						
Working	14	28.0	11	22.0	2.50	0.114
Housewife	36	72.0	39	78.0		
Residence:						
Rural	24	48.0	19	38.0	0.58	0.94
Urban	26	52.0	31	62.0		
Number of antenatal visits:						
< 5	8	16.0	11	22.0	0.50	0.47
≥ 5	42	84.0	39	78.0		
Knowledge received about breastfeeding:						
- Yes	5	10.0	4	8.0	0.48	0.48
- No	45	90.0	46	92.0		
Weeks of gestation:					**T test**	
Mean ± SD	38.14 ± 0.57		38.24 ± 0.65		0.790	0.43

Table 2: Distribution studied sample regarding to assessment of the third stage of labor & mothers observation after delivery (n= 50 each group).

Variable	Study Group (50)		Control Group (50)		FET/ $\chi 2$	P Value
	No	%	No	%		
Uterus contract immediately after birth:						
- Yes	50	100.0	35	70.0	33.3	0.004
- No	0	0.0	15	30.0		
Complete placenta and membrane separation						
- Yes	50	100.0	41	82.0	19.14	0.001*
- No	0	0.0	9	18.0		
Assess the funds level:						
- At or lower than the umbilicus	47	94.0	32	64.0	22.32	0.001*
- Highly above the umbilicus	3	6.0	18	36.0		
Giving methargen:						
- Yes	3	6.0	42	84.0	93.19	0.000*
- No	47	94.0	8	16.0		
Signs of uterine atony or excessive blood loss:						
- Yes	50	100.0	8	16.0	16.90	0.000*
- No	0	0.0	42	84.0		
Duration of the third stage of labor:						
Less than 5 minute.	46	92.0	8	16.0	87.90	0.000*
5- 10	4	8.0	33	66.0		
>15 minute.	0	0.0	9	18.0	***T - test***	
Mean ± SD	3.68 ± 1.01		10.02 ± 2.91		15.25	0.000*

Note **: $\chi 2$** (*P*): Chi-Square Test &*P* for **$\chi 2$** Test; FET (*P*): Fisher Exact Test & *P* for FET-Test; *T* (*P*): *T*-test & *P* for *T*-test; *: Significant at $P \leq .01$

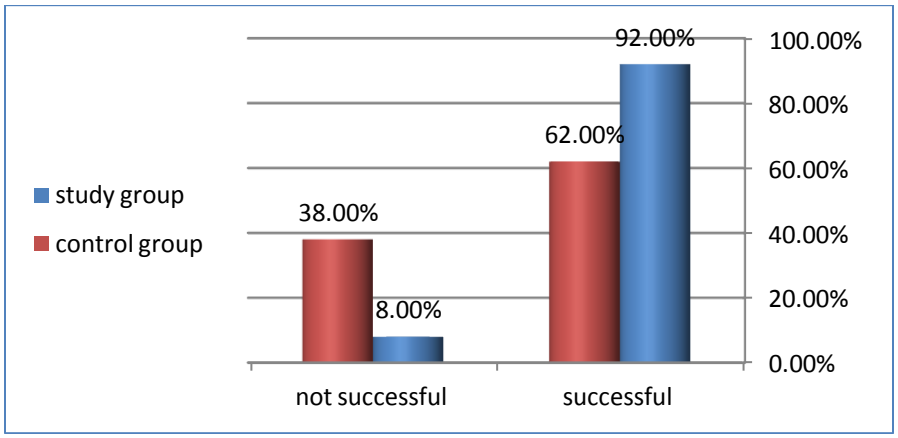

Figure 1: Percent distribution of the study subjects according to total score of successful first breast feeding.

Table 3: Distribution of the study subjects according to their assessment of the first Breastfeeding

Variable	Study Group (50)		Control Group (50)		FET/ $\chi 2$	P Value
	No	%	No	%		
The baby attach to the mother's nipple by him/herself:						
- Yes	45	90.0	15	30.0	57.14	0.000*
- No	5	10.0	35	70.0		
The baby end the first breastfeeding by him/herself:						
- Yes	42	84.0	23	46.0	23.53	0.000*
- No	8	16.0	27	54.0		
How do you evaluate the first breastfeeding of the baby?						
Good	40	80.0	24	48.0	28.35	0.000*
-Fairly good	10	20.0	15	30.0		
-Bad	0	0.0	11	22.0		
Time (minutes) between birth of the baby and first breastfeeding:					**T test**	
Mean ± SD	33.32 ± 4.99		105.90 ± 21.80		21.81	0.000*
Duration (minutes) of first breastfeeding:						
Mean ± SD	24.28 ± 4.025		6.70 ± 0.81		30.05	0.000*

Note **:** $\chi 2$ (*P*): Chi-Square Test &*P* for $\chi 2$ Test; FET (*P*): Fisher Exact Test & *P* for FET-Test; *T* (*P*): *T*-test & *P* for *T*-test; *: Significant at $P \leq .01$

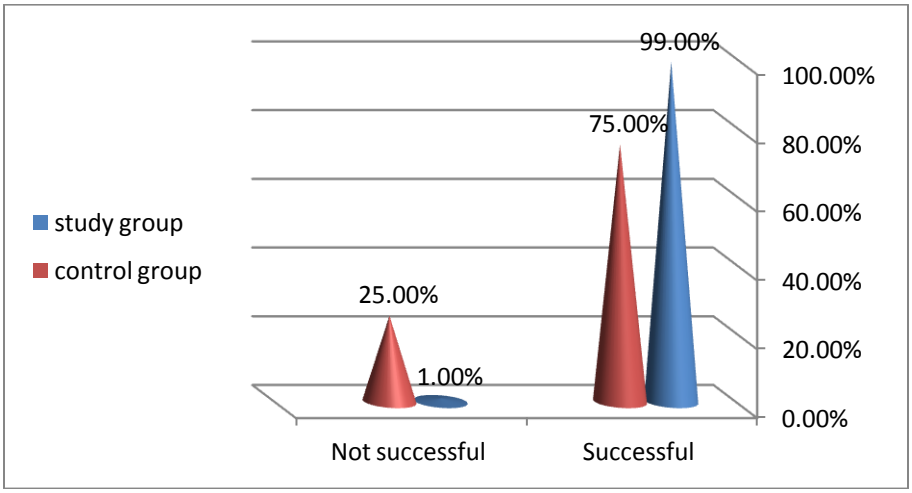

Figure 2: Distribution of study subjects according to their success of subsequent breastfeeding before discharge based on IBFAT scores.

Table 4: Distribution of the study subjects according to their satisfaction about care received and Preference for same post delivery care in future

Variable	Study (50)		Control Group (50)		FET/ $\chi 2$	P Value
	No	%	No	%		
Maternal satisfaction with the care received:						
- Satisfied	48	96.0	27	54.0	40.77	0.000*
- Fairly satisfied	2	4.0	16	32.0		
- Unsatisfied	0	0.0	7	14.0		
Preference for same post delivery care in future						
-Certain	47	94.0	24	48.0	42.96	0.000*
- Quite certain	3	6.0	21	42.0		
- Not certain	0	0.0	5	10.0		

Discussion

Early skin-to- skin contact between the mother and newborn after birth creates an optimal environment for the adaptation of newborn to extra uterine life. This simple and cost-free procedure is recommended as an important improvement in care immediately after delivery. Skin-to-skin contact comforts the newborn, prevents heat loss, preserves carbohydrate stores, facilitates metabolic adjustment, reduces crying and pain sensibility. It also promotes early mother-infant interaction and bonding, Extended and uninterrupted early mother-infant body contact after birth was identified as a factor influencing effective sucking at the breast. Some studies indicate that it can also have a long-lasting effect on the duration of breastfeeding and help in stimulating the delivery of the placenta as well as provides lower risk breast cancer as result of breastfeeding. The action of oxytocin and the movements of the newborn feet pressing on the uterus leads to a decreased risk of postpartum hemorrhage ***(D' Artibale, Bercini 2014)***

Many different demographic factors have been found to be predictors of initiation & maintenance of skin-to-skin contact. These factors, however, differ across studies and among different populations. Socio-demographic factors are important determinants of skin-to-skin contact (***Lact, 2010)***. As regard socio-demographic data of the studied sample. The findings of the present study reveals about three quarter of study and the control groups were in age group (21-25) years with the mean age (23.80 ± 2.31) (23.46 ± 2.33) years for both groups respectively. This indicated that both groups were homogenous before conduction of the study.

Similarly, a study conducted by ***Ferber & Makhoul, (2004)*** who studied the effect of skin-to-skin contact shortly after birth on the neurobehavioral responses of the term newborn. A Randomized, Controlled Trial. They found that the mean age of both groups were (28.9±5.75) (27.56±5.22) years. There were no significant differences (p=0.45) in any of the variables measured which is consistent with current study age groups. Also, agree with, ***Mejbel & Ali, (2012)*** who found that the mean age of both groups were (27.025±6.342) (26.075±6.584) respectively.

Regarding the educational level, the findings of the present study reveals that (55% & 47.5%) of both groups respectively had a secondary educational level. About three quarter of both groups were housewives, More than half of both groups were live in urban area. The majority of both group had 5 or more antenatal visits. The majority of both groups didn't receive prior information about breastfeeding. This indicated that both groups were homogenous before conduction of the study. These findings supported by ***Khadivzadeh & Karimi (2009)*** present in their study on the effect of immediate and continues skin-to-skin contact in first two hours post-birth on breastfeeding initiation and the infant success in first breastfeeding. There were no significant differences in any of the variables measured, (42.6%) of study group had high school, while (42.2%) in control group had guidance school (p= 0.59). the majority of both groups (97.90% and 97.80%) were housewife respectively p=0.97

Regarding assessment of mother during the third stage of labor, the findings of the present study revealed highly statistically significant difference between the study and control groups in complete separation of the placental, which revealed that the average duration of the third stage of labor among both groups was approximately 7 minutes shorter in the study group than in control group. Also highly statistically significant difference in both group in uterine contraction immediately after birth, fundus level, giving methargine and absent of uterine atony or postpartum hemorrhage (P< .001).This may be due to, skin to skin contact and the baby's first attempts to breastfeed further augment maternal oxytocin levels, strengthening the uterine contractions that will help the placenta to separate, and the uterus to contract down. In this way, oxytocin acts to prevent hemorrhage, as well as to establish, in concert with the other hormones, the close bond that will ensure a mother's care and protection, and thus her baby's survival. Similar findings reported in study carried out in Baghdad, Iraq, by ***Mejbel & Ali (2012)*** on the effectiveness of skin-to-skin contact on the duration of the third stage of labor, they reported that there were significant differences between study and control group in placental separation time ($\chi 2$=76.098, p=0.000) with mean (1.880 ± 0.657) minutes in study group, while (8.0750 ± 2.767) minutes in control group. In

addition, these results are in accordance with the findings of ***Marin, et al., (2010)*** who found that time to the expulsion of the placenta was shorter (M =409 ± 245 sec.) in study group than in control group (M =475 ± 277sec) (P = 0.05).

In addition, the findings of the present study is also in line with the findings of ***Dordevic, (2008)*** who studied early skin to skin contact with the baby benefit for the mother and reported when skin to skin contact on the mother's abdomen, the infant's knees, and legs press into the abdomen in a massaging manner which would logically induce uterine contractions and thereby reduce risk of postpartum hemorrhage. Also, these results are consistent with ***Marin, et al., (2010).*** Who reported in her study that the mothers who experience skin to skin contact have reduced bleeding and more rapid delivery of the placenta. Also, these results supported by ***Joshi, (2012)*** who studied the impact of childbirth kangaroo care on maternal and neonatal outcomes and found that Birth Kangaroo Care (BKC) improves the outcome for the mother in terms of height of uterus, hardness of uterus, and pain after Birth Kangaroo Care.

The findings of current study revealed that, early skin to skin contact between mother and her baby associated with higher successfulness of first breastfeeding in the study group compared to the control group according to the scores achieved from IBFAT scale. This findings may be attributed to the fact that the first 2 hours post birth, is the optimal time for the infant to initiate breastfeeding showing behaviors like mouthing, lip-smacking movements, hand-to-mouth activity, vocal cues. This period gives an excellent opportunity for mothers and her baby to develop a reciprocal relationship when kept together in an intimate skin-to-skin contact. And may be attributed to newborn with skin to skin contact was handed over to mothers as early as possible and mothers were motivated for breastfeeding whereas in our set-up, the newborn was first generally handed over to relatives before breastfeed is offered.

A similarly, study conducted by ***Bystrova et al., (2009***), who reported that the newborn baby in skin-to-skin contact with their mothers not long after birth began to look for the mother's breast, found the breast and began sucking without assistance from the mother or care staff. Moreover, ***Moore & Anderson (2007)*** in their study exhibited effective breastfeeding twice before in the newborn in the skin-to-skin contact group contrasted with those in routine care group. In addition, ***Khadivzadeh& Karimi, (2009)*** reported higher first breastfeeding accomplishment in the skin-to-skin contact assembly contrasted with the control group and the time to initiate first feed was shorter in skin-to-skin contact group.

On the other hand, a study conducted by ***Carfoot, et al. (2005)*** in the north of England which revealed that the success of the first breastfeeding rate was not statistically different between the skin-to-skin contact group and control group. This could be due to a difference in scoring of success between this study and the carfoot study. They used the IBFAT scores from 8 to 12 as a successful first breastfeeding experience. While in the present study, the achievement of success was measured with scores ranging from 10 to 12. Any score lower than 10 was considered unsuccessful.

Different studies show that the newborn who was provided uninterrupted early skin-to-skin contact developed attachment behavior early and effectively. In ***Moore, et al., (2016)*** skin-to-skin contact group the newborn demonstrated effective breastfeeding almost twice earlier. In the present study, newborn in the study group achieved effective breastfeeding much earlier than those in control group. In Moore's trial, time to initiate first feed was almost equal in both groups while it was shorter in study group in this study. This could be due to the fact that in Moore's trial, infants with control group were handed over to mothers as early as possible and mothers were motivated for breastfeeding whereas in our set-up, infants are first generally handed over to relatives before breastfeed is offered.

The findings of the present study showed that the newborn in the study group more successful in rooting reflex and the scores of the investigated breastfeeding indicators were higher in the study group. These findings agree with ***Gouchon, et al (2010)*** who also stated that breastfeeding initiation and maternal satisfaction was higher with skin-to-skin contact compared to the routine care group,

On assessing the success of subsequent breastfeeding before discharge based on IBFAT scores, it was found that the almost of study group had successful subsequent breastfeeding before discharge, compared to three quarter of the control group. Similarly, ***Redshaw et al. (2014)*** stated that early contact appeared beneficial. Women who held their infant within five minutes of birth were more likely to initiate breastfeeding and to be breastfeeding at facility discharge.

Regarding mother satisfaction with care received and their preference for same care in future, the findings displayed that larger proportion of mothers in study group were very satisfied with care received compared to more than one half of control group. There were a significance difference between two groups in terms of their tendency for skin- to-skin contact in the future.

Concerning the mother's preference for same post-delivery care in the future, the findings of the present study revealed that the majority of study group were preferred skin- to-skin contact in the future compared to less than one half of the control group. This results agreed with ***Gouchon, et al (2010)*** who found that breastfeeding initiation and mother satisfaction was higher in SSC group. Also, this findings in line with ***(Carfoot, et al. 2005)*** who found that (90%) of the mothers who had skin-to-skin care were very satisfied and (86%) would prefer skin-to-skin care again, compared to only (59%) satisfaction rating by the mothers in routine care group. Finally, the results presented a positive effect of early SSC in successful breastfeeding, decrease duration of the third stage of labor and more satisfaction for mothers.

Conclusions

Based on the findings of the present study, it can be concluded that the results of the present study supports its hypothesis that is to say that the early skin -to-skin contact positively affect the third stage of labor in term of short duration and breast feeding process in term of early successful initiation of breastfeeding.

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Recommendations

Based on the findings the current study recommended that:

- Mother- newborn early skin to skin contact should be started immediately after birth and continue for 6-8 weeks and beyond.
- Continues educational and training program to all midwives and nurses work in the delivery room about benefits of skin to skin contact to mothers and newborns.
- Raise mothers awareness regarding benefits of skin to skin contact.
- Skin to skin contact should be incorporated into routine maternity care as importance to quality nursing care.

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Conflicts of Interest Disclosure

The authors declare that there is no conflict of interests regarding the publication of this paper

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