Opinions of the Midwives Working in Labour Wards regarding Skin-to-Skin Contact at Birth: A Descriptive Study

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Abstract

Aim: Despite the evidence suggesting the positive impact of the immediate mother-newborn Skin-to-Skin Contact (SCC), it has not yet been adopted to use for healthy newborn in Iran. No study has explained the reasons. This study aimed to survey midwives' opinions about the predisposing factors in SCC at birth in Tehran hospitals in 2014.

Method: The samples, in this cross sectional descriptive study, were 292 midwives who worked in labour wards, and a multi- stage cluster sampling was applied. First we applied stratified and simple random approaches. Then they were classified into educational, social security, and private groups. Data collection instrument was a self- developed questionnaire consisting of 9 demographic characteristics and 38 items concerning the predisposing factors in SCC. We applied face/content validity and item impact method for the instrument's validity. For assessing the internal consistency of the instrument, Cronbach's alpha coefficient was used. All statistical analyses were performed using the SPSS-18.

Findings: The findings showed that 95.5% of the midwives possessed good knowledge of SSC, 93.2% had positive attitudes, 96.6% believed in SSC effects, and 94.9% had a good self-efficacy perception. The Cronbach's alpha coefficient of the 38-item instrument showed excellent internal consistency (α=0.88), and it was valid and reliable to measure predisposing factors in SSC.

Conclusion: The knowledge and attitudes of conducting SSC at birth were evaluated at "good" and "positive", respectively. Therefore, we suggest further analytic studies to determine how these factors could affect on midwife behaviour.

Keywords: Birth, Midwives, Skin-to-skin contact, Iran

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Introduction

Skin-to-Skin Contact (SSC) or Breast Crawl (BC) is the simplest and the most natural method for initiation of breast feeding within the first hour of the birth [1]. It is a novel, easy, evidence-based and cost- effective miraculous method and a readily available, easily reproducible technique that helps mothers initiate breast feeding in a natural way [1]. The SSC rationale is rooted in animal studies. It is the innate behaviour of the newborns, which is habitat- dependent and necessary for survival. In mammalian biology, maintenance of the maternal milieu following the birth is an innate behaviour among the newborn and the mother that leads to successful breast feeding, and survival [2]. As any mammal's neonate, the human normal newborn has the inborn ability to crawl to find his/her mother's breast and to decide when to take the first breastfeed when placed on the mother's abdomen or between the mother's breasts immediately after birth [3]. This concept was described in 1987 for the first time in Sweden [2]. In the first hours after birth, newborn is in a unique state called the quiet alert state. Then he/she moves to the state of deep sleep when requires rest and recovery; it is the perfect state for latching on to the breast [4]. The first latch-on is critical and has a positive impact on long-term lactation success. Its most important benefits are: significant reduction of malnutrition, mortality and morbidity among the children. Early initiation in the first hour of the birth can prevent 22% of death cases below 1 month in the developing countries, and leads to 22% of death reduction among the newborns of 0-28 days [3]. The SSC within the first hour of the birth promotes breast feeding, improves survival possibility, helps maintain the newborn's body temperature [1, 5-7] and sugar levels [1], and improves respiratory control [5, 8] and metabolic stability, which, in turn, helps colonization of the maternal bacterial flora [1]. It is a safe intervention against pain in human newborns [9]. SSC immediately after birth reduces crying and heart rate, stabilizes the oxygen saturation regulation [6, 7, 10], and helps the mother breastfeed successfully [2]. In addition to aforementioned advantages, SSC within the first hour of birth enhances maternal–infant sentiment and relations. It is also effective in earlier establishment of suckling and feeding behaviours and certain physical and emotional responses occurring during the process (for instance, when the newborn keeps on the mother's chest, he/she lies with wide open eyes and gaze at the mother's face and capable of not only recognizing the mother's face, but also differentiating the mother's voice soon after birth). SSC responses may also promote the infant's neuro-behavioural self-regulatory after

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birth [11]. Moreover, oxytocin level increases through the touch of the mother's nipple by her infant's lips; in this case, it increases in both the mother and the infant's brain [12]. Benefits of contact between mother and infant, especially when started immediately after birth, have been recognized for more than 40 years ago [13]. We believe that SSC should continue until the end of the first successful breast feeding, since it affects and enhances early infant self-regulation [14]. Initiation of the breast feeding in this way is a basic step of the "Ten Steps to Successful Breastfeeding" as well as basis of "Baby Friendly Hospital Initiative (BFHI)" [15]. Governmental agencies, Non-governmental Organizations (NGOs), United Nations Children's Fund (UNICEF), World Alliance for Breastfeeding Action (WABA) and World Health Organization (WHO) recommend that breast feeding should be initiated in the first hour of birth, and advocate it as an exclusive feeding for the first 6 months of life. The American Academy of Paediatrics (AAP) has recommended that "healthy infants should be placed and remain in direct skin-to-skin contact with their mothers immediately after delivery until the first feeding is accomplished" [16]. The results of our pilot study showed that, in some hospitals of Iran, it is a routine practice to move the infant to an isolated room, under the warmer for examination and care; the process requires 2 to 4 hours. Then the infant is delivered to the mother for breast feeding. The findings of Nahidi et al. have shown that 98% of the midwives have used SSC immediately after birth only for two to four minutes [17]. Despite the evidence suggesting the positive impact of the immediate mother and newborn skin- to-skin contact, it has not yet been adopted as a universal item in post-delivery care for healthy children, and no study has explained the reasons.

That is why we considered the delivery room working midwives' opinions about the predisposing factors of SSC at birth in Tehran hospitals in 2012-2013.

Materials and Methods

Sampling

The present study has been conducted in a cross-sectional descriptive method using the phase 3 of PRCEDE-PROCEED model. This model provides a pattern for planning developed by Green and Kreuter in 1970 for health education and improvement planning [18], emphasizing on educational diagnosis before intervention as well as health planning [19]. The phase 3 of this model has been classified as reinforcing and enabling factors; they collectively influence the likelihood that behaviour and environmental change will occur. The predisposing factors are

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antecedents to behavioural change that provide the rationale or motivation for the behaviour [20]. They include individuals' knowledge, attitudes, beliefs, personal preferences, existing skills, and self-efficacy beliefs. The samples were 292 midwives who worked in Tehran hospitals' natural childbirth wards. Criteria for sample selection were as follows:

Being midwives; working at labour wards; delivery must be conducted by midwives or they must be in charge of the newborn immediately after birth. Since the services and responsibilities of the midwives are non-equal at various hospitals, the multi-stage cluster sampling was applied; first, using stratified approach and then simple random way [21]. In this regard, all the hospitals under supervision of the University's Medical Sciences of Shahid Beheshti, Tehran and Iran were divided into five regions of north, south, west, east and centre. Then, they were classified into educational, social security, and private groups. Next the names of the hospitals were written and put in three bowls based on the latter classification, and one hospital was selected randomly from each bowl. The process continued until the end of sampling so that 300 midwives of 18 hospitals of Tehran were selected using total population sampling [22-24]. The samples were given encoded questionnaires; 292 questionnaires were completed and returned by the midwives. All centres under study permitted the research to be conducted.

Instruments

Data collection instrument was a questionnaire designed in the qualitative process of the study, concerning the predisposing factors in the SCC between mother and newborn, immediately after birth. The self- developed questionnaire consisted of 9 demographic characteristics items, 15-questions related to the midwives' knowledge about the advantages of the skin contact between mother and newborn, immediately after birth. The Cronbach's α coefficient of this part of the instrument was 0.841%, revealing a good reliability. Three questions were devoted to the midwives' beliefs, whose Cronbach's α coefficient was 0.645, which represents a moderate reliability, and four questions were related to the midwives' perception of their efficacy, the Cronbach's α coefficient of which was 0.678, which shows a moderate reliability. At this stage, we applied 3-point Likert scale for ranging from "No" to "Yes", giving a possible score of "0: no, 1: don't know and 2: yes" for each question. Therefore, the maximum raw scores for the midwives' knowledge with 15 questions was 30, for midwives' beliefs with 3 questions was 6, and for midwives' self-efficacy perception with 4 questions was 8, and their minimum score was

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zero.

Moreover, 16 questions were related to the midwives' attitudes toward skin contact between mother and newborn immediately after birth; the Cronbach's α coefficient of 0.852 revealed a good reliability level. Each question was rated on a 5-point Likert scale ranging from "perfectly disagree" to "perfectly agree" giving a possible score of "0 to 4" for each question and 0 to 64 for the total questions.

At this stage, all the achieved values were transformed into percent. Concerning the midwives' knowledge on the benefits of SSC, the scores were classified at three groups of below 33%, between 33-66% and over 66% for weak, medium and good knowledge levels, respectively. In the midwives' beliefs as well as self-efficacy perception, the above percent groups revealed again the same levels of weak, medium and good, respectively. Again the achieved values were transformed into percent, and the scores were classified into 0-33% as negative attitude, 33-66% as neutral and 66-100 as positive attitude toward skin contact.

Validity

In order to evaluate the instrument's validity, we applied both qualitative and quantitative methods for content validity and face validity. For the content validity, we asked a 15- expert panel to determine the qualitative content validity based on "grammar", "wording", "item allocation" and "scaling". The expert panel consisted of 5 newborn specialists, 3 gynaecologists, one epidemiologist, 3 midwife trainers, one health education expert, and 2 qualitative research experts. They checked all questions; then we inserted the expert panel's recommendations into the questionnaire. For the quantitative part of content validity, we calculated Content Validity Ratio (CVR) and Content Validity Index (CVI). We asked the expert panel to evaluate each question based on a 3-point Likert scale: a) the item is necessary, b) the item is useful but is not necessary, and c) the item is not necessary [23, 25]. Then, according to Lawshe table [26], questions with 0.49 score were accepted. The CVI scores were calculated based on Waltz and Bausell recommendation [27]. We asked the same expert panel to evaluate the questions based on three criteria: "simplicity", "relevance" and "clarity" according to a 4-point Likert scale. Acceptance criterion of each item was 0.79 and higher [23, 27].

For the purpose of qualitative approach of face validity, 7 midwives were asked to assess each question for ambiguity and difficulty. There were no problem in understanding and reading the questions by the midwives. For quantitative part, we calculated 'Item Impact Score (Impact Score=Frequency (%) × Importance). For this purpose, 7 midwives were asked to evaluate

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the questionnaire and score the importance of each question on a five-point Likert scale. The impact score of 1.5 or above was considered satisfactory [23, 28-30].

Reliability

For internal consistency of the questionnaire, we used Cronbach's α coefficient. Cronbach's α coefficient of less than 0.5 was considered as non-acceptable, 0.5-0.6 weak, 0.6-0.7 moderate, 0.7-0.8 acceptable, 0.8-0.9 good, and higher than 0.9 as excellent [25]. Cronbach's α coefficient of 0.7 or above was considered satisfactory [23, 31, 32]. It was applied once for four sections, and once for all questions related to the predisposing factors. All statistical analyses were performed using the SPSS version 18. The results are shown in the Tables 2-4.

Results

In this study, 292 midwives (mostly at the age group of 40-49 years) were recruited (34.9%), with the mean age of 36.06 (SD=8.72) years, and an experience of 10-19 years (36%), with the mean experience of 11.07(SD=8.29) years. The demographic and obstetric characteristics of the participants are presented in Table 1.

Table 1: Distribution of the demographic and obstetric characteristics of the delivery rooms working midwives of Tehran hospitals

Frequency / Demographic and obstetric characteristics of the midwives	N & (%) (n=292)	
Type of hospital	Educational	125(42.8)
	Organization of Social Security	80(27.4)
	Private	87(29.8)
Employment status	Official	124(42.5)
	Contractual	29(9.9)
	By project	92(31.5)
	Mandatory service	47(16.1)
Marital status	Married	180(61.6)
	Single	111(38.1)
	Divorced	1(0.3)
Level of education	Associate's Degree	14(4.8)
	Bachelor' Degree	257(88.0)
	Master' Degree	21(7.2)
job interest	Yes	231(79.1)
	No	61(20.9)
Number of pregnancies (n=148)	Once	65.(43.9)
	Twice	76(51.4)
	Three times	7(4.7)
Number of children (n=148)	One	64(43.2)
	Two	75(50.7)
	Three	9(6.1)
Age of the last child (years) (n=148)	<1	9(6.1)
	1-9	69(46.6)
	10-19	56(37.8)
	20-29	14(9.5)

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The results obtained from the validity analysis showed good levels of the statements with CVR values equal to/higher than 0.49 and with the CVI scores equal to/higher than 0.79. The minimum and maximum factor impact scores were recorded between 3.57 and 4.67, respectively. The midwives' opinions about the predisposing factors concerning the SSC between mother and newborn immediately after birth were classified into four categories. The results are shown in Tables 2-5. As shown in Table 2, most of the midwives answered "yes" to the SSC benefit questions. The results showed that 95.5% of them possessed good knowledge about the advantages of SSC.

Table 2: Distribution of the labor working midwives' responses to the advantages of SCC at birth in Tehran hospitals

Questions of the midwives' knowledge about the advantages of SCC immediately after birth N=292	Yes (2) N (%)	Don't know (1) N (%)	No (0) N (%)
1. Skin contact accelerates placental delivery	234(80.1)	41(14)	17(5.8)
2. Skin contact establishes an emotional bond between mother and newborn	288(98.6)	4(1.4)	0(0)
3. Skin contact improves newborn's immunity system	218(74.7)	62(21.2)	12(4.1)
4. Skin contact improves the acceptance of motherhood role by mother	283(96.9)	5(1.7)	4(1.4)
5. Skin contact creates a sense of security in mother and newborn	284(97.3)	7(2.4)	1(0.3)
6. Skin contact improves the development of newborn	244(83.6)	43(14.7)	5(1.7)
7. Skin contact establishes an emotional bond between parents and newborn	285(97.6)	6(2.1)	1(0.3)
8. Skin contact accelerates the uterus's return to normal state	246(84.2)	34(11.6)	12(4.1)
9. Skin contact results in future attachment between mother and child	271(92.8)	18(8.2)	3(1.0)
10. Skin contact promotes oxytocin release in mother	265(90.8)	23(7.9)	4(1.4)
11. Skin contact regulates the newborn's blood oxygen level	206(70.5)	79(27.1)	7(2.4)
12. Skin contact reduces post-delivery bleeding	238(81.5)	41(14)	13(4.5)
13. Skin contact regulates the newborn's heartbeat	254(87)	31(10.6)	7(2.4)
14. Skin contact improves the newborn's breathing	246(84.2)	36(12.3)	10(3.4)
15. Skin contact regulates the newborn's body temperature	272(93.2)	14(4.8)	6(2.1)
Score < 33=0(0) / Score 33-66=13(4.5)	Score > 66=279(95.5)		
Reliability statistics / Cronbach's alpha	0.841		

Most of the interviewees answered "yes" to the questions of attitudes, and 93.2% of them had positive attitudes toward the SSC (Table 3).

Concerning the midwives' beliefs, the highest percent of answers was "yes", and 96.6% of the interviewees believed in the SSC effects (Table 4).

Concerning the midwives' opinions about their self-efficacy, as shown in Table 5, most of them answered "yes". They had a good self-efficacy perception (94.9%).

The findings obtained from the reliability analysis indicated that the Cronbach's α coefficient for the 38-item and 4-section instrument of predisposing factors was 0.879, showing its good internal consistency.

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Table 3: Distribution of the labor working midwives' responses to the questions about attitude toward SCC at birth in hospitals of Tehran

Questions of the midwives' attitude about the SCC immediately after birth N=292	Perfectly Agree (4) N (%)	Agree (3) N (%)	So-so (2) N (%)	Disagree (1) N (%)	Perfectly Disagree (0) N (%)
1. Skin contact improves mother's physical health	167(57.3)	81(27.7)	36(12.3)	8(2.7)	0(0)
2. Skin contact improves newborn's physical health	150(51.4)	99(33.9)	32(11)	10(3.4)	1(0.3)
3. Skin contact makes mother take better care of the child	186(63.7)	90(30.8)	15(5.1)	1(0.3)	0(0)
4. Skin contact improves mother's success in breast feeding	219(75)	63(21.6)	6(2.1)	4(1.4)	0(0)
5. Skin contact improves mother's satisfaction	223(76.4)	63(21.6)	5(1.7)	1(0.3)	0(0)
6. Skin contact improves mother's mental health	218(74.7)	62(21.2)	11(3.8)	1(0.3)	0(0)
7. Skin contact establishes verbal/emotional bonding between newborn and mother	187(64)	86(29.5)	14(4.8)	5(1.7)	0(0)
8. Skin contact creates a sense of security in the newborn	209(71.6)	69(23.6)	12(4.1)	2(0.7)	0(0)
9. Skin contact enhances mother's love for the newborn	228(78.1)	57(19.5)	6(2.1)	1(0.3)	0(0)
10. Skin contact reduces mother's anxiety	214(73.3)	64(21.9)	12(4.1)	2(0.7)	0(0)
11. Newborn's illness hinders the skin contact	101(34.6)	197(36.6)	27(9.2)	47(16.1)	10(3.4)
12. Skin contact is not feasible in ill mothers	99(33.9)	101(34.6)	29(9.9)	56(19.2)	7(2.4)
13. Problems of mothers undergoing C-section affect skin contact	109(37.3)	101(34.6)	24(8.2)	54(18.5)	4(1.4)
14. Problems of C-section newborns affect skin contact	89(30.5)	98(33.6)	35(12)	61(20.9)	9(3.1)
15. Mother's fatigue caused by nonstandard intervention during delivery affects the skin contact	111(38)	117(40.1)	14(4.8)	19(16.8)	1(0.3)
16. Skilful performing of skin contact by obstetrician improves the results	197(67.5)	76(26)	15(5.1)	4(1.4)	0(0)
Score < 33=0(0)	Score 33-66=20(6.8)		Score > 66=272(93.2)		
Reliability statistics	Cronbach's alpha		0.852		

Table 4: Distribution of the labor working midwives' responses to beliefs about SSC at birth

Questions about the midwives' beliefs on SSC immediately after birth N=292	Yes (2) N (%)	Don't know (1) N (%)	No (0) N (%)
1. I believe that skin contact is essential	266(91.1)	19(6.5)	7(2.4)
2. I believe that skin contact leads to positive results	278(95.2)	9(3.1)	5(1.7)
3. I believe that skin contact is important	276(94.5)	14(4.8)	2(0.7)
Score < 33=1(0.3)	Score 33-66=9(3.1)	Score > 66=282(96.6)	
Reliability statistics	Cronbach's alpha	0.645	

Table 5: Distribution of the labour working midwives' response about their self-efficacy perception concerning SSC at birth in hospitals of Tehran

Questions about the midwives' self-efficacy perception concerning SSC immediately after birth N=292		Yes (2) N (%)	Don't know (1) N (%)	No (0) N (%)
1. I believe that I can perform skin contact with minimum facilities		263(90.1)	17(5.8)	12(4.1)
2. I believe that my recommendations for skin contact are acceptable for mother		269(92.1)	18(6.2)	5(1.7)
3. I believe that I can use my knowledge to perform skin contact		274(93.8)	14(4.8)	4(1.4)
4. I believe in the positive results of the skin contact and I perform it		272(93.2)	13(4.5)	7(2.4)
Score < 33=2(0.7)	Score 33-66=13(4.5)	Score > 66=277(94.9)		
Reliability statistics	Cronbach's alpha	0.678		

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Discussion

The present study revealed that the acquired score of midwives' knowledge about SSC immediately after birth was at "good" level. In other words, they believed that the SSC immediately after birth is of numerous benefits. The finding of Nahidi et al. was similar to that of our study [33]. Most of the recent 40 years studies [13] showed the great benefits for SSC immediately after birth including increase of oxytocin secretion after delivery, which leads to faster placenta separation and the uterus return to its original state as well as reduction of bleeding [12]. Other benefits are: stabilization of the newborn's body temperature [6, 7] and respiration [5, 8], heart rate regulation, and oxygen saturation during SSC [34]. Evaluation of the midwives' opinions in this study revealed that their "attitude" was positive toward the SSC at birth; our finding is similar to that of Nahidi et al. [33,35]. Moreover, SSC is considered a critical component for successful breast feeding initiation [36]. For this reason, recent studies suggest that immediate SSC enhances the newborn's awareness, and promotes his/her latching on as a necessity to start breast feeding, which, in turn, promotes the baby's health; since it increases the newborns' health by breast feeding and exclusive breast feeding [5], and can decrease the rate of mortality and morbidity diarrhea, colic, atopic eczema, asthma, atopic disorders, jaundice, diabetes risk, obesity in childhood and adulthood [37], and blood pressure would be reduced [38]. Specialists believe that the above mentioned disorders may be prevented through breast feeding [39]. Breast feeding may be considered as a key factor in the newborns' health. Moreover, studies concluded that immediate SSC reduces the newborn's crying and stress [34], leading to his or her security feeling. It also increases the sentimental relations between mother and newborn, which, in turn, promotes interest [40]. On the other hand, immediate SSC enhances the newborn's immunity system [1]. Furthermore, breast feeding promotes mother's health both in short-term and long-term; meanwhile it helps the countries achieve the millennium development goals [41].

With regard to the "midwives' beliefs" and "self-efficacy perception" concerning the SSC immediately after birth, our findings revealed that they were both at "good" level. This finding is similar to that of Nahidi et al. [33, 35]. It is noteworthy that one needs to learn facts and to acquire the related knowledge and attitudes to change behaviour or conduct a new activity; therefore, we considered the "midwives' knowledge" on SSC benefits, which was at "good" level.

Attitudes are, in fact, relatively sustainable

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sentiments and tendencies or a set of beliefs that lead to an idea or situation with sentimental components; they show what one prefers or prefers not to conduct. This study proved that the "midwives' attitude" toward the immediate SSC was "positive". Our study is consistent with the study by Mahdavi Yalghouzaghaj et al. [42]. On the other hand, they believed in SSC as a correct or necessary action; since the result of our study describes the beliefs at "good "level. In other words, it is a sign of the perceived fact and thought among the interviewees. Moreover, the "self-efficacy perception" among the labour working midwives was again at "good" level concerning the problem of barrier overcoming. With regard to the evaluations conducted on predisposing factors' branches, which were at "good" and "positive" levels, we suggest that SSC be performed in hospitals extensively; however, the evidences state that it is not so.

The question of "why immediate SSC is not conducted in hospitals?" has not yet been answered. The reasons appear to be numerous, which require further studies.

Among the reinforcing factors, enabling factors and their branches, we may point to the following: a) providing practicable action plan in hospitals; b) the plans must be in conformity with academic skills and educations; c) supporting the midwives in conducting SSC by hospital authorities; d) training the patients; e) education of the health personnel; f) compiling practicable regulations and orders, and g) many other factors, which must be studied to determine the preventive obstacles in conducting immediate SSC, despite of its benefits. In this study, the "knowledge" and "attitudes" of conducting SSC immediately after delivery were evaluated to be at "good" and "positive levels". Therefore, we suggest further analytic studies to determine how these factors could affect on this care in the delivery rooms of Iranian hospitals.

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Conflict of interest

The authors have no conflicts of interest.

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