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THE EFFECT OF EARLY INITIATION OF BREAST FEEDING ON THE AMOUNT OF VAGINAL BLOOD LOSS DURING THE FOURTH STAGE OF LABOR

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ABSTRACT

Post partum hemorrhage is a major problem that jeopardizes maternal health. Its prevention can save mothers' life postnatal, through early initiation of breast-feeding. So, the study aimed to explore the effect of early initiation of breast feeding on the amount of vaginal blood loss during the fourth stage of labor. A convenient sample of one hundred primiparae was selected from the delivery unit & post partum unit of El-Shatby Maternity University Hospital in Alexandria. The study subjects were divided equally into experimental group (early breast feeding group) and control group (late breast feeding group). Two tools were developed and used for data collection. A specially designed interview questionnaire was used during early first stage of labor to collect data about general characteristics of the study subjects. An observational checklist was used during the fourth stage of labor to collect data about uterine characteristics, number of feeds and the amount of blood

loss. The early breast-feeding group started feeding immediately after placental delivery, while late breast feeding group started breast- feeding after the first two hours postnatally. The amounts of blood loss for both groups were calculated.

The findings of the study revealed that early initiation & increased frequency of breast-feeding could decrease the amount of blood loss during the fourth stage of labor. Therefore, maternity and pediatric nurses have to encourage mothers to start breast-feeding early. They have to explain how breast-feeding is beneficial for both mother and child.
Key words: breast feeding initiation, fourth stage of labor, postpartum hemorrhage.

INTRODUCTION

Reproductive health (RH) is increasingly being recognized as one of the corner stones of health and a major determinant and indicator of human social development. It is central to general health as it reflects health in childhood and adolescents and sets the stage for health and life expectancy beyond the reproductive years. It is important not only at the individual and family level but also in societies, countries and, indeed, the world at large. (Mbizvo, 1996)

The definition of RH, according to the WHO and the International conference on Population and Development (ICPD 1994), means a state of complete physical, mental, and social wellbeing and not merely the absence of disease or infirmity in all matters relating to the reproductive system and its functions and processes. So, RH encompasses family planning, maternity care and safe motherhood, prevention of unwanted pregnancies, reproductive tract infections including sexually transmitted diseases, infertility, breast-feeding, infant and child health, adolescent reproductive health, and harmful practices related to the reproductive system.(ICPD 1994)

Although all adolescents suffer from deep physiological and psychological changes Egyptian adolescent girls are more at risk, suffering from social pressure and specific health and psychological problems created by certain traditional practices as female genital mutilation, early marriage, early

motherhood and consanguinity. The adolescent girl might even get married while she lacks any understanding of her reproductive functions and how to get or use suitable family planning services. In Egypt, approximately 10 percent of women marry before the age of 20. (Farah, 1996)

The fact that young people lack knowledge about reproduction and do not know where to turn to for accurate advice is well documented. Demands placed on parents and educators to help young people deal with those issues are greater than before. (Jacob&Walf, 1995) However adolescents in many developing countries rarely discuss sexual matters explicitly with their parents or adults older than themselves either because they are embarrassed or adults themselves may not know much about RH. Most information on such subjects comes either from their peers, who may be equally uninformed or incorrectly informed and are likely to be relatively inexperienced themselves, or from the media. (UNICEF/WHO, 1995)

Young people are particularly vulnerable to the adverse consequences of early sexual behavior and as such are widely recognized to be one of the most important groups for reproductive health interventions. (Cowan, 2000)

Unwanted teenage pregnancy, sexually transmitted infections and the attendant morbidity and mortality necessitate the need for understanding factors influencing adolescent sexuality and the implementation of programs designed to improve their knowledge, reproductive behavior, sexual and reproductive health. (Rusakaniko et al, 1997) Health education interventions are widely seen as the most appropriate strategy for promoting young people sexual health. (Oakley et al, 1995)

Developing, implementing and evaluating interventions that not only minimize the risk of sexual intercourse in young people but also facilitate development of healthy sexual behavior patterns and relationships are therefore a priority. There is evidence that initiating prevention interventions when teenagers are still sexually naive, before patterns of risky sexual behavior are firmly established, is likely to be more effective than trying to change established behavior in older adults. (Cowan, 2002)

It is a pressing necessity to pay special research attention towards adolescents since they are the future couples in the near future. Successful programs should reach out to adolescents about premarital examination, age at first pregnancy, relative's marriage, spacing and desired family size. (Population reports, 1994)

AIM OF THE WORK

To study the effects of early initiation of breast feeding on the amount of vaginal blood loss during the fourth stage of labor.

SUBJECTS AND METHODS

This study is a quasi-experimental study conducted in labor and postpartum unit of El-Shatby Maternity University Hospital in Alexandria. This hospital was selected since research is one of its main goals to improve the quality of care rendered. A convenient sample of one hundred primiparae constituted the study sample. Their willingness to participate in the study was taken into consideration. The non-probability sampling technique was followed in the selection of the study subjects.

Mothers having normal delivery, normal breast with protruded nipple, having no complicated third stage of labor, and giving birth to full term newborn with no congenital anomalies interfering with breast-feeding were included in the study. They were free from any obstetrical or associated diseases (especially hematological disorders), not receiving any chemical agent to stimulate, accelerate or slow down uterine contraction and their age ranged from 20-35 years or more are included in the study.

The study subjects who fulfilled the inclusion criteria were equally divided into homogenous control and experimental groups. The experimental group (n=50) had their newborns suckle their breasts immediately after delivery of the placenta. The control group (n=50) had their newborns suckle their breasts two hours after delivery.

Two tools were used for data collection. A specially designed interview questionnaire was developed, validated and used to collect the necessary data. It entailed data about the general characteristics of the study subjects such as: age, education, occupation and received antenatal care. An observational checklist was developed and used by the researchers to collect data regarding uterine consistency, fundal level, the amount of vaginal blood loss, time of initiation of breast feeding and the number of feeds within the first two hours after placental separation. Every primipara was interviewed during early first

stage of labor. The researcher completed each interview in approximately 10-15 minutes.

Primiparae in the experimental group (early breast-feeding group) started breast-feeding after the placenta was delivered. Each newborn was put on the breast for at least 15 minutes for 2-4 times throughout the first 2 postpartum hours. Primiparae in the control group (late breast-feeding group) were left to take a period of rest. They started breast-feeding after the first two hours of postpartum period. The researchers calculated the blood loss for each study subject during the first 2 hours after delivery of placenta for both groups. It was measured through weighing the perineal pads by the same sensitive weighing scale before and after use. The difference between the two weights was calculated to give the amount of blood loss in grams. One gram of pad weight difference is estimated to be approximately equal to 1 ml of blood.[6] This study was conducted over a period of 5 months from February 2000 to June 2000.

Statistical analysis:

Collected data were organized, coded, tabulated and analyzed. Percentages were calculated, Chi Squared and Spearman correlation tests at 5% level of significance were used to analyse the study results.

RESULTS

Studying the general characteristics of the mothers, results showed that more than half of the samples (54%) were 25 to less than 30 years old, while 8% of them were 20 to less than 25 years old. Mothers aged 35 years or more constituted 19% of the sample. It was also obvious that illiterate mothers constituted 42% of the sample. Less than three fourth of the mothers (71%) were housewives. Regarding the number of antenatal visits carried out by the mothers, 19% of them did not go for check-up while half of mothers (50%) reported four or more antenatal visits.

Table (1) portrays the relation between the general characteristics and antenatal visits of mothers among early and late breast-feeding groups. The table revealed that there was no statistical significant difference between early and late breast feeding groups regarding mother's age, education and occupation ($x_3^2 = 0.600$, $x_3^2 = 2.03$ & $x_1^2 = 0.198$ respectively). It was also clear that 62% of the mothers, who had four antenatal visits or more, started

breast feeding early, while 36% of women who had less than four antenatal visits, initiated late breast-feeding. The difference was statistically significant ($x_2^2 = 6.265$, $P < 0.05$).

Table (2) shows the relation between postnatal uterine characteristics and vaginal blood loss in early and late breast feeding groups. The fundus was at the level of the umbilicus among 44% of mothers who have started late breast-feeding, while it was found below umbilicus in 68% of those who have nursed their babies early.

A statisticaliy significant difference was found between the level of the fundus and early and late breast- feeding ($x_2^2 = 10.44$, $P < 0.05$). Firm uterus existed in 82% of mothers whom have initiated early breast-feeding compared to 54% of those who have followed late breast-feeding. The difference between consistency of the uterus and breast-feeding was statistically significant ($x_1^2 = 9.01$, $P < 0.05$). Vaginal blood loss has reached 200 to less than 250ml among 50% of mothers who started breast feeding early, while it reached 300ml or more in 40% of mothers who fed their babies late. The difference was statistically significant ($x_3^2 = 16.95$, $P < 0.05$).

The relation between vaginal blood loss (ml) and initiation and frequency of breast-feeding after delivery of the placenta was illustrated in table 3. It was observed that the amount of blood loss was minimal (< 150ml) among 100% of mothers who started early breast feeding (i.e. between 20 to less than25 minutes after placental delivery). The loss was greater (300ml or more) among 50% of mothers who initiated breast-feeding late (between 30 to less than 35 minutes after delivery of the placenta). The difference was statistically significant (r = 0.7566 (< 0.001). The same table showed that vaginal blood loss was 300ml or more among 41.7% of mothers who have nursed only twice. . On the contrary increasing the frequency to four times led to reduction of blood loss where only 7% of mothers who fed four times or more lost 300ml or more and the difference was statistically significant (r = -0.3153 (0.026).

DISCUSSION

Post partum hemorrhage is a major cause of maternal morbidity and mortality in the developing world. [10] It is well known that prevention of this life-

threatening problem can be a life saving matter particularly through the use of oxcytocic drugs during this critical postnatal period. Although administration of such drugs can control postnatal bleeding, yet breast-feeding is considered a much more safe method that has to be followed. It can minimize vaginal blood loss and in turn reduce the incidence of postpartum hemorrhage, especially if it is started immediately after placental delivery. [7, 11]

It is quite expected in the Egyptian culture that infant care including breast-feeding is the prime responsibility of mothers after delivery, regardless of their age, education, or occupation. A study carried out by Nour (1976), revealed that the mother's age and occupation had no influence on the time of initiation of breast feeding after child birth.[12] The present study also showed no statistically significant difference between early and late breast feeding groups regarding mother's age, education and occupation (Table1). A study done by Welaly (1995) contradicts the findings of the present study. She found that there was a significant relation between mother's education and occupation and the time of initiation of breast- feeding. [13]

Regarding the number of antenatal visits it was observed that women who had four or more antenatal visits, started breast feeding early compared to those who had a lower number of visits. This could be attributed to the fact that antenatal follow up is mandatory to prepare mothers for infant caretaking activities, especially breast-feeding. This is in accordance with Abd El Aziz (1990) who mentioned that antenatal visits allow the physicians and nurses to answer mother's questions about the unborn baby, to discuss the advantages of breast feeding and to prepare them to initiate early breast feeding after child birth. [14] Many researches explained that antenatal care emphasizing early initiation of breast feeding plays a positive role in the prevention of postpartum hemorrhage. [3, 7, 9]

Studying the relation between postnatal uterine characteristics and vaginal blood loss, among early and late breast-feeding groups (Table 2) revealed that the majority of women in the early breast feeding group had firm uterus below the level of the umbilicus compared to mothers in the late breast feeding group. This could be attributed to the increase of oxytocin secretion resulting from the early suckling after delivery. Excess oxytocin controls the uterus more quickly, makes it firm and accelerates its return to its proper size. Similar findings were reported by Chuo et al., (1994). They have proved a significant increase in the uterine activity with breast feeding or nipple stimulation. [15] Furthermore, WHO (1993) reported that if oxytocic drugs are not available, breast feeding is

considered a safe, effective and economic mean of reducing post partum blood loss particularly if this blood loss is a result of significant hemorrhage in the third stage of labor.[3]

It is well known that the earlier and more frequent the breast feeding, the less the amount of blood loss.[11] This is in agreement with the present study where statistically significant correlation was found between the early initiation and frequency of breast feeding and the amount of vaginal blood loss during the fourth stage of labor (Table 3). The finding can be explained by the fact that the continuous and frequent sucking of the babies will stimulate the posterior pituitary gland to release excess oxytocin. [16] Hence the uterine activity increases and the total blood loss decreases. Increased frequency of breast-feeding also will widen and stretch the lactiferous ducts and thus promoting breast drainage and emptying. [17, 18]

CONCLUSION AND RECOMMENDATIONS

It can be concluded that early initiation of breast-feeding as well as increasing postnatal frequency of feeding immediately following labor, decrease the amount of vaginal blood loss.

According to the findings of the present study the following recommendations are suggested:

- Health professionals should play a major role in motivating, educating, supporting and counseling mothers to initiate early breast feeding immediately after delivery:
- Mosques and churches must encourage mothers by all possible means to believe that breast feeding is the best for their babies.
- Nurses working in maternity and pediatric fields should guide and help mothers to initiate breast feeding immediately after birth to benefit from its advantages.
- Provision of in-service training programs, refreshing courses, seminars and conferences regarding early initiation and promotion of successful breast feeding are essential to upgrade nurse's knowledge and practice.
- Encouragement of antenatal breast preparation and early initiation of breast feeding after birth should be an integral part of every antenatal, postnatal, neonatal and family planning programs.

- Mass media should be used more effectively to advertise about the advantages of breast- feeding to mother and child.

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Table (1): The Relation between General Characteristics and Antenatal Visits of Mothers among Early and Late Breast Feeding Groups.

General characteristics	Early breast-feeding Group (n = 50)	Late breast -feeding Group (n = 50)	Test (P value)
Age (years)			
20-	4 (8%)	4 (8%)	$x_3^2 = 0.600$
25-	28 (56%)	26 (52%)	(0.8963)
30-	10 (20%)	9 (18%)	
35+	8 (16%)	11 (22%)	
Education			
Illiterate or R & W	20 (40%)	22 (44%)	$x_3^2 = 2.03$
Basic	9 (18%)	6 (12%)	(0.5665)
Secondary	15 (30%)	12 (24%)	
University	6 (12%)	10 (20%)	
Current occupation			$x_1^2 = 0.198$
Housewives	34 (68%)	37 (74%)	(0.6560)
working	16 (32%)	13 (26%)	
Number of Ante-natal visits			
None	6 (12%)	13 (26%)	$x_2^2 = 6.265$
<4	13 (26%)	18 (36%)	*
4+	31 (62%)	19 (38%)	(0.0436)

* *Significant, $p < 0.05$*

Table (2): The Relation between the Postnatal Uterine Characteristics and Vaginal Blood Loss among Early and Late Breast-feeding Groups.

Uterine characteristics	Early breast-feeding Group (n= 50)	Late breast -feeding Group (n = 50)	Test (P value)
Fudal level			
Above umbilicus	4 (8%)	10 (20%)	$x_2^2 = 10.44$ *
At umbilicus	12 (24%)	22 (44%)	(0.0054)
Below umbilicus	34 (68%)	18 (36%)	
Uterine consistency			
Lax	9 (18%)	23 (46%)	$x_1^2 = 9.01$ *
Firm	41 (82%)	27 (54%)	(0.0027)
Vaginal blood loss			
<150 ml -	8 (16%)	5 (10%)	
200 ml -	25 (50%)	8 (16%)	$x_3^2 = 16.95$ *
250 ml -	7 (14%)	17 (34%)	(0.0007)
300 ml +	10 (20%)	20 (40%)	

* *Significant, p < 0.05*

Table (3): The Relation between Vaginal Blood Loss (ml) and Initiation and Frequency of Breast Feeding After Delivery of the Placenta.

Items	Blood loss (ml)				
	<150	200-	250-	300+	Total (n=50)
Initiation of Breast Feeding (min)					
20-	5 (62.5%)	0 (0%)	0 (0%)	0 (0%)	5 (10%)
25-	3 (12%)	20 (80%)	2 (8%)	0 (0%)	25 (50%)
30-	0 (0%)	3 (18.8%)	5 (31.2%)	8 (50%)	16 (32%)
35+	0 (0%)	2 (50%)	0 (0%)	2 (50%)	4 (8%)
Spearman (r)	0.7566 (< 0.001)*				
Frequency of Breast Feeding					
2	2 (16.6%)	5 (41.7%)	0 (0%)	5 (41.7%)	12 (24%)
3	0 (0%)	4 (36.4%)	4 (36.4%)	3 (27.4%)	11 (22%)
4	6 (22.2%)	16 (59.3%)	3 (11.1%)	2 (7.4%)	27 (54%)
Spearman (r)	- 0. 3153 (0.026)*				

* *Significant, P < 0.05*