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## A STUDY ON EFFECT OF INITIATION OF BREAST-FEEDING WITHIN AN HOUR OF THE DELIVERY ON "MATERNAL- INFANT BONDING"

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### ABSTRACT

Breast feeding is defined as the feeding of a neonate, infant or young child with breast milk directly from women's breasts. Studies have been carried out on a number of factors e.g. health benefits of breast feeding for neonates and their mothers. Maternal- infant bonding is one of the factor which is least studied. The present study was carried out to appraise the effect of initiation of breast feeding within an hour of the delivery on maternal- infant bonding. 220 mother- infant dyads were registered for the study and considered for investigation. The registered mother-infant dyads were divided into two groups, control and experimental, comprised of 110 mother-infant dyads in each group. Mothers who initiated breast feeding after an hour of the delivery were included in the Group A and the mothers in the Group B who initiated breastfeeding within an hour of the delivery. Value of t at 24 hrs was -7.434 and at 48 hrs was -8.902. Significant difference  $p= 0.000 < 0.5$  was found between the maternal infant bonding scores of control and Group B at 24 as well as 48 hours of the delivery. At 24 hours of the delivery, mean  $\pm$  S.D of score was found  $72.1 \pm 8$  in the Group A while the score was  $80.2 \pm 8.1$  in the Group B and at 48 hours it was  $75.6 \pm 9$  in Group A and  $83.29 \pm 4.8$  in the Group B. The result revealed that initiation of breast feeding within an hour of delivery improves maternal- infant bonding. So, it is recommended that breast feeding should be initiated within an hours of delivery.

**Keywords:**Breast feeding, Maternal- infant bonding.

### INTRODUCTION

Breast feeding is as old as mankind. It is universally accepted to be the best and complete food for infants as it fulfills specific nutritional needs [1]. Broad research in the current years, documents varied and convincing advantages of breast feeding to infants, mothers, their families and their society. These also include dietary, immunological, developmental, psychological, societal, economic and ecological benefits [2-4]. Hospital team can have a major impact on the

commencement and continuation of breast feeding, if they have adequate knowledge of its benefits and the necessary clinical management skills [5]. In order to ensure accomplishment in breast feeding, it is crucial that it be initiated as early as possible in the neonatal period [6]. Immediately after birth the sucking reflex is more active and babies are more alert during the first half an hour to one hour and if babies are put to mother's breast within this period, chances of elite breast feeding increase [6].



Early commencement of breast feeding augments “Maternal- infant Bonding”. “Maternal-Infant bonding” means the development of the core relationship between mother and child [7]. The bonding process occurs in both infant and mother and has vast insinuations for the child’s future development [7]. Many studies have dealt with the subject of whether there is what has been called a ‘sensitive period’ for parent- child contact in the earliest minutes, hours and days of life that may modify the parent’s behaviors with their infant later in the life [8]. In all the studies, increasing the mother- infant time jointly or augmented suckling improves caretaking by the mother. Salariya et al also found that babies who were first fed within 30 minutes of birth were prone to remain breast feeding for longer [9]. The relationship between early first contact of mother and infant and outcome of breastfeeding may be closely connected to what Klaus and Kennell described in 1976, an early sensitive period in the mother. This immediate postpartum period seems to be the time for most favorable attachment or bonding of the mother to the infant. In 1974 a study at Brazil compared the breastfeeding of two different groups of 100 women. The mothers of one group breast fed their infants instantly after birth and maintained enduring contact throughout the hospital stay with their infants in cribs by their beds. The Group A mothers had a glance of their infants shortly after birth and then visits for approximately 30 minutes, once in 3 hours, 7 times in a day, beginning 12-14 hours after birth. At 2 months, 77% of the Group B mothers were breastfeeding without supplemental formula. In contrast, only 27% of the Group A mothers were breastfeeding without formula supplements at 2 months. Knowledge and support must also be measured causal factors in this study as a special nurse worked with the mothers of the Group B to motivate and promote breastfeeding [10]. Although, it is essential to instigate breast feeding to new born baby within an hour of delivery, hitherto no studies have been done so far in the institution to see the effect of instigation of breast feeding within an hour of delivery on “maternal-infant bonding”. WHO recommends that breast feeding should be began within an hour of delivery. So, the need aroused to conduct the study and assess the effect of initiation of breast feeding within an hour of the delivery on “maternal-infant bonding” and produce research based evidence [11-12].

### Objective of the study

To assess the effect of initiation of breast-feeding within an hour of delivery on “Maternal- Infant bonding”.

### MATERIAL AND METHODS

The quasi- experimental study was conducted with the mothers and their new born babies in the Obstetric Unit of Multispecialty hospital, Imo

State University owerri, Imo State, Nigeria, July- August 2013. The current study was conducted in the Obstetric Unit which constitutes Clean Labour Room, Maternity and Gynecology Ward.

Purposive sampling method was employed to select sample from the population. During first phase the mothers were contacted after an hour of the delivery and asked whether they have initiated breast feeding to their baby. If the breast feeding was not initiated within one hour of the delivery, mother- infant dyad was considered in the control group (Group A) and if breast feeding was initiated within an hour of the delivery, mother- infant dyad was considered in the experimental group (Group B). During the second phase, the mothers were contacted within an hour of the delivery and breast feeding was initiated within an hour of the delivery using the developed protocol i.e. mother infant dyad were considered in the experimental group. Protocol for the initiation of breast feeding was developed by consulting the experts and also by reviewing various literatures.

### Inclusion Criteria:

- All the mothers with normal vaginal delivery (Gestation period of 36 weeks and above), who were willing to participate in this study.

### Exclusion Criteria:

- The mothers having Eclampsia, twin pregnancy, medical- surgical diseases which interfered with the initiation of breast feeding, post- partum hemorrhage and post- partum psychosis
- The new born with pre-term less than 36 weeks of gestation, birth weight less than 1.8 Kg, APGAR less than 7 at 1 and 5 minutes, congenital malformations which interfered with the breast feeding
- Babies who are shifted to Neonatal Intensive Care Unit (NICU)
- Babies with medical- surgical problems where direct breast feeding is contraindicated

### The research tools included in this study

1. Protocol for the initiation of breast feeding
2. Proforma for sample collection and identification data sheet
3. Tool to assess maternal- infant bonding: “Maternal Postnatal Attachment Scale (MPAS)” [Condon and Corkindale, 1998] which consist of 19 questions. The Proforma was modified as per the requirement of the study. Reliability of the tool was evaluated by Cronbach’s alpha. Its value was 0.8002 at 24 hours and 0.8124 at 48 hours.

### RESULTS

Two hundred and twenty mother- infant dyads were registered with the study and considered for



examination. Both groups (Group A & Group B) collected data was done using differential and inferential statistics. Majority of the subjects were in the age group of 21-25 years. Age of the study subjects (mothers) in the Group A ranged between 19 to 36 years. Mean age  $\pm$  S.D was  $26.4 \pm 3.9$ , whereas in Group B the age of study subjects ranged between 20 to 40 years. Mean age  $\pm$  S.D was  $26.2 \pm 3.6$ . Per capita income of subjects ranged between Rs 201/- and Rs 20000/- per month. 70 (63.63%) subjects from Group A had per capita income of Rs 501- whereas fifty (45.45%), subjects from Group Bs had per capita income Rs 1000/- per month. In the Group A, per capita income per month ranged between Rs 200/- to 20000/-, Mean  $\pm$  S.D was  $2864.6 \pm 4515.3$ . On the other hand, in the Group B, range was Rs 300/- to 20000/-, mean  $\pm$  S.D was  $4105.2 \pm 5801.3$ . Many subjects i.e. 90% from Group A and 78.2% from Group B were house wives. More than half i.e. 66.4% from Group A and 51.8% of subjects from Group B were from rural background (Table 1).

In each group, more than half of the subjects were multigravida i.e. 66.4% from Group A and 56.4% from Group B. More than 75% of subjects delivered baby between 37+1 to 40 weeks period of gestation in both the Groups. In Group A, 13.6%, subjects delivered between 36 to 37 weeks, 75.5% delivered between 37+1 to 40 weeks and 10.9% had period of gestation of 40+1 weeks and above at the time of delivery. In Group B, 14.5% subjects delivered at period of gestation 36 to 37 weeks, 75.5% during 37+1 to 40 weeks and 10% at 40+1 weeks and above. In the Group A, 46 (41.8%) subjects, had baby boy and 64 (58.2%) had baby girl while in Group B, 56 (50.9%) subjects, had baby boy and 54 (49.1%) had baby girl. (Table-2)

The assessment of maternal- infant bonding was done at 24 and 48 hours of the delivery and the scores were compared. In Group A, mean bonding score on maternal- infant attachment scale at 24 hours of the delivery ranged from 45.1- 88.3 with mean score  $72.1 \pm 8$  and at 48 hours the score ranged from 45.4- 93.6 with

comprised of 110 mother-infant dyads. Analysis of mean  $\pm$  S.D score  $75.6 \pm 9$ . In the Group B, mean bonding score and range on maternal- infant attachment scale at 24 hours of the delivery between 61.8 - 90.9 with mean score  $80.2 \pm 8.1$  and while at 48 hours it ranged from 63.2- 91.8 with mean score  $83.29 \pm 4.8$ . The t- test for equality of means was applied to assess maternal- infant bonding at both 24 and 48 hours by assuming equal variances. The value of t at 24 hours and at 48 hours was -7.434 and -8.902, respectively  $p = 0.000$  at both 24 hours and 48 hours. This shows that there was significant difference in bonding score in the control and Group B both at 24 hours and 48 hours of the delivery (Table 3).

The considerable higher level of maternal infant bonding score was observed in Group B when compared to Group A based on gravida status and gestation period of the subjects. It was further observed that in Group A, 8 (7.27%) multigravida subjects had poor bonding as they scored less than 61 while no primigravida subjects scored less than 60.5. while on the other hand neither primigravida subjects nor multigravida mothers in the Group B had poor bonding. As per period of gestation it was observed that only eight subjects from Group A had poor bonding The period of gestation of 5(4.54%) subjects was 37+1 to 40 weeks of period of gestation while one subject (0.9%) had 36 -37 weeks gestation and another two (1.82%) subjects had 40+1 and more gestation and none of the subjects in experiment group had poor bonding.

The variables like maternal education, occupation, habitat, per capita income, medical disorders during pregnancy, sex of baby, pre lacteal feeds and birth weight of baby had an impact on maternal infant bonding in both the groups.

Table 4 illustrates the maternal- infant bonding score of the subjects according to reasons for not initiating breast feeding within an hour of the delivery in the Group A. The reasons were lack of rooming in and non willingness on mothers' part. There was significant difference in the scores.

**Table 1. Socio- demographic profile of the subjects**

Socio- demographic profile	Group A(Control Group)	Group B(Experimental Group)
	n (%) n = 110	n (%) n=110
Age Group		
≤20 years	3 (2.7)	3 (2.7)
21-25 years	52 (47.3)	49 (44.6)
26-30 years	33 (30)	43 (39.1)
≥31 years	22 (20)	15 (13.6)
Educational Level		
- Till 10th	60 (55.1)	40 (36.4)
- 10th to 10+2 and diploma	20 (18.3)	25 (22.7)
- Graduation and above	30 (26.6)	45 (40.9)



Occupation (self)		
- House-wife	99 (90)	78 (70.9)
- Employed	11 (10)	32 (29.1)
Place (Habitat)		
- Rural	73 (66.4)	57 (51.8)
- Urban	37 (33.6)	53 (48.2)
Per Capita Income		
- ≤Rs 500	19 (17.2)	16 (14.5)
- Rs 501 – Rs 1000	71 (64.6)	50 (45.5)
- Rs 1001- Rs 2000	10 (9.1)	20 (18.2)
- ≥ Rs 2001	10 (9.1)	24 (21.8)
Type of Family		
- Joint	79 (71.8)	75 (68.2)
- Nuclear	31 (28.2)	35 (31.8)

**Table 2. Gravida status, gestation period and sex of baby of the subjects**

Variables	Group A(Control Group)	Group B(Experimental Group)
	n (%) n = 110	n (%) n=110
Gravida		
- PrimiGravida	37 (33.6)	48 (43.6)
- Multi Gravida	73 (66.4)	62 (56.4)
Period of Gestation (in weeks)		
- 36- 37	15 (13.6)	16 (14.5)
- 37+1- 40	83 (75.5)	83 (75.5)
- 40+1 and above	12 (10.9)	11 (10)
Sex of baby		
- Boy	46 (41.8)	56 (50.9)
- Girl	64 (58.2)	54 (49.1)

**Table 3. Maternal- infant bonding score at 24 and 48 hours**

Time	Group A(Control Group) n = 110		Group B (Experimental Group) n=110		Value of t
	Mean ± S.D	Range	Mean ± S.D	Range	
After 24 Hours of delivery	72.1 ± 8	45.1- 88.3	80.2 ± 8.1	61.8 - 90.9	-7.434 (p=0.000)
After 48 Hours of delivery	75.6 ± 9	45.4- 93.6	83.29 ± 4.8	63.2- 91.8	- 8.902 (p=0.000)

**Table 4. Maternal- infant bonding score as per reason for not initiating breast feeding within an hour of delivery**

Group	Reason	Poor Bonding	Good Bonding
Group A (Control Group)	Lack of rooming-in	4 (5.1)	74 (94.9.)
	Mother not willing	5 (15.6)	27 (84.4)

p =0.007 <0.05 at df=1 (X<sup>2</sup> test)

## DISCUSSION

In spite of an increased focus on the early initiation of breast feeding, the practice varies from institution to institution. Studies have been done to evaluate the effect of early initiation of breastfeeding. But very few studies were done to assess the effect of initiation of breastfeeding within an hour of the delivery on

maternal- infant bonding. Although W.H.O prescribes that breastfeeding should be initiated within half hour of delivery, but the practice varies. In the current study, mother- infant dyads after normal vaginal delivery were taken as the study subjects, as most of the mothers deliver baby normally. For this reason other researchers are also



preferred to take subjects after normal vaginal delivery. The study subjects in the present study were both primigravida and multigravida. Assessing maternal- infant bonding has been a remarkable challenge among researchers as it involves the study of psychology of the mother about her attachment to the new born baby. Researchers have also studied other benefits of early initiation of breastfeeding. In current study, Maternal Postnatal Attachment Scale (MPAS) was used to objectively evaluate maternal- infant bonding on the basis of feelings and behavioral responses of mother towards her new born. The tool was standardized but modified as per the requirement of the study and after modification it was analyzed for its reliability by Cronbach's alpha and it was found to be reliable. Studies depict that mother- baby bonding is enhanced by breast feeding.<sup>11</sup> Suckling enhances the closeness and new bond between mother and baby.<sup>12</sup> The findings of the current study revealed that with the initiation of breastfeeding within an hour of delivery, bonding increases between the mother and her new born. It is because of early skin-to-skin contact when the mother breast feeds. The amazing change in the maternal behavior with just the touch of the infant's lip on the mother's nipple, the reduction in the rejection with early contact, suckling and rooming- in and the raised maternal oxytocin levels shortly after-birth in conjunction with known sensory physiologic, immunologic and behavioral mechanisms all added to maternal- infant bonding.<sup>4</sup>

The findings revealed that there is no significant change in bonding scores of house-wife and employed mothers as the number of employed mothers was less. In

another study conducted by Anteo Di Napoli et al to evaluate the effects of level of education on the initiation and duration of breast feeding, the results shows that a low level of education, determines a negative effect on the initiation and duration of breast feeding [13-17]. As researchers report that there is a significant effect of education and socioeconomic status of the mother on initiation of breastfeeding and thus bonding, so in our current study, bonding scores within mothers of different educational status and socio-economic status were also compared. The findings of present study showed no significant difference in the bonding among mothers of different groups. Our findings also indicate that gender of the baby does not influence the bonding among mothers.

## CONCLUSION

The results of the present study signifies that with the initiation of breastfeeding within an hour of delivery, maternal- infant bonding is enhanced as compared to initiation of breastfeeding after an hour of delivery. Based on these findings, the study recommends that breast feeding should be initiated within an hour of the delivery. A similar study using the same tool after 6 weeks and one year of the delivery can be taken up to provide further information to the above findings. A similar study using interview technique along with the "maternal-infant bonding tool" can be done for further improvement of the findings. The findings of the study provide an evidence-based data for the improvement of "maternal- infant bonding." Hence feeding in the first hour of delivery is recommended to improve maternal – infant bonding.

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