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A STUDY TO ASSESS THE MATERNAL-INFANT BONDING AMONG MOTHERS

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ABSTRACT

A study conducted by Varinder Kaur under guidance of Mrs. Mamta and Co-guide Mrs. Nidhi Sagar for the partial fulfillment of M.Sc. nursing to assess the maternal–infant bonding among mothers
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Introduction: Bonding with baby is probably one of the most pleasurable aspects of the infant care. This mother-infant interaction is clearly a psychological one. In other words, the mother's affection for the child deepens, and the child who is held by the mother experiences a deepening of affection toward the mother.
Objective: To assess the maternal-infant bonding among mothers.
Methodology: A descriptive design among 100 mothers selected by convenience sampling, who visited paediatric OPD of DMC & Hospital, Ludhiana. Modified Mother Infant bonding scale was used by self-report method.
Results: Findings revealed that the 58% of mothers had strong level of bonding. The mean score of maternal-infant bonding was come out to be 79.76±7.149.
Conclusion: Thus the study concluded that the mothers had strong level of bonding. The association of bonding was found to be statistically highly significant education status, type of family, socio-economic status ($p<0.05$).

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INTRODUCTION

A healthy pregnancy, successful early bonding and breast feeding is a good foundation for responsive, sensitive childrearing. A baby's wants are much the same as its needs of a baby are best described by four A's i.e. affection, attachment, acceptance and appreciation which are fulfilled by good parenting. The love of a mother for her child is seen throughout the world. A mother is a biological and social female parent of an offspring. Every child has certain basic emotional needs which are to be satisfied to ensure his optimal development as an emotionally mature individual who is able to relate meaningfully with the society. Bonding is an effective attachment between mother and neonate that is specific to them and from which both gain security. It is the first social relationship for an infant. This relationship has profound effects on the child's physical, psychological, and intellectual development. During this adaptation period, the new mother overcomes anxiety, developing self-confidence with respect to caring for her baby.

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It has also been reported that there is a positive relationship among motherhood, self-confidence, and family support during the prenatal period a mother provides better care to her newborn baby as she gains self-confidence in her maternal role. A secure bonding during newborn period, leads to trust, which is a major developmental task to be achieved during the first year of life. If the newborn is separated from the mother at birth, the development of a satisfactory parent infant relationship may be threatened. An infant who is securely attached to the mother explores a new setting more than an infant who is insecurely attached. The unique and long-term emotional tie that begins with the first contact between the mother and newborn continues to develop throughout the infancy period. Therefore, an inadequate mother newborn relationship can result in long-term consequences to the child, including cognitive and socio-economic development, physical health disparities, and difficulties in personal relationships. Research has shown that first hour after birth is the strongest foundation for bonding to occur. During the first hour of life, the neonate is most alert and naturally seeks both suckling and skin-to-skin touch. Therefore, when newborns are separated from their mothers during the first hour of life, the mother is

more likely to experience a weaker initial attachment to each other. Nurses can promote a positive bonding and attachment experience by encouraging contact between the mother and newborn, thereby facilitating a positive emotional bond. Breastfeeding during the first postpartum hour is one of the best ways to promote maternal-neonate bonding. As the mother is more adjusted to her role and as the mother begins to experience responses from her infant, she is encouraged to continue in her mothering role more spontaneously. Parental role failure is the common cause for poor attachment. Physical condition of an infant born at risk, hormonal changes after child birth produce a state of depression among many women. Children show a wide variety of behaviour disorders. Most of these are minor problems and do not cause permanent disturbances.

This mother-infant interaction is clearly a psychological one. In other words, by holding her child, the mother's affection for the child get deepens, and the child who is held by the mother experiences a deepened of affection toward the infant. Mother-infant interaction is a sensory bonding plays an important role in the physical and emotional relationship between mother and child. The mother and infant bond get stronger through information mediated by the sense organs - the eyes, ears, nose and skin. The sensory information exchanged is diverse by visual information like respective smiles and eye-to-eye contact, auditory information including the content of the mother's speech and affective information, such as rhythm and pitch, the child's happy voice and babbling; tactile information based on direct touching, and olfactory information comes from their smells. This exchange is thought to create emotional bonding between the mother and infant.

Maternal–infant bonding means the development of the core relationship between mother and infant. A good mother-infant relationship is built on warmth and being around each other a lot. Various activities involved in maternal-infant bonding are like kissing, fixing hair, making favorite foods, changing diapers, being a lounge chair for an infant who’s sick or healthy, being with an infant during the night shift over and over. Maternal-Infant Bonding is the close emotional tie that develops between mother and baby, which originates at birth (or even before & after) and which is characterized as an intense physical, emotional, spiritual, bond that exists between the two This bonding is one aspect of the developmental process that, successfully achieved, leads to a strong bonding, healthy relationship between mother and infant. The initial closeness between mother and infant is important for physical, psychological and intellectual development of the infant. The positive marital relationships promote healthy infant growth and development as well as help to form a positive self-concept for the child in later life. Various activities involved in maternal-infant bonding are like kissing, fixing hair, making favorite foods, changing diapers, being with an infant during the night shift over and over. Since infants can’t tell us how they feel or what they think, it’s difficult to know exactly how much they understand and what their emotions. But through observations, researchers have learned quite a lot about the maternal-infant bonding.

Need of the study

According to United Nations declaration on the right of the child; every child has the right of affection, love and understanding. Child is dependent on mother and she must ensure him sense of belonging and security. The result of the study was shown that “non-maternal care increases the risk for insecure attachment by 66% over the base line prevalence rate”. Ineffective maternal-infant bonding results in breast feeding disruption, disturbed parenting, abuse & neglect and adverse child outcomes in later life (i.e. infant sleep disturbances, lack of trust & self-worth, behavioural temperament in toddlers, literacy problems, infant feels unsafe & alone, vulnerability to negative life events).Healthy maternal-infant relationship has a potential to prevent subsequent poor child outcomes. During clinical posting experience in NICU, it was observed that the mothers are not aware regarding importance of mother-infant bonding. So investigator felt the need to do study on maternal-infant bonding among mothers.

Objectives

- To assess the maternal-infant bonding among mothers.
- To find out the association of maternal-infant bonding with selected socio-demographic variables.
- To plan & disseminate IEC material (pamphlet) regarding enhancement of maternal- infant bonding.

MATERIALS AND METHODS

Sample and Sampling Technique

Sample size: The sample size was 100

Sampling technique: The sample was collected using convenience sampling.

Inclusion & Exclusion Criteria

Inclusion Criteria

- Mothers who were having baby of age one month to one year.
- Mothers who were willing to participate.

Exclusion Criteria

- Mothers who were with cognitive deficit and mental disorders.
- Mothers who were unable to read & write Hindi, English or Punjabi.

Description of Tool(s)

Tool consists of two parts;

Part 1 **a)** Socio-demographic profile
b) Maternal & infant profile

Part 2 a) Modified Mother-infant bonding scale, (Taylor, A, Atkins, R., Kumar, Adams, D., & Glover, V.2005

Part 1 a) Socio-demographic profile

This section includes age, educational status, occupation, habitat, religion, type of family, socio-economic status (according to Kuppuswami scale, 2014), family support, conceiving pregnancy.

Maternal and infant profile

This includes GPLAS (status of gravida, parity, live babies, abortions and still births), duration of marriage, mode of delivery, gender of the baby, gestational age, age of baby, birth order.

Part-2 a) Modified Mother-infant bonding scale, (Taylor *et al.*, 2005)

Modified Mother-infant bonding scale is a five point likert scale 20 items, both positive and negative items, positive items scoring from always (5), most of the time (4), uncertain (3), sometime (2) & never (1). Reverse scoring for negative statements from never (5), sometime (4), uncertain (3), most of time (2), always (1).

Item Numbers	Positive items are 12	Negative items are 8
	1,3,4,6,8,10,12,13,14,16,18,20	2,5,7,9,11,15,17,19

RESULTS

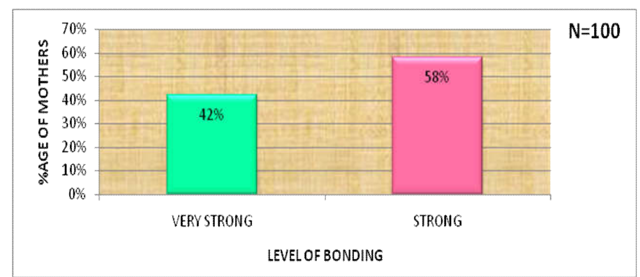
The distribution of mothers as per socio demographic variables illustrates Table 1.Majority of the mothers 60% were in age group of 26-35 years and 40% were in the age group of 15-25 years. As per educational status, 34% of the mothers were qualified up to senior secondary and 31% had graduate level of education and 21% had secondary level of education and 14% had elementary level of education.

Table 1. Distribution of maternal-infant bonding as per socio demographic variables N=100

Socio-demographic variables	f (%)
Age (in years)	
15-25	40
26-35	60
Educational Status	
Elementary	14
Secondary	21
Senior Secondary	34
Graduate or Above	31
Occupation	
Non-working	90
Working	10
Habitat	
Rural	44
Urban	56
Religion	
Hindu	53
Sikh	47
Type of family	
Nuclear	54
Joint	46
Socio-economic status (according to Kuppuswami scale, 2014)	5
Upper class I	38
Upper middle class II	28
Lower middle class III	29
Upper lower class IV	
Family support	
Yes	86
No	14
Conceiving (Pregnancy)	
Planned	71
Unplanned	29

Mean age (Mothers) = 25.98± 2.486

According to occupation, 90% of the mothers were non-working whereas only 10% were working. As per habitat, more than half, 56% of the mothers were living in urban areas and only 44% were living in rural areas.



Mean score of maternal-infant bonding = 79.76±7.149

Fig. 1. Percentage of mothers as per level of bonding with their infants

Table 2. Distribution of mothers as per maternal & infant profile N = 100

Maternal & infant profile	f (%)
Gravida	
1	43
2	40
3	17
Parity	
1	50
2	38
3	12
Live babies	
1	61
2	39
Abortions	
0	75
1	25
Still births	
0	86
1	14
Duration of marriage (in yrs.)	
0-2	92
3-5	08
Mode of delivery	
Normal delivery	75
L.S.C.S	25
Gender of the baby	
Male	66
Female	34
Gestational age (in wks.)	
30-35	46
36-40	54
Age of the baby(in month)	
1-3	46
4-6	43
7-9	11
10-12	00
Birth order	
First	55
Second	45

Mean age of the baby = 4.07±2.011

Regarding religion, 53% of the mothers belonged to Hindu & 47% belonged to Sikh religion. Furthermore, 54% of the mothers were from nuclear family whereas 46% from joint family. As per socioeconomic status, 38% of the mothers had upper middle class status, 29% had upper lower class, and 28% had lower middle class status. Regarding family support, 86% of the mothers got support from family and 14% got no family support. Regarding Pregnancy, 71% of the mothers had planned pregnancy and only 29% had unplanned pregnancy. Therefore, it can be concluded that majority of mothers were in age group of 26-35 yrs., had education up to Senior secondary, non-working and living in urban area, belonging to Hindu religion and from nuclear family with Socio-economic status of upper middle class status and they got support from family and had planned pregnancy. The distribution of mothers as per maternal & infant profile shows in Table 2.

Table 3. Association of maternal-infant bonding with selected socio-demographic variables N=100

Socio-demographic variables	N	Mean±SD	F/t value	p value
Age (in years)				
15-25	40	78.42±6.706	1.555	0.215^{NS}
26-35	60	80.65±7.350		
Educational Status				
Elementary	14	80.14±6.550	7.297	0.000**
Secondary	21	76.62±6.415		
Senior Secondary	34	77.62±6.729		
Graduate or Above	31	84.06±7.149		
Occupation				
Non-working	90	79.32±6.918	1.693	0.196^{NS}
Working	10	83.70±8.354		
Habitat				
Rural	44	78.93±6.889	0.380	0.539^{NS}
Urban	56	80.41±7.343		
Religion				
Hindu	53	81.15±6.963	0.098	0.754^{NS}
Sikh	47	78.19±7.104		
Type of family				
Nuclear	54	76.48±4.608	16.970	0.000**
Joint	46	83.61±7.707		
Socio-economic status (according to Kuppuswami scale, 2014)				
Upper class I	5	85.40±4.930	12.394	0.000**
Upper middle class II	38	76.53±6.408		
Lower middle class III	28	77.86±4.043		
Upper lower class IV	29	84.86±7.534		
Family support				
Yes	86	80.21±7.219	0.721	0.398^{NS}
No	14	77.00±6.239		
Conceiving(pregnancy)				
Planned	71	79.58±7.363	0.174	0.678^{NS}
Unplanned	29	80.21±6.700		

Max. Score=100 * Significant at $p< 0.05$ *NS-Non significant (p>0.05)*
Min. score = 20 *df (ANOVA) =99* *df (t-test) = 98*

Table 4. Association of maternal-infant bonding with maternal & infant profile N=100

Maternal & infant profile	N	Mean±SD	F/t value	p value
Gravida				
1	43	79.86±7.818	0.573	
2	40	79.02±6.245		0.566^{NS}
3	17	81.24±7.554		
Parity				
1	50	80.90±7.967		
2	38	78.32±5.850	1.427	0.245^{NS}
3	12	79.58±6.999		
Live babies				
1	61	79.87±7.710	3.430	0.067^{NS}
2	39	79.59±6.265		
Abortions				
0	73	80.11±7.224	0.417	0.520^{NS}
1	27	78.81±6.989		
Still births				
0	86	80.07±7.209	0.156	0.694^{NS}
1	14	77.86±6.701		
Duration of marriage (in yrs.)				
0-2	92	79.80±7.308	2.624	0.108^{NS}
3-5	08	79.25±5.312		
Mode of delivery				
Normal delivery	75	78.57±6.820	0616	0.435^{NS}
L.S.C.S	25	83.32±7.058		
Gender of the baby				
Male	66	80.21±7.519	1.402	0.239^{NS}
Female	34	78.88±6.385		
Gestational age (in wks.)				
30-35	46	78.76±6.495	3.410	0.068^{NS}
36-40	54	80.61±7.619		
Age of the baby(in months)				
1-3	46	80.57±7.884	0.676	
4-6	43	78.81±6.562		0.511^{NS}
7-9	11	80.09±6.204		
Birth order				
First	55	80.53±7.741	3.211	0.076^{NS}
Second	45	78.82±6.311		

Max.score=100 ** Significant at $p< 0.05$ NS-Non significant (p>0.05)*
Min. score = 20 df (ANOVA) = 99 df (t-test) = 98

Regarding gravida, 43% of the mothers had first gravida, whereas 17% had third gravida. According to parity, 50% of the mothers were primipara whereas 12% were multipara. As per number of live children, 61% of the mothers had one live child; only 39% had two live children. Regarding abortion, 75% of the mothers had no history of abortion and 25% had history of one abortion. Furthermore, Majority of the mothers 86% had no history of stillbirth, only 14% of the mothers had one still birth. According to duration of marriage, 92% of the mothers were married from 0-2 years and 8% from 3-5 years. According to mode of delivery, 75% of the mothers had normal delivery and 25% of the mothers had undergone caesarean section. As per gender of the baby, 66% of the mothers had male baby and 34% had female baby. As per the gestational age of the newborn 54% of the baby were in 36-40 wks., 46% in 30-35 wks. According to age of the baby 46% of the babies had 1-3 months, 43% had 4-6 months and 11% had 7-9 months of age respectively.

Regarding birth order, 55% of the babies had first order, 45% had second order. Hence, it can be concluded as per maternal & infant profile majority of mothers had gravida one, parity one, live children one, abortion nil, duration of marriage 0-2 yrs., had normal delivery, male baby of 1-3 months old, with birth order one and with gestational age of mother between 32-35 wks. Fig. 1 illustrates the percentage of mothers as per level of bonding. It shows that 42% of the mothers had very strong level of bonding followed by 58% of the mothers had strong level of bonding, had no mother in moderate, mild, or poor level of maternal-infant bonding with the infant. So, it can be concluded that the majority of the mothers had strong level of bonding. Table 3 depicts the association of mother-infant bonding with selected socio-demographic variables.

There was statistically significant association of mother-infant bonding with the selected socio demographic variables (education, type of family, socio-economic status) as ($p< 0.05$) whereas age, occupation, habitat, religion and family support, planned pregnancy were found to be statistically non-significant as ($p>0.05$) being calculated by ANOVA and t-test. Therefore, it can be concluded that education, type of family, socio-economic status has impact on the maternal-infant bonding. Table 4 depicts the association of maternal and infant bonding with selected socio-demographic variables. There was no statistically significant association of maternal and infant bonding (gravida, parity, live, abortion, still birth, duration of marriage, mode of delivery, gender of baby, gestational age, age of the baby, birth order) as ($p>0.05$) being calculated by ANOVA and t-test. Therefore, it can be concluded that gravida, parity, live, abortion, still birth, duration of marriage, mode of delivery, gender of baby, gestational age, age of the baby, birth order had no impact on the maternal-infant bonding.

DISCUSSION

The findings of the present study showed that 58% of mothers had strong level of bonding with their infants.These findings are contrary to the study conducted by Falceto Olg *et al.* (2001) on assessing the parent-child relationship in public hospitals, Porto Alegre, Southern Bragil. The results depicted that 10 % of mothers and 12% of fathers had significant disturbed relationship.In the present study, maternal-infant bonding has statistically significant at ($p=0.000$) association of educational status, type of family and socio-economic status with maternal-infant bonding whose results were found to be statistically highly significant. These findings were supported by a longitudinal study conducted by RF Schiff man, MA. Omar, LM. Mckelvey. (2003) to assess interaction patterns of educational status among 156 low-income mothers-infants Michigan, USA which showed that mothers with high educational status had good bonding with their infant. ($p=0.06$).Regarding maternal & infant profile: The present study showed that primiparous mothers had strong level of bonding with their infant without the history of abortion mean score i.e.80.11±7.224 which was statistically non-significant at ($p>0.05$). Findings are supported to the study conducted by Cara B K, Kesha B R, Junjia Zhu and Kristen H K. (2014)in Pennsylvania, USA to examine the effect of miscarriage history on maternal-infant bonding after the birth of a healthy infant among 2798 women. Study concluded that the women may experience impaired bonding due to a history of miscarriage, the majority of women form a healthy bond with their infant without this history.

Conclusion

It was concluded that the mothers had strong level of bonding. The association of mother-infant bonding was found to be statistically highly significant educational status, type of family, socio-economic status ($p<0.05$).

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