Manipal Journal of Nursing and Health Sciences

Volume 4
Issue 1 *MJNHS*

Article 5

1-1-2018

Effectiveness of a structured teaching program on bonding between mothers with mental illness and their infants

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Original article

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Abstract

Introduction: Mothers with mental illness have been described to display impaired bonding towards their infants. **Objectives:** This study assessed the bonding between mothers with mental illness and their infants and evaluated the effectiveness of a Structured Teaching Program on Mother-Infant Bonding to improve the bonding between mothers with mental illness and their infants. **Methods:** The study was carried out among mothers with mental illness admitted to a referral hospital. A one group pre-test post-test design was adopted. Twenty-five mothers who consented for the study were recruited through purposive sampling technique. The Structured Teaching Program (STP) was provided for 30 minutes for three consecutive days. Post-assessment was then administered one week after the last session. **Results**: Analysis revealed statistically significant (p=.001) increase in the post-assessment scores of Mother-Infant Bonding. **Conclusion:** Findings provide evidence on the use of STP to improve the bonding between mothers with mental illness and their infants.

Key words: Bonding, infants, impaired bonding, mother infant bonding, mothers with mental illness, structured teaching program

Introduction

Postnatal mothers primarily aim at establishing a bond with their new born during the initial and crucial days after childbirth (Brockington, Aucamp & Fraser, 2006) as it facilitates mother–child attachments. "Bonding refers to a connect exclusively between the primary caretaker and the new-born and which sustains through a lifetime" (Edhborg, Nasreen & Kabir, 2011). Often the words bonding and attachment are used interchangeably.

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The infants of mothers with mental illness are often susceptible to a spectrum of emotional, behavioural, and cognitive difficulties as well as psychopathology later in life (Stefan, Hauck, Faulkner, & Rock, 2009). Familial mental illness has been a clear indicator for morbid infant mental health (Singhal & Sinha, 2012). Studies have proved poor bonding between mothers with severe mental illness and their infants (Stefan, Hauck, Faulkner, & Rock, 2009).

Two prominent propositions describe the disorder of maternal bonding initiates, primarily as alienation, indifference, detachment, and a lack of love, characterized by statements such as he is not really mine, could be anybody's child; secondly as resentment, hate and hostility, and sometimes overt wishes to harm, get rid of, erase and wish for a cot death, smother, and batter the child (Kumar, 1997).

There are many studies that described a normal mother-infant interaction, but not many studies have discussed

How to cite this article: Jose, J., Nattala, P., & Desai, G. (2018). Effectiveness of a Structured Teaching Program on Bonding between Mothers with Mental Illness and their Infants. *Manipal Journal of Nursing and Health Sciences, 4*(1), 24-29.

mother-infant bonding disorders (Chandra, 2004). In an Indian single subject research design study, findings suggested that video feedback enhanced mother-infant bonding among mothers with schizophrenia who had poor interaction with her baby (Reddy, Desai, Hamza, Karthik, Ananthanpillai & Chandra, 2014).

India based studies on interventions effectiveness to promote mother-infant bonding in a mother with mental illness are minimal. Mother-infant relationship is vital particularly during the first few months of infant's life. The need to protect and support mother-infant dyads during this vulnerable stage of life is therefore crucial. This study was undertaken to develop and examine the effectiveness of a Structured Teaching Program on the bonding between mothers with mental illness and their infants.

Materials and methods

A pre-experimental, One Group Pre-Test Post-Test research design was used. With purposive sampling technique consenting mothers with mental illness (n=25) admitted to Mother Baby Ward of the National Institute of Mental Health and Neuro Sciences, (NIMHANS) Bengaluru, who met the ICD 10 criteria for any mental illness with infants aged 12 months or less were included as the subjects of this study.

Tool 1: Baseline Information Sheet: The baseline variables that were concerned with the mother include: Age, education, occupation prior to pregnancy, marital status, type of family, monthly income, place of residence, parity, birth complications, primary caregiver, diagnosis, past history of mental illness, onset of current episode of illness, duration of current episode of illness, antenatal clinic visits, family history of mental illness, history of substance use, and previous abortions/miscarriages. The baseline variables that were concerned with infant include: Age of infant and gender.

Tool 2: Rating of Maternal Behaviour for Postpartum Mothers (Chandra, Bhargavaraman, Raghunandan & Shaligram, 2006): This was a tool developed for clinical purposes to perform an objective assessment of the bonding between mothers with mental illness and their infants. The scale has four domains **Domain 1: Care for the baby's basic needs:** Includes mother's ability to perform tasks such as dress, feed, bathe, and put the baby to sleep. Maximum score is 12. **Domain 2: Affectionate behaviour:** Rates mother's affectionate behaviour in terms of holding, comforting, gazing, talking, cuddling, and smiling at baby. Maximum score is 20. **Domain 3: Significant incidents:** These incidents include shouting at the baby, hitting the baby, trying to smother the baby, trying to harm the baby in any other way, and neglecting the baby. These are scored dichotomously (yes/no). Maximum score is 10. **Domain 4: Overall assessments of safety:** This is rated on a scale of 1 to 3 with 1 meaning that it is completely safe for the baby to be looked after by the mother, score 2 meaning safe, but only under supervision and score 3 is unsafe. Higher scores indicate mother's inability to bond with the baby.

Tools 3: Postpartum Bonding Instrument (Brockington, Fraser & Wilson, 2006): This is a self-administered (by the mother) tool to assess the bonding between the mother and her infant. It has 25 statements, each followed by six alternative responses ranging from 'always' to 'never'. Positive responses are scored from zero to five and negative responses from five to zero. The scores are summated for each of the four domains namely; **Factor 1: General factor:** This domain is rated on 12 statements that comprise the mother's positive/negative affective response towards the baby. The cut-off score is 11. **Factor 2: Rejection and pathological anger:** This domain is rated on seven statements that are based on the mother feeling annoyed, distant or angry towards the baby. The cut-off score is 16. **Factor 3: Infant-focused anxiety:** This domain is rated on four statements that are based on mother's feeling of anxiety in caring for the infant. The cut-off score is nine. **Factor 4: Aggression towards baby:** This domain is rated on two statements that are based on the mother experiencing feelings of harm towards the baby. The cut-off score is two. The scores above cut off indicate mother's inability to bond with the baby.

The STP was prepared for three sessions namely, **Session 1: Introduction to Mother-Infant Bonding,** which discussed the meaning of bonding with its myths and facts, challenges in the mother and infant that can affect bonding and signs of early infant mental well-being. **Session 2: Communication and identifying infant cues,** which discussed on early language stimulation techniques and ways to identify

meaning of infant cries and discomforts. **Session 3: Play and sensorimotor stimulation** had a discussion on meaning and purposes of play, types of play during infancy, selection of play materials, techniques to stimulate vision, hearing, touch, movement, and smell with techniques to improve gross motor and fine motor skills. Each session lasted for 30 minutes for three consecutive days.

Following the pre-assessment, the STP was provided to the subjects. Post-assessment was then administered one week after the last session to evaluate the effectiveness of the STP. Institutional Ethics Committee clearance was obtained.

Results

Frequency and percentage were used to present the baseline variables. Wilcoxon Signed Ranks Test was used to find the effectiveness of the intervention among the study subjects.

Table 1:

Description of Baseline Variables of the Study Subjects

N=25

Baseline variable	Frequency	Percentage
Age in years		
18-25	11	44.0
25-33	14	56.0
Education		
Intermediate/ Diploma/Degree	18	72.0
≤ High school	7	28.0
Occupation prior to pregnancy		
Employed	5	20.0
Unemployed	20	80.0
Type of family		
Nuclear	20	80.0
Joint/Extended	5	20.0
Monthly income		
Below Poverty Line (BPL)	20	80.0
Above Poverty Line (APL)	5	20.0
Place of residence		
Urban	13	52.0
Rural	12	48.0
Parity		
Primipara	18	72.0
Multipara	7	28.0
Birth complications		
Yes	4	16.0
No	21	84.0
Diagnosis		
Psychosis	13	52.0
Bipolar Affective Disorder	12	48.0
Past history of mental illness		
Yes	13	52.0
No	12	48.0
Onset of illness (current episode)		
1 – 6 weeks	11	44.0
Above 6 weeks	14	56.0
Duration of illness (current episode)		
1 – 2 weeks	15	60.0
2 – 16 weeks	10	40.0
Family history of mental illness		
Yes	11	44.0
No	14	56.0
History of substance abuse		
Yes	1	4.0
No	24	96.0
Previous abortion or miscarriage		
Yes	3	12.0
No	22	88.0
Age of the infant		
0 – 3 months	14	56.0
3 – 12 months	11	44.0
Gender of the infant		
Male	13	52.0
Female	12	48.0

Table 1 shows that more than half of the study subjects were aged between 25 – 33 years (56%). Majority had completed intermediate/diploma/degree level of education (72%), were unemployed (80%), belonged to a nuclear family (80%) and were Below Poverty Line (80%). More than half of the mothers were from urban area (52%). Majority of the mothers were primiparous (72%) and had no birth complications (84%). More than half of the study subjects were diagnosed with

psychosis (52%), had a history of mental illness (52%), had onset of the current episode of illness six weeks after delivery (56%) and had no family history of mental illness (56%). In 60% of the mothers, duration of current episode of illness was 1-2 weeks. Majority had no history of substance abuse (96%) and had no previous abortion or miscarriage (88%). More than half (56%) of the infants were aged between 0-3 months and were males (52%).

Table 2:

Effectiveness of the Structured Teaching Program on Mother-Infant Bonding

N=25

Domains	Pre-assessment		Post-assessment		*Z*	*p* values
	Median	Interquartile Range	Median	Interquartile Range		
Objective rating of maternal bonding behaviour						
Care of baby's basic needs	9	2	4	2	-4.46	.001*
Affectionate behaviour	13	3	6	2	-4.39	.001*
Significant incident	6	2	5	0	-3.89	.001*
Safety	2	1	1	0	-4.31	.001*
Subjective rating of maternal bonding behaviour						
General factor	20	2	9	2	-4.41	.001*
Rejection and pathological anger	17	1	11	5	-4.38	.001*
Infant-focused anxiety	12	3	5	1	-4.39	.001*
Aggression towards baby	2	0	0	1	-4.52	.001*

**Significant at p<.01*

In table 2 Wilcoxon Signed Ranks Test showed that the post-assessment median scores of objective and subjective maternal bonding behaviours is lower than the pre-assessment median scores indicating a statistically significant improvement in the Mother-Infant Bonding (p=.001). In the Objective rating of maternal bonding behaviour, a sharp decrease in median score is noted in Domain 2 indicating increase in the mother's affectionate behaviour in terms of holding, comforting, gazing, talking, cuddling, and smiling at baby. In the Subjective rating of maternal bonding behaviour, the median scores indicated marked changes in all the four domains, which reflects that the mothers subjectively felt better equipped to connect with their infants.

Discussion

Findings of the current study reveal that a need for a comprehensive STP inclusive of the various techniques, aids in the improvement of mother-infant bonding. More specifically implementing such STP is feasible in the Low and Middle-Income Countries, which prevents the need for later high cost interventions. These findings are in line with the other studies noted.

Various techniques have shown improvement in Mother-Infant Bonding, which are Massage (Onozawa, Glover, Adams, Modi & Kumar, 2001), Video feedback (Reddy, Desai, Hamza, Karthik, Ananthanpillai & Chandra, 2014), Group Therapy (Noorlander, Bergink & Van den Berg, 2008) and Intervention of Communicating And Relating Effectively – CARE (Horowitz, Murphy, Gregory, Wojcik, Pulcini & Solon, 2013).

Rahman, Malik, Sikander, Roberts & Creed (2008) noted that mothers who underwent the Thinking Healthy Program intervention were able to get along with their infants better and stay round with them to spend time in play. In yet another study by P J Cooper et al., (2009) results indicated that on providing an

intervention that aimed to boost the parenting skills and foster stronger mother infant bonding resulted in significantly improving sensitivity in mothers towards their infants and keep intrusive behaviour to a minimal in the intervention group.

Establishing a mother baby unit with minimal resources in hospitals so as to encourage joint admissions and treatment for both mother and the infant has been noted to improve bonding (Chandra, Desai, Reddy, Thippeswamy, & Saraf, 2015). Although this study did not have a control group and the sample size was small which restricts the generalization of the study findings. The time interval for the post-assessment was short and hence the long-lasting effects of the intervention could not be evaluated.

Further research could be replicated with larger sample size and with randomization, which will aid in generalizing the findings in the community settings and provide interventions at the homes of these mothers. Longitudinal study could be done to evaluate the effectiveness of the STP by assessing changes in the bonding over time with comparison of bonding between normal mothers and mothers with mental illness.

Conclusion

It is important to implement strategies of primarily, screening mothers for psychiatric illness in the hospital during pre-natal and post-natal visits, home visits, and providing structured teaching to these mothers on Mother-Infant Bonding. These interventions are vital to the wellbeing of mothers, infants, and the mother-infant relationship.

Sources of support: None
Conflict of interest: None declared
Source of support in form of grants: None

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