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## Maternal parenting quality: It's effect on infant mental health

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### ABSTRACT

*Early years of life are highly influenced by the quality of relationships with parents, which have a lasting impression on future mental health. The parenting quality of infants those who were 'normal/ at low risk' and those who were 'at risk' and its effect on the mental health of infants was studied on a sample of 97 mother-infant dyads from rural and urban Dharwad, Karnataka, India. The parent-child interactions during play (with available play materials) were video-taped for 12-15 minutes duration at their home. The parenting quality was assessed using Keys to Interactive Parenting Scale by Comfort and Gordon (2006) which measures three constructs of parenting viz. building relationships, promoting learning and supporting confidence. The mental health of infants was measured using Ages and Stages Questionnaire-Socio-emotional by Squires et.al (2002) and the socio economic status (SES) was measured using SES Scale developed by Agarwal et.al (2005). The results revealed that the mothers of infants at 'low risk' were high on parenting quality. Child characteristics such as age and ordinal position, maternal characteristics such as age, education, occupation and age at marriage significantly predicted the infant mental health (37%). The maternal parenting quality alone predicted infant mental health (5%) which was in-turn correlated to maternal age, education, occupation, and SES. Hence there is a great need to provide intervention to mothers of infants who are 'at risk' and also to those mothers who are low on parenting quality so that the future generation blooms without any stressors that can damage the infant mental health.*

**Keywords:** *Infant mental health, Maternal parenting quality, Child characteristics.*

### 1. INTRODUCTION

Irrefutable evidence suggests that brain growth makes the first years of life qualitatively and quantitatively different than any other time of life. Early experience 'gets under the skin' and shapes the brain, affecting health, behavior and learning throughout the lifespan. No other stage depends more on the external environment for growth and development as in infancy. Healthy development depends on the quality and reliability of a young child's relationships with the important people in his or her life, both within and outside the family. The quality of the relationship between infants and their parents has profound implications for their emotional and cognitive development as well as their future mental health. The secure child is more likely to do well at school, form satisfying relationships, develop the capacity for compassion and empathy and have an inherent resilience in the face of misfortune. So to give a good start in life, mental health of infants and their parents should be of highest priority. Thus this study was undertaken to understand the parenting quality of infants those who were 'normal/ at low risk' and those who were 'at risk' and its effect on the mental health of infants.

### 2. METHODOLOGY

#### 2.1 Sample and data collection:

The sample comprised of a total of 97 mother-infant dyads with 56 rural and 41 urban mother-infant dyads with infants in the age group of 6-30 months from Dharwad taluk, Karnataka, India. Data collection comprised of personal interviews using questionnaires with respect to personal information, socio-economic status, mental health and 12 – 15 minutes video recording of interactions (play and clean up activity if required) of mother-infant dyads in their natural settings (home) with paly materials of their choice with

which they usually play together such as ball, bat, dolls, kitchen set, picture books, charts or any other locally available material with which they were familiar; along with the observations of the mother infant interactions to study the parenting quality of mothers in rural and urban areas. A written consent/ oral consent was taken from the participants and they were briefed about the study and were explained for the video clip being recorded.

## 2.2 Measures:

The Ages and Stages Questionnaires: Socio-Emotional -2 (ASQ-SE) developed by Squires et.al (2002) was used to measure mental health of the infants. The tool measures the socio-emotional health and WHO defines the mental health of infants as the socio-emotional health of infants. The tool covers seven behavioral areas such as self-regulation, compliance, communication, adaptive functioning, autonomy, affect and interaction with people. It consists of 8 Questionnaires for 6, 12, 18, 24, 30, 36, 48, 60 months with 19 to 33 scored questions. Scores range from 0-10. The high score is indicative of issues. If the score is higher than a cutoff point, they are indicative of problems regarding socio-emotional health. Scores near to cutoff points are also of concern. So infants can be classified/ categorized as 'at risk', 'needs monitoring' and 'no risk/low risk'.

Sl. No	ASQ questionnaires	Age group covered	Cut off points
1	6 month	3 months 0 days through 8 months 30 days	45
2	12 month	9 months 0 days through 14 months 30 days	50
3	18 month	16 months 0 days through 20 months 30 days	65
4	24 month	21 months 0 days through 26 months 30 days	65
5	30 month	27 months 0 days through 32 months 30 days	85

Keys to Interactive Parenting Scale (KIPS): A brief practical observational tool to assess the quality of parenting behavior developed by Comfort and Gordon (2006) was used to measure the quality of parenting of urban and rural mothers. KIPS measures 12 behaviors under three constructs: building relationships, promoting learning and supporting confidence. Each of the 12 items is scored on 1 to 5 scale, with behavior descriptions for 1, 3 and 5 ratings. It consists of 15- 20 minutes of observation of parent-child playing together. It may include both play activity as well as clean up activity if required. The ratings are then transferred to the summary sheet. The totals across the sums are added to get the total score. The same is divided by the number of observations. It excludes NOB (Not observed). This score is the mean score. The KIPS mean scores indicates the quality of parenting. Based on mean scores the quality of parenting is classified as follows:

Parenting Quality	Mean Scores
Low quality	1.0 to 2.90
Moderate quality	3.0 to 4.0
High quality	4.0 to 5.0

Socio-Economic Status Scale developed by Agarwal et.al (2005) was used to measure socio - economic status of rural and urban families. The scale consists of 22 items which considers caste, education, occupation, monthly per capita income from all sources, family possessions, type of house and location, essentials, vehicles, number of children, number of earning members in family, education of children, possession of agricultural and non-agricultural land along with animals and social status of family. Socio - economic status is categorized as provided by the author as below:

Social status	Range of score
Upper high	$\geq 76$
High	61-75
Upper middle	46-60
Lower middle	31-45
Poor	16-30
Very poor or Below poverty line	$\leq 15$

The Guttman split-half value for this scale was 0.83 and Spearman-Brown coefficient was 0.94. The data were analyzed using statistical analysis such as chi-square, t-test, correlation and regression analysis.

## 3. RESULTS AND DISCUSSION

The results revealed that there was a significant association between the infant mental health risk and levels of parenting quality. Table 1 shows that 42.90 per cent of 'low risk' infants were found to experience high maternal parenting quality whereas as only 22 per cent of the 'at risk' infants were found to experience the high-quality parenting. The table also shows that 39 percent of 'at risk' infants experienced low maternal parenting quality as against only 19.6 per cent of the 'low risk' infants experienced the same. The 'low risk' and at risk' infants differed highly significantly in their mean scores for maternal parenting quality wherein mothers of infants with 'low risk' were found to be high on parenting quality. Vissenberg (2010) examined the influences of mother-to-infant attachment on the social-emotional development of the infant at six months using Ages and Stages Questionnaire: Social-Emotional (ASQ: SE) and found a significant positive relationship between the quality of mother-to-infant attachment and the

social-emotional development of the infant at six months. It revealed that ‘absence of hostility’ showed a positive relationship to the social-emotional development.

**Table 1: Association and comparison of mean scores of maternal parenting quality with mental health risk of infants**  
N=97

Infant mental health	Parenting quality				$\chi^2$	Mean $\pm$ SD	t value
	Low quality	Moderate quality	High quality	Total			
Low risk	11 (19.60)	21 (37.50)	24 (42.90)	56 (100.00)	6.25*	44.14	2.61**
At risk	16 (39.00)	16 (39.00)	9 (22.00)	41 (100.00)		39.44	
Total	27 (27.80)	37 (38.10)	33 (34.00)	97 (100.00)			

\* Significant at 5 per cent level

\*\*Significant at 1 per cent level

Table 2 depicting the inter-correlation between mental health, child and maternal demographic factors, socio-economic status and maternal parenting quality showed that the infant mental health risk was significantly negatively correlated with maternal parenting quality and ordinal position of the child and significantly positively correlated with infant age. This revealed that with the decrease in maternal parenting quality, being the first child led to high risk of mental health among infants. The risk of mental health increased with the increase in age of the infant. The maternal parenting quality was found to increase significantly with the increase in SES, maternal age, education and working mothers were found to have better parenting quality. Maternal factors like age, education, occupation and age at marriage were significantly positively inter-correlated with each other. The older mothers were found to have better parenting quality and mothers who married early were found to be low on parenting quality. Chico (2014) also found that teen mothers were less sensitive to infants than adults in their interactions and their executive tasks differed with the age of the mother.

**Table 2: Inter-correlation between infant mental health risk, parenting, child factors, maternal factors and Socio-economic status**  
N=97

	IMH	SES	Parenting quality	Child age	Child gender	Ordinal Position	No. of siblings	Maternal age	Maternal Occupation	Maternal education	Maternal age at marriage
IMH	1	0.011	-.259*	.247*	-0.144	-.286**	-0.076	-0.04	-0.099	-0.015	0.156
SES	0.011	1	.324**	-0.028	0.032	-0.166	-0.177	0.199	-0.039	.752**	.481**
Parenting quality	-.259*	.324**	1	-0.06	0.175	0.135	-0.115	.313**	.258*	.357**	0.181
Child age	.247*	-0.028	-0.06	1	-0.118	-0.193	-0.049	0.117	0.035	-0.008	-0.028
Child gender	-0.144	0.032	0.175	-0.118	1	.372**	.255*	0.15	0.19	0.013	-0.069
Ordinal position	-.286**	-0.166	0.135	-0.193	.372**	1	.586**	.224*	0.08	-.241*	-.216*
No. of siblings	-0.076	-0.177	-0.115	-0.049	.255*	.586**	1	0.029	-0.004	-.286**	-.257*
Maternal age	-0.04	0.199	.313**	0.117	0.15	.224*	0.029	1	.306**	.226*	.469**
Maternal Occupation	-0.099	-0.039	.258*	0.035	0.19	0.08	-0.004	.306**	1	-0.063	-0.024
Maternal education	-0.015	.752**	.357**	-0.008	0.013	-.241*	-.286**	.226*	-0.063	1	.643**
Maternal age at marriage	0.156	.481**	0.181	-0.028	-0.069	-.216*	-.257*	.469**	-0.024	.643**	1

IMH- Infant Mental Health

SES- Socio-Economic Status

\*Significant at 5 per cent level

\*\* Significant at 1 per cent level

The model wise regression analysis (table 3) with child characteristics, maternal characteristics and parenting as model 1, 2 and 3 respectively showed that the child characteristics (age, gender, ordinal position and number of siblings) predicted the mental health to 32 per cent and maternal characteristics (age, education, occupation and age at marriage) predicted the same to 5 percent whereas maternal parenting alone predicted the infant mental health to the extent of 5 per cent.

**Table 3: Effect of child characteristics, maternal characteristics and maternal parenting quality on infant mental health risk****N=97**

Predictors		Model 1			Model 2			Model 3		
		B	SE	Sig.	B	SE	Sig.	B	SE	Sig.
Child characteristics	Age	1.75	0.35**	0.00	1.85	0.35**	0.00	1.80	0.34**	0.00
	Gender	-4.92	6.01	0.41	-1.71	6.07	0.77	-0.95	5.89	0.87
	Ordinal position	-14.49	5.35**	0.00	-13.52	5.67**	0.01	-10.85	5.59*	0.05
	No. of siblings	5.91	3.59	0.10	5.48	3.61	0.13	3.90	3.55	0.27
Maternal characteristics	Age				-0.30	0.90	0.73	0.08	0.88	0.92
	occupation				-10.65	8.01	0.18	-6.36	7.94	0.42
	Education				-6.03	3.17	0.06	-2.88	3.30	0.38
	Age at marriage				2.31	1.07*	0.03	1.91	1.05	0.07
Maternal Parenting quality	Parenting								0.35**	0.01
	R square	0.32			0.37			0.42		
	F value	10.86**			6.62**			6.99**		
	Δ R	0.42								

\*Significant at 5 per cent level

\*\* Significant at 1 per cent level

Licata, et.al (2013) in a longitudinal study consisting of 37 dyads, with mean age of infants being 7 months looked at the mother-child interaction quality and infant's ability to encode actions as goal-directed and revealed that maternal emotional availability was the only significant predictor of infant's ability to interpret human actions as goal-oriented hence promoting social-cognitive development in preverbal infants. This focuses on the vital role of maternal parenting quality and its influence on infant mental health. All the factors included in the study predicted the infant mental health to an extent of 42 percent on the whole.

#### 4. CONCLUSION

The study looking at the effect of maternal parenting quality on infant mental health gives a clear vision that mothers have a great role to play in developing a better mental health among infants. The mother of 'at risk' infants comprise of mothers who are low on parenting quality, SES, married early and usually young mothers. To develop better parenting quality, it is important that mother is not too young to be a mother, have better education, occupation and do not enter marriage very early in life. These results call for early interventions aiming mothers of infants 'at risk' so that the future of a future generation is not at risk.

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