



CORRELATION STUDY ON MATERNAL-FOETAL ATTACHMENT BEHAVIOURS AND SPIRITUAL HEALTH OF PREGNANT WOMEN ATTENDING AT TERTIARY CARE HOSPITAL, JAIPUR, RAJASTHAN

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ABSTRACT

Background: Bond established between the mother and foetus before birth is referred to as maternal-foetal attachment which is influenced by many factors like cultural, mental, social conditions, marriage, marriage, foetal appearance, family and social support. Literature suggests positive role of spirituality in many chronic illnesses as well as in alleviating stress in pregnant women. So this study aimed to find out relation between spiritual health and maternal-foetal attachment behaviours in pregnant women. **Aim and Objectives:** To determine correlation between spiritual health and maternal-foetal attachment behaviours in pregnant women attending at a tertiary care hospital, Jaipur, Rajasthan. **Materials and Methods:** This hospital-based cross-sectional observational study was conducted on 150 pregnant women attending at Mahila Hospital attached to SMS Medical College, Jaipur using pre-validated Maternal-foetal attachment Scale developed by Cranley and Spiritual Health Assessment scale developed by Dr. Mahesh and Dr. Kusum Gaur. **Results:** Mean age of pregnant women was 24.98 years with standard deviation 3.90 years, distributed almost at equal among urban (58%) and rural (42%) as per residence. Among participants, the mean scores of Maternal-foetal attachment behaviour Scale was 63.67 ± 12.28 and for Spiritual Health Attachment Scale was 41.61 ± 12.92 . A positive correlation was observed between maternal-foetal attachment behaviour and spiritual health ($p < 0.05$, $r = 0.65$). **Conclusions:** This study concludes that maternal-foetal attachment behaviours increase with increase in spiritual health of pregnant women. Thus it recommends that by incorporating spirituality during pregnancy is an effective strategy to improved maternal and foetal health by increasing the maternal and foetal attachment behaviours.

KEYWORDS : Maternal-Foetal attachment, Spirituality, Correlation study

INTRODUCTION

World Health Organization has included spiritual health as 4th dimension of health in 37th world Health Assembly, along with physical, mental and Social¹. Spiritual health is glue that holds together all components of health, be it, physical, emotional, mental or social. It creates a meaning in life, cultivates altruism and ethics, and is based on individual perceptions convincing us of our ability to survive².

The early bond established between the mother and foetus before birth is referred to as maternal-foetal attachment (MFA). During this period, the mother begins to picture in her mind about the fetus, idealizing, for instance, how their physique or personality will look like. This perception of the fetus as a human being increases the attachment that the pregnant woman has with it. Childbearing and parenting may be ideal circumstances in which spirituality can be enhanced⁷. Attending to women's spiritual experiences during childbearing is an important way to enhance care.

Many researchers³⁻⁹ conducted study on mother foetal attachment behaviours by using various tools to find out the degree of mother foetal attachment in mothers. Studies stated that different factors affect the maternal-foetal attachment, such as the cultural, mental, social conditions, individual's past, maternal, foetal and neonatal factors, personality traits, marriage, selection of partner, post-marriage issues, pregnancy, physical and psychological characteristics, foetal appearance, family and social support, and neonatal mood¹⁰.

Studies^{8,9} have been conducted to find out the association between spiritual health and the maternal well-being both in antenatal and postnatal periods and there is evidence of the association between the two. To improve maternal and foetal health, spirituality has an important role but it needs much more evidences.

To add evidence, this study was conducted with aim to find out correlation between spiritual health of a pregnant women and maternal-foetal attachment behaviours.

MATERIALS AND METHODS

This hospital-based cross-sectional descriptive observational study was conducted under department of Preventive and Social Medicine in Mahila Hospital, a Gynaecology and Obstetrics Hospital attached to SMS Medical College, Jaipur (Rajasthan) India.

Study participants:

Sample size for this study was calculated 113 subjects at α error 0.05 and Power 90% assuming correlation between Spiritual Health Assessment Scale (SHAS) score and Maternal-Foetal Attachment Behaviours Score (MFAS) 0.3³. So, for the study purpose 150 pregnant women will be included in the study with attrition of 20% and rounded.

For this study, married pregnant women aged 18 to 35 years having gestational age 28 to 42 weeks of singleton pregnancy, attending at Mahila Hospital, Jaipur were included. It was

make sure that these women can read and write with understanding. Among these women, women with any chronic illness, critically ill and non-co-operative pregnant women were excluded.

Study tool

These two pre-validated questionnaires were used for data collection along with the schedule for general information of pregnant women-

1. Maternal-Foetal Attachment scale developed by Cranley⁹
2. Spiritual Health Assessment Scale developed by Dr. Mahesh and Dr. Kusum Gaur¹⁰

Ethics Consideration

This study was approved from Institutional Research Review Board (RRB) and ethics committee of SMS Medical College, Jaipur. Written informed consent was taken from each participant before proceeding for study and privacy of participants were not disclosed by anonymous reporting.

After obtaining written informed consent from the study subjects, they were interviewed and the data was collected as per the study tools. Every eligible married pregnant woman was included surveyed attending on Friday at Mahila Hospital, Jaipur, till the sample size was achieved.

Statistical analysis

Correlation between Maternal-Foetal attachment behaviours and spiritual health was be inferred by Pearson's Correlation. For significance p value <0.05 was considered significant.

RESULTS

Socio-Demographic Profile of Mothers:

This present study was conducted on pregnant women to study their maternal-foetal attachment behaviours and its relation with spiritual health of pregnant women. Mean age of pregnant women was 24.98 years with standard deviation 3.90 years. Number of pregnant women was almost at equal among urban and rural as per residence having Urban: Rural ratio 1.38. Maximum pregnant women belonged to Class II SES as per Revised BG Prasad's Classification. Majority of women were Graduate (25.34%) and housewives (81.34%). Mean gestational age was 33.94±4.02 weeks. 46% mothers were primigravida. (Table 1).

Maternal-foetal attachment behaviours of pregnant women:

Overall mean score of Maternal-foetal attachment behaviour was 63.67±12.28. The median score of Maternal-foetal attachment behaviour was 66 with 56.75 being the 25th percentile and 72.25 being the 75th percentile. Majority (75.34%) of pregnant women have moderate Maternal-foetal attachment (in score range of 24-56) but none of the subjects with high grade of Maternal-foetal attachment. (Figure 1)

Spiritual health of pregnant women:

Overall mean score of Spiritual Health Assessment Score was 41.61±12.92. The median score of Spiritual Health Assessment Score was 44 with 29.76 being the 25th percentile and 51.15 being the 75th percentile. Majority (61.34%) of pregnant women have poor spiritual health (in SHAS score range of 21-49) and none of the subjects was with good Spiritual Health Assessment Score. (Figure 2)

Table 1: Socio-Demographic Profile of Pregnant women

Characteristics		Number of mothers (N=150)	Proportion of mothers (%)
Age Group (in years)	≤20	15	10
	21-30	111	74
	>30	24	16
Caste	General	60	40.00

	OBC	60	40.00
	SC	20	13.33
	ST	10	6.67
Socio-Economic Class	Class I	38	25.33
	Class II	53	35.33
	Class III	43	28.67
	Class IV	15	10.00
	Class V	1	0.67
Education	Illiterate	17	11.33
	Primary	25	16.67
	Middle	23	15.33
	High school	17	11.33
	Intermediate	15	10.00
	Graduate	38	25.33
	Post Graduate	15	10.00
Occupation	Housewife	110	73.34
	Skilled	26	17.34
	Unskilled	14	9.34

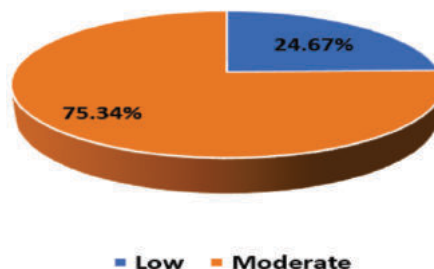


Figure 1: Grading of Maternal-foetal attachment among study subjects (N=150)

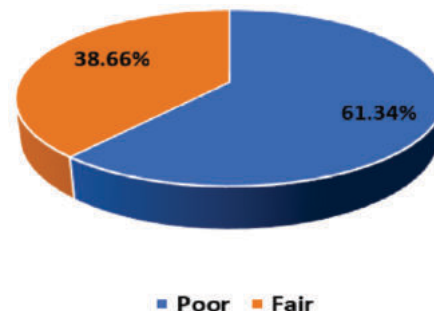


Figure 2: Spiritual health wise distribution of study subjects (N=150)

Correlation between spiritual health and maternal-foetal attachment behaviour:

On analysis, moderate significant positive correlation was found between Maternal-foetal attachment behavior Scores (MFAS) and Spiritual Health Assessment (SHAS) Scores (r= 0.66 (p<0.001) with 44% of values explained with this relation. On further analysis of regression equation, it was found that with the change of one unit in Spiritual Health Assessment (SHAS) Scores there is change of 38.36 scores in Maternal-foetal attachment behavior Scores (MFAS). (Table 2 and Figure 3)

Table 2 : Linear Régression and Corrélation between Maternal-foetal attachment behavior Scores (MFAS) and Spiritual Health Assessment (SHAS) Scores

Sample Size (n): 150

Slope: 0.6271	SE Int: 2.558	t: 10.62
y Int: 37.73	SE Est: 9.289	DF: 148
SE Slope: 0.05871	r: 0.6576	P<0.001

Corrélation = 0.66 (P<0.001) with R² 0.44

Regression Equation - Y=37.73+0.6271 X

MFAS=37.73+0.6271 (SHAS)

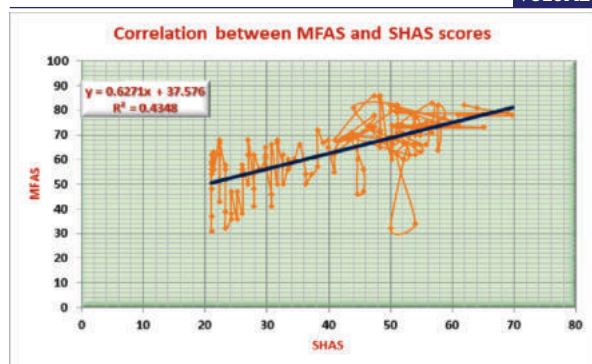


Figure 3: Correlation between Maternal-foetal attachment behavior Scores (MFAS) and Spiritual Health Assessment (SHAS) Scores

DISCUSSION

Spiritual health is a current focus in present era and many researchers conducted studies on role of spiritual health of individuals on their chronic illnesses. But very few studies are on finding out the role of spiritual health on maternal-foetal attachment behaviours. So, present study was aimed to find out role of spiritual health on maternal-foetal attachment in pregnant women attending at Mahila hospital attached to SMS Medical College, Jaipur (Rajasthan) India.

In the present study, the age range of the pregnant women was 18-37 years with maximum proportion of the study subjects in the age group of 21-30 years (74%), followed by ≥ 30 years (16%) while least in the age group of ≤ 20 years age group (10%). In a study done by Dolatian M. et al¹¹ to examine the structural model of spirituality and psychological well-being for pregnancy-specific stress, the age range of the pregnant women was 18-37 years with maximum proportion of subjects in the age group of 26-30 years (38.2%) followed by 21-25 years (27.1%), 31-35 years (22.7%), 15-20 years (8.4%) while least in the age group of 36-40 years age group (3.6%). In a study done by Lingeswaran A and Bindu H¹² to validate the Cranley's 24-item maternal-Foetal attachment scale (MFAS-24), 180 (78 %) of mothers were of 16-25 years in age and 50 (22 %) were of 26-35 years. In the present study, maximum proportion of pregnant women were residents of Urban area 87 (58%) while the remaining 63 (42%) were residents of Rural area, 56.67% belonged to Hindu religion and the remaining 43.33% subjects belonged to Muslim religion. Almost similar results were seen in a study done by Lingeswaran A and Bindu H¹² 115 (50 %) were from rural background, 62 (27 %) from urban setting, and 53 (23 %) from semi-urban residential setting, 84 % were Hindu by religion, 12 % were Christians, and 4 % were Muslims, similar to the present study in which also the maximum proportion of pregnant women were Hindu. In the present study, majority of the pregnant women belonged to Socio-Economic Class II (35.33%) followed by Class III (28.67%), Class I (25.33%). About 10% pregnant women belonged to Class IV and least (0.67%) subjects belonged to Class V. In a study done by Lingeswaran A and Bindu H¹² 115 (50 %) belonged to middle socio-economic status, 111 (48 %) from low SES, and 4 (2 %) were from upper middle-class family. In the present study, maximum proportion 46% of pregnant women was of primigravida. Similar results were seen in a study done by Farokh et al¹³ where 57.5% were primigravida, in a study done by Lingeswaran A and Bindu H¹², also reported maximum number of pregnant women (76%) in primigravida group.

Maternal-foetal attachment behaviours of pregnant women:

In the present study, majority of pregnant women (75.34%) have moderate Maternal-foetal attachment and remaining (24.67%) subjects have low Maternal-foetal attachment. There

were none of the subjects with high Maternal-foetal attachment. Whereas, in a study done by Tork Zahrani S et al⁹ 131 participants (65.5%) had high and 69 participants (34.5%) had moderate attachment behaviours. In the present study, overall mean score of Maternal-foetal attachment behaviour was 63.67 ± 12.28 and median score of was 66. In a study done by Tork Zahrani S et al⁹ mean score of Maternal-foetal attachment behaviour was 95.91 ± 8.92 and 90.5 ± 10.2 in a study done by Farokh et al¹³, here the median score of Maternal-foetal attachment behaviour was 90.5. Both these studies have used Cranley's Maternal-foetal attachment Scale.

Spiritual health of pregnant women:

In the present study, majority of pregnant women 92 (61.34%) have Poor Spiritual Health Assessment Score and remaining 58 (38.67%) subjects have Fair Spiritual Health Assessment Score using Spiritual Health Assessment Scale (SHAS) developed by Mahesh and Kusum in which maximum SHAS score is divided into three degrees i.e. Poor, Fair and Good. Poor spiritual health is considered when spiritual health score is between '21' to '49', fair when spiritual health score is between '49' to '77' and good when spiritual health score is beyond '77' i.e. between '78' to '105'. In a study done by Nodoushan, R.J et al.¹⁴, about 43.3% of women had a normal with average score level of spiritual health and about 10.3% shows increasing level of spiritual health and the others appeared with a lowering level of spiritual health using Paloutzian and Ellison Mental Health Questionnaire for assessing Spiritual Health in which the scoring scale values were almost similar to the one used in the present study. The final score of the questionnaire is divided into three distinct categories: 20-40, average 41- 99, and high 120-100. In a study done by M Zareipour et al¹⁵ it was seen that 43.4% of pregnant women had moderate Spiritual health and 56.6% had a high spiritual score also using Paloutzian and Ellison Mental Health Questionnaire for assessing Spiritual Health.

Relationship between maternal foetal attachment and spiritual health:

In the present study, it was found that there was significant association between Maternal-Foetal Attachment Scale (MFAS) scores and Spiritual Health Assessment Scale (SHAS) scores ($P < 0.001$, $r = 0.66$). This correlation is similar to a study done by Tork Zahrani S et al⁹ where Pearson's correlation test results showed a weak, positive and significant correlation between spiritual health and maternal-Foetal attachment behaviours ($P < 0.001$, $r = 0.40$). In another study done by Dolatian, M. et al¹¹, the results obtained through the structural analysis showed that pregnancy-specific stress was affected positively by spirituality ($B = 0.11$) that is the higher is a mother's spirituality during pregnancy, the lower is her pregnancy-specific stress and better are the maternal-foetal attachment behaviours.

CONCLUSION AND RECOMMENDATIONS

Present study concludes that spiritual health has positive correlation with maternal-foetal attachment behaviour. Thus, due importance should be given to the spiritual health of women in antenatal period to improve maternal-foetal attachment behaviour of mother, which has very important role in maternal and foetal health and pregnancy outcomes as per literature. So it is recommended as per observations of this study to incorporate spiritual health strengthening strategies specially in antenatal period of women to improve better maternal and foetal health and better pregnancy outcomes.

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