Spousal factors associated with antenatal psychosocial stress: A case control study

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Abstract

Stress during pregnancy affects both mother and foetus resulting in unfavourable pregnancy outcomes. Studies regarding the factors linked with increased stress during pregnancy aids to improve the mental status of the mother during gestation and can lead to a reduction in negative pregnancy outcomes. The objective of the study was to identify spousal factors associated with antenatal psychosocial stress among pregnant women seeking prenatal care from a teaching hospital at the Thiruvananthapuram district of Kerala. **Methods:** Case control design was used for the study. The tools used for data collection were the Antenatal Psychosocial Stress scale (APSS) and a semi-structured interview schedule for the assessment of spousal factors. APSS score was used to categorize cases and controls. The study was conducted in a tertiary level hospital at the Thiruvananthapuram district of Kerala. The sample consisted of women at the gestational age of 20-24 weeks attending the antenatal clinic. The sample included 19 cases and 72 controls and they were selected in the case control ratio of 1:4. The findings of the study showed that 16.5% had moderate and 4.4 % had severe stress. The low educational level of husband [odds ratio (OR) 5.556 (CI 1.862 – 16.577), alcoholism of husband [OR 8.357 (CI 2.539 – 27.502)] and presence of domestic violence [OR 6.185(CI 1.64 – 23.318)] were the factors significantly linked with high antenatal stress. Low educational level and alcoholism were the significantly associated factors in logistic regression analysis. **Conclusion:** The findings of the study threw light on the need for evaluation of social aspects of antenatal women; family centred maternity care and counselling services to both partners together during antenatal care delivery.

Key words: Pregnancy, psychosocial stress, spousal factors

Introduction

Pregnancy is considered as a transitional period to parenthood. It is a stage of vital changes which requires physical, psychological as well as social adaptations in the life of a woman. For continuing a successful pregnancy up to delivery, a woman has to make transformations in her life. If any failure occurs in this process of modification, it results in stress. Stress during pregnancy, in turn, affects the health of the mother as well as the foetus. Thus psychological wellbeing of an antenatal woman is essential for a favourable pregnancy outcome.

Evidence suggests that emotional distress during pregnancy increases the risk of complications during pregnancy and delivery. It influences the health status of new-borns, the weight of the baby during labour, the occurrence of preterm labour and intrauterine growth retardation (Berle, et al., 2005). Antenatal stress also contributed to distal outcomes like cognitive and behavioural functioning in children (Kofman, 2002). Psychosocial stress caused antenatal women to adopt unhealthy behaviours. Effects of stress were mediated through the hypothalamic-pituitary-adrenal axis during pregnancy (Welberg & Seckl, 2001).

The American College of Obstetricians and Gynecologists (ACOG) stated that stress during pregnancy influences the way a pregnant woman takes care of her personal health matters, how she uses antenatal services and the health status of her foetus or baby. In this committee opinion, ACOG recommended

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that all women should be screened for psychosocial issues during pregnancy and the postpartum period (American College of Obstetricians and Gynecologists Committee, 2006). Among the studies conducted to identify determinants of psychosocial stress in pregnancy, spousal factors emerge as a priority. The findings of a study conducted in a tertiary care hospital at Vellore showed that 65% of women scored high scores on the perceived stress scale. Pregnant women with more education, carrying unplanned pregnancy, and formal employment status of husband and expression of male gender preference by in-laws were associated with increased levels of stress in pregnancy (Vijayaselvi, Beck, Abraham, & Kurian, 2015).

In Kerala, there is limited published literature that studied the associated factors of antenatal psychosocial stress (APS). The antenatal clinics of government hospitals are visited by women belonging to medium and low socioeconomic status. Findings of a study conducted at Thiruvananthapuram district of Kerala showed that 23% of antenatal women suffered from moderate to severe stress (Deisree, 2011) and this highlighted the need for finding out the factors associated with APS, so that health care providers can render help by providing support and counselling services to antenatal women.

Materials and methods

The objective of the study was to identify the spousal factors associated with antenatal psychosocial stress. Case control design was used for the study. The setting of the study was a government tertiary care hospital at Thiruvanthapuram district of Kerala (Sree Avittom Thirunal Hospital). It is usually attended by antenatal women belonging to low to medium socioeconomic status as well as those who are referred from other levels of obstetrical services. The total sample size was 91. Women between the gestational ages of 20-24 weeks were recruited from the antenatal clinic. Pregnant women who were too sick to participate were not included in the study. The study was conducted after receiving permission from the Institutional Ethics Committee. Informed consent was obtained from the participants.

The interview technique was used for data collection. Data were collected during the months of August and September 2016. Tools consisted of Antenatal Psychosocial Stress Scale (APSS) and interview schedule to assess sociodemographic data and spousal factors. An abuse assessment screen was used to determine domestic violence. APSS was used to measure antenatal psychosocial stress. It consisted of 10 items and was scored as (never-0, often-1, always-2). The total score was 20. A cut off score of $\geq$ 13 denoted high stress, 8-12 denoted moderate stress and < 8 denoted low stress. Women with moderate and high stress were categorized into cases and others as controls. The interview schedule was prepared to elicit sociodemographic data as well as spousal characteristics like age, education, occupation, and economic status, habits of alcoholism, smoking, and availability of spousal support. The abuse assessment screen consisted of five items. Women were classified as affected by domestic violence if they reported 'Yes' to any of the items.

Results

Among the 91 study participants, 19 (20.9 %) were cases and 72 (79.1%) controls. The mean age of the participants was 24.98 ± 4.2 years with a range of 18-36 years. Majority of the sample (75.8 %) resided at rural area. 47.3 % of the sample belonged to nuclear families. 40.7 % of women were primigravida. The majority of the samples were Hindus (63.7 %). 65.9 % of the samples were homemakers. The sample characteristics are shown in Table 1.

Table 1:

Sociodemographic characteristics of antenatal women

N-91

Characteristics	Frequency	Percentage
Age		
18-20	8	8.8
21-30	72	79.1
30-36	11	12.1
Place of residence		
Urban	22	24.2
Rural	69	75.8
Economic status		
APL	46	50.5
BPL	45	49.5
Education		
Up to high school	23	25.3
Higher secondary	36	39.6
Degree, PG	19	20.9

Characteristics	Frequency	Percentage
Professional	13	14.3
Occupation		
Homemakers	60	65.9
Unskilled Worker	16	17.6
Office Job	3	3.3
Professional	12	13.2
Type of family		
Nuclear	43	47.3
Joint	12	13.2
Extended	36	39.6
Parity		
Primi	37	40.7
Multi	54	59.3

Stress among antenatal women

Among the sample, 8.8 % of the women reported no stress, 70.3% of them reported mild stress, 16.5 % moderate stress and 4.4 % severe stress. Those who reported severe and moderate stress were categorized as cases and others as controls. The distribution of antenatal women according to the levels of stress is shown in Figure 1.
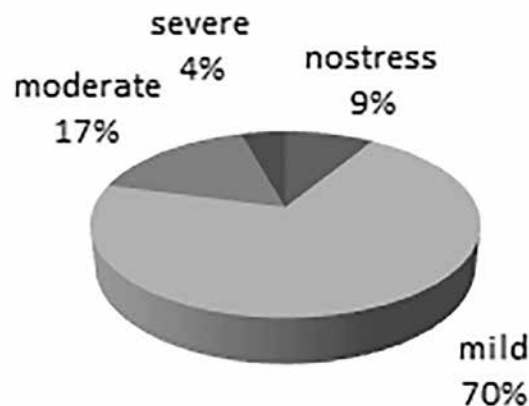

Figure 1: Distribution of antenatal women according to the level of stress

Table 2: *Association of antenatal psychosocial stress with spousal factors*

Characteristics	Cases		Controls		Chi-square	P-value	Odds ratio	95%CI
	N	%	N	%				
Age of husband								
≤ 30	12	63.2	49	68.1	.163	0.686	0.805	0.280-2.312
>30	7	36.8	23	31.9				
Education								
Up to high school	10	52.6	12	16.7	10.608	0.001	5.556	1.862-16.577
Higher secondary and above	9	47.4	60	83.3				
Occupation								
Low level job	16	84.2	59	81.9	.053	0.817	1.175	0.298-4.632
High level job	3	15.8	13	18.1				
Economic status								
APL	7	36.8	39	54.2	1.805	0.179	0.494	0.174-1.398
BPL	12	63.2	33	45.8				
Smoking status								
Smoker	5	26.3	9	12.5	2.204	0.138	2.5	0.726-8.614
Non-smoker	14	73.7	63	87.5				
Alcoholism								
Present	9	47.4	7	9.7	14.702	0.000	8.357	2.539-27.502
Absent	10	52.6	65	90.3				
Domestic violence								
Present	6	31.6	5	6.9	8.585	0.003	6.185	1.64-23.318
Absent	13	68.4	67	93.1				
Provides support to the wife								
No	4	21.1	6	8.3	2.486	0.115	2.933	0.735-11.704
Yes	15	78.9	66	91.7				

C.I: Confidence Interval; P<0.05

Associated spousal factors

The association of antenatal psychosocial stress with a number of spousal factors was examined. The low educational level of husband [OR 5.556 (CI 1.862-16.577)], alcoholism of husband [OR 8.357 (CI 2.539 -27.502)] and presence of domestic violence [OR 6.185(CI 1.64 – 23.318)] were the factors significantly associated with high antenatal psychosocial stress. They are shown in Table 2.

Multivariate logistic regression analysis was carried out with factors found to be significant in univariate analysis to identify the factors independently associated. Two statistically significant factors were identified. Those were low educational status and alcoholism of husband. The findings of regression analysis are shown in Table 3.

Table 3:
Logistic regression analysis showing spousal factors associated with antenatal psychosocial stress

Associated factors	B	SE	P-value	AOR	CI 95%
Low educational level	1.785	.657	0.007*	5.959	1.645-21.588
Alcoholism	2.133	.716	0.003*	8.441	2.073-34.378
Domestic violence	-.675	.861	0.433	.509	.094-2.751

CI= Confidence Interval; P<0.05= significant

Discussion

The findings of the study showed that 20.9 % of antenatal women reported a high level of stress. The lower levels of education, the habit of alcoholism of husband and domestic violence were the factors significantly associated with APS. Some of the studies conducted in different states of India showed similar results. A study conducted in a tertiary level hospital of Southern India revealed that 65.4% of women scored more than the mean score in the perceived stress scale. Formal employment status of husband and unplanned pregnancy were the variables significantly associated with stress (Vijayaselvi, Beck, Abraham, & Kurian, 2015).

In a study of factors leading to stress in rural pregnant women of Shivagarh, Raibarelli, the stress score was less for 57% of women and the rest of them scored

moderate/high stress. 35% of women were physically abused by an intimate partner during pregnancy and among them, 70% were with moderate to high stress (Srivastava, 2010). In a study conducted to assess mental distress and potential for anxiety among women receiving antenatal service at a rural hospital in south India (Karnataka), psychological stress was reported among 29.7%. It was associated with fewer years of education and alcoholism of husband (Johnson, Niresh & Rajitha, 2016.)

Association of decreased psychosocial health scores and low educational status of women, partner and exposure to domestic violence is documented in Turkey (Bahadir-Yilmaz & Kucuk, 2015). 33.1% of antenatal women reported moderate to severe stress in a tertiary level hospital of Udupi district, Karnataka which was significantly associated with gravida, educational level and economic status of the family (Pais, et al., 2014). Association between alcoholism and APS is not observed at Kathmandu (Panthal, et al., 2014).

Conclusion

The present study revealed the presence of high stress in a significant number of antenatal women. Spousal factors such as low level of education, the habit of alcoholism and domestic violence were significantly associated with this. The study high lights the need for screening for spousal factors during the antenatal assessment. Health care providers should focus their attention on those who are at risk for stress. It also suggests the demand for family centred maternity care as well as counselling facilities for both partners at the antenatal clinics.

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