

# COMPARATIVE STUDY TO ASSESS THE STRESS AMONG WORKING AND NON-WORKING ANTENATAL MOTHERS IN SELECTED HOSPITALS OF UDUPI DISTRICT

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## Abstract :

A comparative study was conducted to assess the stress among working and non-working antenatal mothers in order to develop an information leaflet on antenatal stress management.

**Materials & Methods :** Descriptive survey study was conducted among working and non-working (30 each) antenatal mothers between the age group of 18-40 years in three local hospitals of Udupi district. The stress was assessed using stress assessment scale and selected a purposive sampling technique.

**Results :** Data shows majority (47%) of the non-working antenatal mothers were in the age group of 18-25 years, 63% of them were primiparous mothers, among these (53%) were between 29-40 weeks of gestation. Most of the working (67%) participated were in the age group of 26-32 years, majority (73%) of them were moderate workers and primipara mothers, 57% of them were between 29-40 weeks of gestation. Stress assessment scale was used to assess the stress, 63% of working antenatal mothers sometimes felt that they had lack of strength, 67% of working and 50% of non-working antenatal mothers sometimes complaining of not getting adequate sleep at night, 50% of working antenatal mothers sometimes felt that they were lacking in socialization due to pregnancy. The t value showed that ( $p=0.007$ ) there was significant difference between working and non working antenatal mothers stress score.

**Conclusion:** Since all antenatal mothers participated in this study had mild stress and there was significant difference among working and non-working antenatal mothers stress score. The researchers concluded that antenatal mothers are at more risk of developing stress during pregnancy.

**Keywords:** Working and non-working antenatal mothers, stress, information leaflet.

## Introduction :

Pregnancy is a joyful event, however pregnancy, motherhood and child birth are not at all romance and dreamy nostalgia but it is a serious reality which has its own inherent risks to health and survival both for the women and for the infant she bears, which are present in every society and in every settings.<sup>1</sup>

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Carmichael SL et al conducted a population-based case-control study on maternal stressful life events and risks of birth defects among 1,355 case

mothers and 700 control mothers in USA. Maternal stress was measured by responses to 18 yes/no questions about life events that occurred from 2 months before through 2 months after conception. An increase in the stressful life events index was associated with increased risk of cleft palate, cleft lip with or without cleft palate, d-transposition of the great arteries, and tetralogy of Fallot, after adjustment for maternal race-ethnicity, education, obesity, age, smoking, drinking, intake of folic acid-containing supplements, neighborhood crime, and food insecurity. The odds ratio for a 3-unit change in the stress index was 1.45 (95% confidence interval = 1.03-2.06) for cleft palate. Increased stress was associated with an increased risk of spinal bifida and anencephaly particularly among women

who did not take folic acid supplements. A 3-unit change in stress was associated with a 2.35-fold increased risk of anencephaly among women who did not take supplements (CI =1.47-3.77) and a 1.42-fold increased risk among women who did (CI= 0.89-2.25).<sup>2</sup>

Prenatal maternal stress has been shown to be an indicator of adverse birth outcomes.

Studies have indicated that high levels of stress in pregnancy have been associated with negative outcomes such as low birth weight and preterm labour. Negative outcomes such as depression and anxiety related to the pregnancy can lead to stress and can lead to less healthy behaviours.<sup>3</sup> Recent interest has focused on the potential etiologic roles of acute and chronic stressors, the psychological distress caused by those stressors, and the hypothalamic pituitary-adrenal axis. The maternal serum or plasma corticotrophin-releasing hormone (CRH) concentration measured in early pregnancy has been shown to be a risk marker of subsequent preterm birth.<sup>4</sup>

Pregnancy is a boon from God. Stress is not good for the mother during the term. It can have adverse side effects. It is very important for the mothers to remove anxiety. This is also a part of the stress management process. Anxiety during pregnancy is very harmful. It may result in false labor or premature birth. It can also cause hypertension. The effects can be disastrous for the unborn foetus.<sup>5</sup>

Pregnant women who are working fulltime in a high stress job should cut down their working hours to around 24 hours a week during pregnancy, Dutch researchers said babies of stressed working mums suffered adverse health effects. Pregnant women who work more than 32 hours a week in a high stress job are more likely to have babies who cry excessively; children with low birth weight and are more at risk for the dangerous pregnancy condition called pre-eclampsia, according to research published.<sup>6</sup>

It is evident from review of literature that stress during pregnancy is harmful to both mother and fetus and stress is more among working antenatal mothers, especially who work for more than 32 hours per week. Therefore

researchers felt that it is important to avoid the stress by using appropriate stress management techniques. Hence this study was undertaken to assess the stress among working and non working antenatal mothers with a view to develop an information leaflet on antenatal stress management.

#### Material and Methods:

A descriptive survey design was adopted for the present study. The study was conducted in 3 local hospitals of Udupi district, Karnataka state, India. Total of 60 working and non working antenatal mothers (30 each) between the age group of 18- 40 years were selected using purposive sampling technique.

The inclusion criteria used was working and non-working antenatal mothers who were available at the time of data collection, willing to participate in the study, able to read and write Kannada and without any bad obstetrics history. Demographic Proforma and Stress Assessment Scale have been used to collect the data.

Stress Assessment Scale is a readymade tool and we obtained from a study on 'Development of a stress scale for pregnant women in the South Asian context: the A-Z stress scale with the permission of Dr Ambreen Kazi and some modifications done to as per lifestyle of this research setting. The data collected were analyzed using the descriptive and inferential statistics with the help of SPSS 16.0 version.

#### Results:

##### Sample characteristics:

Data shows that out of 30 nonworking antenatal mothers 47% of them were in the age group of 18-25 years. 57% had an educational status of PUC & above, 63% were primipara mothers and 53% were between 29-40 weeks of gestation. Whereas 67% working antenatal mothers were in the age group of 26-32 years. 53% had an educational status of PUC & above, all of them had working hours of 6-8 hours of duty/day and 73% were moderate workers. Majority (73%) of them were primipara mothers and 57% were between 29-40 weeks of gestation.

Table 1: Frequency and percentage distribution of sample characteristics (working and non working antenatal mothers) (n=60)

Sample characteristics	Working		Non working	
	(f)	(%)	(f)	(%)
Age (in years)				
18-25	7	23	14	47
26-32	20	67	12	40
33-40	3	10	4	13
Religion				
Hindu	23	77	16	53
Muslim	3	10	8	27
Christian	4	13	6	20
Educational status of the participant				
Secondary (5-7 <sup>th</sup> standard)	1	3	1	3
High School(8-10 <sup>th</sup> standard)	13	44	12	40
PUC and above	16	53	17	57
Educational status of the husband				
Secondary (5-7 <sup>th</sup> standard)	1	3	1	3
High School(8-10 <sup>th</sup> standard)	13	44	13	44
PUC and above	16	53	16	53
Occupation of the participant				
Housewife	-	-	30	100
Working	30	100	-	-
If yes; working hours				
6-8	30	100	-	-
9-11	-	-	-	-
Nature of work				
Sedentary worker	8	27	-	-
Moderate worker	22	73	-	-
Occupation of husband				
Agriculture	-	-	2	7
Professional	11	37	12	40
Others (sweepers, attenders, carpenters, masonry etc.)	19	63	16	53
Type of family				
Nuclear	22	73	21	70
Joint	8	27	9	30
Monthly income (Rs)				
3,000 to 6,000	1	3	2	7
6,001 to 9,000	9	30	8	27
> 9,000	20	67	20	66
Source of information (health)				
Television, magazines and newspapers	15	50	9	30
Health personnel	5	17	11	36
Friends	-	-	-	-
Family members	4	13	5	17
Others (net sources)	6	20	5	17
Parity				
Primipara	22	73	19	63
Multipara	8	27	11	37
Period of gestation (in weeks)				
</=12	1	3	2	7
13-28	13	40	12	40
29-40	17	57	16	53

Table 2: Item wise percentage distribution of stress among Working (W) and Nonworking (NW) antenatal mothers

n=60

Items of Stress Assessment Scale	Never		Sometimes		Often		Very often		Always	
	W	NW	W	NW	W	NW	W	NW	W	NW
I feel tired and worn out	10	13	60	77	20	3	10	7	-	-
I easily get irritated	17	37	60	40	20	23	-	-	-	-
I feel that I have lack of strength	13	37	63	47	20	13	4	3	-	-
I am not getting adequate sleep at night	13	17	67	50	17	17	-	6	3	-
I am suffering from lack of appetite	47	60	50	30	-	10	3	-	-	-
I fear about labour pain	30	40	43	53	17	7	10	-	-	-
I get palpitations when I think about my pregnancy and labour	80	63	14	30	3	7	3	-	-	-
I feel lonely	30	60	30	34	37	3	-	-	3	3
I sweat excessively when I think about my pregnancy and labour	97	67	-	30	3	3	-	-	-	-
I feel that my pregnancy will have effect on my health	90	73	10	27	-	-	-	-	-	-
I find myself very much worried about my dependents	27	53	43	37	13	10	7	-	10	-
I am worried about the expenditure of my forth coming events	30	60	34	23	30	17	3	-	3	-
I am concerned about in-laws/guests visiting at odd times	53	60	34	40	10	-	3	-	-	-
I feel that I have no freedom to take decisions	83	77	17	23	-	-	-	-	-	-
I am tensed about my husband's inattention	93	73	7	27	-	-	-	-	-	-
I am worried about my husband's problems	50	53	27	47	23	-	-	-	-	-
I am worried about my husband's unstable emotional status	77	77	16	20	7	3	-	-	-	-
I am tensed about my husband's in secured job	46	70	27	27	27	3	-	-	-	-
I feel that there is insufficient money to meet the daily needs	33	57	40	23	17	20	7	-	3	-
I am concerned about the increasing prices of everyday goods	33	43	27	37	23	7	7	13	10	-
I am worried about the sex of my unborn child	94	80	3	20	3	-	-	-	-	-
I have difficulty in accessing the health care	50	74	47	20	3	3	-	3	-	-
I am tensed when the household work get delayed due to my condition	30	60	47	37	3	-	10	-	-	3
I am worried about waking up late due to pregnancy	43	70	47	20	10	10	-	-	-	-
I feel that I am lacking in socialization due to pregnancy	33	77	50	23	7	-	3	-	7	-
I am worried about the appearance of my unborn child	70	77	20	20	4	-	3	-	3	3
I am worried about feeling unwell during pregnancy	73	73	27	24	-	3	-	-	-	-
I am worried about illness of my family members	67	57	27	43	6	-	-	-	-	-
I face overload in carrying out my work	60	60	37	37	3	-	-	-	-	3
I feel that I am not spending enough time with family members	40	80	34	20	13	-	13	-	-	-

Table 3: Comparison between total stress score of working antenatal mothers and non-working antenatal mothers.

Groups	Mean	Standard deviation	t value	p value
Working antenatal mothers	21.33	9.87		
Non-working antenatal mothers	14.7	8.6	2.773	0.007

## Stress assessment scores:

The stress assessment scale was used to assess the stress of working and non-working antenatal mothers, consisted of 30 items and the total scores were arbitrarily classified as no-stress (0) mild-stress (1-40) moderate-tress (41-80) and severe-stress (81-120). Data shows that about 60% of working and 77% of non-working antenatal mothers sometimes felt that they were tired and worn out, 60% of working antenatal mothers sometimes got easily irritated, 63% of them sometimes felt that they had lack of strength,

67% of working and 50% of non-working antenatal mothers sometimes complained of not getting adequate sleep at night, 50% of working antenatal mothers sometimes suffered from lack of appetite and socialization. (Table 2)

## Comparison between total stress score of working and non-working antenatal mothers

Since the data was normally distributed independent t - Test was used to do the comparison of total stress score of working and non-working antenatal mothers and

investigators observed that ( $t = 2.773$ ,  $df = 58$ ,  $p = 0.007$ ). Since  $p < 0.05$  researchers concluded that, there is significant differences between working and non-working antenatal mothers stress score. (Table.3)

#### Discussions :

The findings of the present study indicated that the working antenatal mothers had working hours of 6-8 hours/day and 73% were moderate workers. About 53% non-working and 57% working antenatal mothers were between 29-40 weeks of gestation. The finding of the study is supported by the following study.

Prospective Cohort Study conducted by Vrijkotte TGM et al., on First Trimester Working Conditions and Birthweight among 8266 pregnant women at Amsterdam, Netherlands. The result revealed that, a workweek of 32 hours or more and high job strain were significantly associated with birth weight.<sup>7</sup>

The findings of the present study revealed that there is significant difference between working and non-working

antenatal mothers stress score. The mean and standard deviation (SD) of the stress scores of working antenatal mothers (mean= 21.33, SD= 9.87) was more than non-working antenatal mothers (mean= 14.7, SD= 8.6). This is supported by the following study.

Albrecht SA et al conducted a co relational descriptive survey study on Anxiety levels, health behaviours, and support systems of pregnant women in metropolitan city. The findings showed that, there was significant positive correlation between trait anxiety with high occupation level ( $r = .68$ ,  $p = .001$ ).<sup>8</sup>

#### Conclusion :

The study concludes both working and non-working antenatal mothers were at more risk of developing stress. All antenatal mothers participated in this study had mild stress and there was significant difference between working and non-working antenatal mothers stress score. An information leaflet was developed by the investigators on antenatal stress management and discussed and distributed to the antenatal mothers.

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