

Research Article

Gender differences in work stressors and psychiatric morbidity at workplace in doctors and nurses

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Received: 30 October 2015

Accepted: 23 November 2015

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ABSTRACT

Background: Work environment is one of the key factors responsible for stress in human life. Different aspects of working conditions affect person's work. Work stress in turn leads to psychiatric problems. Doctors and nurses are prone to be affected by work stressors as their work includes more human interactions.

Methods: It is a cross sectional observational study conducted at a Medical College affiliated General Hospital. Total 400 subjects were surveyed for this study including 200 doctors and 200 nurses with equal gender distribution. Subjects were interviewed in groups and asked to fill up self-rated questionnaires during the interview. The demographic details were collected through a specially designed semi-structured proforma with workplace stressors checklist, presence of past or present psychiatric illness and presence of enduring stress other than workplace stress. Psychiatric morbidity was assessed by DASS and GHQ-28.

Results: In males lack of staff or resources and in females disputes with staff or seniors are important stressors at workplace while long working hours and work responsibilities on holiday were considered as the least stressful. 9.45%, 20.2% and 29.2% having self-rated depression, stress and anxiety respectively in DASS. No significant difference found in gender as well as class as regards of psychiatric morbidity. Past or present psychiatric illness and stress other than work place are significantly associated with GHQ 28 Case-ness. 3.5% females were having suicidal ideas (GHQ item D7) as compared to 0.5% males.

Conclusions: Measures for improving working conditions and environment, adequate resources, clarifying roles, constructive resolution of conflicts and stress management training are required to increase work productivity.

Keywords: Gender differences, Work stressors, Doctors, Nurses, Psychiatric morbidity

INTRODUCTION

Hans Selye published a model dividing stress into eustress and distress. Where stress enhances function (physical or mental, such as through strength training or challenging work), it may be considered eustress. Persistent stress that is not resolved through coping or adaptation, deemed distress, may lead to anxiety or withdrawal (depression) behavior.¹ Workplace stress is the harmful physical and emotional response that occurs

when there is a poor match between job demands and the capabilities, resources, or needs of the worker.² Stress-related disorders encompass a broad array of conditions, including psychological disorders (e.g. depression, anxiety, post-traumatic stress disorder) and other types of emotional strain (e.g. dissatisfaction, fatigue, tension, etc.), maladaptive behaviours (e.g. aggression, substance abuse), and cognitive impairment (e.g. concentration and memory problems). In turn, these conditions may lead to poor work performance or even injury. Problems at work

are more strongly associated with health complaints than are any other life stressor; more so than even financial problems or family problems.³ So this is an effort to throw light on correlations between workplace stressors, gender, professional cadres and psychiatric morbidity. Work overload, poor administration and resources, and lack of clear direction concerning the organizational goals were found to be among the significant work stressors.⁴ It has been suggested that gender may be an important demographic characteristic to consider in the experience of stressors. While on the one hand it has been reported that there are no differences between women and men in relation to workplace stress,⁵ it has also been noted that there are differences in both stressors and the severity of stress between genders.⁶⁻⁹ It has been reported that although women and men are exposed to the same stressors, women are also facing unique stressors^{7,10,11} like multiple roles,¹² lack of career progress,¹³ discrimination and stereotyping^{14,15} and social isolation.⁸ An Australian cross-sectional study found that women reported overall higher levels of job stress than men, but did not experience worse mental health.¹⁶ Male doctors are more stressed than the female doctors in cases of inter-role distance and role inadequacy.¹⁷ Madaan et al. at AIIMS New Delhi reported that for doctors poor working environment, lack of facilities, staff, recourses and equipments are major workplace stressors.¹⁸ Nurses are subject to more general stress which arises from the physical, psychological, and social aspects of the work environment. High levels of stress result in staff burnout and turnover and adversely affect patient care.¹⁹ Depression, anxiety and stress have been recognized as important mental outcome measures in stressful working settings. Study revealed age, education, salary, duration of work, marital status; psychological job demand, job insecurity and hazardous condition were positively associated with DASS-Depression, DASS-Anxiety and DASS-Stress.²⁰

METHODS

It is a cross sectional observational study conducted at a Medical College affiliated General Hospital. Total 400 subjects were surveyed for this study. In study we have taken doctors (M.D./M.S.) and nursing staff as subjects (Figure 1).

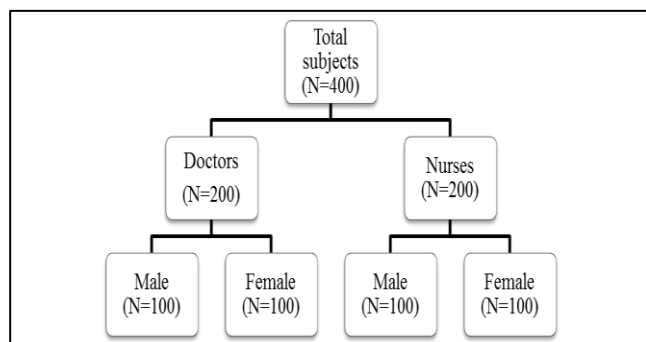


Figure 1: Distribution of study subjects.

Subjects were interviewed in groups and asked to fill up self-rated questionnaires during the interview. All data were collected over a period of five months (2011). The demographic details were collected through a specially designed semi-structured proforma, Workplace Stressors Checklist, presence of past or present psychiatric illness and presence of enduring stress other than workplace stress. Psychiatric morbidity was assessed by DASS and GHQ-28.

DASS (depression, anxiety and stress scale)

The depression, anxiety and stress scale was developed by Lovibond and Lovibond at the University of New South Wales (Australia).²¹ It is a 42-item self-report measure used to assess depression, anxiety and stress. Items on the DASS are rated on 4-point Likert - type, ranging from 0 (Did not apply to me at all) to 3 (Applied to me very much, or most of the time).

The higher scores on each subscale indicate more depression, anxiety and stress. Scale was further divided in five severity indices to Normal, Mild, Moderate, Sever and profound in each type (Depression, Anxiety and Stress). Internal consistency has been demonstrated in clinical samples.

Construct validity has been demonstrated with significant correlations between the Anxiety scale and Beck Anxiety Inventory ($r=.81$) and between the Depression scale and Beck Depression Inventory ($r = .74$; Lovibond & Lovibond, 1995).²² The DASS has been found to be a reliable and valid method for assessing client changes in depressive mood and anxiety.²³ The higher the score on each subscale, the more distressed the individual.

General Health Questionnaire (GHQ) - 28

General Health Questionnaire is a self-administered screening questionnaire designed to detect probable psychiatric disorder in primary care settings (Goldberg 1972).²⁴ The scale was originally developed as 60-item instrument by Goldberg. This scale is highly popular and widely used in research.²⁵ The level of stress was measured through GHQ, which is a measure of current mental health. GHQ-28 is shortened version of the questionnaire.

The scale asks whether the respondent has experienced a particular symptom or behaviour recently. Each item was rated on a four-point scale (less than usual, no more than usual, rather more than usual and much more than usual). A score of 0-0-1-1 for the 4 responses from left to right was given.

The cut off score would be between 3 and 4, as described by Goldberg. All those who had scored 4 and more were considered to be suffering from psychiatric morbidity due to stress, and were labelled as 'case-ness' or 'stressed'.^{24,25}

Statistical analysis

The data was tabulated in Microsoft Excel and Statistical Package for Social Sciences 10 (SPSS 10) was used for further analysis. All percentages reported in this paper were rounded to nearest whole number. In addition, decimal points were rounded to 1. P-value less than 0.05 were interpreted as indicating statistically significant difference.

RESULTS

Age and years of experience distribution is almost similar in both the gender and both job cadres, no significant difference found. Overall 42% having work experience <10 years, 41% having 10-25 years and only 17% having

>25 years. There is no significant difference in marital status among genders in both job cadres, overall 15% living single while 85% married and living with partner (Table 1).

In 30% female doctors and 23% female nursing staff positive history of enduring stress (stress other than workplace e.g. long term or disabling illness of family member or some other family stressors) is significantly high as compared to male counterpart 10% and 13% respectively ($p < 0.05$) (Table 2).

There is no significant difference in history of past or present psychiatric illness in gender as well as between doctors and nurses though it is higher in females (12.5%) (Table 3).

Table 1: Demographic characteristics of the subjects.

| Demo-graphic Variable | | Nursing staffs | | Doctors | | Total (%) |
|-----------------------|--------------------------------|----------------|--------|---------|--------|-----------|
| | | Male | Female | Male | Female | |
| | Number of Subjects | 100 | 100 | 100 | 100 | 400(100) |
| Age | <35 Yrs | 43 | 40 | 43 | 39 | 165(41) |
| | 35-50 | 44 | 40 | 41 | 44 | 169(42) |
| | >50 | 13 | 20 | 16 | 17 | 66(16) |
| Marital Status | Married or living with partner | 89 | 80 | 86 | 85 | 340(85) |
| | Single | 11 | 20 | 14 | 15 | 60(15) |
| Years of experience | <10 | 40 | 40 | 44 | 46 | 170(41) |
| | 10-25 | 45 | 39 | 40 | 39 | 163(42) |
| | >25 | 15 | 21 | 16 | 15 | 67(17) |
| Family | Nuclear | 42 | 37 | 37 | 56 | 172(43) |
| | Joint | 58 | 63 | 63 | 44 | 228(57) |

Table 2: Comparisons in gender among doctors and nursing staff for history of past or present psychiatric illness and enduring stress.

| Demographic Variable | | Nursing staff | | Statistical analysis | Doctors | | Statistical analysis |
|---|-----|---------------|--------------|------------------------------------|------------|--------------|-------------------------------------|
| | | Male (100) | Female (100) | | Male (100) | Female (100) | |
| H/O Past or present Psychiatric illness | Yes | 7 | 13 | $X^2=2$ $P=0.1574$ $df=1$ | 9 | 12 | $X^2=0.478$ $P=0.4889$ $df=1$ |
| | No | 93 | 87 | | 91 | 88 | |
| Enduring stress other than workplace | Yes | 10 | 30 | $X^2=12.5$ $P=0.0004$ $df=1$ | 13 | 23 | $X^2=12.41$ $P=0.0004$ $df=1$ |
| | No | 90 | 70 | | 87 | 77 | |

Table 3: Comparisons in male v/s female and doctor v/s nursing staff for history of past or present psychiatric illness and enduring stress.

| Demographic Variable | | Job cadre | | Statistical analysis | Gender | | Statistical analysis |
|---|-----|---------------|---------------|------------------------------------|------------|--------------|-------------------------------------|
| | | Nursing (200) | Doctors (200) | | Male (200) | Female (200) | |
| H/O Past or present Psychiatric illness | Yes | 20 | 21 | $X^2=0.027$, $P=0.8691$ $df=1$ | 16 | 25 | $X^2=2.201$ $P=0.138$ $df=1$ |
| | No | 180 | 179 | | 184 | 175 | |
| Enduring stress other than workplace | Yes | 40 | 36 | $X^2=0.610$, $P=0.2599$ $df=1$ | 23 | 53 | $X^2=14.62$ $P=0.0001$ $df=1$ |
| | No | 160 | 164 | | 177 | 147 | |

Table 4: Workplace stressors checklist priority results and statistical analysis, Comparison among total male v/s female and doctors' v/s nursing staff.

| | Priority of Stressor | Job cadre N=200(%) | Priority of Stressor | Statistical analysis | Gender N=200(%) | | Statistical analysis |
|---|----------------------|--------------------|----------------------|---------------------------------------|-----------------|--------|---------------------------------------|
| | | | | | Male | Female | |
| Lack of staff or resources and facilities | 1 | 92 | 1 | $X^2=41.73$ $df=4$ $P<0.000001$ | 148 | 148 | $X^2=199.7$ $df=4$ $P<0.000001$ |
| | 2 | 68 | 2 | | 34 | 34 | |
| | 3 | 33 | 3 | | 16 | 16 | |
| | 4 | 3 | 4 | | 2 | 2 | |
| | 5 | 4 | 5 | | 0 | 0 | |
| Long working hours | 1 | 3 | 1 | $X^2=86.94$ $df=4$ $P<0.000001$ | 3 | 3 | $X^2=81.14$ $df=4$ $P<0.000001$ |
| | 2 | 4 | 2 | | 2 | 2 | |
| | 3 | 19 | 3 | | 32 | 32 | |
| | 4 | 91 | 4 | | 91 | 91 | |
| | 5 | 82 | 5 | | 72 | 72 | |
| Short breaks | 1 | 5 | 1 | $X^2=51.09$ $df=4$ $P<0.000001$ | 16 | 16 | $X^2=138.4$ $df=4$ $P<0.000001$ |
| | 2 | 74 | 2 | | 85 | 85 | |
| | 3 | 49 | 3 | | 72 | 72 | |
| | 4 | 42 | 4 | | 9 | 9 | |
| | 5 | 28 | 5 | | 18 | 18 | |
| Work and responsibility on holidays | 1 | 11 | 1 | $X^2=30.63$ $df=4$ $P=0.000003$ | 6 | 6 | $X^2=69.04$ $df=4$ $P<0.000001$ |
| | 2 | 16 | 2 | | 3 | 3 | |
| | 3 | 37 | 3 | | 4 | 4 | |
| | 4 | 66 | 4 | | 95 | 95 | |
| | 5 | 72 | 5 | | 92 | 92 | |
| Disputes with other staffs | 1 | 89 | 1 | $X^2=26.52$ $df=4$ $P=0.000024$ | 27 | 27 | $X^2=107.4$ $df=4$ $P<0.000001$ |
| | 2 | 36 | 2 | | 74 | 74 | |
| | 3 | 56 | 3 | | 75 | 75 | |
| | 4 | 5 | 4 | | 6 | 6 | |
| | 5 | 15 | 5 | | 18 | 18 | |

Table 5: GHQ 28 scoring, statistical analysis and comparison among male v/s female and doctors v/s nursing staff.

| Scale items | | Job cadre | | Comparison Results | Gender | | Comparison Results |
|--------------------|-------|-----------------|-----------------|---------------------------------------|--------------|----------------|--------------------------------------|
| | | Nursing (N=200) | Doctors (N=200) | | Male (N=200) | Female (N=200) | |
| D-7 suicidal idea | 1.No | 195 | 197 | $x^2=0.5102$ $df=1$ $p=0.4751$ | 199 | 193 | $x^2=4.592$ $df=1$ $p=0.03213$ |
| | 2.Yes | 5 | 3 | | 1 | 7 | |
| Total GHQ 28 Score | <4 | 180 | 179 | $x^2=0.02718$ $df=1$ $p=0.8691$ | 184 | 175 | $x^2=2.201$ $df=1$ $p=0.1380$ |
| | >=4 | 20 | 21 | | 16 | 25 | |

In workplace stressors checklist, lack of staff or resources and facilities is considered as highly stressful (40.5%) and first priority among all five stressors specifically by males. Disputes with staff and seniors are reported highly stressful (37%) especially by females. Short breaks was considered as moderately stressful and second or third priority among all five stressors by most of the subjects. Long working hours and work responsibilities on holiday were considered as the least stressful and last priority

among all stressors by most of the subjects (Table 4 and Figure 2).

Total 9.45% reported Depression, 29.2% Anxiety and 20.2% Stress as per DASS results (Figure 3). In DASS results it is very clear that overall females having more psychiatric morbidity as compared to males in both the job cadres, but this difference is statistically not significant in any category (P>0.05) (Figure 4, 5, 6).

Table 6: GHQ 28 correlation with demographic factors.

| Demographic factors | | GHQ >= 4 (Positive) N=48 | GHQ <4 (Negative) N= 352 | Statistical analysis |
|---|--------------------------------|--------------------------|--------------------------|-------------------------------|
| Marital Status | Married or living with partner | 42 | 298 | X2=0.2674 P=0.6051 Df=1 |
| | Single | 6 | 54 | |
| Years of experience | <10 | 22 | 148 | X2=0.6536 P=0.7212 Df=1 |
| | 10-25 | 17 | 146 | |
| | >25 | 9 | 58 | |
| Family | Nuclear | 15 | 157 | X2=3.072 P=0.07964 Df=1 |
| | Joint | 33 | 195 | |
| H/o Past or present Psychiatric illness | Yes | 17 | 24 | X2=37.55 P<0.00001 Df=1 |
| | No | 31 | 328 | |
| Enduring stress other than workplace | Yes | 27 | 49 | X2=49.18 P<0.00001 Df=1 |
| | No | 21 | 303 | |

Overall 10.25% reported GHQ case-ness (score>=4). 12.5% females compared to 8% males and 10% nursing staffs compared to 10.5% doctors reported GHQ positive, but this difference is statistically not significant (P>0.05). Total '7' females (3.5%) having suicidal ideas (GHQ item D-7 positive), while only '1' male (0.5%) having same. This is statistically significantly high in females (P=0.03) (Table 5).

History of past or present psychiatric illness is significantly associated with GHQ case-ness (P<0.001). Presence of enduring stress other than workplace (e.g. long term or disabling illness of any family member or some other family stressors) is also significantly associated with GHQ case-ness (P<0.001) (Table 6).

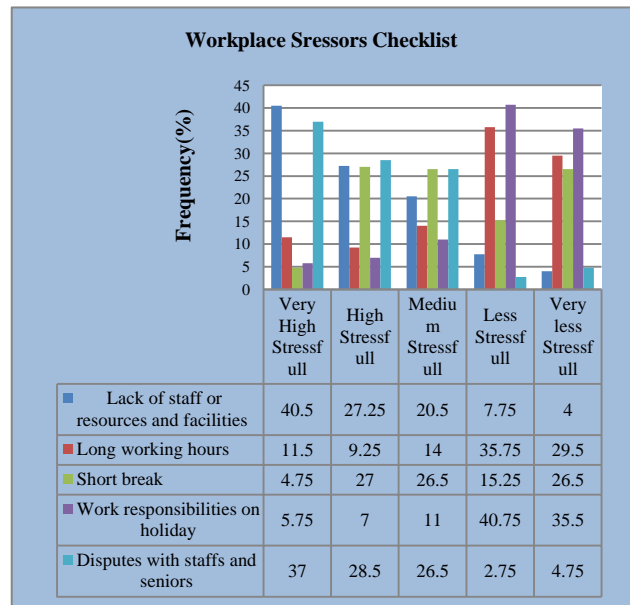


Figure 2: Work place stressors checklist results in total sample (N=400).

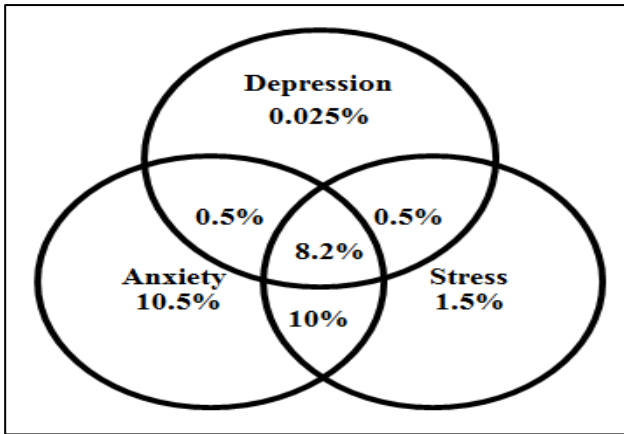


Figure 3: DASS scoring of total sample (N=400) in percentage.

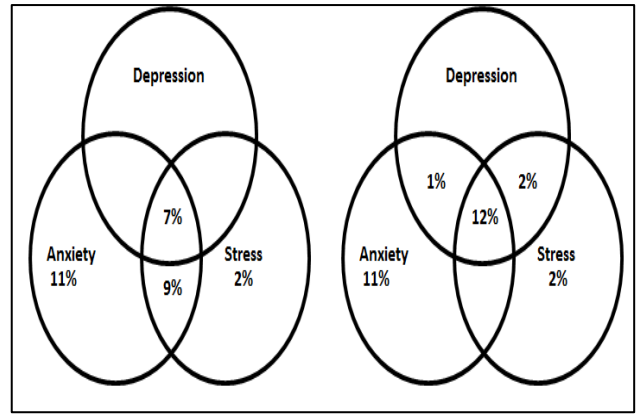


Figure 6: Comparison of psychiatric morbidity among male nursing staffs and female nursing staffs (DASS results).

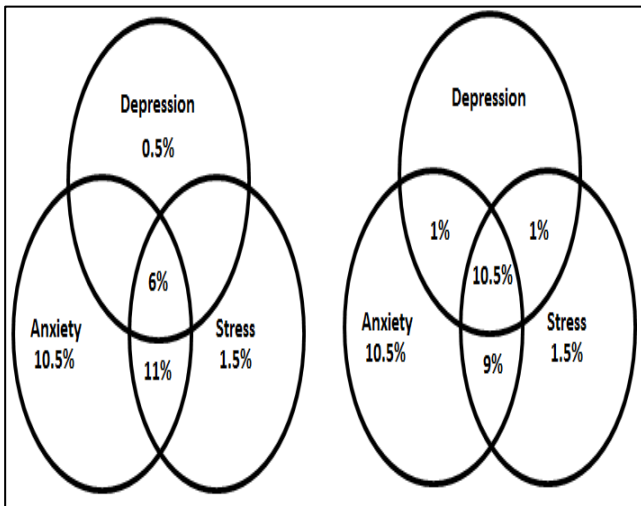


Figure 4: Comparison of genders regarding psychiatric morbidity (DASS results).

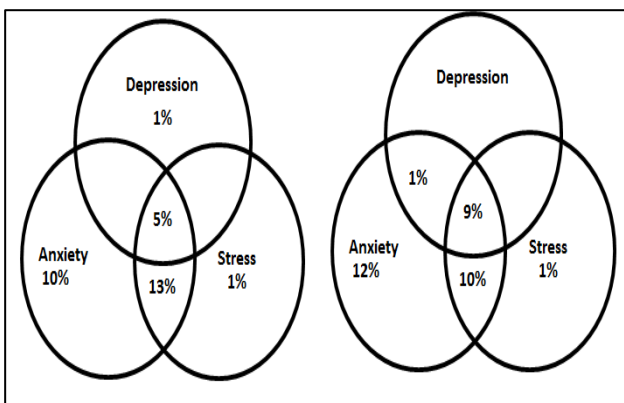


Figure 5: Comparison of psychiatric morbidity between male doctors and female doctors (DASS results).

DISCUSSION

The working environment is one of the most important sources of occupational stress.¹⁸ As per results of workplace stressors checklist (Figure 2), it is very clear that lack of staff or resources and disputes with staff or seniors were considered as highly stressful and commonest among all stressors. Long working hours and work responsibilities on holiday were considered as the least stressful and the least common among all stressors by most of the subjects; this supports the finding of study among 100 doctors in AIIMS, New Delhi by Madaan et al also with study by Khuwaja et al, Karachi study by Rout et al, UK.^{18,26,27}

These finding emphasize the practical limitations of working with inadequate resources and importance of congenial and positive work environment for maximum and stress free efficiency. These priorities are common across the globe.

Comparisons between genders regarding workplace stressors there were significant differences in priority of workplace stressors. Disputes with other staff or senior, long working hours and lack of staff or facilities were considered as first priority by most of the females, while lack of staff or poor infrastructure or resources as first priority and long working hours as last priority by most of the male.

Study found somewhat higher incidence of anxiety, depression and stress among females as compared to males in both job cadres, but this difference is not significant. These results were similar with Rusil et al, Ghaderi et al.^{21,28} But study by Hatch and Winefield among veterinary doctors in Australia found significantly higher incidence of depression, anxiety and stress among female as compared with male counterpart.²⁹ This difference can be explained by the fact that female veterinary doctors in Australia face higher amount of

field work than females in our study sample, which in turn demands higher physical fitness.

History of past or present psychiatric illness and enduring stress (stress other than workplace e.g. long term or disabling illness of family member or some other family stressors) are significantly associated with GHQ case-ness and higher psychiatric morbidity ($P < 0.05$). Females have significantly higher positive history of enduring stress as compared to males ($p < 0.05$). This might possibly attributed to gender role difference in our culture. Even today also females are major caretakers of sick family members.

Total 10.2% reported GHQ case-ness that is lower than that reported by Jordan et al (34%) and Bhadania S et al (37%).^{30,31} This gross difference in psychiatric wellbeing could be due to the fact that both the other studies were conducted on resident doctors who usually face the added stresses of round the clock duty along with study, adjusting to new environment and less mature coping skills. There is no significant difference among gender for GHQ case-ness which is similar to results of other studies.³¹⁻³⁵

7 (3.5%) females reported suicidal ideas. This finding is significantly higher and alarming as compared to male only 1 (0.5%). This is unique and alarming finding of study. This might point towards hypersensitivity and over-reactiveness of females towards stress and higher incidence of depression in females.

CONCLUSION

Lack of staff or resources in males and disputes with staff or seniors in females are important stressors at workplace need to be addressed. There is no significant difference in psychiatric morbidity among genders though female reported higher psychiatric morbidity. Improving working conditions and environment, adequate resources, clarifying roles, constructive resolution of conflicts and stress management training may be beneficial in reducing the workplace stress. More adjustment problems at work place, psychiatric morbidity and suicidal ideas in females indicate work environment for females should be modified in which they can work without stress and become more work productive.

The cross-sectional design of this study precludes any causal relationship between psychosocial job factors and self-perceived depression, anxiety and stress. To investigate issues of causality, future research could use prospective designs to replace the subjective responses related to the work environment in individuals with and without depression, with more objective measures. Sample from only a single centre was studied. We could not conduct study on a representative sample of all different working groups because it was proved challenging and require lots of fund.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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Cite this article as: Solanki CK, Parmar KN, Parikh MN, Vankar GK. Gender differences in work stressors and psychiatric morbidity at workplace in doctors and nurses. *Int J Res Med Sci* 2015;3:3840-7.