Prevalence and determinants of Job stress, Job satisfaction, Burnout and ways of Coping among Nurses at a Tertiary Hospital in South India

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Abstract: Background : *Nursing has been perceived as a demanding profession with high level of stress which not only has dangerous impact on their health but also in their abilities to cope with the job demands. The study was undertaken to estimate the prevalence and determinants of job stress, job satisfaction, and burnout and ways of coping with stress among nurses at a tertiary hospital, South India.*
Methods: *A cross-sectional research design was undertaken to meet the study objectives. A total of 257 consenting nurses were selected by consecutive sampling method. Data was collected using modified Consultants Job Stress & Satisfaction questionnaire, Ways of Coping with Stress checklist & the Maslach Burnout Inventory.*
Results: *The findings suggest that 36.6% of the nurses had high job stress, 71.6% had high job satisfaction. On the indices of burnout 28.8% of the nurses had high Emotional Exhaustion, 22.2% had high Depersonalization and 68.5% had low Personal Accomplishment. The findings identified the sources of job stress as work overload, poorly managed and resourced, multiple responsibilities and role conflicts and interpersonal conflicts in the workplace.*
Conclusion: *This cross sectional study identified a relatively higher level of job stress and burnout among nurses. Among the key sources of job stress, some were modifiable and hence nurse administrators should take initiative to address these issues. Further researches need to be done to identify the strategies to improve job satisfaction and reduce burnout.*
Keywords: *Nurses, job stress, job satisfaction, burnout, coping.*

I.   INTRODUCTION

Job stress is recognized as a major challenge to both the worker's and organization's health worldwide. Stress occurs in a wide range among professionals but worsens when there is minimal support from their superiors and colleagues and experiences little control over work process.

Stress has been conceptualized as a stimulus, a response and as an interaction based on different frameworks. According to Robbins and DeDenzo (2001) [1], stress is something an individual feels when faced with opportunities, constraints or commands perceived to be both uncertain and important which can show itself in both positive and negative ways.

Nursing is a profession where nurses have to deal everyday with their patients' sufferings (physical and/or psychological), grief, distress and even death. As solutions for these conditions are not always obvious and easily obtained, the situations become more ambiguous and frustrating. Nurses, who work continuously with patients under such circumstances, are vulnerable to chronic stress. Chronic stress is precipitated by other additional factors like role conflict, family stressors, inadequate staffing, improper training, poor supervision, lack of resources, lack of organizational support and poor teamwork [2] [3].

A high level of stress leads to negative feeling towards their job and causes lack of spirit and passion to work. Sometimes as a consequence of high level of stress, they fail to be empathetic towards patients [4]. Chronic stress can emotionally drain the nurses and can lead to burnout subsequently with increased depersonalization and decreased personal accomplishment [5]. Burnout further more increases turnover intentions [6].

A key to any institution's success and productivity doesn't only rely on its customers' satisfaction but also the satisfaction of its employees. In the interest of maintaining the work ethos as well as institutional

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character of an organization, it would be worthwhile to do a study to estimate the prevalence and determinants of job stress, job satisfaction, and burnout among nurses. It will further enable in better understanding and thus catering to the needs of the nurses which would in turn translate to a more satisfied workforce providing better patient care and retention of nurses. The purpose of this cross sectional study among the nurses at a tertiary hospital in South India was to evaluate: 1) prevalence of job stress, job satisfaction and burnout; 2) sources and determinants of job stress, job satisfaction, burnout and the ways of coping with stress among nurses.

II.   METHOD

A. Design
A cross sectional survey was undertaken between January-February,2017 to estimate the prevalence and determinants of job stress, job satisfaction, and burnout among nurses in a tertiary hospital, South India. A pilot phase was conducted for a period of one week prior the study to ascertain the feasibility of the study. Ethical clearance for the study was obtained prior from the Institutional review board.

B. Setting
The study was conducted in a NABH (National Accreditation Board of Hospital) accredited tertiary care hospital with multiple specialties situated in South India. The study was conducted among nurses from the selected areas of Medical-Surgical departments and peripheral areas (Eye hospital, Rehabilitation institute, Department of Psychiatry) of the tertiary hospital.

C. Participants
The study included all nurses involving in direct patient care of the tertiary hospital situated in South India. All subjects working for more than 6 months in the particular area and without any known case of psychiatric illness were selected for the study using consecutive sampling method. Based on the pilot study result the minimum sample size was estimated to be 96 nurses using the formula $n= 4pq/d^2$ {p= 40%. (Job stress); q=60%; d=10}.

Data was collected using a set of questionnaires from subjects who met the inclusion criteria. Among 355 nurses potentially eligible to participate in the study, 283 nurses fulfilled the inclusion criteria. Data were collected from 257 consenting nurses yielding a response rate of 90.8%.To reduce bias, all data were kept confidential and forms were filled anonymously.

D. Data collection tools
Each subject was given the following instruments to fill in and return with the assurance that the results of the completed, anonymous questionnaires would respect confidentiality.

Part A: Job stress and satisfaction: The questionnaire is adapted from *Consultants Job Stress and Satisfaction Questionnaire* (7), which is designed to assess sources of stress and satisfaction in the workplace including 25 specific sources of stress and 17 sources of satisfaction, which are rated on a Four-point Likert scale. Global ratings of stress and satisfaction are obtained by asking: "Overall, how stressful/satisfying do you find your work?" on scales of 0 to 4 ("not at all" to "extremely"). A few questions were added to the questionnaire in sources of job stress and sources of job satisfaction, based on current revisions to more comprehensively reflect current contextual issues such as housing, etc.

Part B: Ways of coping with stress: This is a dichotomized checklist which focuses on three domains of coping: 1) Constructive coping, 2) Potentially harmful coping, and 3) Supported coping.

Part C: Burnout: The *Human Behaviour Survey* (Maslach Burnout Inventory; MBI) [8] was used to assess burnout which measures three components of burnout; emotional exhaustion, depersonalization and personal accomplishment. Scores are considered "high" if they are in the upper third of the normative distribution, "average" if they are in the middle third and "low if they are in the lower third. A high degree of burnout is indicated by high scores on the emotional exhaustion and depersonalization subscales and low scores on the personal accomplishment subscale. Categories derived from normative distributions were dichotomized by combining moderate and high versus low scores on the subscales. Mean scores on the three subscales were also used to make comparisons since normative data on this instrument were not derived from Indian samples.

All these instruments are well validated and have adequate test-retest reliability and internal consistency.

E. Data analysis
Data entry was done using Epi-Data and SPSS 21 was used for statistical analysis. Descriptive statistics like Mean, Standard Deviation, median (Range), frequency, percentage; and inferential statistics like chi-square or Fischer's exact tests, independent sample t tests, or Wilcoxon's test, ANOVA, logistic regression, Odd's ratio and 95% confidence intervals were computed where possible. Since multiple comparisons were used for the sources of stress and satisfaction questionnaires, two-tailed p values were set at <0.001 to be considered

significant in univariate analyses. For comparisons, a two-tailed p value of <0.05 was used to assess significance.

III.   RESULTS

In this study, the nurses were nearly evenly distributed among surgical departments (37%), medical (31.5%) and peripheral departments (31.5%). The majority (92.6%) of the nurses were female with only a minority (7.4%) being male nurses. The mean age of the nurses was 31.75 years with a standard deviation (SD) of 7.18. Nurses travelled an average of 10 km to work daily, though this applied mainly to those living outside the campus, some of whom had to travel as much as 60 to 80 km (maximum range 45 km to 80 km) due to family constraints and inability to shift to nearby location. The majority were Diploma holders (85.2 %), and (30%) were single. Of the remainder, 68.95% of the nurses were married. Most of the nurses were trained from other institutions (63.4%) and were staff nurses (92.2%), with only 7.8% being charge nurses. The majority came from nuclear families (58%) and 42% were from joint families. Of those 180 nurses who were ever married, 34.2% had two children and 13.6% did not have any children. Most of the nurses' spouses (47.1%) were graduates and professionals (47.1%), and only 2.3% of the spouses were unemployed. Nurses working in peripheral departments had significantly more numbers of years of work experience (p <0.001) and were significantly older (p <0.001) than those in medical departments and surgical departments.

A. *Prevalence and sources of Job stress and Job satisfaction*

More than a third of the respondents (36.6%) of the nurses reported high job stress (95% CI 30.9% to 42.6%). However, nearly three-fourth (71.6%) of the nurses also reported that they had high job satisfaction (95% CI 65.8% to 76.8%). Level of job stress did not differ significantly by department, age, gender, designation and place of training. However significantly more charge nurses perceived their jobs as giving them high satisfaction compared to staff nurses (96% versus 69.6%; p = 0.016) and job satisfaction was significantly more common among elderly nurses (mean age 32.4 years with a SD of 7.6; p= 0.013).

1) *Sources of job stress*

Table 1: *Sources of job stress in all nurses (N = 257) and in those with and without high perceived job stress (n = 94)*

Sources of stress	Overall (N=257) n (%)	Job stress		OR (95% CI)	P value
		High (n=94) n(%)	Low (n=163) n (%)		
A. Feeling overloaded and its effect on home life					
1. Disruption of your home life through spending long hours at work.	123(47.9)	60(63.8)	63(38.7)	2.80 (1.66-4.74)	0.000
2. Disruption of your home life as a result of taking paperwork home.	48 (18.7)	27(28.7)	21(12.9)	2.73 (1.44-5.17)	0.002
3. Disruption of your home life as a result of being on call.	88 (34.2)	49(52.1)	39(23.9)	3.46 (2.01-5.95)	0.000
4. Keeping up-to-date with current clinical and research practices.	140(54.5)	56(59.6)	84(51.5)	1.39 (0.83-2.32)	0.213[#]
5. Feeling under pressure to meet deadlines.	64 (24.9)	42(44.7)	22(13.5)	5.18 (2.82-9.49)	0.000
6. Having too great an overall volume of work.	111(43.2)	56(59.6)	55(33.7)	2.89 (1.71-4.89)	0.000
7. Disruption of your home life as a result of doing shift work.	119(46.3)	60(63.8)	59(36.2)	3.11 (1.83-5.28)	0.000
B. Feeling Poorly Managed and Resourced					
8. Feeling you have insufficient input in to the management of your ward.	62 (24.1)	33(35.)	29(17.8)	2.50 (1.40-4.48)	0.002
9. Having inadequate housing facilities.	68 (26.5)	32(34)	36(22.1)	1.82 (1.04-3.20)	0.036
10. Having inadequate facilities (e.g. equipment, space) to do your job properly.	64 (24.9)	42(44.7)	22(13.5)	5.18 (2.82-9.49)	0.000
11. Feeling you are poorly paid for the job you do.	58 (22.6)	31(53.4)	27(16.6)	2.48 (1.37-4.50)	0.002
12. Having inadequate staff to do your job properly.	80 (31.1)	43(45.7)	37(22.7)	2.87 (1.66-4.96)	0.000
13. Dealing with the threat of being sued for malpractice.	41 (16)	22(23.4)	19(11.7)	2.32 (1.18-4.55)	0.013
14. Feeling that your accumulated skills and expertise are not being put to their best use.	65 (25.3)	29(30.9)	36(22.1)	1.57 (0.89-2.79)	0.119[#]
15. Uncertainty over the future of your unit/institution.	52 (20.2)	26(27.7)	26 (16)	2.02 (1.09-3.73)	0.024
C. Multiple Responsibilities and Role Conflicts					

16. Having to take more managerial responsibilities.	129(50.2)	60(63.8)	69(42.3)	2.40 (1.43-4.06)	0.001
17. Being responsible for the quality of the work of other staff.	147(57.2)	65(69.1)	82(50.3)	2.21 (1.30-3.78)	0.003
18. Having conflicting demands on your time, e.g. Patient care/management / research.	69 (26.8)	42 (4.7)	27(16.6)	4.07 (2.28-7.26)	0.000
19. Having a conflict of responsibilities (e.g. clinical vs. managerial).	86 (35.5)	45(47.9)	41(25.2)	2.73 (1.60-4.68)	0.000
20. Caring for ill at home.	109(42.4)	57(60.6)	52(31.9)	3.29 (1.94-5.58)	0.000
21. Being responsible for the welfare of other staff	120(46.7)	52(55.3)	68(41.7)	1.73 (1.04-2.89)	0.035
D. Dealing with patients and relatives					
22. Being involved with the physical suffering of patients	119(46.3)	50 (42)	69 (58)	1.55 (0.93-2.58)	0.093[#]
23. Having to deal with distressed, angry or blaming relatives.	54 (21)	29(53.7)	25(46.3)	2.46 (1.34-4.54)	0.003
24. Being involved with the emotional distress of patients.	128(49.8)	50(39.1)	78(60.9)	1.24 (0.75-2.06)	0.410[#]
E. Interpersonal conflicts					
25. Encountering difficulties in relationship with managers.	62(24.1)	41(66.1)	21(33.9)	5.23 (2.83-9.66)	0.000
26. Encountering difficulties in relationship with colleagues.	69(26.8)	42(60.9)	27(39.1)	4.07 (2.28-7.26)	0.000
27. Encountering difficulties in relationships with other healthcare team members.	95 (37)	52(54.7)	43(45.3)	3.46 (2.02-5.90)	0.000
28. Encountering difficulties in relationships with junior nursing staff.	77 (30)	37(48.1)	40(51.9)	2.00 (1.16-3.05)	0.012
OR = Odds ratio; CI = Confidence Interval; [#] Not statistically significant (P > 0.05)					

The sources of job stress in all nurses and in those with and without high perceived job stress are provided in Table 1. On Logistic regression, of all the sources of stress that significantly differed between nurses with and without overall High Job Stress, the following six causes were selected as best differentiating those with High from those with Low Job Stress:

- Having inadequate facilities to do your job properly {OR 2.66 (95%CI 1.33 to 5.34)}.
- Feeling under pressure to meet deadlines {OR 2.17 (95% CI 1.06 to 4.42)}.
- Encountering difficulties in relationship with managers {OR 2.19 (95% CI 1.07 to 4.51)}
- Having conflicting demands on your time {OR 2.04 (95% CI 1.03 to 4.05)}.
- Caring for ill at home {OR 1.96 (95% CI 1.07 to 3.6)}.
- Encountering difficulties in relationships with other healthcare team members {OR 1.88 (95% CI 1 to 3.51)}.

2) Sources of Job satisfaction
Table 2: *Sources of Job Satisfaction among nurses (N= 257) and in those with and without perceived overall Job Satisfaction (n = 184)*

Sources of satisfaction	Overall (n = 257)	Job satisfaction		OR (95% CI)	P value
		High (n=184) n(%)	Low (n=73) n(%)		
A. Feeling well managed and resourced					
1. Feeling you have a high level of job security	214(83.3)	168(91.3)	46 (63)	6.16 (3.06-12.4)	0.000
2. Feeling your clinical experience is used to the full in the job you do.	220(85.6)	165(89.7)	55(75.3)	2.84 (1.39-5.80)	0.003
3. Feeling you have adequate financial resources to do a good job.	178(69.3)	134(72.8)	44(60.3)	1.77 (0.10-3.12)	0.049
4. Having a high level of autonomy.	187(72.8)	147(79.9)	40(54.8)	3.28 (1.83-5.89)	0.000
5. Feeling you have the staff necessary to do a good job.	207(80.5)	155(84.2)	52(71.2)	2.16 (1.13-4.11)	0.018
6. Feeling you have adequate facilities to do a good job	210(81.7)	156(84.8)	54(74)	1.96 (1.01-3.79)	0.043
7. Having adequate housing facilities.	180(70)	138(75)	42(57.5)	2.21 (1.25-3.92)	0.006
B. Having good relationships with patients, relatives and staff					
8. Having good relationships with patients.	231(89.9)	173(94)	58(79.5)	4.07 (1.78-9.36)	0.000

9. Feeling you deal well with patients' relatives.	206(80.2)	159(86.4)	47(64.4)	3.52 (1.86-6.66)	0.000
10. Having good relationships with other staff members.	234(91.1)	78(96.7)	56(76.7)	9.01 (3.39-23.95)	0.000
C. Getting professional satisfaction, status and esteem					
11. Feeling satisfied in giving total patient care.	230(89.5)	170(92.4)	60(82.2)	2.63 (1.17-5.92)	0.016
12. Having variety in your job.	181(70.4)	137(74.5)	44(60.3)	1.92 (1.08-3.41)	0.025
13. Having opportunities for personal learning (developing clinical/research / management skills	210(81.7)	159(86.4)	51(69.9)	2.74 (1.43-5.28)	0.002
14. Being involved in activities, which contribute to the development of your profession	194(75.5)	149(81)	45(61.6)	2.65 (1.46-4.82)	0.001
15. Deriving intellectual stimulation from teaching.	179(69.6)	146(79.3)	33(45.2)	4.66 (2.60-8.34)	0.000
16. Having high level of responsibility.	154(59.9)	118(64.1)	36(49.3)	1.84 (1.06-3.18)	0.029
17. Being perceived to do the job well by your colleagues.	163(63.4)	126(68.5)	37(50.7)	2.11 (1.21-3.68)	0.008
18. Being able to bring about positive change in your ward.	165(64.2)	121(65.8)	44(60.3)	1.27 (0.72-2.24)	0.408[#]
OR = Odds ratio; CI = Confidence Interval; [#] Not statistically significant (P > 0.05)					

Table 2 details the sources of job satisfaction in all nurses and in those with and without perceived overall job satisfaction. Logistic regression revealed that the significant sources of job satisfaction that were selected as differentiating between nurses with High versus nurses with Low overall perceived Job Satisfaction were:

- Having good relationships with other staff members {OR 6.56 (95% CI 2.86 to 18.86)}.
- Feeling you have a high level of job security {OR 3.14 (95% CI 1.62 to 6.11)}.
- Deriving intellectual stimulation from teaching {OR 2.9 (95% CI 1.3 to 6.46)}.

B.   Coping with Job stress

Table 3: *Ways of coping with job stress among nurses (N=257)*

Sl. no	Ways of coping	n (%)
A.	*Constructive*	
1.	Talking to your spouse/family/friends.	229 (89.1)
2.	Spending time in prayer.	226 (87.9)
3.	Re-organizing your work to reduce stress.	211 (82.1)
4.	Pursuing hobbies/leisure activities, e.g.: gardening/ listening to music.	202 (78.6)
5.	Taking annual leave.	195 (75.9)
6.	Talking to colleagues formally, i.e. In a regular support group.	190 (73.9)
7.	Learning techniques for relaxation, e.g. Physical relaxation/meditation.	171 (66.5)
8.	Taking casual leave/sick leave.	160 (62.3)
9.	Talking to colleagues informally.	137 (53.3)
10.	Taking exercise/playing sport.	113 (44.0)
B.	*Potentially harmful*	
11.	Not eating as healthily as you would wish	114 (44.4)
12.	Working longer hours	75 (29.2)
13.	Taking other drugs	12 (4.7)
14.	Drinking alcohol	3 (1.2)
15.	Smoking cigarettes	1 (0.4)
C.	*Supported coping*	
16.	Obtaining formal psychological support.	75 (29.2)
17.	Taking prescription drugs.	49 (19.1)

The most commonly used strategies to cope with stress were constructive (talking to spouse, talking to colleagues, spending time in prayer, re-organizing work). Only a third used supported forms of coping like seeking psychological help. Potentially harmful methods were also reported as a coping strategy such as eating unhealthily and working longer hours as a coping strategy (Table 3).

C. Prevalence of Burnout

Table 4:*Prevalence of indices of burnout in nurses (N=257).*

Burnout domain	Mean (SD)	High n (%)	Low (or Average) n (%)	95%CI¶
Emotional Exhaustion(EE)	19.44 (10.77)	74 (28.8)	183 (71.2)	23.6 - 34.6
Depersonalization (DP)	8.33 (5.76)	57 (22.2)	200 (77.8)	17.5 - 27.7
Personal Accomplishment (PA)	25.2 (10.17)	81 (31.5)	176 (68.5)	26.1 - 37.4
SD = Standard deviation; n = number; CI = Confidence Interval; ¶ 95% CI is given for high EE, high DP and low PA.				

Table 4 displays the mean scores on the Burnout domains of Emotional Exhaustion (EE), Depersonalization (DP) and Personal Accomplishment PA). The constellation of Burnout comprises a combination of High EE, High DP and Low PA. On the indices of burnout 28.8% of the nurses had high Emotional Exhaustion, 22.2% had high Depersonalization and 68.5% had low Personal Accomplishment. None of the nurses had high scores in all the three domains of burnout. However, 18 nurses (all female) had high scores in both Emotional Exhaustion and Depersonalization domains. High EE was more commonly reported in charge nurses (50%) compared to staff nurses (p < 0.05). Low PA was more common among staff nurses (71.3%) than in charge nurses (p <0.001), and in those trained from other institution (73%) compared to those trained in the same tertiary hospital (p <0.05).

IV. Discussion

The purpose of this study was to estimate the prevalence and the sources of job stress, job satisfaction and burnout among nurses as well as the various methods used for coping with stress.

A. Job stress

In the present study more than a third of the nurses reported high overall job stress. Similar findings were noted in a study on job stress among nurses conducted by Dagget, Molla and Belachew (2016) where they had reported high stress among 32.7% of nurses [9]. In contradiction of the current study, a large scale study on stress and coping of staff nurses done in Karnataka, India showed that 1.15% of the nurses had a high level of job stress which is much lower than the present study findings [10]. These discrepancies may be due to the different instruments used in measuring job stress.

In the present study logistic regression was done to identify the key sources of job stress and these were work overload, poorly managed and resourced, multiple responsibilities and role conflicts and interpersonal conflicts. The mission of the participating institution is such that it demands multiple job responsibilities from the nurses including clinical, managerial, teaching and research; which probably may add on to the work overload over the time. Nurses, majority of them being female also must take care of their family back at home. This further increases their overall volume of work. During the period of this study, it was also revealed that nurses especially the junior staff had to face a difficulty in relationship with their supervisors like charge nurses and nurse managers. This difficulty was mainly regarding work allocation and leave management. He, Klainin-Yobas, Thian and Kannusamy (2015) also in their study on relationship among stress, positive affectivity, and work engagement among nurses, identified similar findings where nurses reported workload and time pressure as the most frequent sources of job stress [11]. Similar findings were reported in a study titled "Professional stress and health among critical care nurses in Serbia" by Milutinovic, Golubovic, Brkic, and Prokes (2012), which indicates the sources of job stress as workload (overtime work, shift work, inappropriate work/rest regimens, and pressure to have something done in a very short time), problems with supervisors and peers [12]. The present study indicated that there was no variation in overall job-related stress across departments, age, gender, designation and place of training.

B. Job Satisfaction

In the current study 71.6% of the nurses also reported job satisfaction with the 95% CI of 65.8% of 76.8%. A study done in New Delhi, India on job satisfaction among hospital staff, showed 68% of job satisfaction among nurses, which supports the present study findings [13]. In contradiction to that a study on organizational role stress and job satisfaction among nurses done in Punjab, India by Kumar, Kaur and Dhillon (2015) revealed that 0.4% nurses were satisfied with their job and 92% were ambivalent regarding their job satisfaction [14].

The present study findings reflected that high level of job security, good relations with colleagues and deriving intellectual stimulation from teaching as the key sources of job satisfaction among nurses. A study done in Islamabad, Pakistan to assess job satisfaction among nurses showed low job satisfaction with professional development opportunities, recognition, poor salaries and benefits, not being involved in decision making, doing

a lot of improper tasks and having more work pressure [15]. In the present study the findings revealed that charge nurses (96%) were more satisfied when compared to the staff nurses and it was statistically significant (p=0.016). This variation may be due to the differences in job description of charge nurse and staff nurse. Similar findings have been noted in the work of Lorber and Savic (2012), which showed that nurse leaders were more satisfied than staff nurses [16].

C. Ways of Coping with stress

The current study showed that the most commonly used coping strategies among nurses were constructive (talking to spouse, talking to colleagues, exercising, re-organizing work and spending time in prayer). During the course of the study it was found that in some of the wards charge nurses had taken an initiative (doing physical exercises and learning relaxation techniques) to develop healthy coping strategies among the staff nurses to deal with stress. This might explain the fact that majority of the nurses used constructive coping strategies in order to deal with job stress.

However, 226 respondents (88% of sample) reported spending time in prayer as a coping strategy and only a third used supported forms of coping like seeking psychological help (mostly counselors). Potentially harmful methods were also reported as a coping strategy such as eating unhealthily (44.4% of sample) and working longer hours (29.2% of sample). Beh and Loo (2012) conducted a study on job stress and coping mechanisms among nurses which showed that nurses preferred social support (53.5%) compared to escape mechanism (5%) and symptom management mechanism (1.3%) to reduce or cope with job stress, whereas in the present study the use of supported and potentially harmful coping strategies were also comparably higher [17]. However, the levels of drinking alcohol or smoking cigarettes were probably under reported due to fear of punitive measures and judgement, and as these methods were culturally and socially unacceptable too.

D. Burnout

High emotional exhaustion and depersonalization was reported by 28.8% and 22.2% of the nurses respectively. Low personal accomplishment was reported by 68.5% of the nurses. A study done on burnout and psychological distress among nurses in Nigeria by Okwaraji and Aguwa (2014) showed high levels of burnout in 42.9% of the nurses in emotional exhaustion, 47.6% in depersonalization and 53.8% in reduced personal accomplishment; the present study has much lesser prevalence of increased burnout in the areas of emotional exhaustion and depersonalization [18]. None of the nurses in the present study had a significant score in all the three domains.

Low Personal Accomplishment was more common among staff nurses (71.3%) than in charge nurses (p <0.001), and in those trained from other institution (73%) compared to those trained in the same institution (p <0.05). Working in rotating shifts causes instability and reduces personal accomplishment, whereas, playing a role in administrative tasks increases personal accomplishment [19].

V.   Study Limitations

The study being cross sectional in nature it reported one-time prevalence of the variables measured; hence more studies should be done to find a constant value. The sources for job stress and job satisfaction were selected based on previous similar studies and few more sources were addressed based on the current contextual issues of the participating institution, yet there may be few more underlying sources for job stress and job satisfaction which were not addressed in the present study.

VI.   Implications Of The Study

The evidence gained from the study will inculcate in nurses the need and importance of identifying stressors and thus taking measures for reducing them. Supervisors should take up supportive role to reduce job stress. Job stress can be reduced by spreading nursing activity over a day, balancing and scheduling work. Nurses should be educated about stress management, conflict resolution and assertive communication to help reducing stress among nurses. Stress is not a one-time assessment, and thus need continuous monitoring and evaluation.

VII.   Conclusion

This cross-sectional study has identified job stress among one third of the nurses. However, three-fourth of the nurses has reported high job satisfaction. Burnout was also reported by a significant portion of the nurses, which is most likely to compromise the nurses' productivity, performance and quality of patient care. Among the sources of job stress some were modifiable and hence nurse leaders should take initiative to address those issues and thus reduce stress. It is the role of the nurse educators, managers and administrators to find ways to make the nursing workplace more harmonious, pleasant and less stressful.

References

[1]. Robbins, S.P. & DeDenzo, D.A. *Supervision today.* New Jersey : Prentice Hall, 2001

[2]. Gholamzadeh, S., Sharif, F. & Rad, F.D. Sources of occupational stress and coping strategies among nurses who work in Admission and Emergency Departments of Hospitals related to Shiraz University of Medical Sciences. *Iranian Journal of Nursing and Midwifery Research.* 2011; 16(1): 41–46. Retrieved from https://ww.ncbi.nlm.nih.gov/pmc/articles/PMC3203298/#!po=78.8889

[3]. Moustaka, E. & Constantinidis, T. C. Sources and effects of Work-related stress in nursing. *Health science Journa.* 2010; 4 (4): 210-216. Retrieved from http://www.hsj.gr/medicine/sources-and-effects-of-workrelated-stress-in-nursing.pdf

[4]. Parvan, K., Ebrahimi, H., Zamanzadeh, V., Seyedrasooly, A., Dadkhah, D. & Jabarzadeh, F. Empathy from the nurses" viewpoint in teaching hospitals of Tabriz University of medical sciences, Iran. *Journal of caring sciences.* 2014; 3(1): 29-36. doi:10.5681/jcs.2014.004

[5]. McTiernan, K. & McDonald, N. Occupational stressors, burnout and coping strategies between hospital and community psychiatric nurses in a Dublin region. *Journal of Psychiatric and Mental Health Nursing.* 2015; 22: 208–218. doi: 10.1111/jpm.12170

[6]. Han, S.-S., Han, J.-W., An, Y.-S. & Lim, S.-H. Effects of role stress on nurses' turnover intentions: The mediating effects of organizational commitment and burnout. *Japan Journal of Nursing Science.* 2015; 12: 287–296. doi:10.1111/jjns.12067

[7]. Ramirez, A. J., Graham, J., Richards, M. A., Cull, A. & Gregory, W. M. Mental health of hospital consultants: the effects of stress and satisfaction at work. *Lancet.* 1996; 347 (9003): 724-728. Retrieved from http://dx.doi.org/10.1590/S0034891102003000400006

[8]. Maslach, C & Jackson, S. E. *Maslach Burnout Inventory.* Palo Alto, CA: Consulting Psychologists Press, 1986.

[9]. Dagget, T., Molla, A. & Belachew, T. Job related stress among nurses working in Jimma Zone public hospitals, South West Ethiopia: a cross sectional study. *BMC Nursing.* 2016; 15: 39. DOI 10.1186/s12912-016-0158-2

[10]. Jose, T. T. & Bhat, S. M. A descriptive study on stress and coping of nurses working in selected hospitals of Udupi and Mangalore districts Karnataka, India. *IOSR Journal of Nursing and Health Science.* 2013; 3(1): 10-18. Retrieved from www.iosrjournals.org.

[11]. He, H.-G, Klainin-Yobas, P., Thian, J. H. M. & Kannusamy, P. Relationships among stress, positive affectivity and work engagement among registered nurses. *Psychology.* 2015; 6: 159-167. Retrieved from http://dx.doi.org/10.4236/psych.2015.62015

[12]. Milutinovic, D., Golubovic, B., Brkic, N. & Prokes, B. Professional stress and health among critical care nurses in Serbia. *Arh Hig Rada Toksikol.* 2012; 63:171-180. DOI: 10.2478/10004-1254-63-2012-2140

[13]. Jaiswal, P., Gadpayle, A. K., Singhal, A. K., Sachdeva, S., Modi, R. K., Padaria, R. & Ravi, V. Job satisfaction among hospital staff working in a Government teaching hospital of India. *Med J DY PatilUniv.* 2015; 8(2): 131-137. DOI: 10.4103/09752870.153136

[14]. Kumar, R., Kaur, G. & Dhillon, A. Organizational role stress and job satisfaction among nurses. *J Mental Health Hum Behav.* 2015; 20(2): 71-75. DOI: 10.4103/09718990.174597

[15]. Bahalkani, H. A., Kumar, R., Lakho, A. R., Mahar, B., Mazhar, S. B. & Majeed, A. Job satisfaction in nurses working in tertiary level health care settings of Islamabad, Pakistan. *J Ayub Med Coll Abbottabad.* 2011; 23(3): 130-133. Retrieved from http://www.ayubmed.edu.pk/JAMC/23-3/Bahalkani.pdf

[16]. Lorber, M. & Savic, B. S. Job satisfaction of nurses and identifying factors of job satisfaction in Slovenian Hospitals. *Croat Med J.* 2012; 53: 263-270. doi: 10.3325/cmj.2012.53.263

[17]. Beh, L. –S. & Loo, L. –H. Job Stress and Coping Mechanisms among Nursing Staff in Public Health Services. *International Journal of Academic Research in Business and Social Sciences.* 2012; 2(7): 131-176. Retrieved from www.hrmars.com/journals

[18]. Okwaraji, F. E. & Aguwa, E. N. Burnout and psychological distress among nurses in a Nigerian tertiary health institution. *African Health Sciences.* 2014; 14 (1): 237-245. Retrieved from http://dx.doi.org/10.4314/ahs.v14i1.37

[19]. Can˜adas-De la Fuente, G. A., Vargas, C., San Luis, C., Garcı´, I., Can˜adas, G.R. & De la Fuente, E. I. Risk factors and prevalence of burnout syndrome in the nursing profession. *International Journal of Nursing Studies.* 2015; 52: 240–249. Retrieved from http://dx.doi.org/10.1016/j.ijnurstu.2014.07.001