

A Study to Assess Occupational Stress, Factors and Coping Strategies Among Nursing Personnel in Selected Hospitals of Kolkata, West Bengal

Sweta Guha Roy¹, Bhanumati Dutta²

B.M. Birla College of Nursing, Kolkata, India.

Corresponding Author: Sweta Guha Roy

DOI: <https://doi.org/10.52403/ijhsr.20250115>

ABSTRACT

Nursing is a stressful profession due to various factors and coping with occupational stress influences their quality of life and care. So, a study to assess occupational stress, factors and coping strategies among nursing personnel in selected hospitals of Kolkata, West Bengal was conducted with the aim to assess the occupational stress, factors and coping strategies adopted by nursing personnel and find co-relation between occupational stress and coping strategies among nursing personnel. Quantitative descriptive survey research approach was adopted to collect data from 166 nurses selected by non-probability convenience sampling technique. Standardised Perceived Stress Scale, Brief-COPE and a self-developed interview schedule were administered by self-report method to collect data. Findings revealed that majority (89.15%) of nursing personnel had moderate level of occupational stress and the major stress factors were having a social life outside work (OR=1.88; p=0.022), lack of resources in hospital (OR=2.41; p=0.002) and constant changes in policies/protocols (OR=1.71; p=0.04) had higher chances of causing occupational stress. Majority of the nurses adopted use of instrumental support (mean score \pm SD=4.96 \pm 1.37) to cope with occupational stress. Present study had several implications in nursing practice, education, administration and research. The present study recommended to conduct further studies on occupational stress of nurses in different departments and ways of coping.

Keywords: occupational stress, coping

INTRODUCTION

Numerous studies have explored work stress among health care personnel in many different countries. Investigators have assessed work stress among professionals like medical technicians, radiation therapists, social workers, occupational therapists, physicians, and collections of health care staff across disciplines. Nurses' occupational stress in turn decreases job satisfaction, increases turnover rate, and reduces the quality of care provided. At different workplaces nurses are confronted

with different job tasks, new working conditions and hence experience different sources of stress^[1]. The level of turnover intention was higher in nurses showing higher job stress, fatigue, and burnout and significantly higher in the group showing lower job satisfaction. The turnover intention of nurses showed a significant positive correlation with job stress, fatigue, and burnout but showed a negative correlation with job satisfaction.^[2]

OBJECTIVES:

- To assess the occupational stress among nursing personnel.
- To identify factors related to occupational stress among nursing personnel
- To assess coping strategies adopted by nursing personnel.
- To find co-relation between occupational stress and coping strategies among nursing personnel.
- To find association between occupational stress with selected variables.

DELIMITATIONS OF THE STUDY

The study was delimited to nursing personnel who were working

- as a staff nurse
- at critical care units of selected private hospitals.

MATERIALS & METHODS

RESEARCH APPROACH

The aim of the present study was to assess occupational stress, factors and coping strategies among nursing personnel. Hence quantitative non experimental research approach was considered best and most suitable for the present study.

RESEARCH DESIGN

Descriptive survey research design was adopted in the present study to assess the occupational stress, factors and coping strategies among nursing personnel.

RESEARCH SETTING

The present study was conducted at B.M Birla Heart Research Centre and Calcutta Medical Research Institute under CK Birla Group of Hospitals. The B.M Birla Heart Research Centre was a NABH accredited super speciality cardiac hospital consisting of 186 beds with 76 dedicated beds for ICU and approximately 170 nurses are working in Critical Care Unit.

The study was also conducted at Calcutta Medical Research Institute. It was 440 bedded general hospital with 80 dedicated

I.C.U beds and approximately 150 nurses working in Critical Care Units.

POPULATION

The population of the study were nursing personnel, working as a staff nurse in Critical Care Units of selected hospitals of Kolkata, West Bengal.

SAMPLE

The sample of the present study are nursing personnel who are working in Critical Care Units of B.M Birla Heart Research Centre and Calcutta Medical Research Institute, Kolkata, West Bengal.

SAMPLE SIZE

The study included 166 Nursing personnel who are working as a staff nurse in Critical Care Units.

SAMPLING TECHNIQUE

In this study non-probability convenience sampling technique was adopted to select the staff nurses working at Critical Care Units.

TOOLS

TOOL I: Demographic proforma

TOOL II: Perceived Stress Scale-10 (PSS-10) (Standardized scale)

TOOL III: Interview schedule on factors related to occupational stress (self-developed)

TOOL IV: Brief-COPE (Standardized scale).

DESCRIPTION OF THE DATA

COLLECTION TOOLS AND

TECHNIQUES

TOOL I - Demographic Proforma

The tool I Demographic proforma was developed to collect sample characteristics of staff nurses and consisted of eight (8) items which includes age, gender, educational level, marital status, type of family they belong, monthly family income, years of working experience and history of systemic or chronic illness. No score was allotted for the responses.

TOOL II: Perceived Stress Scale-10 (PSS-10)

This is a standardized tool developed by Cohen S, Kamarck T and Mermelstein R^[3] (1983) is a well-established self-report measure based on the psychological conceptualization of stress. The scale assesses “the degree to which situations in one’s life are appraised as stressful”^[4]. It measures the degree to which life has been experienced as unpredictable, uncontrollable and overloaded in the past month. The options are never, almost never, sometimes, fairly often and very often with scores of 0,1,2,3,4 respectively. The respondents have to select the response relevant to them. The maximum possible score is 40 and minimum score is 0. Question number 4, 5, 7 and 8 are reverse scored. Based on the total score perceived stress is divided into three (3) categories as- low stress (0-13), moderate stress (14-26) and high stress (27-40). This tool is widely used to assess perceived occupational stress in clinical and non-clinical adult samples. The reliability of PSS-10 showed that it had a high internal consistency ($\alpha = 0.82$) and test-retest reliability ($r = 0.86$).^[5] Hence this tool was selected to collect data from nurses in order to assess their occupational stress.

TOOL III: Interview schedule on factors related to occupational stress

The tool III Semi structured interview schedule was developed based on literature review to collect information about factors influencing occupational stress among Critical Care Nurses and consisted of twenty-five (25) dichotomous questions. No scores were allotted for responses.

TOOL IV: Brief-COPE Inventory

The Brief-COPE (1997) is a standardized scale consisted of 28 item self-report questionnaire developed by Carver CS, Scheier MF and Weintraub JK. It is designed to measure effective and ineffective ways to cope with a stressful life event. It can be used to measure how someone is coping with a wide range of adversity. Scores are presented for

indicating the degree to which the respondent has been engaging in that coping style. Brief-COPE inventory has 28 questions and each question has a 4-point Likert response from 1 to 4 (I haven’t been doing this at all, a little bit, a medium amount, I’ve been doing this a lot). The types of coping are: Self-distraction, Denial, Substance Use, Behavioural disengagement, Emotional Support, Venting, Humour, Acceptance, Self-Blame, Religion, Active Coping, Use of Instrumental Support, Positive Reframing, and Planning^[6].

This tool is widely used to assess coping strategies used in clinical and non-clinical adult samples. Reliability was established. The Intraclass Consistency Coefficient for the 28 item Brief COPE scale was 0.60, indicating marginal test-retest reliability. The Cronbach's alpha for the overall Brief COPE was 0.70 indicating good consistency among the items. The alphas for the 14 subscales ranged from 0.44 to 0.89.^[7]

VALIDITY

The constructed and standardized tools were given to seven experts. Out of seven experts five were from Mental Health Nursing speciality, one expert was Critical Care Specialization doctor and one expert was Critical Care administrator. The experts were requested to give their valuable opinion regarding the adequacy, relevancy, accuracy and appropriateness of the items in the tool to establish content validity. The modifications suggested by the experts were incorporated accordingly after consultation with guide.

Tool I: The demographic proforma contained seven (7) items. The content validity index (CVI) of 4 items (1,2,4,5) was 1 and rest of the 3 items (3,6,7) was 0.85. Based on the suggestions from the experts and after discussing with the guide, three (3) items (item no. 3,6,7) were modified in option areas. The final tool contained 8 items.

Tool II: There was a hundred percent agreement regarding standardized Perceived Stress Scale (PSS-10) to assess occupational

stress of nurses working in Critical Care Units.

Tool III: The content validity index (CVI) of 22 items (1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25) were 1 and rest of the 3 items (5,6,10) was 0.85. Based on the suggestions from the experts and after discussing with the guide, three (3) items (item no. 5,6 and 10) were modified and three (3) items were added. So, after validation, the final tool contained 25 items.

Tool IV: There was a hundred percent agreement among experts regarding standardized Brief-COPE Inventory to assess coping strategies used by nursing personnel.

PRETESTING OF TOOLS

The validated tools I, II, III, IV were pretested among staff nurses who were working at Intensive Care Unit in Kothari Medical Centre from 7th November, 2021, to 10th November, 2021, to determine clarity, ambiguity and the time required for completing the questionnaire.

A non-probability convenience sampling technique was adopted to select five (5) staff nurses. The total time taken to complete the tools was approximately 45 minutes by self-report technique. Items were reported clear to the subject with no ambiguity.

RELIABILITY

Reliability is the degree of consistency or accuracy with which an instrument measures the attributes.^[8]

In the present study tool II (Perceived Stress Scale) and tool IV (Brief-COPE Inventory) were two standardized tools with established reliability. Tool III (Factors influencing occupational stress) was developed by the researcher and after validation, it was suggested to test its reliability. So, to establish reliability the validated and pretested tool III were administered among 20 nurses working at Intensive Care Unit from 8th November, 2021 to 13th November, 2021 at Kothari

Medical Centre, 8/3 Alipur Rd, Alipore, Kolkata, West Bengal 700027.

Reliability of Tool III was established by Kuder–Richardson formula in aspect of internal consistency. The calculated coefficient of correlation (r) value was 0.8019. Hence, Tool III was seemed to be reliable.

PILOT STUDY

The pilot study was conducted from 8th November 2021 to 18th November 2021 among staff nurses working at critical care units of Kothari Medical Centre. The study was conducted by descriptive survey approach. Formal administrative permission was taken from concerned authorities and inform consent was obtained from individual subject after explaining the purpose of the study. Non probability convenience sampling technique was used to recruit 20 critical care unit nurses. The data were collected by self-report technique by administering the four tools, Tool I Demographic proforma, Tool II Perceived Stress Scale, Tool III factors related to occupational stress and Tool IV Brief Cope. The pilot study result showed that 5% staff nurses had low occupational stress, 90% nurses had moderate occupational stress and 5% staff nurses had high occupational stress. On other hand 40% nurses faced stress due to overtime demands, 45% staff nurses faced stress due to fatigue, 70% due to limitations to social life, etc. The data also revealed that majority (70%) staff nurses of participants adopted venting coping strategy. The computed χ^2 value showed that age, gender, marital status, educational status, type of family, monthly family income, working experience, suffering from systemic or chronic illness were not associated with occupational stress.

So, the pilot study findings showed the feasibility and practicability to conduct the main study without further revision of research methodology.

DATA COLLECTION PROCEDURE

The four tools Tool I, II, III and IV were administered among 166 nurses working in Critical Care Units by self-report technique for 29 days with 5-7 subjects per day as per availability. Termination of data collection was done by thanking each participant for their kind participation and cooperation.

STATISTICAL ANALYSIS

- Demographic data would be analysed by descriptive statistics.
- Occupational stress related data would be analysed by descriptive statistics and inferential statistics.
- Data related to factors affecting occupational stress would be analysed by using descriptive and inferential statistics.
- Data related to coping strategies would be analysed by using descriptive statistics and inferential statistics.
- Chi square test would be computed to find association between occupational stress with selected demographic variables.
- Coefficient of correlation would be computed to find the relation between occupational stress and coping strategies

RESULT

The major findings related to demographic profile of the study were

- Out of 166 nursing personnel, majority (56.63%) of the nursing personnel belonged to the age group of 24-26 years.
- Majority (97.6%) of the nursing personnel were females
- Majority (60.84%) of the nursing personnel were G.N.M.
- Majority (90.36%) of the nursing personnel were unmarried
- Majority (85.55%) of nursing personnel belonged to nuclear families
- Maximum (81.32%) of the nurses had total monthly family income upto Rs.50,000/-
- Majority (63.26%) nurses had more than 1 year of working experience
- Majority (95.18%) of the nursing personnel were not suffering from any systemic or chronic illness.

Major findings related to occupational stress of nursing personnel were:

Table 1: Frequency and percentage distribution of sample based on occupational stress score n=166

Class interval of scores	Occupational stress	
	Frequency (f)	Percentage (%)
6-10	1	0.6
11-15	20	12.04
16-20	78	47
21-25	56	33.74
26-30	11	6.62
Total	166	100

- maximum (47%) staff nurse's occupational stress score ranged between 16-20
- Out of 166 nursing personnel, majority (89.15%) of the nurses had moderate level of occupational stress.

Table 2: Frequency and percentage distribution of sample based on level of occupational stress. n=166

Occupational stress	Frequency (f)	Percentage (%)	Mean	Median	S.D.
Low	8	4.82	19.85	20	3.72
Moderate	148	89.15			
High	10	6.02			

Minimum score=10
Maximum score=28

Findings related to factors affecting occupational stress were:

- Out of 166 nursing personnel, majority (63.85%) of them had fatigue.
- Out of 166 nursing personnel, majority (59.63%) of them had stress due to huge paperwork
- Out of 166 nursing personnel, majority (59.03%) had stress due to working in shifts
- Out of 166 nursing personnel, majority (58.43%) had stress due to pressure of doing good performance at work
- Out of 166 nursing personnel, majority (57.83%) had stress due to negative comments from public
- Out of 166 nursing personnel, majority (57.22%) had stress due to feeling like always on the job
- Out of 166 nursing personnel, majority (56.62%) had stress due to overtime demands
- Out of 166 nursing personnel, majority (55.42%) had stress due to staff shortages
- Out of 166 nursing personnel, majority (55.42%) of them had stress due to constant changes in policy/protocol
- Out of 166 nursing personnel, majority (53.61%) had stress due to finding less time for self-care
- Out of 166 nursing personnel, majority (52.41%) of them had stress due to lack of resources in hospital
- Out of 166 nursing personnel, majority (52.41%) had stress due to excessive administrative duties
- Out of 166 nursing personnel, majority (51.2%) had stress due to occupation related health issues
- Out of 166 nursing personnel, majority (50.6%) had stress due to difficulty adjusting with co-workers
- Out of the 25 factors related to occupational stress, the first ten factors responsible for occupational stress are fatigue, huge paperwork, working in shifts, pressure of doing good performance at work, negative comments from public, feeling like always on the job, overtime demands, staff shortages, constant changes in policy/protocol, and finding less time to stay in good physical condition.
- The significant factors as per calculated Odd's Ratio are having a social life outside work (OR=1.88; p=0.022), lack of resources in hospital (OR=2.41; p=0.002) and constant changes in policies/protocols (OR=1.71; p=0.04) had higher chances of causing occupational stress.

Table 3: Item-wise frequency and percentage distribution, ranking and odd's ratio of sample based on factors related to occupational stress. n=166

Sl. No.	Factors	Frequency	Percentage	Ranking	Odd's Ratio	p value
1	Over-time demands	94	56.62	7	1.15	0.33
2	Not enough time available to spend with friends and family	73	43.97	23	1.22	0.26
3	Fatigue	106	63.85	1	0.93	0.41
4	Occupation related health issues	85	51.2	13	1.33	0.93
5	Limitations to social life	78	46.98	18	0.79	0.22
6	Working alone at night	81	48.79	16	0.82	0.27
7	The risk of being injured on the job	74	44.57	22	0.87	0.45
8	Finding less time for self-care	89	53.61	10	1.21	0.27
9	Feeling like always on the job	95	57.22	6	0.67	0.1
10	Work related activities on days	75	45.18	21	1.0	0.49
11	Difficulty adjusting with co-workers	84	50.6	14	1.15	0.32
12	Leaders over-emphasise the negatives	80	48.19	17	1.41	0.14
13	Negative comments from the public	96	57.83	5	0.79	0.23
14	Huge paperwork	99	59.63	2	0.9	0.36
15	Making friends outside the job	76	45.78	20	0.87	0.32

16	Working in shifts	98	59.03	3	1.41	0.14
17	On job traumatic events	71	42.77	24	0.27	0.83
18	Having a social life outside of work	84	50.6	15	1.88	0.022
19	Excessive administrative duties	87	52.41	12	0.68	0.11
20	Staff shortages	92	55.42	8	0.71	0.13
21	Unequal sharing of work responsibilities	69	41.56	25	1.01	0.49
22	Lack of resources in hospital	87	52.41	11	2.41	0.002
23	Dealing with senior personnel	77	46.39	19	1.16	0.31
24	Constant changes in policy/protocol	92	55.42	9	1.71	0.04
25	Pressure of doing good performance	97	58.43	4	0.74	0.16

Findings related to type of coping strategies adopted by nursing personnel were:

- Out of 14 different types of coping strategies, the use of instrumental

support was maximum (mean \pm SD= 4.96 \pm 1.37).

- Out of 14 different types of coping strategies, the use of emotional support was maximum (mean \pm SD= 4.9 \pm 1.28).

Table 4: Item-wise frequency and percentage distribution of sample based on adopted coping strategies. n=166

Item no.	Statements	I haven't been doing this at all	A little bit	A medium amount	I've been doing this a lot
		f (%)	f (%)	f (%)	f (%)
1	I've been turning to work or other activities to take my mind off things.	25(15)	90(54)	28(17)	23(14)
2	I've been concentrating my efforts on doing something about the situation I'm in.	24(14.5)	67(40)	54(32)	21(12.5)
3	I've been saying to myself "this isn't real"	15(9)	78(47)	47(28)	26(16)
4	I've been using alcohol or other drugs to make myself feel better	166(100)	0(0)	0(0)	0(0)
5	I've been getting emotional support from others.	19(11)	68(41)	54(32)	25(15)
6	I've been giving up trying to deal with it.	26(16.2)	68(41)	43(26.5)	27(16.3)
7	I've been taking action to try to make the situation better.	36(22)	50(30)	51(31)	29(17)
8	I've been refusing to believe that it has happened	26(16)	69(42)	47(28)	24(14)
9	I've been saying things to let my unpleasant feelings escape.	33(20)	73(44)	31(19)	29(17)
10	I've been getting help and advice from other people.	16(9.6)	71(42.8)	48(28.9)	31(18.7)
11	I've been using alcohol or other drugs to help me get through it.	166(100)	0(0)	0(0)	0(0)
12	I've been trying to see it in a different light, to make it seem more positive.	27(16)	75(45)	44(27)	20(10)
13	I've been criticizing myself.	34(20)	61(37)	50(30)	21(13)
14	I've been trying to come up with a strategy about what to do.	39(23.5)	51(31)	47(28)	29(17.5)
15	I've been getting comfort and understanding from someone	28(16.9)	56(33.7)	51(30.7)	31(18.7)
16	I've been giving up the attempt to cope.	34(20.5)	74(44.5)	28(16.9)	30(18.1)
17	I've been looking for something good in what is happening.	31(19)	89(53.5)	29(17.5)	17(10)
18	I've been making jokes about it.	59(35.5)	44(26.5)	38(23)	25(15)
19	I've been doing something to think about	41(24.7)	54(32.5)	41(24.7)	30(18.1)

	it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping				
20	I've been accepting the reality of the fact that it has happened.	29(17.5)	59(35.5)	56(33.7)	22(13.3)
21	I've been expressing my negative feelings.	23(13.9)	64(38.5)	49(29.5)	30(18.1)
22	I've been trying to find comfort in my religion or spiritual beliefs.	35(21.1)	57(34.3)	44(26.5)	30(18.1)
23	I've been trying to get advice or help from other people about what to do.	39(23)	43(26)	51(31)	30(18)
24	I've been learning to live with it.	31(18.7)	57(34.3)	45(27)	33(20)
25	I've been thinking hard about what steps to take.	26(15.5)	58(35)	59(35.5)	23(14)
26	I've been blaming myself for things that happened	27(16.3)	56(33.7)	50(30)	33(20)
27	I've been praying or meditating	35(21.1)	56(33.7)	45(27.1)	30(18.1)
28	I've been making fun of the situation.	38(23)	56(33.7)	48(29)	24(14.3)

Table 5: Distribution of sample based on type of coping strategies adopted by nursing personnel n=166

Sl. no.	Type of coping (Item no.)	Mean \pm SD
1	Self-distraction (1+19)	4.47 \pm 1.34
2	Active coping (2+7)	4.72 \pm 1.28
3	Denial (3+8)	4.81 \pm 1.24
4	Substance use (4+11)	2 \pm 0
5	Use of emotional support (5+15)	4.9 \pm 1.28
6	Use of instrumental support (10+23)	4.96 \pm 1.37
7	Behavioural disengagement (6+16)	4.55 \pm 1.38
8	Venting (9+21)	4.72 \pm 1.31
9	Positive reframing (12+17)	4.44 \pm 1.13
10	Planning (14+25)	4.77 \pm 1.43
11	Humour (18+28)	4.27 \pm 1.41
12	Acceptance (20+24)	4.7 \pm 1.41
13	Religion (22+27)	4.66 \pm 1.44
14	Self-blame (13+26)	4.72 \pm 1.45

Findings related to correlation between occupational stress and coping strategies adopted by nursing personnel were:

- There was moderate correlation (0.51) between occupational stress and coping.

Table 6: Correlation between occupational stress and coping. n=166

Variables	Range	Mean	Median	S.D.	Coefficient of correlation (r)
Occupational stress	10-28	19.84	20	3.72	r = 0.51 moderate correlation
Coping	46-79	64.71	64.5	7.86	

Findings related to association between occupational stress with selected demographic variables:

There was no association between occupational stress with selected variables

such as age, gender, professional education, marital status, type of family, monthly income, working experience and presence of systemic/chronic illness at 0.05 level of significance.

Table 7: Association between occupational stress and selected demographic variables. n=166

Sl. No	Variables	Occupational stress			χ^2 Value	df	p-value	Significance
		low	moderate	high				
1	Age (in years)							
1.1	21-23	1	50	3	7.08	4	5.99	NS
1.2	24-26	5	85	4				
1.3	Above 26	2	13	3				
2	Gender							
2.1	Female	8	144	10	1.744	2	5.99	NS
2.2	Male	0	4	0				
3	Professional education							
3.1	GNM	5	89	7	0.4	2	5.99	NS
3.2	B.Sc./P. B. Sc.	3	59	3				
4	Marital status							
4.1	Married	2	12	2	3.8	2	5.99	NS
4.2	Unmarried	6	136	8				
5	Type of family							
5.1	Nuclear	5	128	9	3.7	2	5.99	NS
5.2	Joint	3	20	1				
6	Monthly income							
6.1	Upto Rs. 50,000	5	122	6	3.09	2	5.99	NS
6.2	More than Rs. 50,000	1	26	4				
7	Working experience in critical care units							
7.1	Upto 1 year	2	55	4	0.53	2	5.99	NS
7.2	More than 1 year	6	93	6				
8	Suffering from systemic/chronic illness							
8.1	Suffering	1	6	1	1.8	2	5.99	NS
8.2	Not suffering	7	142	9				

$p \leq 0.05$

NS: Not Significant

DISCUSSION

The present study findings were discussed with the findings of similar studies based on objectives and hypothesis of the study.

The sample characteristics shows that, majority (56.63%) of the nursing personnel belonged to the age group of 24-26 years, majority (97.6%) of the nursing personnel were females, majority (60.84%) of the nursing personnel were G.N.M., majority (90.36%) of the nursing personnel were unmarried, majority (85.55%) of nursing personnel belonged to nuclear families, maximum (81.32%) of the nurses had total monthly family income between upto Rs.50,000, majority (63.26%) nurses had more than 1 year of working experience and majority (95.18%) of the nursing personnel were not suffering from any systemic or chronic illness.

Gulavanil A, Shinde M. conducted a descriptive study on occupational stress and job satisfaction among nurses working in

tertiary care hospitals. Out of 100 nurses maximum (88%) of nurses were working as staff nurses, 54% were in age group of 21 to 30 years, being female with sex 86% and 57% were married whereas maximum 45% with no child. Maximum (60%) nurses were with professional education of RGNM, 51% were having below 5 years of experience and 68% belong nuclear family with maximum 35% were having more than three dependent members in their family^[9].

The first objective was to assess the occupational stress among nursing personnel

The findings of the present study showed that majority (89.15%) of the nurses had moderate level of occupational stress, 4.82% had low level of occupational stress whereas 6.02% had high level of occupational stress.

The present findings were supported by the following studies:

Bhatia N, Kishore J, Anand T, Jiloha RC. conducted a study on Occupational Stress Amongst Nurses from Two Tertiary Care Hospitals in Delhi. Out of 87 staff nurses prevalence of occupational stress amongst nurses was 87.4% with mild job stress: 1 (1.1%), moderate job stress: 50 (57.5%), severe job stress: 36 (41.4%).^[10]

Kakemam E, Raeissi P, Raoofi S, Soltani A, Sokhanvar M, Visentin DC, Cleary M. conducted a cross-sectional study on occupational stress and associated risk factors among nurses. Among 2895 nurses, mean score for overall occupational stress was 3.48 indicating a stress level between moderate and high, with 78.4% of respondents reporting that their job was stressful.^[11]

The second objective was to identify factors related to occupational stress among nursing personnel

The present study findings showed that among 25 factors, majority (63.85%) nursing personnel faced stress due to fatigue, 59.63% of them had stress due to huge paperwork, 59.03% had stress due to working in shifts, 58.43% had stress due to pressure of doing good performance at work, 57.83% had stress due to negative comments from public, 57.22% had stress due to feeling like always on the job 56.62% had stress due to overtime demands. These were major sources of occupational stress.

The present study findings were supported by the following studies:

Kakemam E, Raeissi P, Raoofi S, Soltani A, Sokhanvar M, Visentin DC, Cleary M. conducted a cross-sectional study on occupational stress and associated risk factors among nurses. Among 2895 nurses, more than 80% of nurses reported long working hours and inappropriate shifts (88.4%), staff shortage (88.0%), inadequate pay (86.5%), discrimination at work (83.0%), lack of management support (82.2%), inappropriate management and leadership style (80.6%) improper policies and regulations (81.0%) and excessive

workloads (81.6%) as major sources of occupational stress.^[11]

Adib-Hajbaghery M, Khamechian M, Alavi NM conducted a study on nurses' perception of occupational stress and its influencing factors on 19 nurses. Being under continuous pressure, low social dignity, and the manner of nurse managers were among the important sources of job stress.^[12]

The third objective was to assess coping strategies adopted by nursing personnel.

In the present study the coping strategies were assessed by BriefCOPE Inventory. The findings of the present study showed that among different types of coping strategies, the use of instrumental support (mean \pm SD= 4.96 \pm 1.37), use of emotional support (mean \pm SD= 4.9 \pm 1.28), denial (mean \pm SD= 4.81 \pm 1.24), planning (mean \pm SD= 4.77 \pm 1.43), self-blame (mean \pm SD= 4.72 \pm 1.45) and venting (mean \pm SD= 4.72 \pm 1.31) was maximum.

The present findings were supported by the following study:

Gomes S, Santos MM, Carolino ET. conducted a study on Psycho-social risks at work: stress and coping strategies on 96 oncology nurses. Planning (Mean: 5.55. SD:1.608); active coping (Mean: 5.41. SD:1.426); acceptance (Mean: 5.06. SD:1.375) and self-distraction (Mean: 4.94, SD:1.588) were the most commonly used coping strategies.^[13]

The present findings were contradicted by the following study:

Fathi A, Simamora. conducted a study on Investigating nurses' coping strategies in their workplace as an indicator of quality of nurses' life in Indonesia. Among 184 staff nurses, the most frequently used coping strategies were religion (mean \pm SD = 6.18 \pm 1.79), positive reframing (mean \pm SD = 5.71 \pm 1.90), instrumental support (mean \pm SD = 5.47 \pm 1.59), and planning (mean \pm SD = 5.45 \pm 1.58). Meanwhile, the least used coping strategies were behavioral disengagement (mean \pm SD = 3.19 \pm 1.28), denial (mean \pm SD = 3.48 \pm 1.16), self-

blame (mean \pm SD = 4.04 \pm 1.19), and venting (mean \pm SD = 4.48 \pm 1.46).^[14]

The fourth objective was to find correlation between occupational stress and coping strategies among nursing personnel.

The present study showed that occupational stress is dependent and had significant relationship (0.51) with coping at 0.05 level of significance.

The present findings were supported by the following studies:

Zhou H, Gong YH. Relationship between occupational stress and coping strategy among operating theatre nurses in China. The study shows that female nurses' occupational stress was positively correlated with designation and negatively correlated with operation sets per day and night shifts.^[15]

The present findings were contradicted by the following studies:

Wahlberg L, Nirenberg A, Capezuti E. conducted a Cross-sectional survey design study on distress and Coping Self-Efficacy in Inpatient Oncology Nurses. The study findings were a moderate, negative correlation was shown between distress levels and coping self-efficacy score, with a statistically significant Pearson coefficient of -0.371.^[16]

The fifth objective was to find association between occupational stress with selected variables

The present study showed that occupational stress was independent and not significantly associated with selected variables at 0.05 level of significance.

The present findings were supported by the following studies:

Mohite N, Shinde M, Gulavani A. conducted a study on occupational stress among nurses working at selected Tertiary Care Hospitals on 84 nurses. The results of the study showed that here was no significant association found between occupational stress, job satisfaction and age,

sex, professional education, year of experience.^[17]

Gulavani A, Shinde M. conducted a study on occupational stress and job satisfaction among nurses. the result if the study showed that there was no significant association between occupational stress and selected demographic variables namely age, sex, professional education and year of experience^[9].

CONCLUSION

Based on the present study findings, the following conclusions were made

Majority of the nurses had moderate levels of occupational stress.

In context to factors affecting occupational stress, majority of the nurses had fatigue, stress due to huge paperwork and working in shifts.

In context to coping strategies adopted by nursing personnel, the most used coping strategies were use of instrumental support and use of emotional support.

There was moderate correlation between occupational stress and coping at 0.05 level of significance.

There was no association between occupational stress and demographic variables like age, gender, professional education, marital status, type of family, monthly income, working experience in critical care units and suffering from systemic/chronic illness.

LIMITATIONS

The findings of the present study could not be generalised because of the following reasons:

- Small sample size
- Conducted in only two settings.
- Non-probability convenience sampling technique was used.

RECOMMENDATIONS

Based on the findings of the present study, the following recommendations were made:

- The similar study can be conducted by using large samples

- A longitudinal study can be done to assess occupational stress faced by nursing personnel and measures to overcome them.
- A comparative study can be conducted to assess occupational stress among nursing personnel working in different departments of hospitals.
- An explorative study can be conducted to find different factors causing occupational stress among nurses working in hospitals, community and speciality units like Psychiatry, Obstetrics, etc.

Declaration by Authors

Ethical Approval: Approved

Acknowledgement: None

Source of Funding: None

Conflict of Interest: The authors declare no conflict of interest.

REFERENCES

1. Sharma P, Davey A, Davey S, Shukla A, Shrivastava K, Bansal R. Occupational stress among staff nurses: Controlling the risk to health. *Indian J Occup Environ Med.* 2014;18(2):52-56. doi:10.4103/0019-5278.146890
2. Yeon-Hee L, Young-Chae C. Effects of Job Stress, Fatigue, Burnout, and Job Satisfaction on Turnover Intention among General Hospital Nurses. *Journal of the Korea Academia-Industrial cooperation Society.* 2018. 19(6): 264-74. doi: <https://doi.org/10.5762/KAIS.2018.19.6.264>
3. Cohen S, Kamarck T, Mermelstein R. A global measure of perceived stress. *J Health Soc Behav.* 1983 Dec;24(4):385-96. PMID: 6668417.
4. Klein, E.M., Brähler, E., Dreier, M. et al. The German version of the Perceived Stress Scale – psychometric characteristics in a representative German community sample. *BMC Psychiatry* 16, 159 (2016). <https://doi.org/10.1186/s12888-016-0875-9>
5. Marcatto, F., Di Blas, L., Luis, O., Festa, S., & Ferrante, D. (2021). The Perceived Occupational Stress Scale: A brief tool for measuring workers' perceptions of stress at work. *European Journal of Psychological Assessment.* Advance online publication. <https://doi.org/10.1027/1015-5759/a000677>
6. Carver CS and Scheier MF. Analyzing shyness: A specific application of broader self-regulatory principles. In Jones WH, Cheek JM and Briggs SR, eds. *Shyness: Perspectives on Research and Treatment.* New York: Plenum Press, 1986; 173-86
7. Mohanraj, R., Jeyaseelan, V., Kumar, S., Mani, T., Rao, D., Murray, K. R., & Manhart, L. E. (2015). Cultural adaptation of the Brief COPE for persons living with HIV/AIDS in southern India. *AIDS and behavior,* 19(2), 341–351. <https://doi.org/10.1007/s10461-014-0872-2>
8. Sharma SK. *Nursing research and statistics.* 3rd ed. Haryana, India: Elsevier; 2018. p.93-4, 264-77
9. Gulavani A, Shinde M. Occupational Stress and Job Satisfaction among Nurses. *International Journal of Science and Research (IJSR).* 3(4). 733-740.
10. Bhatia N, Kishore J, Anand T, Jiloha RC. Occupational Stress Amongst Nurses of Two Tertiary Care Hospitals in Delhi. *Australasian Medical Journal.* 3. 731-38. doi: 10.4066/AMJ.2010.289.
11. Kakemam E, Raeissi P, Raofi S, et al. Occupational stress and associated risk factors among nurses: a cross-sectional study, *Contemp Nurse.* 2019 Apr-Jun;55(2-3):237-49. doi: 10.1080/10376178.2019.1647791. PMID: 31334691.
12. Adib-Hajbaghery M, Khamechian M, Alavi NM. Nurses' perception of occupational stress and its influencing factors: A qualitative study. *Iran J Nurs Midwifery Res.* 2012;17(5):352-359.
13. Gomes S, Santos MM, Carolino ET. Psycho-social risks at work: stress and coping strategies in oncology nurses. *Rev Lat Am Enfermagem.* 2013;21(6):1282-1289. doi:10.1590/0104-1169.2742.2365
14. Fathi A, Simamora R. Investigating nurses' coping strategies in their workplace as an indicator of quality of nurses' life in Indonesia: a preliminary study. *IOP Conference Series: Earth and Environmental Science.* April 2019. 248. doi: 10.1088/1755-1315/248/1/012031.
15. Zhou H, Gong YH. Relationship between occupational stress and coping strategy among operating theatre nurses in China: a

- questionnaire survey. *J Nurs Manag.* 2015 Jan;23(1):96-106. doi: 10.1111/jonm.12094.
16. Wahlberg L, Nirenberg A, Capezuti E. Distress and Coping Self-Efficacy in Inpatient Oncology Nurses. *Oncol Nurs Forum.* 2016 Nov 1;43(6):738-746. doi: 10.1188/16.ONF.738-746. PMID: 27768125.
17. Mohite N, & Shinde MB, Gulavani A. Occupational Stress among Nurses Working At Selected Tertiary Care Hospitals.

International Journal of Science and Research (IJSR). 2014; 3(6). 999-1005.

How to cite this article: Sweta Guha Roy, Bhanumati Dutta. A study to assess occupational stress, factors and coping strategies among nursing personnel in selected hospitals of Kolkata, West Bengal. *Int J Health Sci Res.* 2025; 15(1):104-116. DOI: <https://doi.org/10.52403/ijhsr.20250115>
