

A Cross-Sectional Descriptive Study on Stress Coping Mechanisms among Healthcare Professionals: A Single Center Study

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ABSTRACT

Introduction: Health care professionals can experience extreme occupational stress due to the rigorous requirements of their work. Professionals such as doctors, nurses, lab technicians, and physiotherapists frequently encounter high levels of stress in their daily routines. They are facing different kinds of stress during their working hours and also during non-working hours. They are facing working hour stress, organisational stress, family related stress etc. The aim of the study is to assess the factors causing stress and coping strategies used by health professional to deal with stress.

Methodology: A descriptive approach was employed to gather insights from healthcare professionals working in multi-specialty hospitals. The study explored stressors across personal, organizational, and social dimensions to propose effective coping strategies.

Outcomes: The findings underscore the need for targeted stress management programs to enhance the quality of life for professionals, improve organizational efficiency, and ensure superior patient care. Effective coping mechanisms can lead to reduced absenteeism, improved employee satisfaction, and better organizational reputation.

Conclusion: Stress management is a vital component of maintaining high service quality and organizational growth in healthcare settings. By addressing the unique stressors faced by professionals, hospitals can foster a supportive and productive work environment.

Keywords: stress, coping mechanism, health, healthcare, professionals

HIGHLIGHTS

The findings of this study aim to:

1. Assist healthcare employees in managing stress effectively within their demanding schedules.
2. Provide innovative strategies to enhance employee productivity and reduce absenteeism.
3. Improve service quality and patient satisfaction, thereby benefiting the organization and its reputation.
4. Strengthen the relationship between employees and the organization by fostering a balanced and supportive environment.

Introduction

Selye (1956) defined "stress" as the result of anything that poses a significant risk to equilibrium. A "stressor" is an actual or perceived threat to an organism, and the "stress response" is the organism's reaction to the stressor. Selye noted that strong, protracted stress reactions may cause tissue damage and disease, despite the fact that stress responses evolved as adaptive processes.¹ The capacity to react effectively to environmental dangers, such as predators or natural disasters, improved survival rates and reproductive success, making such traits more likely to be passed on. In mammals, these reactions often involve physiological changes that enhance the flow of oxygen and glucose to the heart and major skeletal muscles, providing the physical resources needed for actions like fighting or fleeing. The immune system's response to stress may also be an integral part of these adaptations. This is because high-stress scenarios, such as escaping from a predator or engaging in combat, come with a heightened risk of injuries, which can allow harmful microorganisms to enter through the skin or bloodstream. Even minor wounds are likely to be exposed to pathogens, which can multiply and pose a threat if left unchecked.² Therefore, stress-induced immune system alterations that could hasten wound healing and aid in halting the spread of infections would be adaptive and selected alongside other physiological alterations that improved evolutionary fitness.

Stress can be categorized into five types based on their nature and duration: a) Acute Time-Limited Stressors: These are short-term challenges often created in controlled settings, such as giving a speech or solving difficult math problems under pressure. b) Brief Naturalistic Stressors: These involve real-life short-term situations, like taking an exam, where a person faces a temporary yet realistic challenge. c) Stressful Event Sequences: These arise from a specific major event, such as the death of a loved one or a natural disaster, which leads to a chain of related difficulties. While individuals dealing with these stressors may not know exactly when the challenges will end, they generally have hope that the situation will improve eventually. d) Chronic Stressors: These are ongoing pressures that deeply impact a person's life, often requiring significant adjustments to their identity or social roles. Chronic stressors are typically stable and long-lasting, with no clear resolution in sight. Examples include living with a permanent disability, caring for a partner with severe dementia, or being displaced from one's home country due to war. e) Distant Stressors: These refer to traumatic experiences from the past that continue to influence a person's emotional and physical health over time. These events, such as childhood abuse or surviving a war, can have lasting effects on the individual's immune system and overall well-being.^{3,4}

Coping refers to the thoughts and actions employed to handle both internal and external stressors.⁵ Coping refers to the conscious and deliberate actions taken to manage stress, distinguishing it from defense mechanisms, which are subconscious or unconscious adaptive responses. Both aim to alleviate or tolerate stress, but they operate on different levels.⁶

When individuals encounter a stressor, their approaches to managing it are described as "coping styles." These are relatively stable traits that influence how a person responds to stress and tend to remain consistent over time and across situations.⁷ Coping is generally categorized into two types: reactive coping, which occurs as a response to an existing stressor, and proactive coping, which involves preparing to address

potential future stressors. Proactive individuals typically thrive in stable environments due to their structured and less reactive nature, whereas reactive individuals perform better in dynamic and unpredictable settings.⁸ Coping mechanisms are assessed using various scales. Popular tools include the COPE (Coping Orientation to Problems Experienced), the Ways of Coping Questionnaire, the Coping Strategies Questionnaire, the Coping Inventory for Stressful Situations, the Religious-COPE, and the Coping Response Inventory.⁹⁻¹¹ The study of stress and coping throughout the lifespan clearly aligns with the principles of lifespan development.¹² Health professionals most commonly employed coping strategies such as problem-solving, wishful thinking, and seeking social support. Women, in particular, were more likely to use emotional expression and social support.¹³

Occupational stress stemming from unclear organizational structures and workplace conflicts is notably prevalent among healthcare professionals. While the adoption of positive coping mechanisms by individuals within this field is commendable, it is essential for healthcare administrators to implement policies and frameworks that mitigate stress-inducing conflicts within the organization. A healthcare professional experiencing significant stress is less likely to provide optimal patient care, underscoring the importance of addressing these systemic issues.^{14,15} Coping strategies serve as a stabilizing factor, enabling individuals to adapt to stressful events.¹⁶

The current study is planned to assess the factors causing stress and coping strategies used by health professional to deal with stress and manage their personal and professional life in Himalaya region of country.

Methodology

Primary Data: The questionnaire technique has used for the collection of relevant data. The questionnaire has occupied the most important place in the collection of primary data for this research work.

Secondary Data: The secondary research data were collected from other sources like annual reports, magazines, articles, newspapers, manuals, books, journals, e-sources, etc.

Research Design: The descriptive research design has implemented for the primary research to cover the various facts of the study.

Sampling technique: Random Sampling Method was used and the sample of individual was randomly chosen.

Setting: single Centre, Multi-speciality hospital, Bilaspur Himachal Pradesh, India

Sample Size: Total samples size calculated is 80 by using formula with 10% attrition rate of total sample size by using total enumerative/consecutive sampling technique for generalisation.

$$\text{Sample size}(n) = \frac{(Z_{1-\alpha/2})^2 \cdot (p)(q)}{(d)^2}$$

n = Desired sample size
 $Z_{1-\alpha/2}$ = Critical value and a standard value for the corresponding level of confidence by open-Epi software.

P = Expected prevalence or based on previous research, $q = 1-p$, d = Margin of error or precision.

After complete data collection, 80 samples were included in data analysis.

Target Respondents: Employees working in different shifts at multi-speciality hospital, Bilaspur, India

Variables: - Socio-demographic variables and coping strategies primary and secondary data

Ethical considerations: the informed consent was taken from participants before enrolling in current study. The study was approved by IEC with letter no. Written Guide Reg. No: MBAFLEXDL0665 with Reg. No: 1408010532. The confidentiality and anonymity of all participants were maintained throughout the study. The ethical guidelines have been followed in good clinical strategies, the Declaration of Helsinki, and the Indian council of medical research (ICMR)^[17] in this study.

Data collection tools and their validity & reliability: Experts in the field of were consulted to frame the tools. Tools were demographic variables, self- administered questionnaires on organisational and work-related stress, self- administered questionnaires on Health problems and self- administered questionnaires on strategies to cope with stress. Cronbach’s alpha was used to establish reliability of the questionnaire and it was found to be 0.84, 0.89, 0.87 and 0.91 respectively. The demographic details like age, gender of parents, educational status, occupational status etc. collected using self – administered structured questionnaire.

Statistical analysis: Data was entered into MS excel 13.0 spreadsheet and analysed. Descriptive and inferential statistics were used for data analysis.

Data analysis tools and techniques: The data has been analysed by using software tool “Microsoft Excel”, SPSS version 16 and the statistical techniques such as percentage had used.

Data Presentation: The data was presented with the help of percentile charts, tables and bar graphs.

Results

Table.1 depicts that the majority of health care professionals were from the age group of 35-45yrs (43%). Moreover, majority were of males (55%) and were single. Also, Majority of participants having graduation degree (55%), 45% were nurses, from nuclear family (70%) and belongs to middle class level income (45%). Only 36% Health care professionals said yes, they suffer from stress-related disease. 55% respondents replied that HR department is very important in a healthcare organization with counsellors with enforced Stress Management Strategies protocol, where employees can seek help to resolve their problems.

Table 1 Socio-demographical variable

N=80

Sr. no.	Variables	Frequency	Percentage
1	Age in years		
	• Under 25	14	17
	• 25-35	20	25
	• 36-45	34	43
	• Above 45	12	15
2	Sex		
	• Male	36	45
	• female	44	55

3	Marital status		
	<ul style="list-style-type: none"> • Single • Married 	22 58	28 72
	Educational qualification		
	<ul style="list-style-type: none"> • Diploma • Under - graduation Degree • Post - graduation Degree 	22 44 14	28 55 17
	Designation		
	<ul style="list-style-type: none"> • Doctors • Nurses • Lab technician • Pharmacists • Physiotherapist 	17 36 12 8 7	21 45 15 10 9
	Shift duty		
	<ul style="list-style-type: none"> • Day shift • Night shift • Rotation shift • On- duty shift 	33 14 23 10	42 17 28 13
	Monthly income of family (INR) (As per modified Kuppu-Swami scale 2019)		
	<ul style="list-style-type: none"> • >39092 (Upper class) • 29,200 – 39092 (Upper Middle class) • 19516 – 29199 (Middle class) • 11708 – 19515 (Lower Middle class) • 3908 – 11707(Poor class) 	23 36 9 8 4	28 45 11 10 06
	Type of family		
<ul style="list-style-type: none"> • Nuclear • Joint 	56 24	70 30	
4	Company policy for stress management		
	Yes	33	42
	No	41	51
Not aware	06	07	
5	Diagnosed with any stress-related disease		
	Yes	29	36
No	51	64	

Table 2 shows the factors affecting and causing stress to healthcare professionals by Likert scale where, they reported that working days remained less than 6 days a week continuously. Most of them have long hours of shift that is of 12 hours (72%). They had reported that, for unplanned works, not able to balance work life (64%), sometimes remained worried about their work. Majority of health professionals (82%) were always work in shifts, having complaints for 42% never spend enough time with their family and 55 % were often miss out quality time with your family or your friends because of pressure of work. 43% have reported not getting time for physical workout because of busy schedule. We easily have problems related to diet so 56% participants reported that they took special initiatives to manage their diet. 51% or employees said that there was no separate policy for Stress Management Strategies. 40% respondents replied that employee welfare and motivation is very important in the growth of a healthcare organization. 39% human resource management team is very effective Stress Management Strategies of VYAS hospital, but didn't have any written standard protocol.

Table 2. Likert scale on Factors causing stress on health care professionals' life N=80

Sr. no.	Question	Always (%)	Often (%)	Sometimes (%)	Rarely (%)	Never (%)
1	Do you normally work more than 6 days in a week?	2	5	15	10	68
2	Do you normally work more than 12 hours in a day?	0	20	14	20	64
3	Do you feel you are not able to balance your work life?	30	20	25	15	10
4	How often do you think or worry about work (when you are not actually at work)?	7	5	42	33	13
5	Do you work in shifts?	82	5	7	4	2
6	Do you find yourself unable to spend enough time with your family?	8	5	25	20	42
7	Do you ever miss out any quality time with your family or your friends because of pressure of work?	7	55	30	5	3
8	Do you ever feel tired or depressed because of work?	72	21	5	2	0
9	Are you not able to get time for working out?	5	12	15	25	43
10	Do you take special initiatives to manage your diet?	56	22	18	10	4
		Very important	important	Neutral	Not important	Not at all important
11	How will you rate the importance of Stress Management Strategies in a healthcare organization?	55	24	6	11	4
12	How will you rate the importance of employee welfare and motivation in the growth of a healthcare organization?	40	22	6	10	2
		Very effective	Effective	Neutral	Not-Effective	Not at all Effective
13	Overall, how will you rate the effectiveness of Stress Management Strategies in growth of VYAS hospital?	39	41	2	12	6

Table 3. describes the ranking order of health-related problems caused by stress and stressors which illustrate that majority of participants had complaints of headache (73%) followed by fatigue (68%) and hair fall (62%) at top rank and nervousness (31%) and teeth grinding (22%) at least ranks respectively.

TABLE 3: Self – administered questionnaire on health- related problems by organisational stressors
N=80

Sr. no.	Problem encountered	Percentage	Rank
1	Headache	73	I
2	Fatigue	68	II
3	Insomnia	57	V
4	Indigestion	59	IV
5	Hair fall	62	III
6	Blurred vision	47	VI
7	Teeth grinding	22	VIII
8	Nervousness	31	VII

Table 4 describe about the strategies used by participants to cope with stress and stressors, where Repetitive Prayer (Rank -I) followed by listening to music (Rank -II) was at top ranks and physical activities (Rank -VII) and Practicing yoga & meditation (Rank -VIII) were at least priority because of long and odd working hours.

TABLE 4: Self – administered questionnaire on STRATEGIES TO COPE WITH STRESS and stressors
N=80

Sr. no.	Strategies	Percentage	Rank
1	Repetitive Prayer	87	I
2	Deliberate forgetting	82	II
3	Spending time with family/friends	71	IV
4	Reading/ Gardening	43	VI

5	Physical exercises	12	VII
6	Sleep & Relaxation	56	V
7	Listening to music	81	II
8	Practicing yoga & meditation	10	VIII

Table 5 illustrate the relationship between stress factors and coping skills with SCS, where the Pearson correlation value (r-value) is 0.742, 0.856 and 0.981 respectively. Since the r-value is positive and significant the value of <0.001 (p-value) is below 0.01 and so there is highly significant relationship between Stress factors and Coping skills, Stress factors and SCS and Coping skills factors and SCS.

TABLE 5: Relationship between stress factors and coping skills with SCS

Sr. no.	Dimensions	Description	Stress factors	Coping-skills	SCS
1	Stress factors	Pearson Correlation	1	0.742**	0.812**
		Sig. (2-tailed)		0.000*	<0.001*
		N	80	80	80
2	Coping Skills	Pearson Correlation	0.711**	1	0.735**
		Sig. (2-tailed)	<0.001*		<0.001*
		N	80	80	80
3	SCS	Pearson Correlation	0.865**	0.981**	1
		Sig. (2-tailed)	<0.001*	<0.001*	
		N	80	80	80

*Correlation is significant at the 0.01 level

Discussion

In our study, majority of population had age group of 35-45yrs (43%) contradicted by studies Bolarinde S.O.^[14] and Aryal et al.^[17], and where age group is less and supports by Sharma R et al.^[20] Moreover, majority were of males (55%) supported by Ajayi S et. al.^[18] contradicted by study^[19,20] and were single contradict by married (Sharma R and Sharma R)^[18,19]. Also, Majority of participants 45% were nurses where as in doctors were majority by Aryal et al.^[18], from nuclear family and belongs to middle class level income. the strategies used by participants to cope with stress and stressors, where Repetitive Prayer followed by listening to music was at top ranks and physical activities and Practicing yoga & meditation were at least priority because of long and odd working hours also explained about studies (^[14,17,18]).

Health professionals employ positive re-appraisal, quitting, and seeking out social support as coping mechanisms to manage their emotions and physical health, according to another research by Godifay et al.^[22] and Koinis et al.^[23] in Nigeria and Greece, respectively. In a similar vein, Gellis et al.^[24] studied social workers and discovered that while negative coping strategies increase occupational stress, positive coping strategies reduce it. However, substance abuse (92.0%) and self-blame (58%) were the least common coping mechanisms among the participants Healthcare workers seem to experience a lot of stress at work, yet the majority of them use healthy coping mechanisms^[18,19]

the factors affecting and causing stress to healthcare professionals by Likert scale where, they reported that working days remained less than 6 days a week continuously. Most of them have long hours of shift that is of 12 hours, were always work in shifts, having complaints for never spend enough time with their family and not getting time for physical workout because of busy schedule (Aryal et al., Ajayi S et al., Sharma R et al. and Raja Lexshimi R et al.)^{[17] [18-20,24]}

We easily have problems related to diet so 56% participants reported that they took special initiatives to manage their diet. 51% or employees said that there was no separate policy for Stress Management Strategies. 40% respondents replied that employee welfare and motivation is very important in the growth of a healthcare organization.

Current study health-related problems caused by stress and stressors which illustrate that majority of participants had complaints of headache (73%) followed by fatigue (68%) and hair fall (62%) at top rank and nervousness (31%) and teeth grinding (22%) at least ranks respectively supported by study conducted by Raja Lexshimi R et al.^[24] on nurses where nurses showed physical symptoms like headache 66 (98.6%), back pain 62 (92.9%), insomnia 56 (84.3%) etc. in terms of psychological symptoms among nurses, fatigue 65 (97.1%), anxiety 65 (97.1), poor concentration 62 (92.9%) etc.

Present study is showing that there is highly significant relationship between Stress factors and Coping skills, Stress factors and SCS and Coping skills factors and SCS is supported by study by Rashidi N et al.^[25].

Recommendations: As it was found from the study that stress coping skills of healthcare professionals are moderate and affect the productivity to a greater extent it is suggested to conduct more awareness programmes about stress coping and management. The study revealed that organizational climate is

significantly associated with stress. Hence, conducive organizational climate needs to be provided for the healthcare professionals.

Conclusion: The aim of the study was to understand and analyse the level of stress undergone by the healthcare professionals like doctors, nurses, lab technicians and physiotherapists. And also, the ways of overcoming them. Although certain limitations were met with the study that was, single centre study, less sample size has impacted its generalisability and every effort has been made to make it much comprehensive. The researcher expects to draw attention of the administrators, policy makers, researchers and academicians in related fields to resume further research.

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