



ORIGINAL RESEARCH PAPER

Psychology

EFFECTS OF EMOTIONAL INTELLIGENCE AND PSYCHOLOGICAL RISKS ON NURSES WORKING AT PRIMARY HEALTH CARE CENTERS IN INDIA

KEY WORDS: COVID-19, Health care, web-based survey.

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ABSTRACT

The role of nurses is always essential. Their work becomes more necessary in a pandemic but also confronts more significant hazards and challenges. This study has been performed in India because of the significance of interpersonal interactions, emotional Intelligence, and psychosocial risks in reducing stress, enhancing job satisfaction, and improving health. Medical professionals who have introduced to a higher likelihood that COVID-19 will develop mental health problems. Investigators were out to determine whether or not COVID-19 response personnel in Hyderabad had increased Anxiety, sadness, or insomnia levels. An online survey was taken in 2020. Participation in the study was open to 475 healthcare personnel. Anxiety was assessed using the Hamilton Anxiety and Depression Scale (HADS: 0–21) and the Insomnia Severity Index (ISI: 0–28). A multivariate logistic regression study discovered the risk variables for poor mental health outcomes. Coronavirus disease 2019 (COVID-19) exposure may cause psychological stress in healthcare professionals.

1.0 INTRODUCTION

The global viral pandemic has dramatically impacted the workplace. As a result, workers have had to alter their personal and organizational behaviours. People working in the front roles, providing critical services, working from home, or have had their businesses or employment eliminated experience additional health and well-being challenges due to these developments. Health professionals have been particularly vulnerable to the negative effects of COVID-19, which have been widely documented. Starting the pandemic, a deficiency of Personal Protective Equipment (PPE) and racial discrimination contributed to poor mental health outcomes for health professionals and generally poor mental performance, at risk of becoming infected and transmitting the contagion [3]. Some of those who remained in their positions were subjected to the growth of organizational shifts, many of which involved remote working. Workplace psychosocial concerns continue to pose a barrier to occupational health two years after COVID-19 was implemented. Psychosocial risks can lead to physical and mental health issues if they aren't properly evaluated and maintained [4]. As defined by the International Labor Organization (ILO), psychosocial factors are the "interactions between the workplace, job content, and organizational conditions, as well as workers' capacities and needs" and "personal implement improvement considerations that perceptions and experience may influence." Suicidal thoughts and other psychological reactions to professional stress might occur when people feel poor in mood and lack the drive to get stuff accomplished. [5][6] However, employees are particularly concerned about the prospect of losing their jobs or seeing a major drop in the pool of potential workers. The social and economic repercussions of the epidemic became instantly obvious as the world's economy began to collapse and as millions of people were forced to evacuate their homes due to the outbreak. [7]. It's important to pay attention to work-related mental health issues since they might have a huge impact during the current COVID-19 pandemic.

Emotional Intelligence also known as "Emotional Quotient is one of the hot topic among business leaders and HR professionals lately, EI is Ability/Capability to monitor one's own and other people's Emotions".

"Job Satisfaction defined job satisfaction as the degree to which employees enjoy their work". - Ellickson and Logsdon

"Job satisfaction or employee satisfaction is a measure of workers' contentedness with their job, whether or not they like the job or individual aspects".

2.0 REVIEW OF LITERATURE

Emotional Intelligence (EI) is a trait that helps people handle their feelings and the emotions of others better. According to a body of literature, EI is a critical component of nursing practice. In recent years, nurses' awareness of the fundamentals of emotional intelligence (EI), its role in patient-centred care, and its influence on nurses' well-being have grown. In other words, [8, 9, 10] The two types of EI are as follows: The ability to discriminate between one's emotions and those of others might be considered an aspect of social skills. Psychological Capital refers to the lower tiers of a person's personality hierarchy regarding emotional dispositions. Behavioural tendencies and self-perceived talents are included in the Emotional Intelligence (EI) trait, which primarily focuses on self-perceived emotions collected through self-report [11,12]. The EI characteristic is the subject of the current investigation. To be a practical nurse, a nurse must have regular contact with patients in which their observations, empathy for their feelings, and the delivery of patient care are all linked simultaneously. Emotional intelligence (EI) Nurses need skills because they are on the front lines of caring for patients, have to deal with their feelings and understand how the patients they help feel. [14]. Nurses must monitor their emotions while adapting to a rapidly changing work environment. Not doing so can hurt professional interactions, healthcare decisions, and interpersonal relationships [15]. Nursing studies have linked emotional intelligence (EI) to better health and work satisfaction. The number of healthcare staff needed to respond to results showed a significant increase is on the rise [16]. These healthcare workers are under incredible stress due to the growing number of affected patients, a rise in death rates, the unavailability of particular medicines or vaccines, widespread media coverage, significant workload, and the lack of personal protective equipment [17]. Healthcare workers must work long hours under high-stress conditions [18]. Taking care of sick people exposes them to infection risk. Like everyone else, they are also bombarded with false information and rumors, heightening their anxiety.

3.0 Data collection methods

The data collection involved two categories: i) selecting survey anchors for the online recruitment of participants and

ii) The method by which a survey is performed. The non-random sample indicated that social media sites and healthcare facilities were the most effective methods for attracting survey participants. Interest in attending the online survey was then determined. Online surveys were utilized to obtain data from the participants via online surveys. The online survey was designed to be completed at the convenience of the participants. After receiving an invitation, potential participants were sent a form through email to complete an online survey. Health workers at least 18 years old, live in Hyderabad, and are currently employed by COVID-19 management are eligible to participate in this study. Participants were not permitted to participate in the research project if they were under 18, on leave, or unable to do so owing to physical or mental anguish for one reason or another.

Secondary data was analysed with 400 sample data from above 475 who can respond online. Out of 400 samples, the analysis was carried out for 340 who filled all the scaling responses subjected to the Google form. As a result of Harman's single-factor test, the survey was free of usual technique biases. Harman For example, the first component accounted for 28.77 percent of the variance (less than the 50 percent requirement given above, which may be categorized as biased). EI and JP levels (the independent variable) were examined as part of the online survey to see whether there was an association (dependent variables). The survey consisted of three main components: Ahead of the second section, let's take The Wong & Law EI Scale (WLEIS); the study's second phase used a well-known and reliable test.

In most cases, a response scale was used in which respondents selected their level of cooperation with a proposition, often in the range of 0 to 5: (1) Strongly disagree (2) Disagree (3) Neither agree nor disagree (4) Agree (5) Strongly agree.

Composite values of four variables were used to assess EI: self-emotion appraisal (SEA), others' emotion appraisal (OEA), use of emotion (UOE), and regulation of emotion (ROE). To assess JP, we used a simple, one-dimensional metric. Preliminary evaluations were carried out on a survey instrument by three academics and a survey professional before the analysis proceeded.

Using the platform provided by technology and services available online:

Quarantine is being considered in many regions since face-to-face contact can raise the risk of transmission of infection. On the other hand, technology and internet services have become widely available in these critical contexts. All but a small percentage of the SARS-CoV-2 pandemic's educational materials and psychological support are being provided online and using web-based technology. Telemedicine may be a possibility in this situation. Use this technology to eliminate unnecessary visits, reduce HCWs' infection risk, reduce HCWs' workload, and maximize their time to care for patients with acute diseases. Various methods for incorporating this new technology include video conferencing platforms, hotlines/telephones, social media, and mobile phones. It is feasible to counsel, educate, and control the spread of disease using video conferencing systems like Zoom. In addition, hotlines, social media, and cell phones can all be utilized for counselling purposes somehow." Health is a solution for reducing the workload of medical workers (mobile health). It is used in various ways, including online mental health training to help with mental health issues and learn self-help techniques online. Another technology that can be used in this situation is artificial intelligence. Suicide and other life-threatening crises can be detected using this technology. Computer software with

artificial intelligence can determine whether a person is at risk of suicide by analysing psychological messages in places like Tree Holes. The application of these technologies might make it easier to provide psychiatric treatments to those working in the healthcare industry.

4.0 Work-related characteristics

In the survey, 45.3 percent of COVID administrators had front-line duties, and 70.7 percent had started their careers in the last five years. Among those who worked in a hospital, 39% were employed by a central or provincial facility, while a privately run facility operated at 28%. During the epidemic, most participants (70.3 %) noted modifications in their usual job activities and a lack of preventative measures in their workplace (78.1 percent). Overtime was the norm for over half of the participants (49.1 percent). During COVID-19, 56.8% of healthcare professionals were aware of the government's incentive programs, and 69.6% were satisfied. More than half of the people in the community viewed the participants negatively (53.7 percent). For 49.8% of those who were subjected to stigma, it was because of their job; for 40%, it was because they were identified as being disease carriers; and for 5.9%, it was because they were threatened or forced to vacate their rented home (4.3 percent).

Study variables pilot data analysis

The dependent variables in the study were (A) anxiety, (B) depression, and (C) sleeplessness (Insomnia). Social and economic factors were among the control variables. Data collection methods psychological distress was measured by administering both Insomnia Severity Index (ISI), and the Hospital Anxiety and Depression Scale Cronbach's alpha was used to evaluate the tool's internal consistency, and the results were acceptable at 0.8 for anxiety (0.8), 0.7 for depression (0.8), and 0.9 for fatigue (0.9).

Table 1: Study variables

S. No.	Variables	Types of variables
Dependent Variables		Range
1	A	Normal= 0-7 Anxiety > 7
2	B	Normal= 0-7 Depression > 7
3	C	Insomnia Severity Index (ISSI) 1. 0 to 7, 8- mild 2. 8 to 14- moderate 3. 15 to 21- Severe 4. up to 28-critical insomnia
Independent variables and Demo graphic characteristics		Categories
1	Age	<40 years and > 40 years
2	Gender	M, F
3	Ethnicity	From Hyderabad's (H M I S)
4	Educational qualification	1. 10+2 2. Degree 3. Post-Graduation
5	Profession	Doctors, Nurses, Others
6	Marital status	1. Bachelor Married
7	Type of family	1. Individual, 2. Joint 3. Extended with in-laws

8	Living with child < 15 years	Yes, No
9	Living with elderly > 60 years	
Conditional variables		
1	Work with	1. Frontline 2. Support line
2	Work experience	<5 years, >5 years
3	Type of health facility organization	Primary, Zonal Hospitals
4	Workplace safety facilities	1. Sufficient 2. Insufficient
5	Stigma by COVID-19	Yes, No (Do not want to answer)
6	Working in a disease-infected area	Yes, No (At least one verified instance makes a district impacted)

When measuring anxiety and depression in various circumstances, the Hospital Anxiety Depression Scale is one of the most regularly used instruments. A scale from 0 to 21 was used to assess seven different symptoms of anxiety and sadness. These instruments' total scores were average, borderline abnormal, and abnormal. The presence of fear and despair was defined as a score of 7 or higher. A similar ISI score was used to classify sleep disturbances over the previous two weeks, with ranges ranging from (0 to 7), from (8 to 14), (15 to 21), and from 22 to 28, depending on the severity of the sleep disturbances observed.

4.1 Data analysis

A study of categorical data has performed using percentage and frequency distribution, whereas dependent variable analysis was done using standard deviation. It was decided to use an AOR and 95% CI for the outcome variable depending on chi-square testing by doing a multivariate logistic regression model. Bivariate variables that had a 5% significance level in the multi-variable linear regression are included in the regression adjustment. It was also added into the model, regardless of how important it could have been before, based on earlier research. For each psychometric scale that did not exhibit indications of multicollinearity, a Variance Inflation Factor (VIF) was determined.

Table:2 Study participants' characteristics and socioeconomic factors (n = 475)

Variables	Categories	Number	Percentage
Age (years)	Mean(±SD):28(±6.0)		
	Up to29	323	68
	30-39	126	26.5
	40-49	18	3.9
	50 and above	7	1.6
Sex	Male	220	46.3
	Female	255	53.7
Education	Technical school level	6	1.26
	Intermediate	83	17.47
	Bachelors	280	58.94
	Masters and above	106	22.33
Position	Nurse-primary	164	34.55
	Staff nurse	164	34.55
	Doctor assisted nurses	79	16.6

	General medicine	20	4.2
	Pharmacist	16	3.36
	Public health professional	32	6.74
Marital status	Single	285	60.0
	Married	190	40.0
Living with older adults(>60years)	Yes	170	35.78
	No	305	64.22
Family member with a chronic medical condition	Yes	245	51.5
	No	230	48.5
History of medication form mental health	Yes	28	5.9
	No	447	94.1

For male health professionals, the risk of depression was lower (AOR = 0.33; 95% CI: 0.12–0.91) when they knew about tax incentives for medical employees under COVID-19, compared to older health professionals who were knowledgeable of these benefits. There was a statistically significant difference in the prevalence of insomnia symptoms between individuals with less than five years of work experience and those with - over five years of experience (AOR = 0.50; 95 percent CI: 0.29–0.85). Men and women, their level of education and their proximity to the elderly all play a role in a successful implementation.

Table:3 Factors which contribute to health care workers' Anxiety (n = 475)

Variables	Category	Anxiety N (%)	Un adjusted OR (95%CI)	Adjusted OR (95%CI)
Gender	M	76	NA	NA
	F	123	1.90	1.05
Profession	Staff nurses	56	1.05	1.17
	Assisted nurses	94	2.55	2.33
	Others	49	NA	NA
Education	Intermediate and below	47		
	Bachelor	116	0.72	0.97
	Masters and above	36	0.53	0.99
Living with elderly	Yes	78	1.45	1.43
	No	121	NA	NA
Family member with chronic disease	Yes	121	1.55	1.25
	No	78	NA	NA
Precautionary measures in the workplace	Sufficient	29		
	Insufficient	170	2.03	1.89
Faced stigma	Yes	131	2.36	2.47
	No	68	NA	NA
	No	99	NA	NA
History of medication	Yes	14	2.54	3.40
	No	185	NA	NA

In Hyderabad, many medical professionals have been subjected to discrimination because of their involvement in the COVID-19 pandemic. Among healthcare employees, stigma significantly impacted all of their psychological outcomes. Stigmata may impact the focus and productivity of health workers already at risk for infection because of their increased exposure. Healthcare workers in Italy subjected to stigma as part of COVID-19 reported higher levels of depletion, exhaustion, and psychological suffering. As a result, it's critical to boost the spirits of healthcare workers who have been labeled "infected" and "spread." To develop an effective response that may require effective therapies, it is necessary to understand the elements that contribute to and promote stigma among care workers. Therefore, stigma reduction among healthcare professionals should be included in public information as an essential method for responding to COVID-19.

Table:4 Factors that contribute to sleeping disturbances among healthcare professionals (n = 475)

Variables	Category	Anxiety N (%)	Unadjusted OR (95% CI)	Adjusted OR (95% CI)
Gender	M	76	NA	NA
	F	123	1.90	1.05
Profession	Staff nurses	56	1.05	1.17
	Nurses	94	2.55	2.33
	Others	49	Ref	Ref
Education	Intermediate and below	47	Ref	Ref
	Bachelor	116	0.72	0.97
	Masters and above	36	0.53	0.99
Living with elderly	Yes	78	1.45	1.43
	No	121	NA	NA
a member of the family is afflicted with a chronic condition	Yes	121	1.55	1.25
	No	78	NA	NA
Considerations in the workplace	Sufficient	29	NA	NA
	Insufficient	170	2.03	1.89
Faced stigma	Yes	131	2.36	2.47
	No	68	NA	NA
	No	99	NA	NA
Medications' background	Yes	14	2.54	3.40
	No	185	NA	NA

Sources: structured Questionnaire

According to a study conducted in Telangana, healthcare workers who had previously struggled with mental health issues showed similar Anxiety, despair, and stress levels. Gender, marital status, family type, having a family member with a chronic ailment, or working overtime was all unimportant in this study's findings regarding men's or women's psychological adjustment. Due to the present epidemic's propensity to worsen these medical professionals' mental health, their communities and families must provide additional assistance. At this early stage of the epidemic, when no fatalities had been reported, and most people were

experiencing minor symptoms, it is possible that the research participants' employment roles did not influence their mental health outcomes. In the early phases of a pandemic, people on the front and back lines may be equally exposed to COVID-19-related mental health problems. Additional studies may be required to verify these findings as the epidemic spreads throughout the state.

Emotional Intelligence and Risk Assessment

In this study, only 340 of the 400 healthcare workers who received the survey through email submitted valid replies, resulting in an overall response rate of 85.5%. Table 5 shows that the bulk of respondents (76% were female) belonged to the CC 120, while the lowest percentage (35.2%) came from the RT 33 (which accounted for 9.7%). SPSS was used to determine descriptive statistics, such as the mean and standard deviation of EI and JP scores for each professional group. Table 6 shows the results of this investigation.

Table 5 The Socio-Demographic Characteristics of the Participants

Profession Field	Gender				Overall	
	Male (n=82)		Female (n=258)		Count	%
	Count	%	Count	%		
ICU	21	26	24	9.3	45	13.2
RT	8	9	25	9.7	33	9.7
NICU	20	24	30	11.6	50	14.7
CC	12	15	108	41.9	120	35.3
General	21	26	71	27.5	92	27.1

Table 6 The Median and Standard Deviation of Subject Reactions to EI and JP

Profession Field	EI		JP	
	M	SD	M	SD
ICU (n=45)	3.99	0.44	3.89	0.49
RT (n=33)	3.82	0.27	3.71	0.56
NICU (n=50)	3.98	0.46	3.90	0.59
CC (n=120)	4.08	0.43	3.91	0.45
General (n=92)	3.93	0.45	3.92	0.55
Overall	3.99	0.41	3.89	0.53

Instrument Adaptation

The survey findings were subjected to factor analysis and reliability testing to identify any measurement biases. Factor analysis is a data reduction technique employed to find out if several variables are measuring the same thing. Candidate factors with less than one eigenvalues are usually discarded during factor analysis, while those with values greater than one are maintained. Cronbach's alpha was used to see how closely connected the entries in each category were. Cronbach's alpha is seen as a sign of good dependability when it is more than or equal to 70%. Table 7 shows the findings of the factor and reliability studies. Items from the EI and JP elements of the survey were used in the factor analysis. Extracting consecutive components from test results is done in accordance with a technique that stands for a defined cumulative proportion of total variation. The four SEA-related elements in the EI section were constructed in this method.

Table 7 Factor and Reliability Analysis of EI and JP

Items	Loading	Communality	
Emotional Intelligence (EI)	0.644	0.489	0.790
Self-Appraisal	0.769	0.659	
Hoping you might understand why I tend to feel a certain way most of the time.	0.858	0.770	
I have good understanding in sharing emotions with colleagues (Eigenvalue= 5.119; Variance= 32.59%)	0.732	0.619	

Emotional Appraisal (Other's)	0.606	0.458	0.71
Observing my colleague's behaviour to know their emotion	0.720	0.590	9
Keen observer	0.659	0.469	
Responding sensitively with colleagues to control emotions	0.790	0.682	
Communication f understanding levels are fine (Eigenvalue= 1.301; Variance= 8.182%)			
Emotions and application usage	0.690	0.538	0.71
Keep goals and achieving it by correcting my self	0.390	0.339	0
Competitiveness is a part of the regular.	0.789	0.662	
Inspiring and self-motivated	0.699	0.562	
Best in my working environment (Eigenvalue= 1.792; Variance= 11.209%)			
Emotion Regulation	0.834	0.731	0.78
In handling difficult situations, I am able to control my temper	0.809	0.740	0
I am capable in controlling my emotions	0.489	0.549	
I am controlling my anger	0.525	0.629	
I am able to control myself in any specified scenario. (Eigenvalue= 1.192; Variance= 7.458%)			
Job Performance (JP)	0.639	0.459	0.72
Very good quality of work	0.799	0.660	0
Completing my responsibilities	0.780	0.620	
Understanding difficult situations	0.659	0.441	
Unimportant work avoidance Eigenvalue= 1.811; Variance= 18.114%)			

Note; (KMO= 0.820; Total Variance= 9.548%)

The OEA, UOE, and ROE elements were put into factors 3, 2, and 4, respectively in this study. A total of 59.548 percent of the variation may be attributed to these three factors: A total of 18.1 percent of the overall variation was accounted for by the four items used to evaluate JP on factor number two. Cronbach's alpha scores for all of the items in the study were over 70%. The Varimax rotation is only effective if the EI components have a common variation array.

Table 8

Variables	B	95% CI	t	p
Constant EI	1.402	4.06–13.81	0.526	6.397
	0.623	0.26–1.49		11.413

Nurses' Emotional Intelligence and Job Performance During COVID-19 at a Tertiary Hospital $p < 0.05, r = 526$). Regression models show that $JP = 1.402 + 0.623 (EI)$ and that about 28% of the variance in JP is explained by change in EI (the regression model: $JP = 1.402 + 0.623 (EI)$).

Conclusion:

In Hyderabad, many health workers reported feelings of worry, sadness, and insomnia during the epidemic's early stages. The correlation between stigma and past use of mental health medication was high for all outcomes. Professionals in the medical field who had been rejected had previously taken medicine for mental health concerns and believed their job did not provide appropriate mental health precautions were more likely to experience mental health problems. Health care workers' working practices were deemed unacceptable by only one out of every five respondents polled. It was observed that preventative interventions increased the likelihood of anxiety and depression. Individuals with mental health disorders may also require emotional and practical help from family members and friends. According to a study,

nurses were more likely than other healthcare workers to experience anxiousness. The idea is to improve the mental health of medical professionals by reducing stigma, providing safety nets, and ensuring the support of patients and families for those with a history of mental illness. Medical staff must be informed about COVID-19 and provided with just enough logistical assistance in order to ensure their own safety. The study discovered considerable evidence of a connection between nurses' EI levels and their reported JP. The EI of nurses, particularly those who work in critical care or other medically oriented sectors, is often high. The results must be interpreted carefully. In patient-centred institutions, fostering an empathic workplace may have a favourable influence on staff performance and operational best practises. Nursing performance evaluations and healthcare practise recommendations may benefit from the implementation of EI as an asset among nurses.

This study provides evidence that growing emotional intelligence (EI) in nurses may have a positive impact on specific caring behaviours and that there may be disparities within groups that merit additional exploration. Additionally, the study suggests that there may be a correlation between emotional intelligence and job satisfaction.

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