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Relationship Between Resilience And Psychological Distress Among Hospital Staff Nurses

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Abstract

Aim: To investigate relations between resilience and psychological distress in hospital staff nurses.
Design and methods: A descriptive, cross-sectional study was conducted between January and April 2022. Data were collected using a self-administered questionnaire consisting of nurses' sociodemographic and work data, the Connor-Davidson Resilience Scale, and The Kessler Psychological Distress Scale.
Results: Major findings were of moderate resilience and severe psychological distress levels among staff nurses. Sufficient income and low psychological distress scores were statistically significant predictors of resilience scores, while lower income, being female, and decreased resilience scores were statistically significant predictors of higher psychological distress scores.
Conclusion and recommendations: A statistically highly significant inverse correlation between resilience and psychological distress scores was found. Therefore, this study recommends the implementation of combined training programs for resilience enhancement skills and regular stress management programs for hospital staff nurses.

Keywords: Resilience, Psychological distress, Nurses.

Introduction

Certified practical nurses, registered nurses, and advanced practice nurses (collectively identified as nurses) are all under considerable stress (Hindereret al., 2014, Lu et al., 2015). In practically every country, nurses constitute the largest group of healthcare professionals. The mental and physical demands placed on hospital nurses by their working environment are great (Suzuki et al., 2004; Dianat et al., 2013). Due to intense stress generated by tight work schedules, the extent of their responsibilities, and interpersonal conflicts, the prevalence of considerable psychological discomfort is particularly high among hospital nurses (Nicklin, 2000).

Resilience denotes the capacity to endure hardship or the extent to which individuals respond to situations; it is also a skill that permits people to overcome obstacles and problems (Razaghpoor et al., 2021). Alternatively, resilience means the mental processes and behavior involved in enhancing personal assets and avoiding potential negative effects (Fletcher et al., 2013). Many organizational behavior professionals believe that nurses today frequently face a diversity of challenges, including balancing work and family life (Salari et al., 2020). Resilience, according

to Thomas and Asselin (2018), is more than just overcoming adversity; it also leads to the development of learning and capacity from the situation.

Because of the challenges of constantly changing surroundings and contexts of care, resilience has been a rising issue for nursing in recent years. Nurse shortages, higher patient acuity, advanced technologies in use in most areas of practice, ever-changing regulatory necessities, and the physical and psychological demands of work and the workplace are all factors that threaten nurses' psychological and physical wellbeing, according to a study by Hart et al. (2014). These characteristics are associated with a rise in unfavorable outcomes for nurses. Workplace adversity is the cluster of undesirable occupational conditions, situations, or events that cause hardship, stress, and burnout (McDonald et al., 2012).

Resilience has lately been identified as a potential resource for healthcare practitioners, as healthcare environments may be stressful and demanding. Indeed, a previous study found a substantial link between resilience, high persistence, high self-directedness, and low avoidance of obstacles, implying that resilience could be a factor helping to retain a flexible and successful workforce (Robertson et al., 2016). Furthermore, a number of research studies involving healthcare professionals have identified resilience as a positive attitude toward the patient population as well as competence that can be developed or strengthened (Jackson et al., 2007; Cooke et al., 2013). Robertson et al. (2016) define resilience as a personal resource that leads to good adaptation and is a protective factor against burnout (Keeton et al., 2007). Studies of healthcare personnel in critical care units have demonstrated the function of resilience in moderating the relationship of burnout with health-related quality of life, buffering the harmful effects of work-related stress (Arrogante et al., 2017; Colville et al., 2017).

According to the protective model of resilience (Bonanno, 2004; Ledesma, 2014), specific combinations of risks and protective factors can promote better health outcomes despite adverse circumstances. The model identifies planning skills, problem-solving skills, and emotional management skills as protective variables. Thus, a nurse's resilience involves the capacity to endure and adapt to demanding working circumstances, maximize personal potential, and develop supportive structures (Guo et al., 2017). Furthermore, resilience has been identified as protecting nurses in catastrophes, as it aids in the transformation of adversity into positive learning experiences, which benefits their professional development in addition to their health, both physical and mental (Hart et al., 2014). Accordingly, a recent study discovered that ego-resilience intermediates the relationship between emotion-oriented coping mechanisms and overall wellbeing as measured by work satisfaction (Ziarko et al., 2020).

In a healthcare setting, however, nurses as a profession encounter considerable psychological distress, including anxiety, stress, and depression (Poursadeghiyan et al., 2016; Jordan et al., 2016). Among the factors raising the level of workplace occupational stress are workload, inpatient hostility, nurse scarcities, death and dying, bullying, violence, lack of required equipment for procedures, rotating shift work, and unhealthy communication between nurses and other healthcare professionals (Faremi et al., 2019; Isaiah et al., 2019).

Not only has psychological distress been identified as a risk predictor of quality of life and psychosomatic function (Kunie et al., 2017; Li et al., 2018); it has also been

linked to poor job performance and high turnover rates, both of which have impacts on nursing professionalism and care quality (Egede & Dismuke, 2012; Prapanjaroensin al., 2017). Organizational and human issues have come from ongoing changes in the healthcare profession, such as growing competition among hospitals, shifting employment relations, greater workloads, and inadequacies in both technical knowledge and decision-making autonomy (Lambert et al., 2007; Tao et al., 2020). These challenges, combined with hasty fiscal development, population aging, the rising burden of chronic diseases, unreasonable prospects among administrators and patients, and unsafe working conditions or practice environments, have given rise to increased psychological distress and job insecurity among nurses (Chen, 2009; Wang et al., 2020).

As evidenced in a recent study, nurses need resources to cope with stress, sadness, and anxiety in the clinical setting to improve their wellness and avoid harmful consequences. Resilience is one of the human resources for managing mental disease symptoms. Because of its usefulness in decreasing the negative impacts of stress and other negative work environment effects, this notion is explored in the nursing profession. Resilience is the ability to adapt, cope, and adjust favorably to job obstacles while also developing personal strength (Lin et al., 2019). In order to succeed in the nursing profession in a difficult and demanding environment, nurses are required to develop professional resilience skills (Brennan, 2017). For these reasons, its deemed necessary to investigate the relations between resilience and psychological distress in hospital staff nurses.

Aim of the study: To investigate the relations between resilience and psychological distress in hospital staff nurses. The research hypothesis was that resilience and psychological distress scores are significantly and negatively inter-correlated.

Subjects and Methods

Research design and setting: A descriptive cross-sectional study design was used to test these relations in the study, which was carried out in Suez Canal University Hospitals.

Subjects: A convenience sample of all the staff nurses who worked in the study settings and agreed to participate in the study was selected. The total number working in the different departments was 315. The estimated percentage of physiological stress among them was 57.2% (Mirzaei Dahka et al., 2022).

Sample size: The number of nurses in Suez Canal University Hospitals being 1900, the open-source OpenEpi (version 3.01) software program was used to calculate the required sample size of 315 nurses, at a confidence level of 95% with a power of study of 80%.

Data were collected using a self-administered questionnaire form. It encompassed two valid standardized tools in addition to a section for respondents' demographic and work characteristics, namely age, gender, marital status, number of children, education, residence, income, length of experience, department of work, and job satisfaction.

The **Connor-Davidson Resilience Scale** (CD-RISC-10) (Connor & Davidson, 2003) was adopted to measure resilience. This is a ten-item self-report test with five Likert-scale alternatives (0 = never; 4 = almost always). The total score (range, 0-40) was the sum of the responses on each item, with the highest scores indicating the highest level of resilience. Resilience levels were classified as low (<10), mild (10-<20), moderate (20-<30), or high (≥30), using

quartiles. The scale had satisfactory validity and reliability (Cronbach's alpha of 0.889) in the Iranian study (Mirzaei Dahka et al., 2022). The alpha coefficient in the present study was 0.799.

The original version of the **Kessler Psychological Distress Scale** (K10) (Kessler et al., 2002) is widely used to assess an individual's psychological distress. Participants are required to respond on a 5-point scale (1 = hardly to 5 = very much). Andrews and Slade (2001) recommend cutoff scores to estimate psychological misery and distress levels as follows: low distress from 10 to 15 points, moderate distress from 16 to 21 points, high distress from 22 to 29 points, and very high distress from 30 to 50 points. In Egypt (Elkayal et al., 2022), the scale had acceptable validity and reliability (Cronbach's alpha of 0.94), while the alpha coefficient in the current study was 0.877.

Pilot study: The two scales were standardized and adopted in their original structure and language; thus, no additional validation was required. However, to ensure that the scales were clear and that the study was feasible, a pilot study was conducted before the main study on 31 staff nurses, i.e. around 10% of total participants. According to the pilot study findings, the average time to complete the questionnaire was between 10 and 15 minutes. The pilot subjects were excluded from the full study sample, since no changes were required. The pilot also assisted in determining the scales' reliability. This was accomplished by computing their Cronbach's alpha coefficients and measuring their internal consistency.

Administrative and ethical considerations: Before the research began, approval was obtained from the Deanship of the Faculty of Nursing at Zagazig University. The medical and nursing directors of the hospitals also provided a permission letter after having been fully informed of the study's aim and procedures. The researcher complied with all research ethics principles according to the Helsinki Declaration. The staff nurses were informed that their participation in the study was voluntary, with no consequences if they chose to refuse or withdraw at any time. The confidentiality and anonymity of any information obtained were guaranteed. Consent was established with the completion of the questionnaire.

Study procedure

After securing official permissions, the researchers met with the nursing directors, explained to them the aim of the study and its procedures, and asked for their permission and cooperation for data collection, then they met with the nurses individually and interviewed them using the data collection form. The interview with each nurse took 10–15 minutes. The work was done twice weekly from January 2022 to April 2022.

Statistical Analysis

All data were collected, tabulated, and statistically analyzed using IBM SPSS Statistics for Windows, Version 23.0. Quantitative data were expressed as the mean ± standard deviation (SD) and range, while qualitative data were expressed as frequency and percentage. A t-test was used to compare two groups of normally distributed variables, while the f (ANOVA) test was used to compare more than two groups of normally distributed variables. Pearson's correlation coefficient was calculated to determine the relationships among various study variables, with the + sign indicating direct correlation and the - sign inverse correlation. Values close to 1 indicate strong correlation and those near 0 indicate weak correlation. Multiple linear regression, a method of predictive analysis,

was used to describe data and to explain the relationship between one dependent continuous variable and one or more independent variables. All tests were two-sided. A p-value < 0.05 was considered statistically significant, while a p-value ≥ 0.05 was considered statistically insignificant.

Results

Table 1: Sociodemographic and work characteristics of staff nurses (n=315)

Variables		Frequency	Percent
Age	<20 years	123	39.0
	20-29 years	167	53.0
	30-40 years	25	7.9
Gender	Male	121	38.4
	Female	194	61.6
Marital status	Married	77	24.4
	Single	229	72.7
	Widowed/divorced	9	2.9
Number of children	None	245	77.8
	1-2	51	16.2
	≥3	19	6.0
Education	Diploma	21	6.7
	Technical institute	223	70.8
	Bachelor's degree	46	14.6
	Postgraduate	25	7.9
Residence	Urban	185	58.7
	Rural	130	41.3
Income	Sufficient	172	54.6
	Insufficient	143	45.4
Length of experience	<5 years	214	67.9
	5-9 years	64	20.3
	10-14 years	27	8.6
	≥15 years	10	3.2
Department	Medical	12	3.8
	Surgical	21	6.7
	Emergency	40	12.7
	Intensive care unit	60	19.0
	Other	182	57.8
Job satisfaction	Yes	221	70.2
	No	94	29.8

The sociodemographic characteristics in Table 1 reveal that roughly half to three-quarters of the nurses surveyed were female, 20 to 30 years old, single, without children, and educated to technical institute level (53%, 61.6%, 72.7%, 77.8%, 70.8% respectively). Slightly more than half of the study sample were urban residents and had sufficient income (58.7%, 54.6%

respectively). Finally, 70.2% expressed job satisfaction.

Table 2: Distribution of resilience and psychological stress (n=315)

	Frequency	**%**	**Mean ± SD**	**Range**
Resilience level				
• High	132	41.9		
• Moderate	165	52.4	28.2±5.9	16-40
• Low	18	5.7		
Psychological distress				
• Low	81	25.7		
• Mild	54	17.1	26.1±8.5	12-44
• Moderate	48	15.2		
• Severe	132	41.9		

Table 2 displays the frequency and percentage of levels of resilience and psychological distress among the sample. Most nurses were moderately or highly resilient (52.4% and 41.9% respectively), while more than half had moderate or severe psychological distress.

Table 3: Correlation matrix between resilience and psychological distress scores

	Resilience	
	r	**p**
Psychological distress	**-0.448****	**0.0001**

r = correlation coefficient **significant p<0.01

Table 3 reveals a highly statistically significant inverse correlation between resilience and psychological distress scores with a p-value <0.01, which means that high psychological distress levels are associated with low resilience levels.

Table 4: Multiple linear regression model for predicting resilience and psychological distress scores (n=315)

Predictors	Regression coefficient (β)	t	Sig.	r	R^2
Resilience					
Income (sufficient versus insufficient)	0.184	3.288	.0001	0.52	0.27
Psychological stress score	-0.479	9.72	.0001		
β = regression coefficient; R squared = 27% of predictors; ANOVA model = 22.8; p=0.0001					
	Psychological distress				
Income (insufficient versus sufficient)	0.158	3.041	.003		
Female versus male	0.147	2.864	.004	0.522	0.272
Resilience score	-0.474	9.64	.0001		
β = regression coefficient; R squared = 27 .2% of predictors; ANOVA model = 38.8; p=0.0001					

Table 4 reveals that sufficient income and low psychological distress scores were statistically significant predictors of resilience scores, while low income, low resilience, and female gender were statistically significant predictors of psychological distress scores among staff nurses studied.

Discussion

People are increasingly concerned about their health as science and technology advance. Nurses are expected to possess greater professional knowledge and abilities. They frequently face stress and work-related difficulties, such as juggling multiple tasks, caring for pained and dying patients, working longer hours, doing challenging technical tasks, and treating critically ill patients. These expectations can easily lead to severe psychological issues (Gong et al., 2014; Petrie et al., 2019). One of the mediating elements capable of lessening the impact of stress on an individual is resilience (Olabisi et al., 2022). The present study has investigated the relation between resilience and psychological distress among hospital staff nurses.

The results show that participants tended to be female, aged 20-30 years, with less than five years' experience, and a technical nursing education, which broadly reflects the ratio of male and female enrolment in nursing education at the majority of Egyptian universities and the female nature of the nursing profession. The predominance of female nurses is consistent with a study of nursing staff in Saudi Arabia (Shahin, 2018). Similarly, an

earlier study in Tehran found that nursing remained basically a feminine profession, helping women to fulfil a traditional caring and nurturing role (Mohtashami et al., 2015). On other demographic factors, a recent Saudi study found that nurses were relatively young (mean age 27 years), inexperienced (77% working in the field for fewer than five years), and not highly educated (Alboliteeh et al., 2017). There is also consistency with a very recent study of emergency room nurses in South Korea, most of whose participants were unmarried, in their early 30s, with less than three years of emergency room experience (Kim et al., 2022).

Regarding resilience, the present results indicate that a strong majority of the study sample had a moderate or high level of resilience, which indicates that nurses were already using protective factors, albeit unknowingly, in handling adverse workplace situations. This result is consistent with a study in the Philippines which found nurses to have moderate levels of personal resilience (Labrague & De Los Santos, 2020). As to correlation, the present results demonstrate that resilience is statistically significantly correlated negatively with psychological distress, meaning that higher resilience is associated with decreased psychological distress experienced by nurses, supporting the research hypothesis. In congruence with this, a study in Nigeria concluded that resilience is negatively correlated with stress to a statistically significant extent (Olabisi et al., 2022).

There is also consonance with a study of nurses in Iran which reported a moderate average resilience score and a significant negative relationship between nurses' mental health and resilience, whereby an increase in resilience score could reduce a person's mental health score by 0.49 (Mirzaei Dahka et al., 2022). An earlier Iranian study also found a link between occupational burnout and resiliency, explaining that resiliency improves an individual's adaptability to stressors, alleviating psychological, motivational, and emotional symptoms at work; thus, reduced resiliency was associated with increased emotional exhaustion (Deldar et al., 2018). Similarly, a study by Duncan (2020) suggests that enhancing nurses' hardiness and ability to cope may better enable them to manage stressful situations and deal more effectively with them.

This study demonstrates that sufficient income and decreased psychological distress scores are statistically significant predictors of resilience scores, which may contribute to feelings of emotional security and job satisfaction, thus positively affecting the quality of patient care. These results are consistent with previous studies suggesting that higher resilience may signify health-protective factors for people confronted with psychological distress (Wu et al., 2016). Moreover, individuals who are considered resilient can better adjust to traumatic events and overcome the danger of developing anxiety and depression (Dooley et al., 2017).

The present finding that over 40% of participating nurses reported severe psychological distress may be interpreted as reflecting the view of nursing as an emotionally taxing career that frequently results in a variety of psychiatric issues and high levels of stress. This finding is consistent with a prior study of nurses in Nigeria, which reports that psychological distress was significantly prevalent (Okwaraji & Aguwa, 2014), and with an earlier one by Purcell et al. (2011) reporting that psychological distress among nurses is considered more severe than among the general population, owing to the nature of the work, the workplace environment, the social atmosphere, occupational hazards, and other factors. A study of Greek staff nurses in the same context reported that the

nursing profession is seen as an emotionally taxing and difficult career. For a select set of health workers, regular or persistent exposure to stress results in highly prevalent depression and anxiety. Furthermore, the current social environment, social conditions, social roles, family status, and the performance of tasks related to and consistent with these factors may be considered important correlates that influence the expression of anxiety and depression among nurses (Fradelos et al., 2020).

A further finding of the present study is that lower monthly income, female gender, and decreased resilience scores were statistically significant predictors of higher psychological distress scores among the staff nurses studied, which can be interpreted as identifying female gender, insufficient monthly income, and decreased resilience as risk factors for developing psychological distress. This conclusion is consonant with that of a study of staff nurses by Davey et al. (2019), that the factor most strongly augmenting stress (70%) among its subjects was inadequate compensation. Finally, a study in Nepal reported that females were at higher risk of becoming psychologically distressed (Shrestha et al., 2020).

Conclusion and recommendations

This study has revealed predominant moderate resilience and severe psychological distress levels among hospital staff nurses and a statistically highly significant inverse correlation between resilience and psychological distress scores, while sufficient income and low psychological distress scores were statistically significant predictors of high resilience scores. Conversely, low income, female gender, and low resilience scores were statistically significant predictors of high psychological distress scores. Therefore, this study recommends the implementation of combined training programs for resilience enhancement skills and regular stress management programs for hospital staff nurses.

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