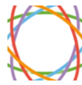
KMANPUB  Health Nexus Vol. 2 No. 3 (2024): 18-26

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The Moderating Role of Perceived Social Support in the Relationship Between Professional Quality of Life, PTSD Symptoms, and Psychological Well-Being of Nurses in Karbala

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A B S T R A C T

Mental health is one of the most important factors for the empowerment and optimal performance of nurses. The present study aimed to determine the moderating role of perceived social support in the relationship between professional quality of life, PTSD symptoms, and psychological well-being of nurses in Karbala. The research method is correlational with a hierarchical regression analysis. The statistical population included all nurses in the hospitals of Karbala, Iraq, with 349 individuals selected as the sample through convenience sampling. Data were collected using the Professional Quality of Life Scale (Stamm, 2010), PTSD Symptoms Scale (Wheeler et al., 1993), Psychological Well-Being Scale (Ryff & Keyes, 1983), and Perceived Social Support Scale (Zimet et al., 1988). Data analysis was conducted using Pearson correlation coefficient and hierarchical regression analysis with SPSS 26 software. Perceived social support moderates the relationship between professional quality of life and PTSD symptoms as well as psychological well-being ($p < .01$). When perceived social support is high, the relationship between professional quality of life and PTSD symptoms and psychological well-being is stronger ($p < .01$). Perceived social support and professional quality of life are essential for promoting the well-being and health of nurses in work environments.

Keywords: *Perceived Social Support, Professional Quality of Life, PTSD Symptoms, Psychological Well-Being, Nurses.*

1. Introduction

Nursing is one of the most impactful and valuable professions for maintaining the quality of healthcare services in any society. This crucial position for nurses gives rise to a range of professional pressures and tensions, as well as various other issues. Recent studies indicate that nurses in different departments, such as emergency and trauma, face

low-level stress at 21%, moderate-level stress at 46%, and high-level stress at 32% (1). A simple look at these percentages clearly shows that a very high proportion of nurses are facing stress and tension that require scientific attention in their work environments (2). In this high-stress and pressure-filled nursing profession, researchers can provide effective support for this valuable group by identifying connections and pathways that can facilitate the overall empowerment and health of nurses. In this regard, among the most significant variables for nurses, due to their exposure to a range of minor and major threatening events, are Post-Traumatic Stress Disorder (PTSD) symptoms and psychological well-being (3, 4).

PTSD symptoms, which often occur after exposure to a severe, stress-inducing, and threatening event, include persistent mental replay of the traumatic stress, re-experiencing the pressure of the event during sleep or wakefulness, efforts to avoid recalling the stressful event accompanied by a feeling of being overwhelmed, and a range of other psychosomatic symptoms (5). The occurrence of PTSD symptoms is a threatening factor for psychological health and well-being (6). Nurses in their work environments are confronted with a range of severe and threatening stress-inducing factors that make them susceptible to experiencing PTSD symptoms. Various factors, such as feelings of helplessness and loneliness, contribute to the occurrence of PTSD symptoms among nurses in their workplaces (4, 5). According to available evidence, the occurrence of PTSD symptoms in nurses leads to work inefficiency, distressing memories, avoidant behaviors that reduce the level of care and nursing services, irritability, and emotional numbness, which are factors contributing to the decline in nurses' psychological well-being (7, 8).

Although psychological well-being is a widely used term, there is no absolute consensus among scholars on its definition, resulting in various definitions. Common and largely accepted definitions emphasize the absence of signs and symptoms of psychological problems and disorders, such as severe symptoms of depression, anxiety, and psychosomatic symptoms, along with a sense of happiness, experiencing positive emotions, and a sense of effective presence and flourishing in life (9). Importantly, psychological well-being has a negative relationship with PTSD symptoms (10) and a stable relationship with the level of work-related stress experienced either acutely or accumulatively (ongoing stress in work conditions without the opportunity for effective management and coping) among nurses (1, 3). In the context of the relationship between psychological well-being, PTSD symptoms, and work stress, both variables are related to another crucial variable, professional quality of life, which is a determining factor in the quality and health of nurses' work lives.

Based on accepted formulations, professional quality of life encompasses both positive and negative aspects, covering the level of satisfaction and the ability for emotional empathy (positive aspects of professional life) along with the level of stress and burnout experienced during professional activities (negative aspects of professional life) (11). In the nursing profession, the level of satisfaction and empathy experienced by nurses in their interactions with patients, their families, other clients, and colleagues can significantly enhance perceived professional quality of life. This is because feedback cycles from patients and colleagues transfer feelings of efficacy and empowerment to nurses with high empathy and satisfaction levels (12). Secondary stress and trauma seriously disrupt the perception of desirable professional quality of life (13).

Professional quality of life, in its positive and negative dimensions, is related to a range of important variables, including psychological resilience (14), stress-inducing factors in clinical environments (13), caregiving behaviors in hospital settings (15), coping styles for stress (16), and professional values among nurses (13). Beyond the relationship of professional quality of life with the mentioned variables, this variable is also related to variables in the health and well-being domain in nurses' work environments. For example, Ebrahimipour et al. studied the relationship between PTSD symptoms and professional quality of life among psychiatric ward nurses in an Iranian hospital, and Yeung et al. (2023) showed the relationship between professional quality of life and inadequate emotional support. A detailed look at the content and nature of a variable like professional quality of life and its connection to the possibility of PTSD symptoms and psychological well-being in nurses makes it logical and scientific to consider various underlying variables, such as perceived social support, which serves as a resource

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providing various supportive possibilities to play a moderating role in the mentioned relationships (13).

Perceived social support, from the perspective of many scholars, refers to the feeling of reliable support in stress-inducing conditions from others, including family members, friends, and colleagues. This stable and reliable support, in its broad and deep concept, goes beyond merely the availability of verbal, behavioral, and practical support from those around (17, 18). According to existing research, the nature of interaction in three forms of positive, negative, and neutral support ultimately determines the impact of support provided by others for individuals exposed to stress, trauma, or other tensions (18). From a scientific perspective, especially in the work environments of nurses, perceived positive support can enhance nurses' capacity to cope with high-pressure conditions and improve their professional quality of life. In contrast, perceived negative support is likely to increase the level of tension and pressure on nurses. Supporting this claim, Ashouri’s study examined the relationship between perceived social support and burnout, which is a significant factor in nurses' professional quality of life. Foroughi Kaldareh et al.'s study examined the relationship between perceived social support and anxiety, which is an indicator of a decline in psychological well-being. Labbadi et al.'s study examined the relationship between social support and psychological well-being among nurses in special wards of an Iranian hospital (19). Jukić et al.'s study explored the relationship between perceived social support and PTSD symptoms, and health-related quality of life (20). Price et al.'s study examined the relationship between perceived social support and post-traumatic pathology (19). Ortiz-Calvo et al.'s study examined the relationship between perceived social support and psychological health in medical service personnel, including nurses (21). Ruisoto et al.'s study examined the relationship between perceived social support and the health of nurses (22). Gök & Çiftçi’s study examined the relationship between social support and PTSD symptoms (23).

Beyond the simple and broad relationship between social support and a range of indicators of empowerment and psychological health, it is essential to consider the contextual role of this variable as a moderating variable in the relationship between professional quality of life, PTSD symptoms, and psychological well-being among nurses. From the perspective of the Conservation of Resources (COR) theory, any factor that can enhance the available resources for coping with stress and pressure can also increase an individual's capacity to cope with stress, fatigue, and burnout. More broadly, it can enhance the capacity to cope with any threat, thereby playing a moderating role in the relationship between variables such as professional quality of life with health indicators or health-threatening indicators such as PTSD symptoms and psychological well-being (7, 8, 24). Theoretically, this means that professional quality of life, focusing on satisfaction from job compassion, job burnout, and secondary stress, can be related to PTSD symptoms and psychological well-being. At the same time, this relationship is seriously moderated and influenced when positive perceived social support provides information, resources, assistance, and opportunities to strengthen coping resources for stress and burnout. Supporting this claim, Lu et al.'s study demonstrated the moderating role of social support in the relationship between self-efficacy and psychological well-being among nurses (24).

In conclusion, based on the reviewed theoretical and research foundations, professional quality of life is a variable related to PTSD symptoms and psychological well-being among nurses by creating opportunities and coping mechanisms for stressful conditions. At the same time, based on the Conservation of Resources (COR) theory, perceived social support also plays a moderating role in the relationship between professional quality of life, PTSD symptoms, and psychological well-being among nurses by creating enabling conditions and strengthening available resources. Despite available evidence and conducted research, no study has been found that specifically examines the moderating role of perceived social support in the relationship between professional quality of life, PTSD symptoms, and psychological well-being among nurses in Iraq, particularly in Karbala, or in other parts of the world to a lesser extent. Although efforts and research have been conducted to empower nurses and enhance their level of health and psychological well-being in various parts of the world, more research is still needed to address the critical role of necessary individual and social resources in the relationship between professional quality of life, PTSD symptoms, and psychological well-being among nurses in a

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city like Karbala, which has a religious background in Iraq. This can seriously address the gap in scientific and practical knowledge for nurses in Iraq. In this context, this study was conducted to answer the question of whether perceived social support moderates the relationship between professional quality of life, PTSD symptoms, and psychological well-being among nurses in Karbala, Iraq.

2. Methods and Materials

2.1. *Study Design and Participants*

This research is correlational in nature, and the statistical population comprised all nurses working in hospitals in Karbala, Iraq, in the spring of 2023, totaling 1,400 individuals. Using convenience sampling based on the recommendations from Krejcie and Morgan's table (1970), 360 individuals were selected (for a population of 1,400, 302 individuals are recommended, but to prevent sample attrition after questionnaire returns and to increase the power of hierarchical regression analysis, 20% more, about 60 individuals, were added to the sample). After the return of the questionnaires, 11 questionnaires (3%) were incomplete and excluded from the study, reducing the sample to 349 individuals. Inclusion criteria included willingness and consent to participate in the study and being employed as a nurse in Karbala hospitals. Exclusion criteria included discontinuing cooperation in completing the questionnaires. The following instruments were used in the study:

To carry out the research, an introduction letter obtained from Islamic Azad University, Isfahan (Khorasgan) Branch was presented by the researcher to the officials of the Karbala health and medical organization. After receiving approval and their support, the necessary permits were issued to visit Imam Hussein Hospital, Children's Hospital, Al-Hindiya Hospital, and Al-Husseiniya Hospital. The researcher, accompanied by a representative from the health department, visited the mentioned hospitals, explained the research objectives to the hospital heads, and arranged to administer the questionnaires during the morning shifts across all hospital departments. The researcher introduced themselves to the staff, and with the cooperation of department heads and head nurses, ensured that the questionnaires were completed without disrupting their duties. After explaining the research objectives to the nurses, the questionnaires were distributed, completed as self-reports, and collected. It is noteworthy that all questionnaires were initially translated from Persian to Arabic by a psychologist proficient in Arabic and then back-translated to Persian by an Arabic language specialist. Differences were reconciled before implementation.

2.2. *Measures*

2.2.1. *Perceived Social Support*

To measure perceived social support, the 12-item questionnaire by Zimet et al. (1988) covering three domains: family support (4 items), friends support (4 items), and significant others support (4 items) was used. The response scale ranges from 1 (strongly disagree) to 5 (strongly agree), with scores ranging from 12 to 60. Higher scores indicate higher levels of perceived social support. Exploratory and confirmatory factor analysis confirmed the three-factor structure. Cronbach's alpha was reported between 0.61 and 0.63 (Zimet et al., 1988). In Iran, Basharat reported significant positive relationships between this scale and measures of mental health, positive and negative emotions, and emotional empathy, with Cronbach's alpha of 0.91 and test-retest reliability of 0.86 ($p < 0.01$) (24). In this study, Cronbach's alpha was 0.89.

2.2.2. *PTSD*

To measure PTSD symptoms, Weathers et al.'s (1993) 17-item checklist was used, covering four areas: intrusions (mental, emotional, and cognitive), avoidance (of memories or images related to the stressful event), negative changes in cognition and mood, and marked alterations in arousal and reactivity. The response scale ranges from 1 (not at all) to 5 (extremely), with scores ranging from 17 to 85. Higher scores indicate higher levels of PTSD symptoms. Weathers et al. (1993) reported convergent validity with the Mississippi Scale ($r = 0.93$, $p < 0.01$), the Impact of Event Scale ($r = 0.90$, $p < 0.01$), and the Combat Exposure Scale ($r = 0.46$, $p < 0.01$). Reliability (Cronbach's alpha) was reported as 0.97 and 0.96 (Weathers et al., 1993). Goudarzi (Mohammadali) reported convergent validity ($r = 0.37$, $p < 0.01$) and Cronbach's alpha of 0.93, with a split-half reliability of 0.87. In this study, Cronbach's alpha was 0.92 (5, 18).

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2.2.3. *Professional Quality of Life*

To measure professional quality of life, Stamm's 30-item questionnaire covering three domains: compassion satisfaction (10 items), burnout (10 items), and secondary traumatic stress (10 items) was used. The response scale ranges from 1 (never) to 7 (always) with total scores ranging from 30 to 150 (Stamm, 2010). The construct validity of this questionnaire has been confirmed through confirmatory factor analysis. Reliability of this tool has been reported between 0.53 and 0.89 in various languages. Additionally, there is significant convergent validity between the burnout dimension of the ProQOL and the Shirom-Melamed Burnout Measure and the Maslach Burnout Inventory.. An Iranian study confirmed the construct validity and reported Cronbach's alpha ranging from 0.702 to 0.813 for the subscales (11, 14). In this study, Cronbach's alpha was 0.89 for the overall score.

2.2.4. *Mental Health*

To measure psychological well-being, the 38-item questionnaire by Veit and Ware (1983) covering psychological well-being (14 items) and psychological distress (24 items) was used. The response scale ranges from 1 (never) to 6 (always), with scores ranging from 38 to 190. Lower scores indicate better psychological well-being. Veit and Ware used exploratory and confirmatory factor analysis to confirm the construct validity, reporting Cronbach's alpha between 0.92 and 0.96. In Iran, Kazemi Rezaei et al. reported Cronbach's alpha of 0.81 and test-retest reliability of 0.75 ($p < 0.01$) (9, 10). In this study, Cronbach's alpha was 0.91.

2.3. *Data Analysis*

The data were analyzed using Pearson correlation coefficients along with means and standard deviations. After checking the statistical assumptions of normality using the Shapiro-Wilk test and the linear relationship between variables using scatter plots, hierarchical regression analysis was conducted using SPSS version 26.

3. Findings and Results

The study sample comprised 349 participants. Regarding education, 34.1% had an associate degree, 41% had a bachelor's degree, 19.2% had a master's degree, and 5.7% had a doctorate. In terms of marital status, 43.6% were single, 51% were married, 3.7% were divorced, and 1.7% were widowed. Age distribution showed that 37.5% were between 20-29 years, 38.1% were between 30-39 years, and 24.4% were 40 years and older. Regarding job experience, 31.8% had up to 5 years, 37.2% had 6-10 years, and 31% had 11-15 years of experience. Gender distribution was 64.5% male and 35.5% female.

Table 1 shows the means, standard deviations, and correlations between the research variables.

Table 1

Means, Standard Deviations, and Correlations Among Research Variables

Variables	Mean	SD	1	2	3
Professional Quality of Life	102.37	10.98	-		
PTSD Symptoms	44.17	10.78	.05	-	
Psychological Well-being	52.43	12.49	.28**	-.49**	-
Perceived Social Support	48.00	12.20	.30**	-.53**	.74**

*p<0.05; **p<0.01

As shown in Table 1, professional quality of life has no significant correlation with PTSD symptoms ($p > .05$), but it has a significant positive correlation with psychological well-being and perceived social support ($p < .01$). PTSD symptoms have a significant negative correlation with both psychological well-being and perceived social support ($p < .01$). Furthermore, psychological well-being has a significant positive correlation with perceived social support ($p < .01$).

In the conducted hierarchical regression analysis, the assumptions of interval measurement for predictor and criterion variables based on used questionnaires, independence of observations via the Durbin-Watson test, linear relationship between predictors and criterion variables

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via scatter plots, normal distribution of variables via the Kolmogorov-Smirnov test, collinearity via tolerance index and variance inflation factor, outliers via box plot, and normal distribution of residuals were all checked and ensured to be met before conducting the necessary analyses.

Table 2 presents the results of the hierarchical regression analysis regarding the moderating role of perceived social support in the relationship between professional quality of life and PTSD symptoms.

Table 2

Hierarchical Regression Analysis Results for Predicting PTSD Symptoms from Professional Quality of Life and Perceived Social Support

Step	Predictor Variables	Model 1	Model 2	Model 3
1	Professional Quality of Life (β)	-.05*	-.23**	-.24**
2	Perceived Social Support (β)	-	-.60**	-.57**
3	Professional Quality of Life × Perceived Social Support (β)	-	-	.13**
4	R or ΔR^2	.003	.334	.349
5	F or ΔF	.90	171.81	7.95

*p<0.05; **p<0.01

As shown in Table 2, in the first step, professional quality of life did not have a significant coefficient for predicting PTSD symptoms and could not explain any variance in this variable. In the second step, perceived social support could explain an additional 33.4% of the variance in predicting PTSD symptoms. In the third step, the interaction of professional quality of life and perceived social support could explain an additional 1.5% of the variance in predicting PTSD symptoms.

Table 3 presents the results of the hierarchical regression analysis regarding the moderating role of perceived social support in the relationship between professional quality of life and psychological well-being.

Table 3

Hierarchical Regression Analysis Results for Predicting Psychological Well-being from Professional Quality of Life and Perceived Social Support

Step	Predictor Variables	Model 1	Model 2	Model 3
1	Professional Quality of Life (β)	.28**	.06*	.06*
2	Perceived Social Support (β)	-	.72**	.75**
3	Professional Quality of Life × Perceived Social Support (β)	-	-	.11**
4	R or ΔR^2	.076	.549	.571
5	F or ΔF	28.70	362.80	9.08

*p<0.05; **p<0.01

As shown in Table 3, in the first step, professional quality of life had a significant coefficient for predicting psychological well-being and could explain 7.6% of the variance in this variable. In the second step, perceived social support could explain an additional 47.3% of the variance in predicting psychological well-being. In the third step, the interaction of professional quality of life and perceived social support could explain an additional 2.2% of the variance in predicting psychological well-being.

4. Discussion and Conclusion

Based on the obtained results, perceived social support moderates the relationship between professional quality of life and PTSD symptoms. This result aligns with the study by Ebrahimipour et al. (2017), which showed a relationship between professional quality of life and PTSD symptoms, as well as emotional support (13). It also aligns with the findings of Lu et al. (2023) regarding the moderating role of social support in the relationship between self-efficacy and psychological well-being among nurses (24). To explain the

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moderating role of perceived social support in the relationship between professional quality of life and PTSD symptoms, attention must be given to the nature and dimensions of professional life alongside PTSD symptoms. Professional quality of life in its positive aspect includes satisfaction and the ability for emotional and affective empathy, while in its negative aspect, it covers stress and burnout experienced during work and professional activities (11). The combination of satisfaction and emotional empathy with secondary stress and burnout makes professional quality of life a phenomenon with unique functions. At the same time, it is essential to recognize that a high-quality professional environment is one where high satisfaction and empathy coexist with low secondary stress and burnout (16). In such a context, it is natural that when social support is high, the ability for emotional and affective empathy, as a facilitator of positive and empathetic relationships, is strengthened. Additionally, as a source of providing opportunities and resources for coping with stress and burnout, the level of professional quality of life is further enhanced, thus reducing the occurrence of PTSD symptoms. Moreover, perceived social support at the cognitive level strengthens resilience and coping ability (14). This sense of resilience and capability, derived from the feeling of support and the provision of necessary resources to cope with the difficulties and challenges of the nursing work environment, is a pivotal element in the Conservation of Resources theory for coping with high-pressure conditions. Thus, another mechanism that leads to the moderating ability of perceived social support in the relationship between professional quality of life and reduced PTSD symptoms can be explained by enhancing nurses' sense of empowerment and resilience.

Another result found that perceived social support moderates the relationship between professional quality of life and psychological well-being. When the level of social support is high, professional quality of life can enhance psychological well-being, but when social support is low, such a relationship is not observed. This finding also aligns with the study by Lu et al. (2023) regarding the moderating role of social support in the relationship between self-efficacy and psychological well-being among nurses (24). In explaining the enhancing ability of social support to influence professional quality of life in improving psychological well-being, which also aligns with its role in reducing PTSD symptoms, it can now be stated that in a defensible and explainable connection, social support enhances nurses' psychological well-being through improving their professional quality of life, thereby reducing the level of PTSD symptoms that threaten and weaken nurses' health and well-being. In this process, reducing the level of PTSD symptoms provides the necessary feedback to further strengthen psychological well-being at the cognitive and perceptual levels. Such a cycle is highly important as it places professional quality of life and social support in the position of simultaneously increasing psychological well-being and reducing PTSD symptoms. Additionally, the synergy between perceived social support and professional quality of life should not be underestimated in enriching the nurses' work environment. Synergistic variables function dually to reduce negative health-threatening symptoms and increase positive signs in enhancing psychological well-being. This is crucial in utilizing possible pathways to assist nurses in crisis conditions.

Alongside the explanations provided, attention must also be given to the limitations of this study. The first limitation is that this study was conducted on nurses in Karbala, Iraq; thus, caution should be exercised in generalizing the results to other statistical populations or medical staff and other hospital employees. To overcome this limitation, it is necessary to conduct this study on medical staff and other hospital employees to more accurately determine the generalizability of the results. Furthermore, future research could examine the specific role of colleagues' and supervisors' support in the relationship between professional quality of life, PTSD symptoms, psychological well-being, and even performance indicators among nurses. Finally, considering that perceived social support significantly moderated the relationship between professional quality of life, PTSD symptoms, and psychological well-being in the present study, it is recommended that the role and importance of perceived social support and the enhancement of practical and real social support from senior hospital and health system managers in Karbala, Iraq, be seriously considered in work planning and nurse empowerment programs. Moreover, improving the professional quality of life of nurses in hospital systems in Karbala should be seriously considered in planning.

Authors' Contributions

A.A.K. conceptualized the study, designed the research methodology, and supervised the data collection process. A.M., the corresponding author, conducted the data analysis using hierarchical regression analysis, interpreted the results, and led the drafting and revising of the manuscript. A.A.J. assisted in the recruitment of participants, facilitated the administration of the questionnaires, and contributed to the literature review. I.S. supported the data collection and helped with the interpretation of the findings. All authors discussed the results, critically reviewed the manuscript for important intellectual content, and approved the final version for publication.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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Declaration of Interest

The authors report no conflict of interest.

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Ethics Considerations

The study placed a high emphasis on ethical considerations. Informed consent obtained from all participants, ensuring they are fully aware of the nature of the study and their role in it. Confidentiality strictly maintained, with data anonymized to protect individual privacy. The study adhered to the ethical guidelines for research with human subjects as outlined in the Declaration of Helsinki.

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