

Brief Report

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Investigating the Relationship Between Anxiety-Stress Levels, Quality of Life, and Occupational Balance in Rescue Workers

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Abstract

Objective: This study investigates the relationship between anxiety-stress levels, quality of life, and occupational balance among rescue workers, exploring how daily activity satisfaction correlates with psychological well-being. **Methods:** A cross-sectional survey was conducted with 74 rescue workers (87.8% male) between May and September 2023. Participants completed the Integrated Anxiety Stress Scale, WHOQOL-BREF, and the Occupational Balance Questionnaire (OBQ-T). Data analysis utilized non-parametric tests, including Spearman's correlation and Kruskal-Wallis tests, to examine variables during the post-acute recovery phase of the February 2023 earthquakes. **Results:** Anxiety levels were low (81.1%), while quality of life and occupational balance were moderate to high. Significant negative correlations were identified between anxiety-stress and all quality of life domains ($r = -0.45$ to -0.62 , $p < 0.01$), and occupational balance ($r = -0.45$, $p < 0.01$). Occupational balance showed positive correlations with all quality of life domains ($r = 0.43$ to 0.55 , $p < 0.01$). **Conclusions:** Despite a professional culture of resilience, rescue workers face significant time poverty and life toll that disrupt daily rhythms. Enhancing occupational balance through organizational support and practical time management is essential for long-term well-being and job performance.

Introduction

Rescue workers face intense emotional and physical stressors while responding to unpredictable disasters, which can severely impact their social, economic, and personal well-being.¹ Exposure to traumatic events often leads to psychological issues such as anxiety, depression, and post-traumatic stress disorder. These health-detrimental factors also diminish quality of life by eroding self-esteem and a sense of purpose.²

Furthermore, structural challenges like unpredictable shifts and time poverty disrupt daily routines, causing a life toll that leads to occupational imbalance. Occupational balance—the equilibrium between daily activities like self-care, work, and leisure—is vital for health and happiness.³ While research has explored individual psychological impacts,^{4,5} the protective role of occupational balance remains understudied. Therefore, this study examines the relationship between anxiety-stress levels, quality of life, and occupational balance in rescue workers.

Methods

A cross-sectional survey was conducted with 74 rescue workers between May and September 2023, following the earthquakes in Türkiye. Participants were recruited via convenience sampling through digital platforms associated with the Disaster and Emergency Management Presidency. Inclusion criteria required active service and age between 18 and 65 years. Institutional Review Board approval and digital informed consent were obtained.

Anxiety-stress levels were measured using the Integrated Anxiety Stress Scale (IASS).⁶ Quality of life was assessed via the World Health Organization Quality of Life Scale-Short Form (WHOQOL-BREF),⁷ covering physical, psychological, social, and environmental domains. Occupational balance was evaluated using the Occupational Balance Questionnaire (OBQ-T).⁸ Data analysis utilized IBM SPSS Statistics 23.0. Due to non-normal distribution, Spearman's rank correlation and Kruskal-Wallis tests were applied to examine relationships between variables.

Results

The study included 74 rescue workers, primarily young adults (62.2% aged 20–29) and predominantly male (87.8%). The participants were mainly experienced in earthquake response, fire services, and traffic accidents, with 37.8% having one to 5 years of field experience. Detailed demographic and professional characteristics are presented in Table 1.

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Table 1. Demographic and professional characteristics of the rescue workers (n = 74)

Characteristic	n (%)
Age group, y	
20–29	46 (62.2)
≥30	28 (37.8)
Gender assigned at birth (male)	65 (87.8)
Education (university)	59 (79.9)
Experience in job, y	
≤5	52 (70.2)
>5	22 (29.8)
Primary job area*	
Earthquake/fire response	56 (14.8)
Traffic/transportation accidents	52 (13.8)
Other areas	208 (71.4)

Abbreviations: n, number of participants.

Notes: n (%) represents the count and percentage of the total sample.

*Participants could select multiple job areas.

Anxiety-stress levels were found to be very low among 81.1% of the participants. Conversely, occupational balance and all domains of quality of life were reported at moderate to high levels. As shown in Table 2, Spearman's rank correlation analysis revealed significant negative relationships between anxiety-stress scores and both occupational balance and all quality of life domains ($P < .01$). Furthermore, occupational balance demonstrated significant positive correlations with every domain of quality of life ($P < .01$), indicating that higher satisfaction with daily activity variety is associated with better overall well-being.

Discussion

The high prevalence of low anxiety levels (81.1%) among rescue workers suggests a strong healthy worker effect. Individuals remaining in these high-stress roles may have developed specialized coping mechanisms or may underreport symptoms due to a professional culture of resilience.⁹ However, research suggests that even in cases of low reported anxiety, empathic strain—the ongoing

emotional tension from witnessing suffering—remains a persistent underlying factor that can lead to burnout⁵.

This study identified lower quality of life in physical, psychological, and social domains compared to previous literature involving rescue professionals and nurses. This decline is often linked to the rigorous and traumatic nature of the environment.¹⁰ Interestingly, participants reported better environmental quality of life, which may be influenced by specific institutional infrastructure or support systems provided by the Disaster and Emergency Management Presidency.

Rescue work involves not only emotional labor but also structural challenges like unpredictable shifts and time poverty. As highlighted by Trevathan-Minnis et al.,⁵ the demanding nature of these roles often leads to a life toll where workers are too physically and mentally exhausted to engage in restorative home-based occupations, directly impacting their sense of balance. The moderate occupational balance scores (20.0 ± 7.5) found in this study reflect this disruption of daily rhythms.

Consistent with previous research, a strong correlation exists between occupational balance and quality of life. Achieving a balanced work-life dynamic positively impacts social interactions and psychological well-being.^{5,10} The study had several limitations. The reliance on questionnaires alone may not capture the full depth of the issues faced by the participants. In-depth qualitative interviews are needed to gain a more comprehensive understanding. Because the data in our study were cross-sectional, longitudinal research designs are needed to investigate the possible causal relationships between specific problems in quality of life domains and occupational balance, or the predictors of anxiety-stress levels in participants. Future studies should focus on specific quality of life domains and occupational balance interventions to understand its dynamic in depth. Moreover, the potential influence of job experience on anxiety-stress levels or occupational balance was not examined in this study; future research should consider how varying years of experience in rescue work may impact these factors. Despite these limitations, this study is significant as it is among the first to explore occupational balance among rescue workers.

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Author contribution. F.R.A. conceived and designed the study and drafted the manuscript. E.S.B. performed data collection and statistical analysis, and G.B. provided supervision, methodology guidance, and critical revision of the manuscript for important intellectual content. All authors have approved the final version for submission.

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Table 2. Mean scores and correlations of IASS, WHOQOL-BREF, and OBQ (n = 74)

Scale/Domain	Mean ± SD	Correlation with IASS (r)	Correlation with OBQ (r)
IASS (Anxiety-Stress)	53.3 ± 24.2	1.00	-.49*
WHOQOL-BREF Physical	69.4 ± 17.7	-.62*	.49*
WHOQOL-BREF Psychological	65.3 ± 20.5	-.55*	.55*
WHOQOL-BREF Social	66.2 ± 22.2	-.48*	.43*
WHOQOL-BREF Environment	63.1 ± 15.7	-.48*	.49*
OBQ (Occupational Balance)	20.0 ± 7.5	-.49*	1.00

Abbreviations: IASS, Integrated Anxiety Stress Scale; OBQ, Occupational Balance Questionnaire; SD, standard deviation; WHOQOL-BREF, World Health Organization Quality of Life Scale-Short Form.

Notes: r represents the Spearman rank correlation coefficient. Data were analyzed using non-parametric tests due to non-normal distribution ($P < .05$).

* $P < .01$ for all correlations.

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