

Combat Exposure, Coping Strategies, and Health-Related Quality of Life Among Second Karabakh War Veterans With Post-Traumatic Stress Disorder: A Descriptive Cross-Sectional Study

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Abstract

Background: Post-traumatic stress disorder (PTSD) may adversely affect coping, social and occupational functioning, and health-related quality of life. Data describing these dimensions among Second Karabakh War veterans remain limited. This study aimed to characterize combat exposure, coping strategies, sociodemographic features, and health-related quality of life among veterans with established PTSD.

Methods: This descriptive cross-sectional study included 50 Second Karabakh War veterans with clinically diagnosed PTSD receiving psychiatric care at the Republican Psychiatric Hospital No. 1. Combat exposure was assessed using the Combat Exposure Scale (CES), coping behavior using a 60-item clinical coping questionnaire, and health-related quality of life using the SF-36. Available variables were summarized descriptively using frequencies and percentages.

Results: Most participants were young, unmarried, and unemployed, with unemployment reported in 88%. Combat exposure was low in 44%, moderate in 24%, increased in 18%, and high in 14%. The most frequently recorded coping strategies were seeking social support (96%), psychological disengagement (84%), turning to religion (84%), seeking emotional support (74%), and denial (72%). Available SF-36 assessments indicated impairment across physical and psychological domains, with pain and emotional functioning among the areas noted as affected.

Conclusions: Veterans with PTSD demonstrated heterogeneous combat exposure, frequent coexistence of supportive and potentially maladaptive coping strategies, and substantial functional burden. Assessment of veterans with PTSD should extend beyond psychiatric symptoms to include coping behavior, social and occupational functioning, pain, and health-related quality of life.

Keywords: post-traumatic stress disorder; veterans; combat exposure; coping strategies; quality of life; Second Karabakh War



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1 | Introduction

Post-traumatic stress disorder (PTSD) is a major long-term psychological consequence of combat exposure and may persist long after military deployment has ended. Beyond core symptoms such as intrusive memories, avoidance, and hyperarousal, PTSD in veterans has been associated with chronic pain, functional impairment, reduced occupational functioning, and poorer health-related quality of life [1–4].

Post-traumatic outcomes are influenced not only by the intensity of combat exposure but also by psychosocial and behavioral factors. Avoidance, disengagement, denial, and substance-related coping have been associated with greater psychiatric burden and poorer functioning, whereas social support has consistently been identified as an important correlate of more favorable post-traumatic adjustment [5–7]. Longitudinal evidence further suggests that social support may modify the relationship between combat exposure and PTSD, while premilitary trauma, socioeconomic conditions, family resources, and occupational functioning may also contribute to postdeployment outcomes [8,9].

The 2020 Second Karabakh War created a substantial need for long-term psychological and psychiatric care among Azerbaijani veterans. Although mental health services in Azerbaijan have progressively developed and emerging studies have begun to describe post-war psychological outcomes, data on the combined profile of combat exposure, coping

behavior, social functioning, and health-related quality of life among veterans with established PTSD remain limited [10,11].

Against this background, the present study aimed to characterize the psychosocial and functional profile of Second Karabakh War veterans with established PTSD by evaluating combat exposure, coping strategies, sociodemographic features, and health-related quality of life within the same clinical cohort. By integrating these domains, the study was designed to provide a broader description of post-war clinical burden than symptom-focused assessment alone and to generate preliminary data that may inform future larger-scale studies and veteran-centered rehabilitation strategies in Azerbaijan.

2 | Materials and Methods

This descriptive cross-sectional study included 50 veterans of the Second Karabakh War who received specialized psychiatric care at the Republican Psychiatric Hospital No. 1 and had an established clinical diagnosis of PTSD. Participants were aged 19–50 years.

Eligibility required participation in the Second Karabakh War and a previously established clinical diagnosis of PTSD. Individuals with a history of traumatic brain injury were excluded to reduce the potential influence of neurological injury on psychiatric and functional assessment.

PTSD diagnosis had been established clinically before inclusion in the present



analysis. The available retrospective records did not consistently document the specific diagnostic classification, structured diagnostic interview, or diagnostic criteria originally used; therefore, no retrospective attribution to a particular DSM or ICD version was made.

Sociodemographic and background characteristics were collected using a structured clinical questionnaire and included age, education, marital status, presence of children, employment status, living conditions, and previous combat experience.

PTSD symptom burden was assessed using a PTSD Checklist documented in the original clinical assessment records. The specific version of the PTSD Checklist was not consistently identifiable from the archived records. Accordingly, the instrument was used only as part of the available clinical characterization and not to establish a new PTSD diagnosis for the present study.

Combat exposure was evaluated using the seven-item Combat Exposure Scale (CES), which assesses exposure to potentially traumatic combat experiences. According to the categorical classification available in the study dataset, participants were grouped as having low, moderate, increased, or high combat exposure.

Coping behaviors were assessed using a 60-item coping questionnaire employed during the original clinical evaluation. The exact instrument name and supporting validation reference were not consistently documented

in the available archived records. Therefore, the present analysis was restricted to the coping domains explicitly recorded in the dataset: psychological disengagement, denial, psychoactive substance use, positive reframing, planning, humor, turning to religion, seeking emotional support, and seeking social support. No attempt was made to retrospectively assign the questionnaire to a specific validated instrument when this could not be confirmed.

Health-related quality of life was assessed using the 36-Item Short Form Health Survey (SF-36), covering physical functioning, role limitations due to physical health, bodily pain, general health, vitality, social functioning, role limitations due to emotional problems, and mental health.

Detailed individual numerical SF-36 domain scores were not available for the present analysis. Consequently, SF-36 findings were evaluated descriptively based on the information retained in the clinical dataset. No quantitative comparison between individual SF-36 domains was performed.

The statistical analysis was descriptive. Categorical variables were presented as absolute frequencies and percentages, with the total sample of 50 participants used as the denominator unless otherwise specified. Given the descriptive objectives of the study and the aggregated nature of the available dataset, no causal inference or multivariable predictive modeling was performed.

Ethical Considerations

The study protocol was reviewed and approved by the Ethics Committee of Azerbaijan Medical University. The study was conducted in accordance with the principles of the Declaration of Helsinki. All available participant information was handled confidentially and used solely for research purposes.

3 | Results

Sociodemographic Characteristics

A total of 50 Second Karabakh War veterans diagnosed with PTSD were included.

Thirty-two participants (64%) were aged 18–25 years, ten (20%) were aged 26–40 years, and eight (16%) were in the 41–55-year category.

Regarding education, 28 participants (56%) had completed secondary education, 14 (28%) had secondary vocational education, and eight (16%) had incomplete higher education.

Fourteen participants (28%) were married and 36 (72%) were unmarried. Sixteen participants (32%) had children, whereas 34 (68%) did not.

Six participants (12%) were employed and 44 (88%) were unemployed.

Living conditions were classified as satisfactory in 28 participants (56%) and unsatisfactory in 22 (44%).

Only one participant (2%) reported previous combat experience before the Second Karabakh War.

Table 1. Sociodemographic characteristics of the study population

Variable	Category	n	%
Age group	18–25 years	32	64
	26–40 years	10	20
	41–55 years	8	16
Education	Secondary	28	56
	Secondary vocational	14	28
	Incomplete higher education	8	16
Marital status	Married	14	28
	Unmarried	36	72
Children	Yes	16	32
	No	34	68
Employment	Employed	6	12
	Unemployed	44	88
Living conditions	Satisfactory	28	56
	Unsatisfactory	22	44
Previous combat experience	Yes	1	2
	No	49	98

Combat Exposure

Combat exposure differed considerably among participants.

According to CES classification, 22 participants (44%) had low combat exposure, 12 (24%) had moderate exposure, nine (18%) had increased exposure, and seven (14%) had high exposure.

Overall, 16 participants (32%) were classified as having either increased or high combat exposure.

Table 2. Combat exposure according to the Combat Exposure Scale

CES category	n	%
Low	22	44
Moderate	12	24
Increased	9	18
High	7	14
Total	50	100

These findings demonstrate that veterans with established PTSD in this cohort were distributed across a heterogeneous spectrum of reported combat exposure.

Coping Strategies

Substantial variation was observed in recorded coping behaviors.

Seeking social support was the most frequently documented coping strategy, occurring in 48 participants (96%).

Psychological disengagement was identified in 42 participants (84%), and the same proportion reported turning to religion as a coping strategy.

Seeking emotional support was reported by 37 participants (74%), while denial was recorded in 36 (72%).

Planning was recorded in 26 participants (52%), positive reframing in ten (20%), humor in six (12%), and psychoactive substance use in four (8%).

Table 3. Frequency of coping strategies among participants

Coping strategy	n	%
Seeking social support	48	96
Psychological disengagement	42	84
Turning to religion	42	84
Seeking emotional support	37	74
Denial	36	72
Planning	26	52
Positive reframing	10	20
Humor	6	12
Psychoactive substance use	4	8

The findings indicate that support-oriented coping behaviors and potentially maladaptive coping strategies frequently coexisted within the same clinical population.

Health-Related Quality of Life

Available SF-36 information suggested impairment across both physical and psychological dimensions of health-related quality of life.

Pain-related and emotional functioning were among the domains described as affected in the available clinical records. However, because individual numerical SF-36 domain scores were not available, the relative magnitude of impairment across domains could not be quantified or statistically compared.

These findings therefore provide a descriptive indication of broader functional burden rather than a quantitative comparison of specific SF-36 domains.

5 | Discussion

This study provides a descriptive overview of combat exposure, coping strategies, sociodemographic characteristics, and health-related quality of life among 50 Second Karabakh War veterans with established PTSD. The principal findings were heterogeneous levels of combat exposure, high unemployment, frequent coexistence of support-oriented and potentially maladaptive coping strategies, and evidence of broader physical and psychological functional burden.

PTSD is a multifactorial condition, and combat intensity alone does not fully explain symptom burden or long-term functioning. Premilitary adversity and other psychosocial

factors may contribute to postdeployment PTSD severity [9]. In the present cohort, participants with established PTSD were distributed across all levels of combat exposure. However, because all participants already had PTSD and no non-PTSD comparison group was included, the study cannot determine whether particular levels of combat exposure were associated with the development of PTSD.

Unemployment was observed in 88% of participants. Previous research in military populations has demonstrated associations between post-traumatic symptoms and long-term functional outcomes [12]. Nevertheless, the cross-sectional design of the present study does not permit unemployment to be attributed directly to PTSD. Physical health, military discharge status, socioeconomic circumstances, and reintegration difficulties may also contribute.

Available SF-36 information suggested impairment in both physical and psychological dimensions of health-related quality of life. PTSD has previously been associated with reduced health-related quality of life [4], and improvement in PTSD symptoms following treatment may also be accompanied by improvement in broader functioning and quality of life [13]. Pain is particularly relevant in veteran populations, where PTSD symptoms have been associated with poorer pain-related and general health outcomes [3].

The coping profile was notable for the coexistence of support-oriented and



potentially maladaptive strategies. Seeking social support was recorded in 96% of participants, whereas psychological disengagement and denial were documented in 84% and 72%, respectively. Lower perceived social support has consistently been associated with greater PTSD symptom severity in military populations [7]. Longitudinal evidence also suggests a dynamic relationship between social support and PTSD symptoms over time [6,8].

The high frequency of support-seeking should not automatically be interpreted as evidence that participants received adequate or effective support. The present dataset recorded coping behavior rather than the availability, quality, or effectiveness of the support received. Evidence from military populations suggests that different sources and levels of perceived support may have different relationships with mental health and quality of life [14,15].

Avoidance-oriented coping has previously been associated with persistence of combat-related PTSD symptoms [16]. Although psychoactive substance use was uncommon in this cohort, occurring in only 8%, substance-related coping remains clinically relevant because it may coexist with PTSD symptoms and other avoidance-oriented behaviors [5,17].

Turning to religion was recorded in 84% of participants. Religious and spiritual coping may influence post-traumatic adjustment in different ways depending on the nature of the coping response [18]. Because the current

dataset recorded only the presence of religious coping, positive and negative religious coping could not be examined separately.

Taken together, these findings support assessment models that extend beyond symptom severity and consider coping behavior, social functioning, employment, pain, and quality of life. Social connection and reintegration have increasingly been recognized as relevant components of recovery among military veterans with PTSD [19].

The present results should remain descriptive. The study was not designed to establish causal relationships, determine risk factors for PTSD, or identify independent predictors of functional impairment.

Limitations: Several limitations should be considered when interpreting these findings.

First, this was a single-center study involving only 50 veterans with established PTSD. The relatively modest sample size limits generalizability to the wider population of Second Karabakh War veterans.

Second, all participants had PTSD. The absence of a comparator group of combat-exposed veterans without PTSD prevents evaluation of factors associated with the development of PTSD.

Third, the cross-sectional design does not permit conclusions regarding temporal relationships or causality. It cannot be determined whether individual coping

strategies preceded PTSD, developed in response to PTSD, or changed over time.

Fourth, the exact diagnostic classification or structured clinical method originally used to establish PTSD could not be consistently identified from the available retrospective records. Similarly, the specific version of the PTSD Checklist was not consistently documented.

Fifth, although a 60-item coping questionnaire had been used during clinical assessment, the exact name and validation reference of the instrument were not reliably documented in the archived records. Therefore, the analysis was limited to the coping domains explicitly available in the dataset.

Sixth, coping and quality-of-life assessments included self-reported components and may have been influenced by recall and social desirability bias.

Seventh, potentially relevant clinical factors, including depression, anxiety, sleep disturbance, chronic pain diagnoses, physical combat injuries, psychiatric treatment history, medication exposure, and detailed socioeconomic variables, were not systematically available.

Eighth, individual numerical SF-36 domain scores were unavailable. Consequently, the study could describe the overall pattern of quality-of-life impairment but could not quantify or statistically compare individual domains or evaluate their associations with other variables.

Finally, the modest sample size and aggregated nature of the available dataset did not support robust multivariable modeling. Future research should incorporate larger multicenter samples, clearly documented diagnostic instruments, individual-level psychometric data, appropriate comparison groups, and longitudinal follow-up.

6 | Conclusion

Second Karabakh War veterans with established PTSD demonstrated a heterogeneous psychosocial profile characterized by varying levels of combat exposure, high unemployment, impaired health-related quality of life, and concurrent use of multiple coping strategies.

Support-seeking behaviors were common, but psychological disengagement and denial were also frequently recorded, indicating that support-oriented and potentially maladaptive coping responses may coexist.

These findings suggest that clinical assessment of veterans with PTSD should extend beyond psychiatric symptoms to include coping behavior, social and occupational functioning, pain, and health-related quality of life. Larger multicenter and longitudinal studies using standardized diagnostic and psychometric instruments are needed to clarify determinants of recovery and social reintegration.



Declarations

Ethics Approval

The study protocol was reviewed and approved by the Ethics Committee of Azerbaijan Medical University. The study was conducted in accordance with the principles of the Declaration of Helsinki.

Because the study involved retrospective analysis of clinical data, all available participant information was handled confidentially and used only for research purposes.

Informed Consent

All participants voluntarily participated in the clinical assessment and were informed about its purpose and procedures.

Conflict of Interest

The author declares no conflict of interest.

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No external funding was received for this study.

Author Contributions

Rafiq Aslanov contributed to the conceptualization of the study, clinical investigation, data collection, interpretation of findings, manuscript preparation, critical revision, and approval of the final manuscript.

Data Availability

The data supporting the findings of this study are derived from the clinical study dataset

and may be made available in accordance with applicable institutional, ethical, and confidentiality requirements.

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