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Article

Impact of War Related Mental Disorders on Partners

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Abstract: Mental disorders tend to be highly prevalent in war survivors. This paper examined the long-term impact of psychiatric disorders of war survivors on the level of health vulnerability among their female spouses. Interviews were conducted with a nationally representative sample of 653 of the partners of male war survivors with disabilities. The war survivors' database information used to determine the presence of psychiatric disorders. Then the partners of survivors with (N = 333) and without (N = 320) psychological disorders were assessed via the health-related quality of life (HRQOL-SF36) questionnaire. The frequency of depression and PTSD in war survivors suffer from psychological disorders were 50.7% and 43.9% respectively. Morbidity significantly was two times higher in partners of war survivors with psychiatric disorders ($P < 0.001$). Partners of war survivors suffered from psychiatric disorders had significantly lower scores in all 8 subscales of HRQOL-SF-36 ($P < 0.001$). Morbidity was the most important predictor for both poor physical (OR = 3.06, 95% CI = 1.44 to 6.48, P = 0.004) and mental health (OR = 2.37, 95% CI = 1.12 to 4.99, P = 0.02) in the partners of war survivors who suffered from psychiatric disorders. These findings stress that war survivors suffering from psychiatric disorders have significant more negative impact on their partners' morbidity and quality of life.

Keywords: QOL; psychiatric disorder; spouse; war; survivor; wellbeing; quality of life

1 Introduction

War inflicts so many injuries including mental and physical health problems. In addition to those who injured and wounded in war field, war affects the health status of survivors' relatives as well; therefore, they need substantial health care [1–3]. The type of war physical injuries such as amputation, blindness and chemical injuries affect their caregivers' health status both physically and mentally [4]. Most studies on the psychological distress among cohabitating female partners of combat veterans are focused on post-traumatic stress disorder (PTSD). These findings demonstrate that partners of veterans with combat-related PTSD experience significant levels of distress. Most studies are focused on PTSD more than other mental disorders including mood and anxiety disorders or substance dependence. This distress is under the influence of perceived threat, barrier to mental health treatment, and level of involvement with veterans [5–9]. Moreover, limited studies have been focused on the impact of mental disorders of Iranian war veterans on their partners [10].

Throughout the 8 years of Iran and Iraq war (1980–1988), more than 500,000 Iranians sustained injuries leading to disabilities [11]. These populations received the care they need normally from one of their family members. Generally, partners offer long term care services mostly without any charge to the recipients whose physical and psychological problems are disabling [4]. Depend on the severity of the disability, the burden of care will be higher especially on their partners. Unfortunately, there has been relatively little systematic research concerning the effects of military-related trauma on family members or the dealings of family reintegration and readjustment in the setting of such difficulties [3]. After more than two decades of the war, the impact of different mental disorders on the health status of the Iranian war survivors' partners has not been studied appropriately. This study assessed the health vulnerability in female partners of Iranian war survivors with psychological disorders and compared them to a group of war survivors' partners without mental health problems.

2 Methods

In a cross-sectional study, two groups of partners of the Iran-Iraq war-related male survivors diagnosed with and without psychiatric disorders were enrolled into the study. Socio-demographic characteristics of the war survivors and their partners were collected from two groups. The data of war survivors who had war related injuries but did not suffer from psychiatric disorders, as well as, war survivors suffer from any psychiatric disorders were collected from Veterans and Martyrs Affair Foundation (VMFA) data bank. The war survivors' data included the psychiatric diagnosis and co-morbidity- as having any extra health difficulties other than psychiatric disorder. Then, data were collected via semi structured interviews as well as the health-related quality of life (HRQOL-SF36) questionnaire. In order to collect data, semi structured interviews were conducted by 3 trained assessors. A team of trained investigators collected data via semi-structured interview, each individual interviewed, face-to-face, for about 15–20 minutes.

Considering prevalence of psychological disorders in war victims (0.4); $d = 0.052$ and α equal to 0.05, sample size calculated 340 for each group of the partners of the war victims with and without mental disorders. 532 partners of the war victims out of 1027 participated in the study (response rate = 63.6%).

The baseline data of all injured war survivors of the Iran–Iraq war and their psychological clinical problems and substance use are registered in the VMAF [4]. Partners were asked to fill the Persian version of health-related quality of life, Short Form Health Survey-(SF-36).

The reliability and validity of this questionnaire has been demonstrated in Montazeri et al's study [12]. SF-36 is a generic questionnaire, consisting of 36 questions which measure eight health-related domains of quality of life. These domains include physical functioning, role-physical, bodily pain, general health, vitality, social functioning, role-emotional and mental health. The first four domains comprise physical component summary (PCS), while the four latter domains represent mental component summary (MCS). Scores on each of the subscales range from 0 to 100, with 0 representing the worst health-related quality of life and 100 representing the best [12].

Descriptive statistics including one-way analysis of variance (ANOVA) and one-sample *t*-test were applied to assess the differences between groups. Logistic regression model was used to quantify the contribution of independent variables to the caregivers' physical component summary (PCS) and mental component summary (MCS) of the HRQOL-SF36. For the purpose of the logistic regression analysis PCS and MCS were used as dependent variables. Independent variables included war survivors' characteristics: substance use; psychiatric disorders, depression; PTSD; OCD; any comorbidity in war survivors (physical disability or chronic disease); and morbidity in their partners (any disease). Relative to the mean PCS and MCS scores, the study sample was divided into two groups, those who scored equal or greater than mean and those scored lower than mean. We consider the lower scores of the mean as baseline. As a rough guide the mean score for any given population seems to be the best cut-off point to determine whether a group or individual scores above or below the average [12].

All statistical analyzes of the data were performed using the Statistical Package for Social Science (SPSS) for Windows, version 11 (SPSS Inc., Chicago, IL, USA).

The study was approved by the Ethic Committee of the Janbazan Medical and Engineering Research Center (JMERC), Tehran, Iran. Prior to the study, written informed consent was obtained from all participants.

3 Result

Two groups of partners of the Iran-Iraq war-related male survivors diagnosed with (N = 333) and without (N = 320) psychiatric disorders were Interviewed. The demographic characteristics of the studied population are presented in Tab. 1.

Table 1: Demographic characteristics of partners of the war survivors with and without psychiatric disorders

	With psychiatric disorders (N = 333)	Without psychiatric disorders (N = 320)
	N (%)	N (%)
Mean (SD)	40.33 (6.4)	40.78 (7.5)
Married before injury		
Yes	117 (35.1)	71 (22.2)
No	216 (64.9)	249 (87.8)
Employment status		
Employed	22 (6.6)	18 (5.6)
Unemployed	311 (93.4)	302 (94.4)
Education		
Under diploma	96 (28.8)	145 (45.3)
Diploma or higher	264 (79.2)	175 (54.7)
Morbidity		
Yes	200 (60.1)	65 (12.5)
No	133 (39.9)	255 (76.5)

Depression and PTSD were the most frequent diagnoses among war survivors with mental health problems (Tab. 2). More than one psychiatric disorder were recorded for war survivors 31.2% (n = 104).

Table 2: Types of psychiatric disorders in the war survivors (N = 333)

	Number	%
Depression	169	50.7
Mild-moderate depression	50	15.0
Major depression	118	35.4
Dysthymia	5	1.5
Bipolar mood Dis.	25	7.5
PTSD	141	43.9
Phobia	7	2.1
Psychotic Dis.	7	2.1
OCD	23	6.9
Adjustment Dis.	9	2.7
Drug addiction	20	6.1
Unidentified*	25	7.5

Note: ** Type of psychiatric disorders were not recorded*

Morbidity significantly was higher in partners of war survivors with psychiatric disorders 59.3% (N = 200) compared to the partners of war survivors without psychiatric disorders 20.1% (N = 65) ($p < 0.001$). Partners who were living with war survivors suffering from psychiatric disorders had higher educational level ($p < 0.001$).

Comparison of SF-36 quality of life mean scores showed that there were significant differences between the two groups of partners in all 8 subscales and both PCS and MCS (P < 0.001) (Tab. 3). The

highest differences in partners of war survivors suffer from psychiatric disorders based on effect sizes were role emotional, mental component scale, bodily pain and social functioning respectively.

Table 3: Sf-36 quality of life measure scores in partners of war survivors with and without psychiatric disorders (N = 653)

	Partners of veterans with psychiatric dis. (N = 333) Mean (SD)	Partners of veterans without psychiatric dis. (N = 320) Mean (SD)	Effect sizes (95% CI)	P value
Physical functioning (PF)	64.05(25.49)	74.17 (20.77)	0.43 (0.28, 0.59)	< 0.001
Role physical (RP)	38.20 (38.04)	53.16 (40.02)	0.38 (0.22, 0.53)	< 0.001
Bodily pain (BP)	45.98 (28.71)	55.30 (31.08)	0.51 (0.35, 0.67)	< 0.001
General health (GH)	47.48 (24.25)	60.34 (24.17)	0.41 (0.26, 0.57)	< 0.001
Vitality (VT)	50.76 (21.51)	62.31 (22.18)	0.46 (0.31, 0.62)	< 0.001
Social functioning (SF)	58.63 (28.52)	70.20 (26.40)	0.51 (0.36, 0.67)	< 0.001
Role emotional (RE)	31.16 (39.69)	50.51 (44.01)	0.71 (0.55, 0.86)	< 0.001
Mental health (MH)	48.07 (23.38)	64.79 (23.12)	0.3 (0.14, 0.45)	< 0.001
Physical component Summary (PCS)	48.93 (22.21)	60.74 (22.68)	0.51 (0.36, 0.67)	< 0.001
Mental component Summary (MCS)	47.15 (21.83)	61.95 (23.18)	0.65 (0.49, 0.81)	< 0.001

Independent t-test was used to compare the scores

Logistic regression model was used to quantify the contribution of independent variables predictor to the caregivers' physical component summary (PCS) and mental component summary (MCS). Determinants of poor physical and mental components summary in partners of war survivors with psychiatric disorders are shown in Tab. 4. As the table shows in the partners of war survivors with psychological disorders, morbidity in partners was the only predictor for both physical and mental component summaries. Other factors, including all psychiatric disorders, had an equal impact on quality of life of the partners.

Table 4: Determinants of quality of life in partners of war survivors with psychiatric disorders (N = 323)

		Physical Component Summary			Mental Component Summary			
Determinants	N	OR	95% CI for OR	P-value	OR	95% CI for OR		P-value
Morbidity in war survivors' partner				0.004*				0.02*
Yes	200	(ref)			(ref)			
No	133	3.05	1.44	6.48	2.367	1.12	4.98	
War survivors' characteristics								
Addiction				0.32				0.28
Yes	20	(ref)			(ref)			
No	313	1.94	0.52	7.29	2.10	0.53	8.22	
Mild to moderate depression				0.75				0.12
Yes	50	(ref)			(ref)			
No	283	0.86	0.36	2.09	0.49	0.20	1.21	
Major depression				0.50				0.73
Yes	118	(ref)			(ref)			
No	195	1.27	0.62	2.62	1.13	0.54	2.37	
PTSD				0.34				0.23
Yes	141	(ref)			(ref)			
No	172	1.39	0.70	2.75	1.53	0.76	3.10	
OCD				0.33				0.23
Yes	23	(ref)						
No	310	1.83	0.54	6.16	0.47	0.14	1.59	
Comorbidity in war survivors				0.46				0.52
Yes	300	(ref)			(ref)			
No	33	1.00	0.98	1.03	1.01	0.98	1.03	
No. of psychiatric disorders		1.00	0.51	1.99	0.98	0.68	0.33	1.37	0.28

** Significant for the determinant*

4 Discussion

The results of the current study indicated that health related quality of life-both physical and mental- in partners of war survivors with psychiatric disorders was significantly lower compared to that of partners of war survivors without psychiatric disorders. That is, partners of psychiatric war survivors had remarkable poor mental health condition comparing to the non-psychiatric ones. It is compatible with findings of Manguno-Mire et al which indicated high levels of emotional problems over partners of veterans with combat-related PTSD [13]. Noteworthy, partners of war survivors with psychiatric disorders also had lower scores in terms of all 8 subscales of both mental and physical domains. Concerning mental health, the partners of war veterans with psychiatric disorders demonstrated significantly lower scores in Role Emotional, they may suffer from serious problems related to their emotional problems. Our findings are consistent with an integrative review suggesting that living with a war survivor suffering from PTSD affects the partners' psychological well-being and health outcomes [8,9,13]. We suggest particular plans and interventions for spouses and family member of veterans in order to improve mental health, in addition, it is important to study prevalence of psychological disorders in children of war survivors.

The emotional tension of living and caring for veterans with mental disorders gives rise to higher rates of vulnerability in their partners [14]. It means that in order to care for the health of veterans suffering from mental disorders, it is principal to recognize the physical and mental health conditions of the veterans' partners [15]. Understanding the health status of war survivors' partners -both physical and mental- will pave the way for a larger perception of the difficulties of the war survivors as well as their partners. Previous studies proposed that war is associated with high rates of psychiatric disorders, particularly mood and anxiety disorders. Some estimated the higher rate in formerly active veterans. Literature reported estimates ranging from 1.4% to 60% (generally 23%) psychiatric disorder prevalence specially PTSD among veterans. Regarding psychiatric disorders of surviving veterans whose partners participated in our studied population, the rate of depressive disorders was higher than PSTD in contrast to some previous research [16–20].

In addition, unlike other studies the prevalence of substance use was lower [20], which might be due to unregistered substance use records in VMAF data bank. A more precise estimate is necessary for projecting mental health care needs and informing policy. In the first place, owing to the reason that data of this study were collected from VMFA data bank, information about some war survivors was incomplete, therefore, these cases were excluded from further analyses. Secondly, over the assessment, a number of caregivers did not answer all of the questionnaire. Those who answered less than eighty percent of the questionnaire were also excluded from the study. Third, in our work, we addressed the psychiatric disorders based on the VMAF data base which might not give us an exact representation of the condition of war survivors. There are different groups of physical disabilities in war survivors. Some survivors suffer from multiple physical injuries while some not. We did not differentiate any physical disabilities between the war survivors when we recruited the samples. So this might also should be considered as a limitation. Last but not least, other harmful effects of war which could affect the results are of importance and they should be taken into consideration in future studies when it comes to war survivor's partners.

5 Key Findings

- Depression and PTSD were the most prevalent psychiatric disorders in war survivors.
- Partners of war survivors diagnosed with and without psychiatric disorders had poor health related quality of life.
- Morbidity significantly was two times higher in partners of war survivors with psychiatric disorders.
- Partners who were living with war survivors diagnosed any psychiatric disorders had significant poor health related quality comparing to the non-psychiatric ones.
- The only important determinant of poor physical and mental health among partners of war survivors with psychiatric disorders was morbidity in the partners. Other factors, including all psychiatric disorders, had an equal impact on quality of life of the partners.

6 Conclusion

In conclusion, partners of war survivors suffering from psychiatric disorders are of poor physical and mental health condition in comparison to those of war survivors without psychiatric disorders. These findings highlight that family/marital intervention for family members of war survivors with psychiatric disorders are of great importance. Therefore, unlike current marital therapies, the psychological well-being of war survivors' partner, in addition to improving war survivor symptoms as well as improving their relationship with their partners, should be taken into consideration.

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Availability of Data and Materials: The generated and/or analyzed data during the current study are available from the first author on reasonable request.

Conflicts of Interest: The authors declare that they have no conflicts of interest to report regarding the present study.

List of Abbreviations: HRQOL: Health-related quality of life; VMAF: Veterans and Martyrs Affair Foundation; PF: Physical functioning; RP: Role physical; BP: Bodily pain; GH: General health; VT: Vitality; SF: Social functioning; RE: Role emotional; MH: Mental health.

Consent for Publication: Not applicable.

Authors' Contributions: B. Mousavi was the principal investigator and was responsible for the study design, data analysis, and wrote the first draft. M. Asgari, and M. Soroush collected the SF-36 data and extracted patients' case records. M. Asgari analyzed the data and M. Soroush wrote the final manuscript. R. Amini, and A. Montazeri actively contributed to all elements of the study. All authors read and approved the final manuscript.

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