

Research Paper

Psychometric Characteristics of Secondary Trauma Questionnaire (STQ) in Warfare

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ABSTRACT

Objectives The purpose of the present study was to investigate some psychometric characteristics of Secondary Trauma Questionnaire (STQ) in the wives of warfare victims.

Methods Children of warfare victims living in Yazd, Esfahan, Shiraz, and Ahvaz and studying at Shahed and Isargar Schools of present in these cities in 2011-12 academic year were the target population for this study. Of this population, 379 subjects were selected by cluster sampling method. Secondary Trauma Questionnaire (STQ), Secondary Traumatic Stress Scale (STSS), Mississippi PTSD Scale, and Depression Anxiety Stress Scale (DASS) were used to collect the data. Confirmation factor analysis, Pearson correlation, and independent samples t-test were used to analyze the data.

Results Findings of confirmation factor analysis revealed that STQ, similar to the one approved by the developers of this scale had a one-factor structure in Iranian samples. Face validity of STQ using item impact method and content validity of this scale using Content Validity Index (CVI) and Content Validity Ratio (CVR) were confirmed. There were significantly high correlations among the STQ scores of participants and STSS, PTSD Scale, and DASS that approved the convergent validity of the scale ($P < 0.01$). By using STQ, we were able to discriminate the group of subjects with high mental health from those with low mental health (discriminant validity).

Conclusion The Farsi version of secondary trauma scale was valid and reliable for the wives of Iranian warfare victims.

Key words:

Secondary Trauma Questionnaire, Warfare victims, Validity, Reliability, Confirmatory factor analysis

Extended Abstract**1. Introduction**

Effects of traumatic events of wars are not only limited to veterans but also affect their close relatives. Spouses of veterans are more exposed to physical violence, and emotional and verbal abuses [2]. Psychological distress experienced by spouses of veterans results from life with veterans who themselves are victims of war trauma, known

as secondary traumatic stress [3]. Secondary traumatic stress is a syndrome of Post-Traumatic Stress Disorder (PTSD), which results from spending life with a person who has experienced some kind of psychological trauma [10].

Studies about secondary traumatic stress were seriously carried out in the 1990s, until then limited studies had been carried out about secondary trauma [10] because only limited scales were designed to measure secondary trauma [11]. Before specialized scales were designed to measure the symptoms of secondary traumatic stress, PTSD symptom

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scales were often used to measure it. But, researchers have suggested that a special scale is needed to evaluate the special symptoms exhibited by people with secondary traumatic stress disorders, which is very different from PTSD [18]. Iran has experienced a prolonged war that lasted for eight years and therefore has many war veterans. Therefore, a scale to evaluate the secondary traumatic stress symptoms of spouses of veterans is necessary.

One of the most prevalent scales used to measure symptoms of secondary traumatic stress and used in many studies is Secondary Trauma Questionnaire (STQ). STQ was designed by Motta, Joseph, Rose, Suozzi, Leiderman [12] based on PTSD symptoms in DSM-IV and Figley's Compassion Fatigue Self-Stress Test [10]. The purpose of present study was to investigate some psychometric characteristics of STQ in wives of warfare victims.

2. Methods

Target population of this study included spouses of warfare victims living in Yazd, Esfahan, Shiraz, and Ahvaz and whose one of the children studied at Shahed and Isargar schools (special school for children of warfare victims in Iran) present in these cities, in the 2012-2013 academic year. Sample selection between veterans whose children studied in special schools for veterans caused by better availability to target population and sampling in schools. Criterion for being a war veteran victim was physical or psychological injuries caused by war accidents, which was documented in the academic records of the students. Spouses of veterans

who were selected for inclusion in the target population of the study included women who married men injured in war, were aware of injuries caused to their future husbands at the time of marriage, and those who shared life with their husbands at the time of the study. Of this population, 379 subjects were selected by cluster sampling method. STQ, Secondary Traumatic Stress Scale (STSS), Mississippi PTSD Scale, and Depression Anxiety Stress Scale (DASS) were used to collect the data. First, STQ was carefully translated and then the translations were evaluated for their correctness by two English literature experts. The translated items were again translated back to English by a specialist to confirm the Persian translation. Confirmation factor analysis, Pearson correlation, and independent samples t-test were used to analyze the obtained data.

3. Results

Face validity of STQ using item impact method and content validity of this scale using Content Validity Index (CVI) and Content Validity Ratio (CVR) were confirmed. Face validity of STQ was used to evaluate 22 spouses. They were asked to indicate the importance of the items on 5 Likert range from 1 (not important) to 5 (very important). Impact item method was used to calculate face validity of the items [29]. The results show that all scores were above 1.5 (Acceptable minimum score was 1.5).

Twelve faculty members specializing in PTSD were asked to assess content validity. They confirm items about difficulty level, ambiguity (flute interpret about items and incor-

Table 1. Regression weights and model fitness indices

Item Number	Standard Regression Weights	Item Number	Standard Regression Weights	Model Fitness Indices	C.R
1	0.252*	13	0.536*	χ^2	222.351*
2	0.321*	14	0.666*	FD/ χ^2	1.823
3	0.641*	15	0.588*	GFI	0.939
4	0.647*	16	0.673*	AGFI	0.914
5	0.714*	17	0.668*	RMR	0.059
6	0.777*	18	0.505*	NFI	0.934
7	0.606*			RFI	0.917
8	0.722*			IFI	0.969
9	0.785*			TLI	0.961
10	0.790*			CFI	0.969
11	0.810*			PRATIO	0.797
12	0.510*			RMSEA	0.048

* P<0.01

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Table 2. Correlations of STQ scores with STSS, PTSD and DASS scores

variables	STSS	Re-Experiencing and Situational Avoidance	Withdrawal and Numbing	Arousal and Lack of Control	Self-Persecution	PTSD	Anxiety	Stress	Depression	DASS
STQ	0.853*	0.634*	0.409*	0.641*	0.458*	0.678*	0.696*	0.711*	0.703*	0.745*

* P<0.01

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Table 3. Comparison of STQ scores in high and low mental health groups (discriminant validity)

Variables	Groups	Number	Mean	SD	T Score	df	Sig.
Secondary trauma	High mental health	50	22.32	4.01	-16.887	98	0.0001
	Low mental health	50	57.28	14.08			

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rect meaning), Persian grammar, use appropriate words and item allocation. Waltz & Bausell method [30] was used to assess Content Validity Index (CVI). Experts evaluate "Relevance", "Clarity" and "Simplicity" of items on 4-point Likert scale. The results show that all scores were above the acceptable criteria (regarding number of experts) 0.79 [31-33]. The scores ranged from 0.84 to 1 for relevance, clarity, and simplicity. Finally, CVR was calculated by Lawshe formula [34]. The results show that the scores were above acceptable criteria of 0.49.

In the present study, confirmatory factor analysis was used to evaluate factorial structure of STQ. Findings of the confirmation factor analysis revealed that STQ, which is similar to the one approved by the developers of this scale has a one-factor structure in Iranian samples. Model fitness indices are shown in Table 1. Correlation of STQ scores with STSS, PTSD, and DASS scores was calculated to assess convergent validity of STQ (Table 2). All correlations are high and significant (P<0.01), showing that STQ has appropriate convergent validity with STSS, DASS, and PTSD scales.

To evaluate the discriminant validity of STQ, and DASS scores considered as mental health criteria we hypothesized individuals having high scores in DASS (have low mental health) than who have low scores in DASS, and also have high scores in STQ. First, the discriminant validity of individuals is evaluated and then arranged from bottom to top based on DASS scores. Fifty subjects who had high scores in DASS and another 50 who had low scores in DASS were considered as low and high mental health groups respectively. STQ can help in discriminating high mental health groups from low mental health groups (Table 3).

Cronbach alpha for total items was 0.92. Test-retest reliability of STQ was assessed by administering the scale

twice at an interval of one week. Correlation between the two scores was 0.81 (P<0.01). This result shows that Farsi version of STQ has appropriate reliability quotient.

4. Conclusion

Results show that Farsi version of the secondary trauma scale is valid and reliable for wives of Iranian warfare victims. Therefore, instead of using PTSD scales to evaluate the symptoms of secondary trauma in the wives of veterans, STQ can be used as a special scale. However, due to the limitations of the present research, it is necessary to take precautions while generalizing the results. One of the limitations of the present study was that veterans with PTSD were not separated from veterans without PTSD because of the limitations of the researcher and the need for a high sample for standardization. Limitation in sampling such as including only those spouses in the study who had married their husbands after they were victimized, or spouses of veterans who had a child in Shahah and Isargar schools (not including spouses of all veterans), and sampling only from four cities of Iran, generalization of the results of the study was limited to all Iranian veteran spouses.

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Conflict of Interest

The authors declared no conflicts of interest.