BRIEF REPORTS

Validation of a Trauma Questionnaire in Veteran Women

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The Trauma Questionnaire (TQ) assesses a woman's history of childhood and adult sexual trauma, sexual harassment, and domestic violence. The TQ is used widely at Veterans Affairs Medical Centers, but its validity has not been thoroughly examined. In a prospective study of 127 women, we found the TQ to have good to excellent agreement with a semistructured clinician interview and good sensitivity and specificity. The TQ can be used as a valid alternative to the clinician interview in the initial elicitation of trauma history among women veterans in the primary care setting.

KEY WORDS: trauma; questionnaire; women; veterans.
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The prevalence of sexual trauma and domestic violence in women veterans receiving medical care at Veterans Affairs Medical Centers (VAMCs) has been estimated at 40%.¹⁻³ A history of trauma increases the risk of mental disorders,^{1,4-8} physical symptoms,⁹⁻¹⁵ and health care utilization.^{16,17} Screening for trauma in the primary care setting will help clinicians identify patients who may need a more comprehensive approach to their medical care, including psychological intervention. Concerns and increasing public awareness of sexual trauma among mili-

tary women prompted a congressional mandate for VAMCs to identify and provide treatment for these victims. In response to this mandate, the Trauma Questionnaire (TQ) was developed. The TQ has come to be used widely at VAMCs as an aid to clinician screening for sexual trauma, but its validity as a substitute for the initial clinician screening interview has never been examined.

The purpose of this study was to examine the TQ for validity as compared with the clinician interview. We focused our study on the validity of the TQ as compared with a semistructured clinician interview because we wanted to assess the feasibility of substituting the TQ for the initial clinician screening interview in order to systematically screen women for a history of trauma.

METHODS

Participants

Consecutive women who had an appointment in the general medicine, gynecology, and mental health clinics of the Women's Health Center at the Durham VAMC from September 15 through October 31, 1997, were given the TQ as part of their routine clinical care; 141 women completed the TQ. Following completion of the TQ, the patients were asked to participate in a clinician interview screening for trauma. Written informed consent was obtained from 127 women (90% response rate).

Measures

The TQ is a 10-item self-report questionnaire that assesses a woman's history of childhood and adult sexual trauma, sexual harassment, and domestic violence, and measures her desire for mental health help (see Appendix A). As the TQ was designed for use in a veteran population, for three of the items, if the trauma incident occurred, it is asked if that incident occurred in the military. These items are not included in the current analyses.

The clinician interview covered all the domains of the TQ and was designed with written prompts for each domain to ensure all relevant areas were covered in the interview. The interview was conducted in accordance with clinical practice. However, the interviewer was blinded to the initial self-reported TQ responses in this study, which

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is a departure from the clinics' normal practices. Eight experienced clinicians conducted the interviews. Because there is no way to confirm a patient's history of trauma, the clinician interview was considered to be the "gold standard."

Statistical Methods

To assess the validity of the TQ as compared with the clinician interview, we compared responses from the patient on the TQ with those from the clinician interview using the κ statistic and computed the sensitivity and specificity of the TQ.^{18,19} In order to assess whether or not trauma reporting was greater on the clinician interview or the TQ, we used McNemar's statistic.¹⁹ We evaluated the validity of a composite score, computed by summing responses to seven trauma-related items on the TQ. For this composite score, using a median split of the sum (0–3 traumas vs 4–7 traumas), we computed a κ coefficient, conducted McNemar's Test, and computed the sensitivity and specificity.

RESULTS

The percentage endorsing each trauma item on the TQ and the clinician interview is shown in Table 1, as well as κ statistics comparing the TQ and the clinician interview, and McNemar's statistic for each item. For all trauma history items, the κ values exceeded .60, and there was no systematic bias in the TQ as compared with the clinician interview. In contrast, the items dealing with desire for mental health referral had κ values of .41 to .61

and were all biased toward increased reporting at the clinician interview.

The sensitivity and the specificity for each item of the TQ as compared with the clinician interview are reported in Table 2. For all trauma history items, the specificities and sensitivities were above .8. For the questions dealing with desire for mental health referral, the sensitivities were less than .50 and the specificities were above .90.

As the mental health questions were systematically biased toward the clinician interview and the military items represent a subpopulation, we included only the seven trauma-related items in the composite score evaluation. The distribution for the composite score (sum of the endorsements) was as follows: 0 = 13 (13.8%); 1 = 17 (18.1%); 2 = 8 (8.5%); 3 = 8 (8.5%); 4 = 12 (12.8%); 5 = 14 (14.9%); 6 = 12 (13%); and 7 = 10 (10.6%). The composite score revealed good κ values, showed no systematic bias in the TQ, and had good sensitivity and good specificity. The κ and McNemar's results for the composite score are shown in Table 1, and the sensitivity and specificity for this composite score are shown in Table 2.

DISCUSSION

Comparison of the TQ and a clinician interview reveals good to excellent κ values with no systematic bias on the trauma history questions. Analysis of the desire for mental health help questions indicated that women were more likely to express a desire for mental health referral in the clinician interview than on the TQ.

There are several potential limitations to this study. First, the TQ does not specifically ask about adolescent sexual trauma. Second, there may be some overlap in the

Table 1. Trauma Questionnaire Validation Compared with a Clinician Interview

Variable	n*	Percentage Endorsing Trauma in Clinician Interview†	Percentage Endorsing Trauma on Trauma Questionnaire‡	κ Estimate	95% Confidence Interval	McNemar's Test for Symmetry	Exact p Value for McNemar's Test
Major accident or disaster	109	50.5	44.9	.78	(.66, .90)	3.0	.146
Victim of violent crime	122	45.1	51.6	.71	(.58, .83)	3.56	.096
Threats of domestic violence	126	51.6	46.8	.81	(.71, .91)	3.0	.146
Domestic violence	125	57.6	54.4	.84	(.74, .93)	1.60	.344
Sexual harassment	125	70.4	68.0	.79	(.68, .91)	0.82	.549
Forced sex/rape	125	50.4	49.6	.79	(.69, .90)	0.08	1.000
Childhood sexual abuse	121	38.8	36.4	.88	(.79, .97)	1.29	.453
Composite score‡	94	51.1	51.1	.74	(.61, .88)	0	1.000
Want mental health help for trauma	99	35.3	19.2	.61	(.44, .77)	16.00	.00003
Other mental health problems not addressed	109	32.1	18.3	.41	(.22, .59)	9.000	.004
Want mental health help for other problems	101	27.7	17.8	.50	(.31, .70)	5.56	.031

* "Don't know" answers were set to missing.

† Percentage endorsing trauma for the clinician interview and Trauma Questionnaire is dependent on the individual having a nonmissing response to both the Trauma Questionnaire and clinician interview.

‡ Composite score using a median split and comparing high (4–7 traumas) versus low (0–3 traumas).

Table 2. Sensitivity and Specificity of the Items on the Trauma Questionnaire with the Clinician Interview as the Gold Standard

Variable	n*	Sensitivity	Specificity
Major accident or disaster	109	.84	.94
Victim of violent crime	122	.91	.81
Threats of domestic violence	126	.86	.95
Domestic violence	125	.90	.94
Sexual harassment	125	.92	.89
Forced sex/rape	125	.89	.90
Childhood sexual abuse	121	.89	.97
Composite score [†]	94	.87	.87
Want mental health help for trauma	99	.54	1.00
Other mental health problems not addressed	109	.43	.93
Want mental health help for other problems	101	.50	.95

*"Don't know" answers were set to missing.

[†]Composite score using a median split and comparing high (4–7 traumas) versus low (0–3 traumas).

endorsement of multiple trauma items (i.e., one event can be reported in multiple items). Although this limitation does not affect the individual item validity, it may affect the perception of the total number of traumas experienced. Third, we defined the gold standard to be the clinician interview. Although we cannot confirm the patient's history of trauma, it is standard clinical practice to base treatment recommendations on these reports. Fourth, this report shows a best-case scenario, as prompts in the clinician interview mirrored the TQ, making results more similar than they would be using a less structured interview. Finally, just after completing the TQ, the participants were asked to participate in a trauma study. The focus on trauma may have cued them to try to remember earlier responses.

The results of this study suggest that the trauma items on the TQ can be used as a valid alternative to the clinician interview in the initial elicitation of trauma history. However, subjects requested a mental health referral more frequently in a clinician interview than on the TQ. Thus, it is important for primary care clinicians to continue to ask patients if they would like a mental health referral. Our overall findings suggest that the trauma questions on the TQ are a valid alternative to the initial clinician interview in the VAMC setting. Modification of the TQ for use in a nonveteran population would require omission of the military questions and revalidation in that

population. We recommend using the TQ as an initial screen for trauma in women veterans.

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APPENDIX A

Trauma Screening Questionnaire

Some women experience traumatic events during their military service. We are trying to find out about these events and how they affect women's lives. We also want to find out if veteran women want mental health help addressing these or other concerns. To answer a question please check yes, no, or don't know. Thank you for your time.

	Yes	No	Don't Know
1. Have you ever been involved in a major accident or disaster?			
2. Have you ever been physically assaulted or been a victim of a violent crime?			
3. At any time, has a spouse or partner (significant other) ever threatened to physically hurt you in any way?			
4. At any time, has a spouse or partner (significant other) ever hit you, kicked you, or physically hurt you in any way?			
Did this happen to you while you were in the military?			
5. Have you ever received uninvited and unwanted sexual attention (e.g., touching or cornering, pressure for sexual favors, verbal remarks)?			
Did this happen to you while you were in the military?			
6. Has anyone ever used force or the threat of force to have sex with you against your will?			
Did this happen to you while you were in the military?			
7. Were you ever sexually assaulted or touched in a sexual way, by a person 5 or more years older than you, when you were younger than 13?			
8. Would you like to talk to a mental health worker about any of the above problems?			
9. Do you have any mental health questions or concerns that are not on this questionnaire?			
10. Would you like to talk to a mental health worker about these other problems?			