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Social support and mental health service use among individuals with PTSD in a nationally-representative survey

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Abstract

Objective—Despite continued outreach efforts, levels of mental healthcare utilization for posttraumatic stress disorder (PTSD) remain low. As such, it is important to identify factors that may promote or discourage treatment engagement. The current study was designed to examine the association between perceived social support and utilization of several types of PTSD services.

Methods—Data come from the second wave of the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC), which was administered between 2004 and 2005. PTSD was assessed via structured interview, and perceived social support was assessed via the Interpersonal Support Evaluation List-12 (ISEL-12). Participants were asked about PTSD-specific treatment of the following modalities: outpatient, hospitalization, emergency department visits, and psychiatric medication prescriptions. Weighted logistic regression modeling was performed to examine associations between social support scores and the odds of receiving treatment for PTSD, adjusting for sociodemographic characteristics and PTSD severity.

Results—The final sample consisted of 2811 individuals with PTSD. Social support was not associated with the odds of receiving any type of PTSD treatment.

Conclusions—Among individuals in the general population with PTSD, perceived social support may not be related to PTSD treatment utilization. Other factors such as sociodemographic characteristics and symptom severity may be more important with respect to receiving PTSD-specific treatment.

Keywords

NESARC; National Epidemiologic Survey on Alcohol and Related Conditions; Service utilization; Posttraumatic Stress Disorder; Interpersonal Support Evaluation List; ISEL; ISEL-12

Introduction

Despite continued efforts at outreach and engagement (e.g. (1, 2)), treatment utilization among individuals with posttraumatic stress disorder (PTSD) remains low. By one recent estimate, only 21.6% of those with PTSD currently seek treatment (3). In assessing the potential barriers and facilitators of treatment engagement, social support has emerged as a potentially important factor (4). Lack of social support is associated with an increased likelihood of developing PTSD after a traumatic event (5-9) and greater severity of PTSD among those with the disorder (10-12). However, the collected findings on the relationship between social support and mental health care engagement are equivocal. Some studies report a positive relationship, in which greater levels of social support are associated with greater levels of mental health service utilization amongst individuals with PTSD (13-17). Social support may increase care utilization because an individual's support network encourages treatment when it is needed. In this conceptualization, social support acts as an “enabling” factor that facilitates treatment engagement (18). In contrast, other studies have reported an inverse relationship between social support and treatment utilization, such that greater levels of social support are associated with reduced levels of mental health service utilization (19-21). Social support may reduce care utilization because the social network serves as a pre-established helping resource. Social support may therefore act as a “buffer” to mitigate the severity of PTSD, thus reducing the need for treatment (22). Still other studies have failed to find a relationship between social support and treatment utilization (23, 24), or have found that the direction of the relationship depends on the quality of social support (4).

Most prior research examining the linkage between social support and treatment utilization has relied on modest sample sizes and controlled for few, if any, demographic variables. Studies without sufficient power to control for marital status and/or socioeconomic status may uncover relationships with social support that are partially attributable to such sociodemographic variables. Another potential weakness of previous studies is that they have tended to focus on general mental health treatment rather than PTSD-specific treatment. In addition, previous investigations have rarely examined the influence of social support on different types of PTSD treatment. In the current study, we used a large, nationally-representative sample to probe the relationship between social support and PTSD treatment utilization. We hypothesized that interpersonal support would be significantly associated with the likelihood of obtaining several types of PTSD-specific services, even after controlling for a wide range of sociodemographic factors.

Methods

Sample

Data come from the second wave of the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC). The NESARC is a two wave population-based face-to-face survey targeting the adult (aged 18 years and older) civilian population of the United States. The first wave (Wave 1) was conducted from 2001-2002 and the second wave (Wave 2) was conducted from 2004-2005. 34,653 individuals (86.7% of the original sample) completed Wave 2 (25). All respondents provided written informed consent. The US Census Bureau and US Office of Management and Budget reviewed the research protocol and provided full ethical approval. Further detail on the NESARC can be found elsewhere (25, 26).

For the present investigation, the sample is the subset of individuals in Wave 2 with a lifetime history of PTSD who completed the social support assessment and answered items about demographic variables of interest (n=2811). The NESARC employed the Alcohol Use Disorder and Associated Disabilities Interview Schedule–DSM-IV (AUDADIS-IV) version, a fully-structured diagnostic interview for use by experienced interviewers without clinical training (27). The PTSD section of the interview began with an inventory of 33 traumatic events that operationalize the DSM-IV stressor criterion. Respondents who had experienced multiple traumatic events were asked to select the worst (“the most distressing”) traumatic event from the list of events they endorsed. Dichotomous DSM-IV criterion symptoms and other criteria that define the disorder, including the subjective response to the event, duration, and impairment, were asked in connection with the worst (or single) event. We used DSM-IV criteria to diagnose PTSD from the NESARC interview data. When two items were used in the interview to evaluate a single symptom, replies were combined as one item rather than counted as two symptoms (see (28) for details).

PTSD Severity

Symptom severity was not directly assessed in the NESARC; therefore, we used PTSD symptom count as a proxy for PTSD severity. Symptom count was generated by summing the number of reexperiencing, avoidance, and hyperarousal symptoms endorsed by the participant.

Interpersonal Support Evaluation List-12 (ISEL-12)

Twelve items assessing perceived interpersonal support were assessed (29-31). Items included statements such as, “If I were sick, I know I would find someone to help me with my daily chores,” and, “If I wanted to go on a trip for a day, like to the country, city, mountains or beach, I would have a hard time finding someone to go with me.” Responses to each item were rated by the respondent on a 1–4 scale ranging from 1, definitely false, to 4, definitely true. Negative items were reverse coded. Scores range from 12 to 48, with higher scores indicating higher levels of social support. The ISEL-12 has good convergent and divergent validity and adequate test-retest and internal reliability (8, 31, 32).

Sociodemographic measures

Sociodemographic measures included age, sex, race/ethnicity, nativity, educational level, household income, marital status, urbanicity, geographic region, and type of health insurance. We also calculated and controlled for the presence of other lifetime Axis-I psychiatric disorders (including major depressive disorder, bipolar disorder, dysthymia, panic disorder, agoraphobia, social phobia, specific phobia, generalized anxiety disorder, and alcohol and substance use disorders).

Mental health treatment seeking

Respondents were classified as seeking mental health treatment for PTSD at some point in their lifetime if they visited a counselor, therapist, doctor, or psychologist for PTSD; were a patient in a hospital for at least one night for PTSD; visited an emergency room for PTSD; or were prescribed medications for PTSD. All mental health treatment utilization questions in the NESARC were disorder-specific.

Statistical Analysis

Unadjusted and adjusted logistic regression modeling was performed to examine associations between ISEL-12 score and the odds of receiving treatment for PTSD. Separate models were conducted for each type of treatment (hospitalization, emergency department visit, outpatient visit, or psychiatric medication), in addition to an overall model examining any type of treatment. Taylor series linearization was used to take into account the complex survey design of the NESARC. The adjusted models adjusted for PTSD symptom count and for sociodemographic variables that have previously been found to be associated with PTSD (6). Logistic regression calculates odds ratios (ORs) as the measure of strength of association, and 95% confidence intervals (CIs) are presented to aid interpretation. All analyses were conducted using Stata Version 11 [StataCorp. Stata Statistical Software: Release 11. College Station, TX: StataCorp LP; 2009].

Results

Table 1 presents demographic characteristics of the final sample, which consisted of 2811 individuals with PTSD. Seventy-two percent of the sample was female, 70% was white, 57% was married or cohabiting, 46% was employed, 88% had health insurance, and 86% had at least one other comorbid psychiatric disorder.

Results from the unadjusted logistic regression models are displayed in Table 2. As shown in the table, social support was not associated with the overall outcome of any PTSD treatment, nor was it associated with the PTSD-specific outpatient, hospitalization, or emergency department outcomes. A modest association was observed for PTSD medication use, such that each unit increase of social support was associated with a two percent decrease in the odds of receipt of medication for PTSD.

Table 3 depicts results from the adjusted logistic regression models estimating the associations between level of social support and the odds of receiving PTSD services. Adjusting for all sociodemographic variables and PTSD symptom severity, social support

was not associated with the overall odds of receiving any PTSD-related services, nor was it associated with receipt of specific types of PTSD services. Female sex, higher educational attainment, greater income, divorced/separated/widowed marital status, health insurance coverage, greater levels of psychiatric comorbidity, and greater PTSD symptom severity were all associated with greater odds of receipt of any treatment. Older (65+), Black non-Hispanic, Foreign-born, and employed individuals had lower odds of receiving treatment.

To further probe the hypothesized relationship between level of social support and PTSD treatment utilization, we conducted supplementary analyses. For these analyses, following Moak and Agrawal (33), we categorized the ISEL scores into quartiles: “High social support,” “Intermediate high social support,” “Intermediate low social support,” and “Low social support.” In the first set of supplemental analyses, we tested for an ISEL by PTSD severity interaction. No interactions were detected for any of the models, i.e., none of the interactions were significantly related to the overall odds of treatment or specific types of PTSD treatment (all $p > .05$). In the second set of supplementary analyses, we investigated potential ISEL-marital status interactions. These interactions were not significantly related to PTSD treatment outcomes (i.e., the relationship between social support and PTSD treatment utilization did not vary by marital status; all $p > .05$).

Discussion

In this study, we investigated the hypothesized relationship between perceived social support and the receipt of several types of healthcare services for PTSD. With the exception of the medication outcome, we failed to detect associations between social support and PTSD-specific treatment utilization. Moreover, after adjustment for sociodemographic variables and symptom severity, there was no significant association between level of social support and the odds of PTSD treatment, for any outcome. Our work extends previous research by utilizing a large, nationally-representative sample and by taking into account demographic and illness factors that have previously been found to be associated with treatment utilization.

Previous findings have varied in the relation between social support and mental health treatment engagement. Several studies support an inverse relationship between social support and mental healthcare utilization. For instance, among 154 veterans filing claims for Veterans Affairs (VA) disability benefits for PTSD, those in mental health treatment reported lower social support (21). In another study, greater readjustment stress (including marital and family problems or loss of a loved one; indicating lower social support) was associated with greater number of mental health visits in National Guard soldiers (20). In another sample of National Guard soldiers, lower postdeployment social support was related to greater psychiatric medication usage, but not differential psychotherapy utilization (19). This study echoes our unadjusted finding that social support was related to psychiatric medication use specifically. Other studies, however, have reported a positive relationship between social support and mental health service utilization. One study found that greater mental health service seeking was associated with greater levels of social support among women with PTSD (13). Another reported that greater spousal involvement was associated with greater engagement in trauma-focused treatment among Vietnam war veterans (14). In

line with our findings, additional research supports a nonsignificant association between social support and treatment seeking. Pietrzak and colleagues found that postdeployment social support was not related to perceived barriers to care in returning veterans (23). Another study found that after controlling for PTSD symptom severity and cumulative trauma exposure, social support was not associated with treatment seeking in a sample of 549 Canadian veterans (24). Reasons for the inconsistent findings in the literature remain unclear; however, variation in study design and sampling (e.g., relatively small clinic-based veteran studies versus large, general population-based surveys), measurement of social support, and/or adjustment for other important factors might be responsible for the conflicting results.

In analyses in the present study, we included several sociodemographic factors that have been found to be related to mental health treatment seeking. Indeed, several of these demographic variables were significantly associated with PTSD treatment utilization. These included age, sex, race, education, income, marital status, and psychiatric comorbidity. These findings are largely consistent with the published literature. For instance, amongst all individuals with anxiety disorders in the NESARC survey, middle aged adults were the most likely to have received mental health services in the past year, and older adults were the least likely (3). This is consistent with our finding that older adults were less likely than young adults to use PTSD services, and that adults aged 45-64 were more likely than young adults to use PTSD medications. We also found that women were more likely than men to receive PTSD services. In support of this finding, amongst all individuals with anxiety disorders in the NESARC dataset, women were more likely than men to have received mental health services in the past year (3). Another study from the NESARC dataset demonstrated that minority groups (including Black, Asian, and Hispanic individuals) were less likely to receive outpatient care for PTSD than whites (34). This is consistent with our finding that Black individuals were less likely than whites to receive medication for PTSD, and also less likely to receive any type of PTSD services. In regard to marital status, we found that individuals who were divorced, separated, or widowed were more likely to receive services than individuals who were married. Previous findings on marriage and health service use are mixed (17), although consistent with our findings, some investigations have reported greater use amongst divorced or separated individuals (35, 36). Finally, we found that individuals with 3 or more comorbid Axis I disorders were more likely to use PTSD services than those without psychiatric comorbidity. Similarly, a previous study found that amongst all individuals with anxiety disorders in the NESARC data, individuals with comorbid mood and anxiety disorders were more likely to use services in the past year than those without (3). Thus, sociodemographic factors may be salient factors related to PTSD treatment utilization.

Potential relationships between social support and treatment utilization may also be accounted for by PTSD severity. Symptom severity is a robust and reliable predictor of service utilization (37-43), and is also highly correlated with social support (10-12, 44). In National Guard soldiers, greater psychiatric medication usage was related to both reduced postdeployment social support and greater PTSD severity (19). Furthermore, Meis and colleagues (17) found that the impact of social support on treatment utilization was fully accounted for by PTSD symptom severity. Although the NESARC did not collect

information on symptom severity per se, we included the number of PTSD symptoms as a proxy for severity. Moreover, this variable was robustly related to the odds of receiving all types of PTSD treatment.

Our study has several potential limitations. First, the NESARC survey used retrospective data, potentially reducing the accuracy of recall. Second, the survey was conducted by nonclinician interviewers, which precludes the use of clinical judgment in determining diagnoses. Third, the cross-sectional design prevents any determination of causality. Limitations of our social support measure include the fact that the ISEL includes only positive aspects of social support, and does not address the negative aspects of social relationships or strain. Furthermore, the ISEL may not specifically address how social network members impact health related problems or service utilization. Another limitation of our data is that PTSD and mental health service utilization were assessed over the course of the participant's lifetime, whereas social support was assessed in the current time frame. This may mask potential temporal relationships between social support and help-seeking; for example, diminished social support may be a consequence of failing to receive treatment after PTSD onset rather than a contributor to not seeking treatment. Consequently, additional longitudinal data are required to better address such concerns. Finally, the mean ISEL score was relatively high for the NESARC sample. It is possible that results may differ among populations with lower levels of social support.

Conclusions

In this study, we report a null association between perceived social support and PTSD treatment utilization. For those in the general population with PTSD, other factors, including sociodemographic characteristics and symptom severity, may be more important for receiving PTSD-specific treatment. Future work is needed to assess whether social support influences other aspects of treatment, such as adherence.

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Table 1
Characteristics of the sample (N=2811)

Characteristic		N	weighted % ^a
Age group (years)			
	18-29	368	15.1
	30-44	958	33.2
	45-64	1,145	40.1
	65	340	11.7
Sex			
	Male	716	27.8
	Female	2,095	72.2
Race/ethnicity			
	White, non-Hispanic	1,617	70.5
	Black, non-Hispanic	599	12.9
	Hispanic, any race	469	10.9
	Other	126	5.8
Nativity			
	US-born	2,480	90.1
	Foreign-born	331	9.9
Education			
	Less than high school	497	16.1
	High school graduate	731	26.2
	Some college	1,583	57.7
Household income (\$)			
	0-19,999	876	26.5
	20,000-34,999	600	20.4
	35,000-69,999	777	29.3
	>=70,000	558	23.8
Marital status			
	Married/cohabitating	1,315	56.7
	Divorced/separated/widowed	977	27.8
	Never married	519	15.5
Urbanicity			
	Urban	972	33.3
	Suburban	1,392	50.5
	Rural	447	16.3
Region			
	Northeast	510	18.3
	Midwest	554	19.6
	South	1,051	37.1
	West	696	25.0
Employment (full-time)			

Characteristic	N	weighted % ^a	
	Unemployed	1,544	54.3
	Employed	1,267	45.7
Health insurance	Uninsured	340	12.0
	Insured	2,471	88.0
Number of other psychiatric disorders (lifetime)	0	397	14.4
	1	527	18.3
	2	493	17.1
	3+	1,394	50.2
Type of PTSD Treatment	Any Treatment	1,475	53.3
	Outpatient	1,326	48.3
	Hospitalization	278	09.1
	Emergency Department	251	08.5
	Medication Use	865	31.3
PTSD symptom severity (weighted mean)		2811	12.4 (SD=2.8; Range 6-17)
Social Support (weighted mean)	ISEL	2811	41.0 (SD=6.8; Range=12-48)

^aWeighted to account for selection probabilities, non-response, and sociodemographic factors in order to be representative of the US civilian population based on estimates from the 2000 census.

Table 2
Unadjusted odds ratio and confidence intervals estimating associations between social support and any treatment, outpatient, hospitalization, emergency department, and medication use among the sample with PTSD

Variable	Any Treatment		Outpatient		Hospitalization		Emergency Department		Medication Use						
	OR	95% CI	p	OR	95% CI	p	OR	95% CI	p	OR	95% CI	p			
Social Support (ISEL)	.99	.98–1.01	ns	1.00	.99–1.01	ns	.98	.96–1.00	.056	.98	.96–1.01	ns	.98	.97–1.00	.021

Table 3
Adjusted odds ratio and confidence intervals estimating associations between social support and sociodemographic factors and any treatment, outpatient, hospitalization, emergency department, and medication use among the sample with PTSD

Variable	Any Treatment			Outpatient			Hospitalization			Emergency Department			Medication Use		
	OR	95% CI	P	OR	95% CI	P	OR	95% CI	P	OR	95% CI	P	OR	95% CI	P
Social Support (ISEL)	.99	.98–1.01	ns	1.00	.99–1.02	ns	.99	.97–1.02	ns	.99	.97–1.03	ns	.99	.97–1.00	ns
Age group (reference: 18-29)															
30-44	.99	.72–1.37	ns	.96	.70–1.33	ns	1.05	.59–1.88	ns	1.12	.60–2.09	ns	1.05	.73–1.50	ns
45-64	1.02	.74–1.41	ns	.98	.71–1.34	ns	1.24	.67–2.27	ns	1.03	.56–1.92	ns	1.61	1.13–2.31	.009
65	.48	.32–.72	.001	.37	.24–.57	<.001	.34	.15–.78	.012	.42	.16–1.08	.071	.94	.62–1.43	ns
Female (reference: Male)	1.34	1.07–1.65	.011	1.21	.97–1.51	.091	.61	.43–.88	.009	.71	.49–1.03	.072	1.13	.87–1.47	ns
Race/ethnicity (Reference: White)															
Black, non-Hispanic	.46	.35–.61	<.001	.44	.33–.58	<.001	.60	.40–.90	.014	.80	.51–1.26	ns	.52	.37–.74	<.001
Hispanic, any race	.78	.55–1.12	ns	.72	.50–1.04	.080	.70	.46–1.06	.093	.86	.52–1.41	ns	.78	.52–1.16	ns
Other	.90	.57–1.41	ns	1.09	.70–1.70	ns	1.17	.68–2.02	ns	.85	.42–1.70	ns	.85	.53–1.34	ns
Foreign-born (reference: US-born)	.65	.43–.99	.035	.66	.44–.99	.046	.49	.29–.83	.008	.65	.34–1.24	ns	.85	.53–1.36	ns
Education (reference: Less than high school)															
High school graduate	1.07	.78–1.45	ns	1.04	.76–1.41	ns	.68	.43–1.09	ns	.87	.53–1.43	ns	1.11	.79–1.57	ns
Some college	1.85	1.39–2.46	<.001	1.93	1.46–2.54	<.001	.69	.43–1.10	ns	1.07	.66–1.72	ns	1.40	1.01–1.93	.043
Household income (reference: \$0-19,999)															
20,000-34,999	1.09	.81–1.47	ns	.97	.72–1.30	ns	1.14	.39–1.87	ns	1.16	.70–1.91	ns	1.22	.92–1.62	ns
35,000-69,999	1.18	.88–1.59	ns	1.12	.83–1.49	ns	1.26	.83–1.94	ns	1.01	.62–1.62	ns	1.31	.96–1.77	.083
70,000	1.43	1.02–2.00	.039	1.34	.95–1.88	.096	1.16	.68–1.99	ns	.70	.39–1.26	ns	1.50	1.05–2.15	.026
Marital status (reference: Married/cohabitating)															
Divorced/separated/widowed	1.43	1.11–1.84	.006	1.47	1.13–1.92	.005	1.40	.96–2.05	.078	1.43	.91–2.25	ns	1.64	1.27–2.12	<.001
Never married	1.02	.74–1.39	ns	1.09	.79–1.51	ns	1.43	.88–2.33	ns	1.32	.82–2.11	ns	1.01	.73–1.38	ns
Urbanicity (reference: Urban)															
Suburban	1.11	.89–1.38	ns	1.14	.91–1.43	ns	.90	.62–1.29	ns	1.06	.74–1.53	ns	.98	.77–1.24	ns
Rural	1.28	.94–1.73	ns	1.41	1.04–1.91	.027	.92	.56–1.52	ns	.68	.40–1.17	ns	1.19	.88–1.61	ns
Region (reference: Northeast)															
Midwest	1.23	.87–1.74	ns	1.26	.88–1.80	ns	1.48	.88–2.49	ns	1.40	.80–2.44	ns	.93	.66–1.31	ns

Variable	Any Treatment			Outpatient			Hospitalization			Emergency Department			Medication Use		
	OR	95% CI	p	OR	95% CI	p	OR	95% CI	p	OR	95% CI	p	OR	95% CI	p
South	1.22	.89–1.66	ns	1.11	.81–1.50	ns	1.01	.61–1.68	ns	1.13	.69–1.85	ns	1.14	.84–1.55	ns
West	.99	.73–1.35	ns	.93	.68–1.26	ns	1.18	.72–1.94	ns	1.15	.67–1.96	ns	1.10	.78–1.56	ns
Employed (reference: Unemployed)	.69	.54–.87	.002	.73	.57–.93	.012	.38	.25–.59	<.001	.61	.40–.94	.027	.60	.47–.78	<.001
Insured (reference: Uninsured)	1.72	1.28–2.30	<.001	1.61	1.20–2.17	.002	1.05	.61–1.82	ns	1.24	.75–2.04	ns	1.74	1.23–2.46	.002
Number of comorbid lifetime psychiatric disorders (reference: None)															
1	1.06	.75–1.51	ns	1.17	.81–1.67	ns	.84	.44–1.59	ns	.69	.34–1.42	ns	1.47	.99–2.19	.058
2	1.11	.79–1.57	ns	1.19	.84–1.69	ns	1.27	.65–2.47	ns	1.39	.71–2.71	ns	1.40	.91–2.17	ns
3+	1.50	1.10–2.05	.012	1.78	1.27–2.49	.001	1.13	.60–2.10	ns	1.25	.67–2.35	ns	2.07	1.40–3.06	<.001
PTSD Symptom Count	1.13	1.09–1.17	<.001	1.12	1.08–1.17	<.001	1.17	1.10–1.25	<.001	1.12	1.04–1.20	.002	1.10	1.06–1.15	<.001

Abbreviations: ISEL=Interpersonal Support Evaluation List