

Assessment of the Psychosocial Predictors of Health-Related Quality of Life in a PTSD Clinical Sample

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Abstract

Although a wide array of the scientific literature explores the links between posttraumatic stress disorder (PTSD) symptoms, coping strategies, and social support and health-related quality of life (HRQoL) as an outcome variable, their connections remain unclear. It is unknown whether PTSD symptom severity, coping strategies, and social support explain each a unique portion of variance of HRQoL of individuals with PTSD. In the current study, based on pretreatment results of a broader study assessing a specific intervention for PTSD, 94 individuals with PTSD were screened for psychiatric disorders and completed several questionnaires concerning social support, coping strategies, PTSD symptoms, and HRQoL. Coping strategies, social support, and PTSD all appeared to be predictors of HRQoL; however, PTSD seemed to constitute the major predictor among these variables. Indeed, coping strategies and social support did not explain a unique share of variability of HRQoL beyond that of PTSD symptomatology. A causal pathway integrating these variables should be tested in future studies.

Keywords

posttraumatic stress disorder; health-related quality of life; social support; coping strategies; correlational study; clinical sample

Posttraumatic stress disorder (PTSD) is commonly conceptualized as a multidimensional construct with three clusters of symptoms: (1) intrusion or persistent reexperiencing of the traumatic event, (2) persistent avoidance of stimuli associated with the trauma and numbing of general responsiveness, and (3) hyperarousal or persistent symptoms of increased arousal (American Psychiatric Association [APA], 2000). Following exposure to an extremely traumatic event that involved feelings of intense fear, helplessness, or horror, individuals diagnosed with PTSD usually experience each of these responses intensely, which seemingly causes high functional impairment and a decreased quality of life (*d'Ardenne, Capuzzo, Fakhoury, Jankovic-Gavrilovic, & Priebe, 2005; Gladis, Gosch, Dishuk, & Crits-Christoph,*

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1999; Mendlowicz & Stein, 2000; Olfson et al., 1997; Rapaport, Clary, Fayyad, & Endicott, 2005; Schneier, 1997; Stein, McQuaid, Pedrelli, Lenox, & McCahill, 2000).

Measures of quality of life are increasingly used in health care studies as they provide a global assessment of the perceived burden associated with diverse conditions and are good predictors of future medical expenditures (Fleishman, Cohen, Manning, & Kosinski, 2006). As such, identifying the predictors of the quality of life of people diagnosed with PTSD could help understanding both the factors increasing their perceived burden and the health care cost of their condition. An increasing number of studies aimed at examining the nature of the burden associated with PTSD use assessments of health-related quality of life (HRQoL; Seedat, Lochner, Vythilingum, & Stein, 2006). The most widely used and recognized measure of HRQoL is the Medical Outcomes Study 36-item Short-Form Health Survey (MOS SF-36; Ware, Kosinski, & Keller, 1994; Ware, Snow, Kosinski, & Gandek, 1993). The SF-36 and its shorter version, the SF-12, are self-report questionnaires that assess physical and mental components of HRQoL. The SF-12 has been extensively validated both in epidemiological and in clinical studies (e.g., McHorney, Ware, & Raczek, 1993; Ware, Kosinski, & Keller, 1996) and was found to be an excellent predictor of future medical expenditures (Fleishman et al., 2006).

Evidently, one of the major predictors of HRQoL of individuals diagnosed with PTSD is the intensity of their symptoms. In fact, when compared to samples from the general population, PTSD samples show lower levels of HRQoL (Mendlowicz & Stein, 2000; Rapaport et al., 2005; Seedat et al., 2006). Nonetheless, other potential modulating variables of HRQoL should be examined.

According to the literature, perceived social support is an important predictor of HRQoL and has been the object of studies in the general field of quality of life. In a theoretical article, Helgeson (2003) discusses the links between social support and quality of life. In her view, perceived support would be more strongly related to quality of life than the support received, as people who perceive high levels of support may be more psychologically healthy or possibly have the necessary social skills to elicit support. She also noted that negative support behaviors were often found to be stronger predictors of quality of life than positive support behaviors across different studies. Likewise, an empirical study showed that veterans who had high levels of empathic, informational, and reassuring social support had better HRQoL (e.g., perceived quality of life) than did those who had lower levels of social support (Yazicio lu et al., 2006). In the same study, social support had a greater impact on HRQoL among hospitalized veterans than sociodemographic or medical factors, and the level of tangible support was not associated with HRQoL variability. However, it should be noted that this study was conducted with hospitalized veterans with physiological illnesses and that no trauma measure was used.

Another potential predictor of HRQoL is coping. To date, no study has assessed the link between coping and HRQoL in a PTSD clinical sample. However, in the context of trauma, a considerable amount of research has been conducted to investigate the link between coping and psychological distress, a concept close to HRQoL. Indeed, a recent meta-analysis reporting on adaptative and maladaptative coping strategies following a traumatic event and

their connection to psychological distress concluded that there was a consistent association between the maladaptive avoidance coping strategy and psychological distress (overall $r = .37$) whereas there was no association between the adaptive approach coping strategy and distress ($r = -.03$; Littleton, Horsley, John, & Nelson, 2007).

Synthesis of Theory and Empirical Data

The association between social support, coping strategies, and HRQoL as an outcome variable in the context of PTSD is not very detailed in the scientific literature. For instance, we do not know whether social support and coping strategies are in fact associated with HRQoL of individuals diagnosed with PTSD. Moreover, do social support and coping strategies explain a unique part of variance of HRQoL beyond PTSD, a variable that has been shown to have a significant impact on quality of life? Should this be the case, it would mean that (a) a single focus on the reduction of the intensity of PTSD symptoms would not be an optimal strategy to efficiently affect HRQoL related to the condition and that (b) targeting both perceived social support and coping strategies used by the individual could improve the efficiency of an intervention. Overall, the purpose of the present study is to examine these questions by evaluating whether perceived social support and coping strategies predict HRQoL in patients diagnosed with PTSD, controlling for PTSD symptoms. Although there is no intervention assessment in the present study, it could guide future studies evaluating interventions for PTSD.

Methods

Participants and Procedure

Participants were recruited through public advertisement and references from hospitals in the Montreal metropolitan area (Canada). The study took place in the research center of a large psychiatric hospital (Louis H. Lafontaine Hospital). All the participants selected presented a primary diagnosis of PTSD, and their spouse or significant other were required to participate in the study, as the main objective of the broader research project was to assess the effect of social support in PTSD treatment. However, only pretreatment data have been used for the purpose of the present study. Exclusion criteria included (a) being under 18 years of age, (b) history of aggression by the spouse or significant other, (c) presence of alcohol or substance abuse or dependence, and (d) past or present psychotic episode, bipolar disorder, or organic mental disorder.

A total of 585 individuals were screened through a brief phone interview, and 178 of them briefly assessed by phone regarding the eligibility and exclusion criteria. Ninety-four individuals met criteria of PTSD and were included in the treatment study. Participants were evaluated through a semi-structured clinical interview assessing psychiatric disorders, including PTSD (Structured Clinical Interview for *DSM-IV* [SCID]; First, Spitzer, Gibbon, & Williams, 1995). Clinical interviews were conducted in person by psychologists with extensive training in use of the SCID. Training and ongoing supervision of the evaluators were provided by the second author (SG). Self-report questionnaires were completed at home by participants who brought them to their first treatment session. The study was approved by the Louis H. Lafontaine Hospital's Ethics Board Committee.

Instruments

The SF-12 Version 2.0 Health Survey is a short version of the SF-36. This multidimensional, 12-item, self-administered scale covers six perceived health domains (role physical, bodily pain, vitality, social functioning, role emotional, and mental health) and captures about 85% of the reliable variance of the SF-36 health profile. The correlations between the SF-12 and the SF-36 range from .92 to .96 (Ware, Kosinski, Turner-Bowker, & Gandek, 2007). The original English version has been validated (see Ware et al., 1996), and the test-retest reliability coefficients (2 weeks) of the SF-12 are very good ($r = .76$ to $.89$; Ware et al., 1996). The SF-12 physical and mental health summary measures are respectively referred to as PCS-12 (physical component summary) and MCS-12 (mental component summary). The PCS-12 and MCS-12 scores were calculated in the present study according to the scoring method of the SF-12 presented in the User's Manual for the SF-12v2™ Health Survey and the 1998 norms (Ware et al., 2007). The PCS-12 and the MCS-12 were used, respectively, to measure the physical and the mental aspect of HRQoL.

The Modified PTSD Symptom Scale—Self-Report (MPSS-SR)—The MPSS-SR (Falsetti, Resnick, Resick, & Kilpatrick, 1993) is a 17-item self-report questionnaire assessing the frequency and severity of PTSD symptoms. Symptoms correspond to those listed in the *DSM-IV (Diagnostic and statistical manual of mental disorders, 4th ed., text rev., APA, 2000)*. Total score ranges from 0 to 119. The original English version, previously validated, has demonstrated excellent internal consistency (alphas of .92 to .97; Falsetti et al., 1993). In the current study, MPSS-SR total scores were used to measure the intensity of PTSD symptoms (alpha of .93 in this sample).

The Ways of Coping Questionnaire—Short Version (WCQ-S)—The original WCQ (Folkman & Lazarus, 1988) is a self-report questionnaire designed to assess and identify thoughts and actions that individuals use to cope with a stressful event. Each item is rated on a scale of 0 to 3. A short version validated with a large sample of couples (Bouchard, Sabourin, Lussier, Richer, & Wright, 1995) was used in this study. The WCQ-S contains 21 of the 66 original items, including three strong stable factors, also identified in many other studies: (1) seeking social support, (2) distancing/avoidance, and (3) reappraisal/problem solving. Since PTSD was the stressful element in the current study, participants had to indicate the frequency of use of different coping strategies when they experienced difficulties related to their anxiety. The internal consistency of the three factors was adequate both in the original article (alphas of .85, .76, and .80 for support, distancing, and reappraisal, respectively) and in this sample (alphas of .77, .58, and .85, respectively). The WCQ-support, the WCQ-distancing, and the WCQ-reappraisal were thus used to measure coping processes.

The Questionnaire on Social Support Behaviors in Anxious Situations (QSBA)—The QSBA (Guay et al., 2011; Guay, Marchand, & O'Connor, 2003) is a 31-item self-report questionnaire assessing the perceived frequency of supportive social interactions (QSBA-positive: 9 items) and counter-supportive social interactions (QSBA-negative: 22 items) with a significant other in anxiety-provoking situations. The QSBA was developed and validated with university students and with PTSD outpatients (Beaudoin, St-Jean Trudel,

Nachar, Guay, & Marchand, 2008; St-Jean-Trudel, Guay, Marchand, & O'Connor, 2005). The average score of each item is calculated for each factor. The internal consistency of each factor is very high (alphas ranging from .86 to .90 in the current sample), and the test-retest reliability is moderate (correlations ranging from .56 to .69 over a 4- to 5-month delay for a clinical sample, $N = 56$). Each factor also shows good convergent validity. The correlations with the Social Provisions Scale (SPS, a scale of perceived availability of support from the social network; Cutrona & Russell, 1987) are .43 for the positive factor and $-.45$ for the negative factor ($N = 94$). The QSBA is the only existing scale that evaluates the perceived frequency of both supportive and countersupportive interactions with a significant other, focusing on interactions in anxiety-provoking situations. For participants who were in a relationship, the significant other considered was their partner; for other participants, the most significant confidant was considered. The QSBA-positive and the QSBA-negative were used to measure perceived social support.

The Social Provisions Scale (SPS)—The SPS (Cutrona & Russell, 1987) is a self-report questionnaire that assesses perceived support from the social network. It comprises 24 items measuring 6 dimensions of social support: attachment, tangible support, guidance, social integration, reassurance of worth, and opportunity for nurturance. The original English version respectively has demonstrated very good internal consistency (alphas of .85 and .96) and test-retest reliability ($r = .86$; Cutrona & Russell, 1987). Its internal consistency in the current sample was excellent (alpha of .91).

Data Analysis

To assess the predictive value of perceived social support and coping processes concerning perceived health status beyond PTSD symptoms, two hierarchical multiple regressions were performed, with perceived mental health (MCS-12) and perceived physical health (PCS-12) as separate outcome variables. The alpha level was set at .05 for every analysis, unless specified. For each analysis, the same 13 predictors were entered in 3 consecutive blocks. The first block included control variables (see below), the second block included only the measure of PTSD symptoms, and the third block included three measures of coping (see below) and three measures of social support (see below). One should note that control variables and predictors that were not statistically correlated to the outcome variable were not included in the regression analyses (a regression with dummy variables was used instead of a correlation for the type of trauma, the only polytomous variable). This procedure ensured that the predictors included in the final model were both conceptually relevant and empirically useful and so avoided artificially increasing the total explained variance with statistical noise. The first block was entered to control for potential effects of sociodemographic characteristics and situational characteristics of the trauma on perceived health status, and included age, gender, relational status, annual income, type of trauma, and time interval since the trauma. The second block included only the measure of PTSD symptoms (MPSS-SR). The third block included the three measures of coping (WCQ-support, WCQ-distancing, and WCQ-reappraisal) and the three measures of social support (QSBA-positive, QSBA-negative, and SPS).

The regressions were first performed without the second block (PTSD symptoms) in order to ascertain whether perceived social support and coping processes contribute to perceived health status at all. As the contribution of the last block (support and coping) was statistically significant, the second block (PTSD symptoms) was included to determine whether the contribution of support and coping was still statistically significant when controlling for PTSD symptoms.

Results

Descriptive Statistics

The sample included 94 individuals with PTSD. Sociodemographic and clinical characteristics are presented in Table 1. The distribution of the time interval since the trauma included three outliers (i.e., more than 3 standard deviations above the mean). For the analyses, these values were replaced by the value representing 3 standard deviations above the mean. The distribution of the MCS-12, the QSBA-negative, and the time interval since the trauma were positively skewed (1.18/.25, 0.98/.25, and 1.92/.25, respectively). The time interval since the trauma also had a positive kurtosis (3.37/.50). To normalize the distributions, a logarithm transformation (Log10) was used for the MCS-12 and the QSBA-negative, and a root of fourth-degree transformation was used for the time interval since the trauma. All other variables were adequate in terms of outliers, skewness, and kurtosis. While the untransformed data were used for the main linear regressions, a second set of regressions were performed with the transformed variables to ensure that the results were not affected by the variables' distributions.

Assessing the Contribution of Social Support and Coping Processes to Perceived Health Status

Based on the literature, variables such as PTSD, social support, and coping strategies are all expected to correlate with HRQoL as an outcome variable. Therefore, Pearson correlations were first calculated for all the variables (e.g., control variables such as sociodemographic characteristics and situational characteristics of the trauma; predictors such as PTSD symptoms, coping strategies, and social support; and HRQoL measures—PCS-12 and MCS-12). For the prediction of perceived physical health (PCS-12), the only variables significantly correlated were the MPSS-SR ($r = -.32, p = .001$), the SPS ($r = .22, p = .036$), and the WCQ-support ($r = .22, p = .036$). None of the other variables showed a statistically significant correlation with the PCS-12 (the threshold of statistical significance was at $R^2 = 4\%$, that is, $r = .20$, for $N = 94$). Thus, variables from the first block (control) were excluded and, from the second and third blocks (PTSD symptoms, social support, and coping processes), only the MPSS-SR, the SPS, and the WCQ-support were retained. Results of the regression first showed that, taken together, the SPS and the WCQ-support provided a statistically significant contribution to the prediction of the PCS-12: $R^2 = 12.3\%$, $F(2, 91) = 6.40, p = .003$. However, when controlling for the intensity of PTSD symptoms, the contribution of the SPS and the WCQ-support to the prediction of PCS-12 was nonstatistically significant: $R^2_{change} = 6\%$, $F_{inc}(2, 90) = 3.00, p = .055$ (see Table 2 for the final model).

For the prediction of perceived mental health (MCS-12), the only variables significantly correlated were age ($r = .26, p = .010$), the MPSS-SR ($r = -.53, p = .000$), and the WCQ-distancing ($r = -.27, p = .009$). None of the other variables showed a statistically significant correlation with the MCS-12. Thus, from the first block (control), only age was retained and, from the second and third blocks (PTSD symptoms, social support, and coping processes), only the MPSS-SR, and the WCQ-distancing. Results from the regression first showed that the WCQ-distancing still provided a statistically significant contribution to the prediction of the MCS-12 when controlling for age: $R^2_{change} = 6.6\%$, $F_{inc}(1, 91) = 6.96, p = .01$. However, when controlling for the intensity of PTSD symptoms, the contribution of WCQ-distancing to the prediction of MCS-12 was statistically nonsignificant: $R^2_{change} = 0.3\%$, $F_{inc}(1, 90) = 0.37, p = .55$ (see Table 2 for the final model).

A closer examination of the residuals for the two regressions (PCS-12 and MCS-12), when controlling for PTSD symptoms and not, indicated that they were normally distributed and that only one of the residuals was higher than 3 standard deviations. These data suggest that the predicted relations are valid and appropriate for all response patterns. Each analysis using the MCS-12 was also rerun with the transformed variable to ensure the stability of the results. These analyses yielded nearly identical patterns, correlations, and amounts of explained variance when compared to the analyses performed with the untransformed variables, which confirms that the results were not affected by the variables' distributions.

Discussion

This study assessed the links between perceived mental and physical health of clinical patients diagnosed with PTSD using the *SF-12* questionnaire, which includes two dimensions of HRQoL, and several predictors, namely, PTSD symptoms, social support, and coping strategies. As expected and in accordance with the literature, PTSD symptoms, indexes of social support (i.e., social provisions), and coping strategies (i.e., seeking social support and distancing/avoidance) were associated with perceived mental and physical health status. Specifically, our study supported a clear negative and consistent link between PTSD symptoms and perceived quality of health status.

PTSD and Decreased HRQoL

We found a strong association between PTSD and reduced HRQoL, consistent with earlier findings based on a wider range of QoL measurements in both veteran and civilian populations (Rapaport et al., 2005; Zatzick et al., 1997). Although decreased subjective QoL and functional impairment, two HRQoL measures, have often been conceptualized as consequences of PTSD, the perception of decreased quality of health status may also have a negative impact on PTSD or worsen patients' prognosis. Indeed, the perception of decreased quality of mental and physical health status may affect coping strategies adopted by PTSD patients as well as their social network and resources, as discussed in the following section.

Social support, Coping Strategies, and HRQoL

Research findings have consistently indicated that social support has a beneficial effect on health in general and may act as an appropriate buffer against the psychological distress

induced by illness (Cohen & Wills, 1985; Yap & Devilly, 2004). Likewise, our results revealed that the degree to which PTSD patients' social relationships provided various dimensions of perceived social support, as measured by the SPS, and the degree to which PTSD patients reported seeking support, as measured by the Seeking Social Support index of the WCQ-S, were positively associated with perceived quality of physical health. The link between perceived social support and HRQoL can be understood as a bidirectional relationship. In other words, PTSD patients may be more likely to have a better perception of their physical health if they are able to seek support and if they believe that they have the social resources to deal with daily obstacles. Conversely, PTSD patients may be more prone to seek social support and perceive their social network as supportive if they have a better perception of their health status. Indeed, people who believe that support is available may be more "psychologically healthy" (Helgeson, 2003). Support perceptions may also be related to social skills. People who perceive support may also have the social skills to elicit support. On the other hand, more severe PTSD symptoms and a perception of a reduced quality of life can lead to a perception of a lower availability of social support (Guay, Billette, & Marchand, 2006).

Moreover, the extent to which individuals with PTSD use avoidance as a coping strategy appeared to be negatively associated with perceived quality of mental health in our study. Again, this link can be conceptualized as a bidirectional relationship. People may use avoidance because they consider themselves not mentally capable of facing the stimuli associated with the traumatic event. On the other hand, avoidance can exacerbate a mental disorder such as PTSD and induce a lower perceived quality of mental health. Contrary to some who seek social support, some individuals withdraw from others after experiencing a trauma. These individuals learn to avoid trauma reminders in order to temporarily reduce the associated anxiety. Individuals with PTSD who continually use avoidance are unable to learn new associations between feared stimuli and positive or neutral stimuli. They can become housebound, which affects their social functioning and perceived QoL.

PTSD, Social Support, and Coping Strategies as Predictors of HRQoL

Coping strategies, social support, and PTSD are variables in dynamic relationship that needs to be clarified. Although social support, coping strategies, and PTSD symptoms appeared to be associated with HRQoL in our study, PTSD symptoms constituted the major predictor among these variables. This may be explained by two interesting explicative causal pathways suggested in the literature. Indeed, there is a high probability that the effect of social support and coping strategies on HRQoL is mediated by PTSD symptoms. This would mean that coping strategies and social support affect HRQoL exclusively through the intensity of PTSD symptoms. The impact of PTSD on HRQoL is identified in the scientific literature, but the effect of social support and coping strategies on PTSD is less clear. The predominant theoretical models of PTSD describe social support as an intermediate variable capable of influencing the development of the disorder (see Foa, Steketee, & Rothbaum, 1989; Horowitz, 1986; Jones & Barlow, 1990). However, only in the etiological model proposed by Joseph and colleagues (Joseph, Williams, & Yule, 1997; Williams & Joseph, 1999) is the role of social support convincingly integrated. In this model, social support is conceptualized as having an impact on PTSD symptoms via its influence on the victim's

interpretation of the traumatic event and of its associated stimuli (Joseph et al., 1997; Williams & Joseph, 1999). In addition, seeking help in one's environment is defined as an active stress management or coping strategy, whereas perceived or received support from significant others is conceptualized as a factor that may lower or exacerbate the stress level. Empirical specifications have recently been added to this model. Perceived support from others and coping strategies have been shown to affect PTSD symptoms independently (Guay et al., 2011). Thus, coping strategies and social support could very well be related variables that have an independent impact on PTSD, which in turn has an impact on quality of life. This mediational model should be empirically explored further in order to verify its validity as an explicative model of QoL in PTSD patients. It could be evaluated in a longitudinal design; a correlational design, as carried out, would also help to clarify the orientation of the causal design.

One should note, however, that the relationship between PTSD and HRQoL is not straightforward. The deleterious effects of PTSD on social support have been shown in longitudinal studies. Recent models suggest that PTSD symptoms contribute to the erosion of social support over time (King, Taft, King, Hammond, & Stone, 2006), which could indicate an opposite causal relationship between social support and PTSD symptoms. Indeed, changes in both social support and quality of life could be a consequence of changes in PTSD symptoms. Therefore, longitudinal and experimental studies are needed to specify the causal structure or pathway of these relationships. Finally, one should note that social support can act both as a moderator and a mediator of distress. "Perceived social support can act as a moderator of distress in the early stages, but as the stressors become numerous or chronic, perceived social support turns into a mediator between the stressor and psychological distress" (Yap & Devilly, 2004). Again, these hypotheses could be further evaluated in a longitudinal design

Limitations

PTSD is associated with changes and impairments in functioning that adversely affect QoL. PTSD can affect an individual's ability to perform in numerous roles, including those related to occupational and social functioning and social/material condition. Although PTSD is a good predictor of HRQoL, there is still variability in HRQoL not explained by PTSD symptoms that requires further examination. For instance, observed social support rather than perceived social support may explain additional variance of HRQoL beyond PTSD symptoms. Perceived social support has long been conceptualized as being more closely related to QoL than is received social support (Helgeson, 2003). Although perceived social support refers to the belief that one is held in high esteem and loved by their family and friends and that these people would provide support if needed, received social support refers to the actual help provided (Norris & Kaniasty, 1996). The impact of received support as evaluated by overt behaviors, for instance, would warrant more consideration in future studies on social support and PTSD.

Although our findings provide an initial glimpse of possible predictors of HRQoL in a PTSD clinical sample, other factors should be examined. Medical and psychological variables not measured here (intrapersonal and interpersonal) that could increase or decrease the risk of

disease or health problems in PTSD patients should be explored and integrated in a comprehensive explicative model of quality of life, including factors such as personality traits, health-related behaviors, living in a healthy environment, and use of medication (Seedat et al., 2006). For instance, at the same level of severity of PTSD symptoms, a healthy lifestyle such as exercising daily and living in a healthy environment and the use of medication could induce a better quality of life. In addition, a cross-sectional design could clarify the temporal and causal relationships between social support, coping strategies, and HRQoL, including repeated posttrauma assessments.

Finally, QoL is a broad and complex construct that includes many aspects of life beyond perceived health status, namely, functioning in daily activities and at work, perceptions of social relationships, economic status, enjoyment, life satisfaction, overall sense of well-being, and subjective distress (Mendlowicz & Stein, 2000; Seedat et al., 2006). Thus, our measures of HRQoL (i.e., perceptions of the quality of mental health and physical health) may not provide an exhaustive assessment of QoL, and caution should be exercised when generalizing our conclusions regarding the broader concept of QoL.

Moreover, the fact that a primary diagnosis of PTSD was an inclusion criterion in this study implies that our results may not be applicable to individuals with subclinical PTSD.

Conclusion

Overall, our findings support the idea that PTSD symptom severity is closely associated with HRQoL and that coping strategies and social support, related to QoL, remain important variables to consider in research and in clinical practice and in future medical endeavors dealing with PTSD.

Although symptom relief remains a major goal of treatment efforts, it is essential that we expand outcome assessment to include other parameters of clinical progress or deterioration such as HRQoL. Our study supports the idea that in order to improve the QoL of PTSD patients, symptoms must be treated clinically both directly and indirectly through their coping strategies and social support. However, some factors explaining part of the variability of QoL are not well understood. In order to improve PTSD treatments, we must gain a better knowledge of the mechanisms affecting patients' QoL.

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Table 1

Descriptive Statistics for the Sample

Variable	M (SD) or %	Range
Age	39.5 (12.9)	18–68
Gender (% of female)	71%	
Relational status (% without a partner)	59%	
Type of trauma		
Physical aggression/threats	38%	
Sexual aggression	9%	
Vehicle accident	24%	
Witnessing events to others	13%	
Other	10%	
Not specified	6%	
Time since trauma (months)	62.4 (76.8)	1–411
MPSS-SR (PTSD symptoms)	76.06 (22.02)	20–117
SF-12 (HRQoL)		
MCS-12	31.35 (10.01)	16.15–63.93
PCS-12	41.68 (11.84)	17.77–65.41
QSBA (social support)		
Positive support	3.06 (0.94)	1.11–5.00
Negative support	1.73 (0.52)	1.00–3.32
SPS (social support)	71.79 (11.66)	36.28–95.00
WCQ-S (coping)		
Seeking social support	9.33 (4.38)	0–18
Distancing	8.86 (3.70)	0–18
Reappraisal	10.73 (6.18)	0–27

Note: $N = 94$. MPSS-SR = The Modified PTSD Symptom Scale—Self-Report; PTSD = posttraumatic stress disorder; SF-12 = Medical Outcomes Study 12-Item Short-Form Health Survey; HRQoL = health-related quality of life; MCS-12 = mental component summary of the SF-12; PCS-12 = physical component summary of the SF-12; QSBA = Questionnaire on Social Support Behaviors in Anxious Situations; SPS = Social Provisions Scale; WCQ-S = The Ways of Coping Questionnaire—Short Version.

Table 2

Standardized Coefficients (β) of Each Predictor, Their Statistical Significance, and Their Semipartial Correlations (Part) in the Final Regression Models Used to Predict Perceived Health

Regression model	β	<i>t</i>	<i>p</i>	Part
Prediction of perceived physical health (PCS-12)				
MPSS-SR (PTSD symptoms)	-.22	-2.01	.05	-.19
SPS (social support)	.22	1.92	.06	.19
WCQ-support (coping)	-.23	-2.16	.03	-.21
Prediction of perceived mental health (MCS-12)				
Age (control)	.24	2.81	.01	.24
MPSS-SR (PTSD symptoms)	-.50	-5.39	.00	-.46
WCQ-distancing (coping)	-.06	-0.61	.55	-.05

Note: *N* = 94. See note to Table 1 for definitions of acronyms used.