Borderline Personality Symptomatology, Experience of Multiple Types of Trauma, and Health Care Utilization Among Women in a Primary Care Setting

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Background: This project was designed to explore the relationship between recollected trauma history, borderline personality symptomatology, and health care utilization among women in a primary care setting.

Method: Women (N = 116) consecutively recruited during routine gynecological appointments were given a set of questionnaires that explored 5 types of trauma (i.e., sexual, physical, and emotional abuse; physical neglect; witnessing violence) as well as borderline personality symptomatology. The preceding 12 months of participants' medical records were blindly reviewed to determine several measures of health care utilization (i.e., number of telephone contacts to the facility, physician visits, ongoing and acute prescriptions, specialist referral).

Results: Multiple forms of trauma were related to increased telephone contacts, physician visits, acute prescriptions, and ongoing prescriptions. Borderline personality symptomatology was related to physician visits and ongoing prescriptions. Neither was related to the number of specialist referrals. Total number of types of trauma and borderline personality symptomatology scores were moderately related to each other ($r = .36$, $p < .01$).

Conclusion: With the exception of specialist referrals, the experience of multiple types of trauma and borderline personality symptomatology contribute to higher health care utilization among women in a primary care setting, but not to a substantial degree. The experience of trauma and borderline personality symptomatology appear partially related to each other. This relationship has several implications.

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Childhood trauma and borderline personality symptomatology are both prevalent treatment concerns in psychiatric settings and appear to contribute to mental health care utilization. However, their contribution to health care utilization in primary care settings is not well studied.

One form of childhood trauma, sexual abuse, has been identified as a contributory factor in the utilization of general health care resources in adulthood.[1,2] Sexual abuse has been associated with more medical problems and greater levels of somatization[1]; chronic gastrointestinal distress, recurrent headaches, and greater health care utilization[2]; chronic pelvic pain[3]; and irritable bowel syndrome.[4] However, little is known about the contribution of other types of childhood abuse, such as physical abuse, emotional abuse, physical neglect, and witnessing violence, to health care utilization.

Likewise, borderline personality, a possible consequence of childhood trauma, and its relationship with health care utilization has undergone limited study in primary care settings. Two studies have found a correlation between borderline personality symptomatology and greater health care utilization in primary care settings[5,6]; however, neither study explored concomitant trauma variables among subjects.

The current study was undertaken to explore the relationships of both trauma and borderline personality symptomatology to health care utilization in the same group of women being treated in a primary care setting.

METHOD

Subjects

Subjects were 116 women who presented consecutively for routine gynecological care to a female family physician in a health maintenance organization (HMO) setting. Participants ranged in age from 17 to 49 years with a mean ± SD age of 32.8 ± 8.9 years (median = 33). Seventy-three (62.9%) were married, 9 (7.8%) divorced, and 34 (29.3%) single. Most were white (84.5%). All participants had completed high school; 25 (21.6%) had a bachelor's degree and 8 (6.9%), a master's degree.

Procedure

After providing written informed consent, participants completed a research booklet in an on-site examination room. The booklet contained a demographic questionnaire and a trauma questionnaire (both available from the author upon request), the borderline personality scale of the Personality Diagnostic Questionnaire-Revised (PDQ-R),[7] and the Self-Harm Inventory (SHI).[8]

The trauma questionnaire explored 5 areas of maltreatment (i.e., sexual, physical, and emotional abuse; physical neglect; witnessing violence). Sexual abuse was defined as "any sexual activity against your will." Physical abuse was defined as "any physical insult against you that would be considered socially inappropriate by either yourself or others and that left visible signs of damage on your body either temporarily or permanently or caused pain that persisted beyond the 'punishment.'" Emotional abuse was described as verbal and nonverbal behaviors with a purpose "of hurting and controlling you, not kidding or teasing you." Physical neglect was described as "basic life needs not being met," and witnessing violence as "the firsthand observation of physical violence that did not directly involve you."

The borderline personality scale of the PDQ-R[7] is an 18-item self-report inventory that explores criteria for borderline personality as described in the *Diagnostic and Statistical Manual of Mental Disorders, Third Edition, Revised* (DSM-III-R).[9]

The SHI[8] is a 22-item self-report inventory that explores respondents' histories of self-destructive behavior (e.g., overdosing, cutting self, burning self, attempting suicide). Each item is preceded by the statement, "Have you ever intentionally, or on purpose. . . ." The score on the SHI represents the total number of self-harm endorsements.

The response rate of those women who were approached and asked to participate was 99.1%. After recruitment and completion of the measures, each participant's medical record was reviewed for the preceding 12 months to assess the extent of health care utilization at the facility. The 2 reviewers were blind to participants' responses in the research booklet. The number of telephone contacts to the facility, physician visits, ongoing and acute prescriptions, and referrals to physician specialists were noted for each participant.

RESULTS

Of the 116 women, 27 (23.3%) reported sexual abuse; 42 (36.2%), physical abuse; 46 (39.7%), emotional abuse; 12 (10.3%), physical neglect; and 51 (44.0%), witnessing violence. Thirty-six participants (31.0%) denied experiencing trauma. Seventy participants (60.3%) acknowledged 1 type to 3 types of trauma, whereas 10 (8.6%) acknowledged 4 or 5 different types of trauma. Scores on the PDQ-R ranged from 0 to 8 (mean ± SD = 3.12 ± 2.38). Thirty-five participants (30.2%) scored 5 or higher on the PDQ-R (suggestive of borderline personality). Scores on the SHI ranged from 0 to 14 (mean = 2.73 ± 3.42).

Table 1. Pearson Correlations Between Trauma and Borderline Personality Symptomatology, and Health Care Utilization (N = 116)*

	Measures of Health Care Utilization				
Predictor	Telephone Contacts	Physician Visits	Ongoing Prescriptions	Acute Prescriptions	Specialist Referrals
Total number of types of trauma	.22[a]	.25[b]	.27[b]	.25[b]	–.02
PDQ-R scores	.12	.31[b]	.19[a]	.16	.16
SHI scores	.05	.28[b]	.27[b]	.12	.06

*Abbreviations: PDQ-R = Personality Diagnostic Questionnaire-Revised[7]; SHI = Self-Harm Inventory.[8]
[a]$p < .05$, [b]$p < .01$, both 2-tailed.

Regarding health care utilization for the entire study group, the number of telephone contacts ranged from 0 to 28 (mean = 1.79 ± 3.23); physician visits, 0 to 14 (mean = 2.70 ± 2.56); ongoing prescriptions, 0 to 8 (mean = 0.66 ± 0.98); acute prescriptions, 0 to 14 (mean = 2.38 ± 2.60); and referrals to physician specialists, 0 to 7 (mean = 0.17 ± 0.76).

Rather than consider each trauma variable individually, because the number of women who had experienced some form of trauma was quite small (e.g., physical neglect), we calculated the total number of different types of trauma that each participant indicated she had experienced. The simple correlations between health care utilization and the number of types of trauma experienced, borderline personality symptomatology, and intentional self-harm behaviors are presented in Table 1. (Nonlinear relationships were tested for and none were found.) Note that the total number of types of trauma experienced was positively related to each form of health care utilization with the exception of referrals to outside specialists. When viewed as continuous variables, relatively higher scores on the measures of borderline personality symptomatology and intentional self-harm were related to only increased numbers of physician visits and ongoing prescriptions.

Both history of trauma and borderline symptomatology were positively related to physician visits and ongoing prescriptions. Also, scores on the PDQ-R (measure of borderline personality symptomatology) and the total number of types of trauma were moderately related ($r = .36$, $p < .01$). In an effort to explore whether these relationships were primarily due to trauma or personality disturbance, we conducted 2 multiple regression analyses. In the first, PDQ-R scores and total number of types of trauma were simultaneously entered into an equation to predict physician visits. In that analysis, PDQ-R scores were significantly predictive ($\beta = .25$, $t = 2.68$, $p < .01$), whereas total number of types of trauma was not ($\beta = .16$, $t = 1.67$, $p < .10$). In the second analysis, to predict number of on-

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going prescriptions, total number of types of trauma was significantly predictive ($\beta = .24$, $t = 2.44$, $p < .02$), whereas PDQ-R scores were not ($\beta = .11$, $t = 1.10$, $p < .27$).

DISCUSSION

The results of this study suggest that, with the exception of specialist referrals, exposure to trauma and borderline personality symptomatology contributes to increased health care utilization in primary care settings, but not to a substantial degree. In other words, while these variables positively predict health care utilization, they account for a relatively small proportion of the variance. This finding indicates that there are other factors that most likely contribute to a greater degree (e.g., genetic predisposition to particular illnesses, presence of an active health problem, noncompliance with treatment recommendations). Therefore, both trauma and borderline personality symptomatology appear to have generally less influence on the utilization of health care resources in the primary care setting compared with the psychiatric setting.

Note that the total number of types of trauma was consistently predictive of health care utilization. We suspect that multiple types of trauma may be linked to various types of psychopathology (e.g., depressive disorders, somatization disorder, anxiety disorders), and psychopathology may function as the intermediate variable that subsequently drives greater health care utilization. Consistent with our own previous findings,[5] our current findings are that participants with borderline personality symptomatology demonstrated meaningfully increased health care utilization.

It is important to note that a history of traumatization among primary care patients may not be invariably associated with psychopathology. Many individuals survive traumatizing experiences without significant psychological impairment and never seek psychiatric support. It is interesting that trauma had a greater overall effect on health care utilization variables than borderline personality symptomatology.

Neither trauma nor borderline personality symptomatology had any correlation with referrals to physician specialists. This may be a reflection of the gatekeeping function of the primary care physician as well as the fact that this particular health care utilization variable is most subject to physician management rather than patient influence.

It is important to emphasize that the measure of borderline personality symptomatology used in this study (PDQ-R) is not confirmatory of a diagnosis of borderline personality *disorder*. Whereas this measure reflects features and patterns consistent with borderline personality, it may identify individuals who manifest borderline symptoms or traits rather than the disorder itself (i.e., the measure may be overinclusive). Therefore, it is possible that many of the individuals in this study who exhibited elevated scores are well adapted and have never floridly manifested this Axis II disorder. Such an impression is supported by the demographic characteristics of the study group, which suggest fairly stable marital adjustment as well as high educational achievement (i.e., less impulsivity).

In our own experience with the SHI, higher scores appear predictive of borderline personality symptomatology.[8] That both the PDQ-R and SHI reflect increases in the same measures of health care utilization in this study probably reflects the fact that both are measuring the same aspect of personality dysfunction.

The correlation between number of types of trauma and borderline personality symptomatology indicates a moderate relationship. Exposure to trauma may lead to a variety of types of psychopathology including borderline personality disorder,[5] which may explain why this relationship is a moderate one, at best, from a statistical perspective.

The more interesting findings in this study are (1) the association of PDQ-R scores and physician visits and (2) the association of number of types of trauma with ongoing prescriptions, after partialling out the remaining trauma or PDQ-R variables. The first association (i.e., PDQ-R and physician visits) may reflect the need of individuals with borderline personality symptomatology to establish intense and enmeshed relationships with others, including physicians. The second may reflect an association between multiple types of trauma and subsequent development of somatic concerns that are eventually treated with multiple ongoing medications. This speculation is an interesting area for future research.

Strengths of this study include the HMO study site with its enclosed health care delivery system, the use of multiple measures of health care utilization that were *not* based on self-report, and the measurement of both personality disturbance and trauma history in a single sample. The limitations of this study include the use of a self-report measure for borderline personality symptomatology and the potential interpretive confusion of participants surrounding the dichotomous measurement of trauma variables.

The current study, in keeping with a combination of others, indicates that childhood trauma and borderline personality symptomatology predict greater health care utilization among individuals seen in primary care settings, but again, not to a substantial degree. In contrast to their impact in psychiatric settings, the overall effects of this relationship appear less dramatic. Further research needs to be undertaken to explore the relationship between these variables and the nature of physician visits (i.e., medical versus psychological focus), the indications for and types of ongoing prescribed medications (e.g., psychotropic medications), and the role of associated medical disorders and somatic features in this population.

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