

Victimization and Diabetes: An Exploratory Study¹

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In recent years, researchers have documented higher rates of health problems in adult survivors of abuse than in the general population. These problems include diffuse soft tissue pain (Boisset-Piolo, Esdaile & Fitzcharles, 1995), irritable bowel syndrome (Leserman, Drossman, Li, Toomey, Nachman & Glogau, 1996), and chronic pelvic pain (Walling, Reiter, O'Hara, Milburn, Lilly & Vincent, 1994). While this past research has done much to increase our understanding, it is somewhat limited. For example, the samples are typically drawn from populations with specific medical problems (e.g., those presenting at a gastroenterology clinic), which influences the choice of illness studied (Laws, 1993).

In the present study, we focus on diabetes. Diabetes has not been examined with regard to past victimization, but we believe that it is potentially fruitful. Chronic stress can lead to an elevation in blood levels of triglycerides, free fatty acids, cholesterol, glucose, and insulin (Lovallo, 1997; Meaney, 1997; Sapolsky, 1994). When glucose and insulin levels are chronically elevated, the body responds by becoming less sensitive to insulin. The person then becomes "insulin resistant," a hallmark symptom of diabetes (American Diabetes Association, 1997). We propose that child and domestic abuse are chronic stressors, and as such they can create an even wider variety of health problems than ones already studied.

To summarize, the present study considers diabetes and symptoms of diabetes in patients with a past history of victimization. Since our sample is from primary care and essentially healthy, we expect relatively low incidence of illness but we do expect a greater reporting of both illness and symptoms in members of the abused group.

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Method

Subjects

A sample of 130 patients (65 abused, 65 non-abused controls) was drawn from an adult primary-care practice in a small, affluent, predominantly Caucasian community in northern New England. All questionnaires were completed from 1994 to 1997. The total practice was 1,005 patients. Of these, 905 patients completed the questionnaire; one hundred patients did not. Those who did not were either seen as in-patients only, or on an on-call or emergency basis.

We first identified all patients who answered “yes” to at least one of two questions about either child or domestic abuse ($N=65$; 9 males, 56 females). We then gathered our control group from among the remaining patients by matching for age and sex with members of the abused group. The subjects ranged in age from 18 to 88 ($M=47$).

Of the 65 patients in the abused group, 33 indicated that they had experienced physical or sexual abuse as children, 21 indicated that they had experienced domestic abuse as adults, and 11 indicated that they had experienced both child and domestic abuse. Among the abused group, preliminary analyses revealed no significant differences between patients abused as adults and those abused as children. Therefore, data were combined for subsequent analyses, as in to previous studies (see Golding, Cooper & George, 1997; Leserman et al., 1996).

Questionnaire

The questionnaire was a five-page, 169 item, closed-ended (yes-no), self-administered form, and was designed to be used clinically. The questionnaire included demographic information; self-rated health; past medical history (yes-no questions about 20 illnesses including diabetes: “Do you presently suffer, or have you ever suffered in the past, from any of the following illnesses?”); family history of illness; victimization history (“Were you sexually or physically abused as a child?” and “Have you been the victim of domestic abuse as an adult?”), and a “review of systems.”

The review of systems was designed to serve as a screening device for a wide variety of physical conditions that might present in a primary-care practice. In order to select relevant symptoms for this analysis, we referred to the American Diabetes Association (1997) list of symptoms. This list included both type I and type II diabetes. We found a match for nine out of ten of these symptoms on our patient questionnaire: excessive fatigue or weakness; excessive hunger or thirst; recent weight loss or gain; problems with vision; bleeding gums; frequent urinary tract infections; sores that will not heal; increase or decrease in frequency or urination; and loss of sensation, tingling or “pins and needles.” The only symptom for which we had no match was “irritability.”

Data Analysis

The data were analyzed by comparing the abused group with the non-abused group using χ^2 or oneway ANOVA.

Results

As predicted, patients with a history of abuse were significantly more likely to report diabetes ($\chi^2=4.13, p<.042$). There were four patients in the abused group who reported diabetes, and none in the control group. Interestingly, those patients in the abused group did not have a significantly higher family history of diabetes than those in the non-abused group ($\chi^2=2.94, p<.09$). Further, there was no significant difference in physician-rated obesity between the groups ($\chi^2=2.68, p<.102$). (There was no self-report measure of obesity.)

Also as predicted, those with a history of victimization reported significantly more symptoms of diabetes ($M=2.41$) than those without a history ($M=1.04$; $F(1,99)=15.97, p<.0001$). Further, a higher percentage of patients in the abused group reported three or more symptoms (39%) than did those in the control group (10%).

Discussion

Diabetes is the seventh leading cause of death in the U.S., and is responsible for a number of life-threatening complications including blindness, kidney disease, neuropathy, amputations, heart disease and stroke (American Diabetes Association, 1997). The present study indicates that patients with a history of victimization were significantly more likely to be diabetic or to have symptoms of diabetes than were their non-abused counterparts.

Although only four people identified themselves as having diabetes, this number should be interpreted in the broader context of incidence of diabetes in the general population. The Centers for Disease Control and Prevention (1997) have estimated the percentage of diagnosed cases in the state where our data were collected as 2.8% of the population. In comparison, 6.3% of the abused patients in the present study reported diabetes—more than twice the percentage that we would expect in a sample from our region. In spite of this, we do not want to oversell our case. Our finding on reported diabetes could be due to chance. Similarly, many of the symptoms are non-specific and could be related to other diseases. We hope that this preliminary study inspires future research.

The patients who did not identify themselves as having diabetes but reported symptoms are also of concern. According to the American Diabetes Association (1997), an additional 5.4 million people have the disease but are not aware that they have it. In the present study, 39% of the those in the victims' group indicated that they had three or more symptoms of diabetes, compared with 10% of the control group. While there are

many other factors that put people at risk for diabetes, a history of past victimization should also be considered.

One intriguing finding was that three of the diabetic patients were victims of domestic abuse alone, and the fourth was a victim of both child and domestic abuse. It is possible that diabetes risk increases with a more proximal stressor (i.e., abuse as an adult); a question that should be considered in future studies.

There were several limitations to our study. First, the question about child abuse does not differentiate between physical and sexual abuse. Second, for both abuse questions, we do not know the identity of the perpetrator, the type and severity of abuse that occurred, the frequency and duration of the abuse experience, and whether force was involved. Each of these factors has been found to contribute to the severity of the abuse experience and the severity of subsequent symptoms (Boisset-Piolo, et al., 1995; Kendall-Tackett, Williams & Finkelhor, 1993; Leserman et al., 1996).

Our question about diabetes is also limited. We do not know about the type or severity of the diabetes, or even such a basic distinction as type I versus type II. Type II is by far the most common (American Diabetes Association, 1997), but we cannot assume that the four patients who identified themselves as diabetic had type II diabetes. They ranged in age from 52 to 76, ruling out gestational diabetes and leaning toward type II, but we cannot be certain. Further, we have no way of ruling out response bias, either the tendency to over report among the abused group, or under-report in the non-abused group.

Even with these limitations, the present study suggests that past victimization may put people at risk for a wide variety of future health problems. By anticipating the potential influence effects of past abuse, practitioners can educate patients who have been abused about possible health consequences they might face and empower them to seek appropriate levels of care.

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