Effects of guided written disclosure of stressful experiences on clinic visits and symptoms in frequent clinic attenders

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**Background.** Psychosocial variables such as major stressful life events/daily stressful events have been associated with health care utilization.

**Objective.** Our aim was to examine the effects of a guided disclosure protocol (GDP) of past traumas on symptoms and clinic visits among frequent clinic attenders.

**Methods.** Forty-one frequent clinic attenders (≥2 visits/3 months) took part. Patients were randomly assigned individually to either a casual content writing control group (n = 19) or a trauma content writing experimental GDP group (n = 22). GDP patients wrote about an upsetting event chronologically (day 1), verbally described their thoughts and feelings and described the event’s impact on life (day 2), and finally wrote about their current perspective on and future coping with the event (day 3). Three months later, patients were reassessed blindly for symptoms and clinic visits, and an average of 15 months later they were assessed blindly for clinic visits again.

**Results.** Compared with controls, GDP patients reported lower symptom levels at 3 months (2.3 versus 5.2), and made fewer clinic visits during the 3 (1.3 versus 3.0) and 15 month (5.1 versus 9.7) follow-ups. The percentage of GDP patients making ≥10 visits during the 15 month follow-up was smaller (10%) than among controls (33%).

**Conclusions.** The findings extend previous findings to frequent clinic users, using a new form of written disclosure aimed at shifting trauma from implicit to explicit memory. The GDP may be an inexpensive additional intervention in primary care for reducing symptoms and clinic visits among frequent clinic users.

**Keywords.** Clinic visits, frequent attenders, memory shift, somatization, written disclosure.

**Introduction**

An estimated 40–75% of visits to primary care providers are related to psychosocial problems. Among the psychosocial variables known to be associated with health care utilization are somatization, major stressful life events, daily stressful events and a psychiatric disorder. The combination of daily stressful events with sensitivity to and over-reporting of body sensations or somatization was predictive of clinic visits in several studies. Among somatizers, who frequently visit health clinics, 66–75% did not benefit from medical and surgical procedures. These studies suggest that attempts at reducing utilization of health clinics among frequent users need to consider and treat problems related to daily or major stressful events.

People who reported inhibiting the disclosure of past stressful traumatic events (e.g. sudden death of a spouse) were found to be more ill in the subsequent year. In contrast, active disinhibition by writing for 3–4 days of past traumatic events has been found to reduce health centre visits, to enhance immunocompetence (proliferation of T-helper cells), to enhance the action of hepatitis B vaccinations and, most importantly, to improve clinically relevant health outcomes of asthmatic and rheumatoid arthritis patients. A meta-analysis
showed that such brief trauma disclosure has positive overall health benefits.\textsuperscript{12}

A deeper examination of disclosure studies reveals that not all patients or students benefit from the usual unstructured written disclosure. One recent study\textsuperscript{13} found that disclosure of stressful events had no effect on clinic visits among frequent attendees. Corroborative evidence provides important clues as to how to enhance the effects of brief disclosure, without adding therapist interventions. Foa et al.\textsuperscript{14} found that rape victims who disclosed their traumatic event chronologically had less psychiatric symptomatology later. Pennebaker and Francis\textsuperscript{15} showed that subjects who disclosed their trauma while writing words indicative of self-reflection (e.g. “I realize”) had the greatest health benefits. Another study found that only those who wrote in moderate cognitive complexity, but not in little or high levels of cognitive complexity, had positive health benefits from writing.\textsuperscript{16} These findings strongly suggest that people need and may benefit from guidance in the content and manner of written trauma disclosure.

Furthermore, a broad range of studies on post-traumatic stress disorder suggests that traumatic memories are encoded in a somato-sensoric (e.g. visual cortex) and affective limbic (e.g. amygdala) memory mode\textsuperscript{17,18} possibly with characteristics of implicit and relatively automatic memory processes.\textsuperscript{19} In contrast, linguistically labelling emotionally negative stimuli (“these are angry faces”) has been shown to diminish amygdala activity compared with processing such stimuli in an affective and sensory manner.\textsuperscript{20} Guiding individuals in disclosing their trauma chronologically, in using self-reflection and in linguistically labelling stressful physical and emotional experiences (rather than simple ventilation and re-experience), may help shift the encoding of traumatic memories from an uncontrolled, somato-sensory and affective memory mode to a relatively more controlled cognitive and explicit memory mode.\textsuperscript{21} Such a shift in memory processing may reduce the extent of uncontrollable intrusions of traumatic memories and, thus, the need to inhibit them and the potential ‘health costs’ due to actively inhibiting them.\textsuperscript{7} One study which provided direction in writing found that a self-regulatory disclosure (having subjects plan future coping strategies) resulted in reductions in clinic visits similar to the usual non-directed disclosure.\textsuperscript{22} However, the self-regulatory disclosure did not include instructions to organize events’ descriptions chronologically, or to reprocess physical/emotional memories more cognitively. Enhancing the shift in the mode of traumatic memories seems to be crucial for health benefits.

Given the studies reviewed above, it seems appropriate to examine the effects of a guided written disclosure on clinic visits of community patients who visit health clinics more than the norm. These patients may require psychological assistance in addition to usual care, and place a burden on health providers. We developed a new guided disclosure which aims at helping patients shift their trauma memory from implicit to explicit memory, possibly providing them with more control over these stressful memories. The purpose of this study was to test the effects of a guided written disclosure on symptoms associated with somatization and on health care utilization among frequent attenders at an Israeli community clinic. We hypothesized that frequent attenders describing past traumas/stressful events in a guided manner would report fewer symptoms associated with somatization and make fewer visits later than controls writing about casual topics.

Methods

Participants

Fifty Israeli out-patients attending a community clinic in Be’er Sheeba (south of Israel) were recruited for this study by their family physician according to the following inclusion criteria: (i) between the ages of 21 and 65 years; (ii) having visited the clinic at least twice during the past 3 months (above the mean number of visits at urban clinics in Israel);\textsuperscript{23} (iii) no known mental illness or major cognitive difficulties; (iv) no known chronic illness (e.g. hypertension, diabetes); and (v) judged by their family physician to be able to write in Hebrew (hence this was not a randomly selected sample). All patients provided written informed consent and the study was approved by the Ethics Committee of the Soroka University Medical Center. Data of eight chronic patients who entered the study by mistake were excluded, and the data of one patient who was a staff member of a community clinic (and, thus, may receive informal medical care) were also excluded. The final sample included 41 patients. We encountered minimal refusal to participate.

Background and medical data

Background data included patients’ age, gender and years of education. In addition, the season during which each subject was first met and asked to write was registered (coded: 1 = autumn; 2 = winter; 3 = spring; 4 = summer). Medical measures included a simple one-item assessment of global health\textsuperscript{24} rated for each patient by his/her family physician (4 = irreversible illness with serious disability; 3 = serious chronic illness without disability; 2 = minor chronic problems; 1 = excellent health). This parameter was used to verify a similar health status in experimental and control groups (in addition to the inclusion criteria). The numbers of clinic visits during the 3 months prior to the study, during the 3 months after writing and during a mean of 15 months after the first follow-up were extracted from patients’ records.

Psychological measures

To assess symptoms associated with somatization, we used a brief 6-item scale derived from the Hopkins Symptoms Check List\textsuperscript{25} which included frequency of
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Writing conditions
We developed a new guided disclosure protocol (GDP;27) whose rationale is derived from a broad range of findings from clinical studies and cognitive neuroscience reviewed above. The GDP aims to provide patients with greater control over their trauma memories, and hence reduce their need to inhibit them, and reduce the potential health cost associated with such inhibition. In the GDP condition, patients were asked to write about their most stressful or upsetting experience from the past few years for 15 minute periods, over three consecutive days. On day 1, patients were asked to describe the event in its chronological order, in a ‘journalistic manner’, without expression of emotions. On day 2, they were asked to describe their thoughts and feelings at the time of the event (to enhance cognitive processing and verbal labeling of sensory and affective responses), and whether the event affected their life (to enhance self-reflection). Finally, on day 3, they wrote how they currently thought and felt about the event (to enhance perspective), and what they would do in the future, should they encounter similar events (to enhance self-regulation).

Controls were asked to write for three consecutive days about the following neutral topics: daily activities (day 1), their house (day 2) and their current or last job (day 3), without emphasizing any emotionality. This is similar to previous trials, and mainly controls for expectations and experimenter contact. All participants were seen at their homes by a research assistant.

Procedure
A single-blind randomized controlled prospective design was used. Potential participants were screened by their physician, who then approached them over the phone and asked them whether they would be interested in taking part in a study testing the effects of writing on health of patients. Consenting patients were then assigned randomly to either the casual content control condition (n = 19) or the GDP experimental condition (n = 22). Upon arrival of the researcher at the patient’s home, the patient completed the informed consent form. Prior to the first disclosure, and 3 months later, patients’ symptom scores and number of clinic visits were assessed. Reassessment of symptoms at 3 months post-disclosure was done by a researcher who was blind to the patients’ group status. Reassessment of clinical visits was done by the family physician who was blind to the patients’ group status. The first follow-up of clinic visits took place 3 months after writing (parallel to reassessment of symptoms), and the second took place in July, 2000, between 10 and 20 months after the first follow-up (mean = 15.2 months). During the second follow-up, symptoms were not reassessed.

Data analysis
To test whether patients in the GDP group adhered to the writing task, a manipulation check compared the frequency of using negative affect words (e.g. ‘anxious, sad’) and insight (e.g. “I realize that I was shaken by the event”) in the GDP and control groups using t-tests. To control for fluency of writing, these analyses were performed on the number of words in each category divided by the total number of words a patient wrote, across all three writing days. The equivalence of both groups at baseline on all measures was verified with t-tests for continuous data and chi-square tests for dichotomous data. A repeated-measures analysis of variance (ANOVA) was conducted in relation to symptoms and clinic visits, with time of assessment (time: baseline versus follow-ups) being the within-subjects factor and group (group: GDP versus control) being the between-subjects factor. We expected a time by group interaction such that conditions will differ in relation to symptoms and clinic visits only at follow-up(s).

Results
Equality of groups at baseline and adherence to the writing task
No statistically significant differences were found between the groups in relation to age, gender, years of education, health status, season of writing sessions, number of past traumatic events, number of clinic visits in the 3 months prior to the study and the duration of the second follow-up in relation to clinic visits. However, the experimental group (see below) reported significantly lower levels of symptoms at baseline than controls. Patients in the GDP group adhered quite well to the writing instructions in relation to chronological organization (day 1), describing past emotions and impact on life (day 2) and current perspective (day 3). Supporting this quantitatively, GDP patients wrote proportionally significantly more words reflecting negative affect and insight (all significant at P < 0.01) than controls. Table 1 depicts the means (and standard deviations) of
Effects of group status and time on clinic visits

The main findings of this study are that frequent attenders at primary care clinics who wrote in a guided manner for three consecutive days about past stressful events visited their clinics significantly fewer times and reported less frequent symptoms associated with somatization than those writing about casual topics. The effects of group status on clinic visits seen at 3 months after writing were also maintained a mean of 15 months after writing showed a reduction of 58% in clinic visits compared with 14% in controls at the 3 month follow-up compared with 3 months prior to writing. Since groups differed significantly on the symptom score at baseline, we repeated this latter test after controlling statistically for the effects of baseline symptoms. GDP patients still visited their clinics significantly less frequently than controls after controlling for the effects of baseline symptoms at the 3 month follow-up \([F(1,35) = 4.9, P < 0.05]\) and 15 months later \([F(1,35) = 6.2, P < 0.05]\).

Are the effects of writing on clinic visits clinically significant?

We then examined whether the statistically significant effects of the GDP writing condition on clinic visits were clinically significant. To do this, we compared the percentage of patients in each group at the mean 15 month follow-up who visited the clinic below versus at or above 10 times during that follow-up period. This cut-off reflected the mean number of urban clinic visits in Israel\(^24\) over a mean follow-up of 15 months. During this follow-up period, 90% of GDP patients versus 67% of controls visited the clinic fewer than 10 times, while 10% of GDP patients versus 33% of controls visited the clinic at least 10 times. These differences in percentages between groups were statistically significant \(\text{chi-square (1) } = 3.10, P < 0.05\).

### Discussion

The main findings of this study are that frequent attenders at primary care clinics who wrote in a guided manner for three consecutive days about past stressful events visited their clinic significantly fewer times and reported less frequent symptoms associated with somatization than those writing about casual topics. The effects of group status on clinic visits seen at 3 months after writing were also maintained a mean of 15 months after writing.
later. These effects were independent of baseline symptoms, which differed between groups despite randomization. Furthermore, the percentage of GDP patients making at least 10 clinic visits during the mean 15 month follow-up was significantly lower than among controls, a clinically significant finding of potential economic value as well. In fact, many GDP patients would now not meet the inclusion criteria for the study after taking part in the experimental condition and reducing their clinic visits.

These findings support those of previous studies\(^9\)–\(^11\) and extend them to a community sample of frequent clinic attenders. Unlike the findings of a recent study,\(^13\) our disclosure protocol was successful in reducing clinic visits. Our disclosure protocol differs substantially from previous unstructured interventions. By building upon findings of content analyses of previous clinical studies and upon findings in cognitive neuroscience concerning the manner in which trauma is encoded in memory, we attempted to maximize the effects of writing by guiding patients to write chronologically, with labels and insight. This guidance attempted to shift trauma processing from an implicit somato-sensoric and limbic memory mode, to an explicit cognitive and verbal memory mode. Though we could not demonstrate these changes in brain processes with the measures used in the present study, we attempted to achieve this processing shift by asking patients a series of questions across the three writing days, rather than inviting them to ventilate without any guidance. Not guiding patients may even result in insufficient or too much cognitive processing of past traumas, both of which have been associated with adverse health outcomes compared with moderate processing.\(^16\) The GDP may bring both extremes to a moderate level of cognitive complexity.

To the best of our knowledge, these findings are the first positive findings to be shown with frequent clinic attenders. We did not examine the mechanism(s) of these effects. However, based on previous studies, written disclosure may reduce overutilization of health clinics by its positive effects on immunity and/or emotional well-being.\(^9\),\(^12\) Our findings may be particularly relevant to the medical treatment of frequent clinic users since such patients are characterized by psychiatric diagnoses, past daily/major stressors and high somatization levels.\(^3\)–\(^5\) Future studies may wish to identify the mechanism(s) underlying these findings more closely. The GDP offers a simple, inexpensive and potentially effective addition to typical medical treatment for reducing the overuse of clinic visits as well as possibly reducing symptom levels among frequent clinic users. This adjunctive form of intervention may be important particularly since somatizers do not benefit in most cases from medical/surgical treatments.\(^6\) In addition to improving patients’ well-being, such a finding may have an important economic value by reducing clinic use.

This study did not include physical outcome measures such as immune function, measures of organ function, etc. previously shown to be positively affected by written disclosure.\(^9\)–\(^11\) However, our main aim was to examine the effects of written disclosure on symptoms and clinic visits in a sample of frequent clinic users. In addition, the small and selective sample size reduces the generalizability of our findings to more general samples of primary care patients. However, the statistically significant effects obtained with a small sample claim for the strength of the effect size of the GDP. In addition, we deliberately aimed at testing the effects of the GDP with frequent clinic attenders. Another limitation is the lack of a usual non-guided trauma disclosure condition to compare with the new GDP. This may have provided evidence for our contention that the GDP provides a more controlled, and thus healthier manner of processing trauma than the usual non-guided protocol. Such a comparison is under way in another study. Should these findings be replicated with larger samples of patients visiting primary care clinics, the GDP may constitute an additional form of intervention for frequent attenders in primary health care. With minimal physician intervention, GPs may then also serve as confidants for people with past traumtic life events and frequent clinic visits, using a structured framework such as the GDP. This may add a new dimension to the practice of primary care.

Acknowledgements

The authors wish to thank Daniela Arnon, Vivian Torkel, Racheli Eden, Zehorit Asulin, Hadas Noyman and Dafna Baruch for their efforts and assistance in conducting this study.

References


