

Evaluating a Written Emotional Disclosure Homework Intervention for Lower-Limb Amputees

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ABSTRACT. Gallagher P, MacLachlan M. Evaluating a written emotional disclosure homework intervention for lower-limb amputees. *Arch Phys Med Rehabil* 2002;83:1464-6.

Objective: To evaluate the Pennebaker Emotional Disclosure paradigm with lower-limb amputee patients in terms of compliance and efficacy.

Design: Repeated measures.

Setting: Home based.

Participants: Low compliance, both with the initial mailed request (28%) and the subsequent writing task (48%), resulted in 23 lower-limb amputees who had been fitted with a prosthesis participating.

Interventions: Patients completed a 15-minute writing task, 6 times, over 2 weeks, with initial baseline and 2-month follow-up assessments.

Main Outcome Measures: Cognitive processing, well-being, adjustment to an artificial limb, pain, and prosthetic use.

Results: Stronger emotional disclosure was associated with significant reductions in psychologic and physical aspects of amputees' satisfaction with their prosthesis, some of which were mediated by positive changes in affect immediately after the writing tasks.

Conclusions: Our results failed to support previous findings with nonclinical samples; in fact, our results contradicted previous findings. We therefore caution that written emotional disclosure may be contraindicated with lower-limb amputee patients.

Key Words: Amputation; Disability evaluation; Express emotion; Rehabilitation.

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THE SEQUELAE OF LOWER-LIMB amputation may include being fitted for and learning to use a prosthetic limb,¹ the experience of phantom limb and residual limb pain,² and myriad social and psychologic reactions.³ These physical and psychologic challenges may continue years after limb amputation, and various psychosocial factors have been found to play a role in their exacerbation and amelioration.⁴

Over the past 15 years, research⁵ has shown that emotional disclosure of stressful life experiences can have both physical and psychologic benefits and reduce the number of consultations to clinicians. The paradigmatic research design for inves-

tigating the effects of emotional disclosure entails brief periods of writing about a distressing event over a number of occasions. Although the therapeutic mechanism involved continues to be debated, a recent meta-analysis⁶ of controlled studies has supported the effectiveness of emotional disclosure and emphasized the importance of written accounts that combine emotional and factual aspects of the stressful experiences.

Most disclosure studies, however, have examined only non-clinical samples. Smyth⁶ argues that although writing about emotional topics is associated with significant reductions in distress and produces significant health benefits, there is a need to explore whether writing about emotional experiences can be a useful component of more routine treatments. In the first study of its type, we set out to evaluate whether the emotional disclosure paradigm could be a useful intervention with lower-limb amputee patients. We sought to establish (1) any characteristics that might influence compliance, (2) if the direction to disclose emotional material would affect compliance, and (3) whether the extent of emotional disclosure would be associated with beneficial effects.

METHOD

Measures

The baseline assessment included demographics and characteristics of amputation, along with the Impact of Event Scale⁷ (which assesses intrusion and avoidance responses to stressful situations), the World Health Organization's Quality of Life Questionnaire (Brief Version)⁸ (which assesses physical health, psychologic well-being, social relationships, the environment), and the Trinity Amputation and Prosthesis Experience Scales⁹ (which assess psychosocial adjustment, activity restriction, prosthetic satisfaction, pain).

The Writing Evaluation Measure asked participants to report, on Likert-type scales, the extent to which their essays were personal, meaningful, and revealing of their emotions; how much they had wanted to talk to others, had actually talked to others, and had actively held back talking to others about the event or events that they wrote about; and the severity of the trauma written about and the extent to which trauma was affecting their life. The Positive and Negative Affect Schedule¹⁰ (PANAS) yielded separate positive affect and negative affect scale scores and assessed the immediate effects of disclosure on the individual's mood.

Procedure

Lower-limb amputee patients over 18 years old were identified from hospital records and sent the baseline assessment and a request to participate. Subsequently, participants were randomly assigned either to the directed disclosure writing group ("write about your feelings and thoughts concerning traumatic/stressful experiences") or to a comparison neutral writing group ("write about some event that occurred over the last couple of days, in a purely descriptive and objective way"), and subsequently they were posted the intervention instrument. In accordance with Smyth,⁶ participants were instructed to spend 15 minutes in private at home every second day over 2

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Supported by the National Rehabilitation Board, Ireland and Trinity College, Dublin.

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0003-9993/02/8310-6985\$35.00/0

doi:10.1053/apmr.2002.34622

weeks (ie, 6 times) writing about the assigned topic. The Writing Evaluation Measure was completed after each writing session. The PANAS was completed immediately before and after each writing session. The baseline assessment was mailed 2 months postintervention to determine the interventions' effects. The research was conducted after appropriate ethical assessment, and patients participated based on informed consent and on the understanding that the intervention did not constitute treatment or influenced their access to it.

Sample

Forty-eight of 169 (28.4%) people who were mailed agreed to participate. Fourteen of the 24 (58.3%) in the neutral group and 9 of the 24 (37.5%) in the directed disclosure group completed all stages of the intervention. Mean age \pm standard deviation of the 48 volunteers was 55.9 ± 21.1 years, with a mean time since first prosthesis fitting of 100.7 ± 79.1 months. Fifty percent were men, 48% had a below-knee and 48% an above-knee amputation, and 1 person (4%) had bilateral amputation. Amputations were because of cancer (43%), trauma (29%), congenital (14%), or other (14%) factors.

RESULTS

Compliance Characteristics

Having explored whether there were any differences in demographics, disability-related variables, and outcome measures, age was the only variable with a significant difference ($t=2.39$, $P<.05$) between those who agreed (mean age, 49.1 ± 19.70 y) and those who did not agree (mean age, 38.1 ± 11.54 y) to participate, in response to the initial mailed request.

Compliance and Group Allocation

A significantly ($\chi^2=10.31$, $P<.01$) higher proportion of people completed the intervention in the neutral group than in the disclosure group. There were no significant differences in demographics, disability-related variables, or outcome measures between those who did and did not complete the task.

Effects of Emotional Disclosure

Repeated-measures analyses of variance indicated that there were no significant differences between the disclosure and neutral writing groups on the essay evaluation measures. Participants in each group wrote about experiences that were, on average, equally emotionally meaningful. Consequently, the 2 groups were combined to evaluate the effectiveness of their writing as a continuous variable.

Scores on each dimension of the Writing Evaluation Measure (totaled across writing sessions) were correlated with change scores (outcome minus baseline) on each of the outcome variables. A correlation matrix of 17×8 resulted in 12 significant findings. However, as a result of the large number of comparisons, we set our acceptable level of significance at P less than .01, which reduced the number of significant results to 5. Regarding what was written, the more revealing the emotions were considered to be, the greater the decrease in aesthetic satisfaction with the prosthesis ($r=-.83$, $P<.006$). Higher ratings for whether what was written about was still affecting their life were similarly associated with a decrease in social adjustment ($r=-.70$, $P<.008$) and aesthetic satisfaction ($r=-.75$, $P<.003$). Higher severity ratings were associated with an increase in athletic activity restriction ($r=-.79$, $P<.001$). Finally, higher ratings for actively holding back talking to others about what was written was associated with an

increase in functional satisfaction with the prosthesis ($r=-.76$, $P<.003$).

To determine whether changes between time 1 and time 2 were associated with emotional changes after the writing tasks (as found in previous studies⁵), each person's change in positive and negative affect (postwriting minus prewriting) was correlated with change scores on each of the outcome measures. A correlation matrix of 17×2 resulted in 3 significant findings. However, as a result of the large number of comparisons, we set our acceptable level of significance at P less than .01, which reduced the number of significant results to 2. Although there were no significant effects for changes in negative affect, increases in positive affect correlated significantly with decreased weight ($r=-.81$, $P<.003$) and aesthetic satisfaction with the prosthesis ($r=-.82$, $P<.002$).

DISCUSSION

This study used a well-established methodology to explore the value of a home-based, self-administered, written emotional disclosure intervention with lower-limb amputee patients. The percentage of volunteer responses was rather low, and compliance was poor, especially in the directed emotional disclosure group. Our findings differ in important ways from the majority of research that has adopted this paradigmatic approach in which an increase in negative affect immediately after writing about distressing events is associated with an improved state of physical and mental health at 2 to 3 months later. We found no relationship between negative affect and well-being, but strong relationships between positive changes in affect after writing and subsequent reduced satisfaction with the weight and aesthetic aspects of the prosthesis. Indeed, all the significant effects identified here represented a worsening of the state at baseline, except for holding back from talking to others, which was associated with an increase in functional satisfaction. If anything, this could be seen as a reverse of the expected cathartic effect of talking-through stressful experiences.

Future research is required to investigate whether these results are because of the paradigm itself or methodologic limitations (eg, small sample size). A broader view of biographic information might also be useful in identifying compliance and dropout characteristics. Furthermore, this mode of intervention could, for instance, be made more effective by increasing the number of writing sessions, length of sessions, or giving more explicit directions to emotional expression. Such avenues may justify future research.

CONCLUSION

Our results seriously question not only the acceptability of the current intervention in terms of compliance and completion rates but also its therapeutic benefits. Indeed, our results suggest that written emotional disclosure may be contraindicated for lower-limb amputee patients. Despite our relatively small sample size, the strength of the correlations indicate that our results are not marginal.

Acknowledgments: We are very grateful to staff from Cappagh Orthopaedic Hospital, Dublin, Ireland, who facilitated this research.

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