

Can Therapy Affect Physical Health?

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An impressive amount of research has accumulated over past decades suggesting that psychological states can have a profound effect on physiological processes. Psychoimmunologists focusing on the effects of stress have demonstrated that the mind affects the body through the neuroendocrine system. Glaser et al.¹ found suppressed immune functioning in highly stressed medical students. Pennebaker and colleagues² demonstrated that healthy college students who write about traumatic events have stronger immune functioning, visit university health clinics less frequently, and experience greater subjective well-being compared with control subjects. Similarly, Cohen et al.³ found that highly stressed subjects were more likely to contract the cold virus compared with low-stress counterparts.

Expanding beyond a focus on stress, Peterson and Seligman⁴ reviewed several studies suggesting that a psychological trait (pessimism) can affect long-term health outcomes. Luborsky⁵ conducted a series of single-subject studies of psychotherapy patients and identified psychological antecedents to stomach ulcer pains, migraine-like headaches, absence epilepsy episodes, and premature ventricular contractions of the heart.

With this background in mind, I was curious to find out whether any recent psychotherapy research has explicitly addressed physiological outcomes. Therefore, I conducted an online literature search of the PsycINFO database for articles published since 1998 identified by the search terms “psychotherapy and health” and “psychotherapy and physical illness.” I found the following seven articles.

ABSTRACTS

Compas BE, Haaga DAF, Keefe FJ, Leitenberg H, Williams DA: Sampling of empirically supported

psychological treatments from health psychology: smoking, chronic pain, cancer, and bulimia nervosa. Journal of Consulting and Clinical Psychology 1998; 66:89–112

Summary: This article reviews some of the most methodologically rigorous outcome research in four areas of health psychology and behavioral medicine: smoking cessation, chronic pain, cancer, and bulimia nervosa. The authors' goal was to determine whether psychological therapy for these conditions meets criteria for empirically supported treatments as outlined by Chambless and Hollon.⁶ These conditions were selected because they represent the diversity and significance of psychotherapy in health psychology and behavioral medicine. Outcomes were aimed at alleviating subclinical symptoms of anxiety and depression (in response to pain or the diagnosis and treatment of cancer); treating symptoms that can dramatically interfere with daily functioning and quality of life (chronic pain); treating a psychiatric diagnosis that relates directly to physical functioning (bulimia nervosa); reducing or eliminating potentially life-threatening behaviors (smoking); and prolonging life (cancer).

With regard to smoking cessation, the authors focused on research since 1990 that reported the percentage of subjects who had completely ceased smoking at a 1-year follow-up and in whom abstinence could be corroborated biochemically. The most successful treatments were behavioral or cognitive-behavioral, achieving complete abstinence rates of 32% to 44%. These treatments were short-term and included some or most of the following components: an educational focus, environmental management (e.g. removal of ashtrays),

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setting a quit date, relapse prevention training (e.g., role-playing coping responses when the urge to smoke occurs), cognitive restructuring, and scheduled reduced smoking.

The pain management research reviewed included operant behavioral treatment, cognitive-behavioral treatment, biofeedback, hypnosis, and psychodynamic treatments. Pain conditions examined were rheumatic diseases, chronic pain syndromes (e.g., low back pain), migraine headaches, and irritable bowel syndrome. Outcomes included decreased pain when compared with a control condition and improved psychological and physical functioning. With regard to rheumatic diseases, five controlled studies found that multicomponent cognitive-behavioral treatment was effective in comparison to a variety of control conditions. All of these studies found improved psychological functioning, and three of the five found significant reductions in pain. Chronic low back pain was treated efficaciously with operant-behavioral therapy, which emphasizes the role that social and environmental factors play in maintaining pain. This treatment focuses on increasing adaptive behaviors and reducing reinforcement for pain behaviors. It is usually used with individuals whose pain appears to exceed what would be predicted based on underlying tissue pathology. Migraine headaches were treated effectively with thermal biofeedback and relaxation training. Cognitive-behavioral therapy (CBT) does not appear to add to the effectiveness of these simpler treatments. Irritable bowel syndrome (IBS) was treated effectively with multicomponent CBT in five studies. Two studies showed that short-term psychodynamic treatment may be a promising treatment for IBS. Hypnotherapy may also be effective.

Psychosocial interventions for cancer patients can have several goals, including decreasing side effects of chemotherapy, alleviating symptoms of affective distress, improving quality of life, lengthening disease-free intervals, and increasing survival. Treatments are offered in both group and individual formats. Behavior therapy that uses progressive muscle relaxation is most consistently effective in helping cancer patients coping with the nausea, anxiety, and vomiting that are associated with chemotherapy. Both cognitive-behavioral and supportive-expressive group therapy appear effective in relieving depression symptoms and in improving quality of life associated with cancer. However, few of these studies have been replicated, and the improvement in quality of life is usually minimal even if statistically sig-

nificant. A famous study by Spiegel and colleagues⁷ found that women with metastatic breast cancer who underwent supportive-expressive psychotherapy in a group format survived an average of 18 months longer than similar women in a control condition. A study by Fawzy et al.⁸ that provided CBT to malignant melanoma patients also found greater survival among those in the treatment condition. Both the Spiegel and Fawzy interventions were manualized and standardized and thus can be replicated, although no replications were reported in this article. (For a subsequent unsuccessful replication attempt, see article by Cunningham et al. below.)

For bulimia nervosa, several studies have examined the efficacy and specificity of psychosocial treatments. Results show that CBT is more effective than wait-list control, nondirective therapy, and short-term psychodynamic treatment in reducing or eliminating vomiting and in improving attitudes toward eating, shape, and weight, as well as improving depression and relieving depression symptoms. The authors also conclude that CBT is more effective than antidepressant medication and that adding antidepressant medication does not improve on the efficacy of CBT alone.

Comment: Altogether, this article provides an impressive array of research demonstrating the efficacy and specificity of psychotherapy for a variety of health-related conditions. The most effective, standardized, and researched form of treatment is cognitive-behavioral. The authors point out that individual differences may account for a significant portion of the group change observed in some of these studies. It is also of note that individuals treated for most of the conditions reviewed above often do not meet criteria for any DSM-IV disorder. These psychological interventions appear to play an important complementary role with biomedical treatments in treating these conditions.

Cunningham AJ, Edmonds CVI, Jenkins GP, Pollock H, Lockwood GA, Warr D: A randomized controlled trial of the effects of group psychological therapy on survival in women with metastatic breast cancer. *Psycho-oncology* 1998; 7:508-517

Summary: Sixty-six women with metastatic breast cancer randomly received either 35 weekly sessions of supportive plus cognitive-behavioral therapy in a group format or an at-home cognitive-behavioral package. No significant differences were found in survival 5 years after the beginning of the study. Mean survival was 28.2

months for the intervention group and 23.6 months for the control group. The small trend favoring the intervention group appeared best accounted for by the greater interval between metastatic diagnosis and entering the study for the control group. Attempts to explain why these results differ from those of Spiegel et al.,⁷ who found an 18-month greater survival in a group of metastatic breast cancer patients, focus on the control groups. The control patients in the Spiegel study may have been anomalous, dying faster than is usual for patients with this diagnosis.

Comment: This well-controlled outcome study failed to show that therapy prolonged the lives of women with metastatic breast cancer. The authors carefully assess multiple reasons for the difference in their findings and those of Spiegel et al. They conclude, and I concur, that it would be fruitful to turn attention to the individual characteristics and traits that may be associated with greater survival of cancer patients, specifically a very high degree of motivation to make changes in lifestyle, attitudes, spirituality, mind-body connections, or other factors that may affect physiological functioning.

Smyth JM, Stone AA, Hurewitz A, Kaell A: Effects of writing about stressful experiences on symptom reduction in patients with asthma or rheumatoid arthritis: a randomized trial. *Journal of the American Medical Association* 1999; 281:1304-1309

Summary: A sample of 61 patients with asthma and 51 with rheumatoid arthritis wrote about either highly stressful or emotionally neutral events for 20 minutes a day on 3 consecutive days. Four months after the intervention, those in both disease categories who wrote about traumatic events were significantly improved compared with those writing about neutral events. The asthma patients showed improved lung function as measured by forced expiratory volume in 1 second, and rheumatoid arthritis patients showed improved disease function as rated blindly by an examining physician. In total, 47.1% of patients who wrote about stressful events achieved clinically significant gains. All patients concurrently received standard medical care.

Comment: This is a remarkable finding even though just under half of the experimental subjects improved, particularly considering the brief intervention and the 4-month follow-up interval. The authors claim it is the first study to demonstrate that writing about stressful events can improve health outcomes in chronically ill individuals. Further research should aim at identifying

the mechanism of change and why some subjects in the experimental group improved while others did not.

Pallesen S, Nordhus IH, Kvale G: Nonpharmacological interventions for insomnia in older adults: a meta-analysis of treatment efficacy. *Psychotherapy: Theory, Research, Practice, Training* 1998; 35:472-482

Summary: In order to examine the efficacy of non-pharmacological interventions for insomnia in older adults, the authors included 13 studies (388 patients) in a meta-analysis. The mean patient age was 60 years, with a minimum of 50. A variety of behavioral and cognitive-behavioral interventions (e.g., sleep hygiene, stimulus control, relaxation, cognitive, and multicomponent) were found to be effective in increasing total sleep time and reducing number of awakenings, time awake after sleep onset, and sleep-onset latency. All dependent measures were by self-report using a sleep diary. These findings were observed at post-treatment and a mean follow-up of 6 months. The weakest effect was for total sleep time, which analyses revealed responded poorly to a sleep restriction intervention. Excluding this result, effect sizes ranged from 0.25 to 0.66. Although demonstrating efficacy, these effect sizes were of lesser magnitude than those found in other meta-analyses that included younger patients.

Comment: A significant limitation to the generalizability of this meta-analysis is that most of the studies excluded patients with psychiatric diagnoses. Therefore, therapists may not observe similar effects when treating insomnia as a component of an illness such as affective, anxiety, or personality disorder. The authors further note that most of the outcome studies did not systematically report the specific criteria used to diagnose insomnia.

Tuschen-Caffier B, Florin I, Krause W, Pook M: Cognitive-behavioral therapy for idiopathic infertile couples. *Psychotherapy and Psychosomatics* 1999; 68:15-21

Summary: Seventeen infertile couples underwent a 6-month course of cognitive-behavioral therapy (CBT) designed to alleviate anxiety related to infertility and its treatment, to dispel maladaptive thoughts such as perceptions of helplessness, and to encourage behaviors likely to improve chances of conception. An explicit focus of treatment was to ensure that intercourse took place during the fertile period of the menstrual cycle

without inducing a decrease in sexual satisfaction during other parts of the cycle. Six of the 17 couples achieved conception within 12 months of treatment onset, compared with a baseline expectation of 2 or 3 couples. All conceptions led to a live birth. At 3 months post-therapy, 8 of 12 male patients examined showed an improvement in sperm concentration. The intervention also led to decreased thoughts of helplessness, decreased marital distress, and improved pleasure in sexual activities during nonfertile periods.

Comment: This pilot study is encouraging in that it suggests CBT can help infertile couples, although a controlled outcome study is indicated before the specificity of the CBT interventions can be supported as causal. Nevertheless, the study suggests that decreasing stress, changing maladaptive beliefs related to intercourse, and encouraging intercourse during the fertile period of the menstrual cycle can increase the chances of conception as well as decrease marital distress.

Cole JD: Psychotherapy with the chronic pain patient using coping skills development: outcome study. *Journal of Occupational Health Psychology* 1998; 3:217-226

Summary: A 16-session psychoeducational intervention was provided in group format to 88 chronic pain patients, most of whom suffered from back or other work-related injuries. The intervention emphasized teaching coping skills and pain self-management; identifying and working through issues that affect psychological adjustment after an accident or illness; stress management skills; relaxation exercises; self-esteem building; and encouragement of activity. Pain sufferers were provided with a handbook and audiotapes to encourage compliance with between-session homework. Compared with a no-treatment control group of 25 (which consisted of individuals who were evaluated for the intervention but either did not participate in it or did not complete it), chronic pain patients receiving the psychoeducational intervention reported less depression, greater activity levels, less pain, and increased life control at the end of treatment. These results were sustained 1 year later. In addition, at follow-up, those receiving the psychoeducational intervention used less prescription narcotic pain medication, made fewer health care visits, and were more likely to be working.

Comment: This study suffers from methodological problems (e.g., no random assignment, possible self-

selection bias) but nevertheless suggests that a psychoeducational program may significantly improve outcomes for chronic pain sufferers. A better-controlled study should be conducted to clarify which of the interventions were most effective.

Deale A, Chalder T, Wessely S: Illness beliefs and treatment outcome in chronic fatigue syndrome. *Journal of Psychosomatic Research* 1998; 45:77-83

Summary: This study explored the causal mechanism in an outcome study in which 27 chronic fatigue syndrome (CFS) patients undergoing a 13-session trial of cognitive-behavioral therapy (CBT) showed greater improvement in physical functioning at 6-month follow-up compared with a relaxation control group ($n=26$). The authors found little change in beliefs about the causes of their illness; however, the patients undergoing CBT showed statistically significant reductions in beliefs about the importance of avoiding physical activity. Specifically, CBT patients were less likely at follow-up to believe that they should avoid exercise when tired and that doing less helps fatigue. Both groups showed reductions in the belief that exercise is harmful.

Comment: This study suggests that changing attributions about the causes of CFS may be less important than changing beliefs and behaviors that maintain or exacerbate fatigue. Patients may not need to change their beliefs about CFS in order to get better.

CONCLUSIONS

To return to the question posed in the title of this article, the evidence appears to be compelling that therapy can affect physical functioning. In the findings just reviewed, it appears that certain psychotherapeutic interventions are of great value in promoting physical health and improved coping with physical illness. Furthermore, because individuals treated for physical conditions often do not meet criteria for a mental disorder, these studies suggest that many individuals not typically seen by psychotherapists could potentially benefit from psychotherapy. Note, however, that most of the effective psychological interventions have been behavioral or cognitive-behavioral in modality and focus on highly circumscribed conditions.

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