Running Out of Depression

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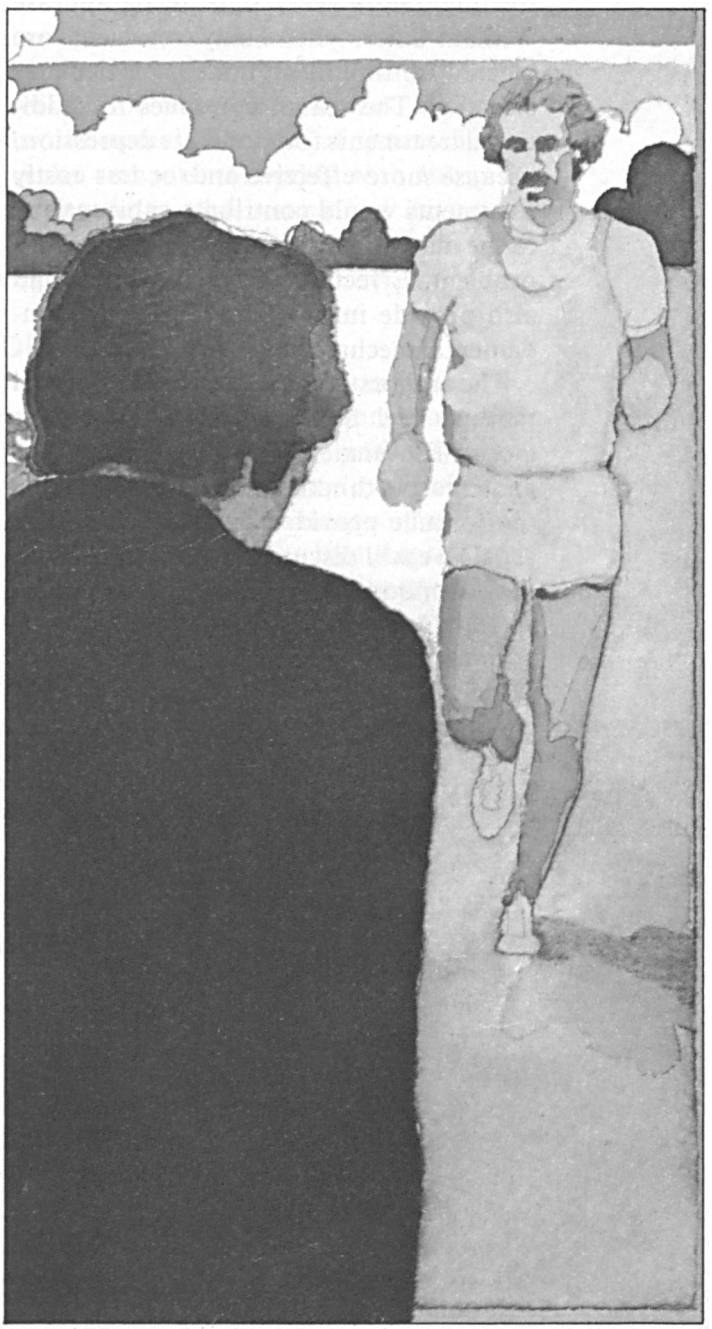
Besides being less expensive and offering beneficial physical side effects, running therapy seems to be an effective supplement to psychotherapy for treating depressed patients. Similar therapy in other endurance sports is described by Robert Brown, PhD, MD, on page 35.



"T'is better to hunt in fields, for health unbought,
Than fee the doctor for a nauseous drought.
The wise, for cure, on exercise depend..."
—John Dryden

Depression is the most common psychiatric disorder found in large-scale population surveys. Slightly over half of all psychiatric patients presenting at the University of Wisconsin outpatient psychiatric clinic have depression as their major complaint. Depression was also found to be the most common psychiatric disorder in a recent epidemiologic study using highly accurate research diagnostic criteria.[1]

Roughly 25% of patients have depressions that respond to somatic therapies such as antidepressant medications and electroconvulsive treatment. These individuals usually have the more severe

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(major-endogenous-psychotic) depressions. For the 75% of depressed persons with less severe depressions, somatic treatments are often ineffective, and the side effects and potential for abuse are common and severe enough to question their widespread use. Conventional treatment has emphasized either supportive psychotherapy until the depression spontaneously remits, or insight-oriented personality-change psychotherapy in the hope of preventing recurrences of similar depressions. Most schools of psychotherapy claim some degree of success in treating depression, but to paraphrase William Osler, when many treatments are offered for an illness, none is particularly effective. The search continues for additional treatments for moderate depression, because more effective and/or less costly treatments would contribute substantially to the management of this common health problem. Effective new treatments could also provide information about the fundamental mechanisms of depression.

The authors of this article have observed that we feel better when we run. Blue moods lift, anxiety and anger melt away, and creative thinking often occurs during the solitude provided by running. In this article we will discuss some effects of running on mood. We believe that many physical activities such as swimming, cycling, rowing, fast walking, and dancing, which involve the regular, rhythmic movement of large muscle masses, will produce similar mood effects, but because our experience and research to date has concerned only running, our discussion will emphasize that activity.

Group runs are usually occasions of great humor and candor. Even when a "trainer" is pushing up the pace of a group, the overall experience is mood elevating. Gentle runs are almost always uplifting.

Similar mood-elevating reactions to running have been reported by others. A review of the literature yielded a number of analogous studies that clearly suggest that the mood elevation we experienced was far from unique.[2-4] However, as far as we could tell, no one had gone beyond studying clinical anecdotes and personal testimonials of running as a treatment for depression in patients.

Methods

In 1973 we conducted a pilot study of running as a treatment for moderate depression, which is often labeled reactive or neurotic depression.[5] Criteria for subjects studied included a chief complaint of depression or some synonym of depression;

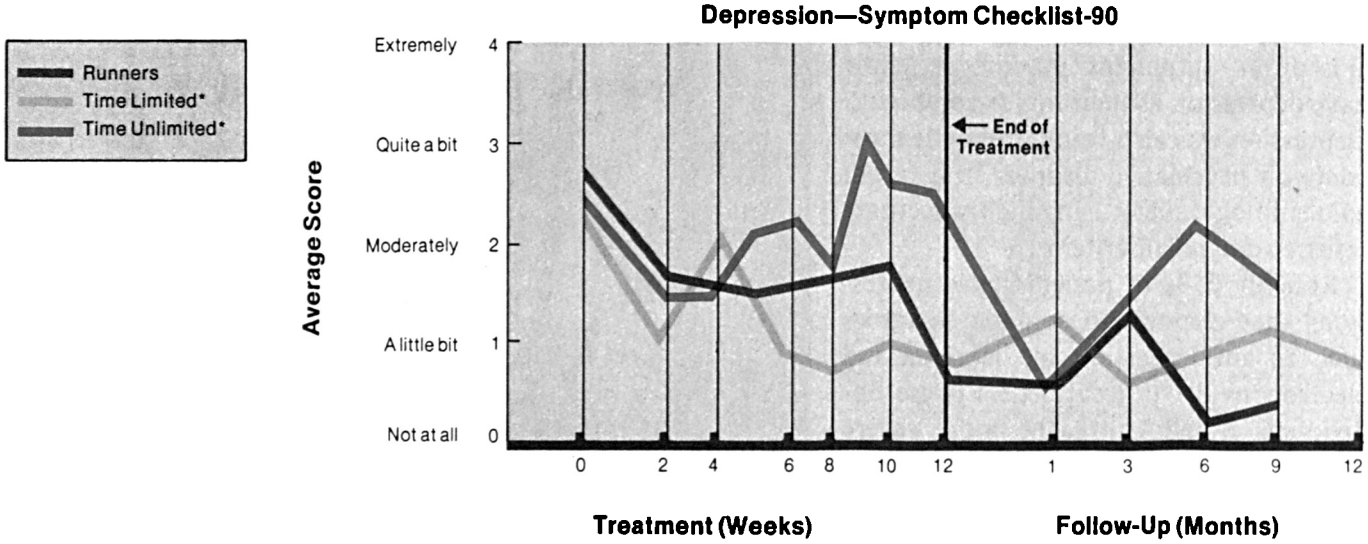

Figure 1. *Depression scores of patients treated with running in two kinds of psychotherapy*

*Time limited means that patients agreed to a contract for ten weeks of therapy. Time unlimited means that there was no time constraint.

scores at or above the 65th percentile on the depression cluster of the Symptom Checklist-90 (National Institute of Mental Health (NIMH) Research Diagnostic Criteria for diagnosing minor depression); substantial interference with the major life role; and absence of antidepressant drug treatment, psychosis, active suicidal activity, or alcohol or other abuse. Males and females between the ages of 18 and 30 were randomly assigned to either ten sessions of time-limited psychotherapy, which focuses on the immediate changes people can make to help themselves feel better; time-unlimited psychotherapy, which is usually insight-oriented, dynamic psychotherapy; or running treatment. Thirteen men and 15 women met the study criteria, and nine were assigned to time-limited psychotherapy, seven to time-unlimited psychotherapy, and eight to running treatment.

The runners had a careful review of their cardiovascular-pulmonary systems, family history, and past medical history. They also had a resting ECG and a maximal stress exercise treadmill test. No patients had to be excluded from running because of physical problems.

Runners met with their running therapist (not a psychotherapist) approximately three times a week at the outset and less frequently as time passed. Each session began with stretching exercises, which were followed by 30 to 45 minutes of walking and running and a final session of stretching. The therapist made sure that patients ran comfortably, slowing to a walk before they became winded. He demonstrated the correct running technique for depressed and nondepressed people. During runs, discussions ranged over the usual subjects that runners talk about such as weather, running gear, different running routes, pace, distance, arm carry, and terrain. Rather strikingly, the discussions never stayed on depression. The running therapist commented that "these patients never seemed depressed when running." He tried to teach the patients to run with their bodies erect while breathing deeply and comfortably, feeling light, flowing smoothly over the ground, and putting energy into every step. Whenever their running technique began to deteriorate, a rest walk was introduced. The goal was to feel more energetic after the run than before the run.

Results

Six of the eight patients who ran were essentially well within three weeks and remained well for the duration of the active treatment. A seventh patient recovered during the 16th week after the study began—she had never been able to run and didn't start her walking program until the sixth week of the study. The eighth patient ran conscientiously according to prescription and showed neither improvement nor deterioration in depression during the ten-week period of active treatment, although she did increase her level of fitness. These results compare favorably with those of patients in psychotherapy and have persisted for at least one year in follow-up (figure 1).

The results of running therapy compare favorably with those of psychotherapy.

Discussion

Considering our own experiences, we have decided that different components of the running experience are probably helpful to different patients. Undoubtedly there are biochemical changes associated with physical activity at both central and peripheral sites and it seems probable that the sensation of feeling better is mediated by brain norepinephrine or other amine neurotransmitters (or perhaps the recently discovered morphine-like endorphins), which may be regulated toward a more normal functional state by physical activity.

The freedom and the renewed capacity to think creatively on most runs greatly relieves persons who have been mired in depressive ruminations. A depression-free interlude on the run, even if short-lived, renews hope that the illness itself will be time-limited. Some patients consciously substitute running, which they view as positive addiction, for other negative addictions that lead them to feel depressed. Runners at all levels constantly experience new and real bodily sensations, and knowing that these sensations originate in the running experience can be a great relief for

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a depressed person troubled by minor but annoying somatic complaints. Patients who become runners can develop a sense of mastery of what should be considered a difficult skill, since 30% to 70% of persons who start running quit within six weeks. Our capacity for change is made manifest as fitness and body tone improve, weight and pulse rates decrease, and self-acceptance increases.

Because there were several deficiencies in our pilot study design, including unequal therapy time across treatments, only one running therapist, some inexperienced psychotherapists, and occasional inadvertent group running (because other runners didn't recognize our runners as depressed patients), we began to repeat this research in July of 1978 with more careful control over these and other variables. Between these two formal studies, we have had comparably good results with approximately 30 other depressed persons referred to us by psychiatrists in Madison, Wisconsin. None of these additional patients have deteriorated while running, and all but six of them recovered promptly from their depressions. Of these six, four never became runners.

Running, like any other treatment, is a double-edged sword. Any runner can be injured by falling, twisting an ankle, or being struck by a bicycle or automobile. More likely than such direct and obvious trauma is the self-inflicted injury of running too much, too fast, too soon. This happens to most runners at some time, because it feels good to be fit and running is a pleasure. It is tempting to exceed the body's physical adaptive capacity on any run, and if this happens day after day, we risk physical fatigue, which itself can lead to depression. Depression can also follow a failure to perform at an expected level. Competitors sometimes become depressed over losses. Some research shows that athletes in their 30s and 40s can develop neuroses if they are suddenly forced to stop ex-

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ercising by a serious physical injury.[6]

Comfortable running emphasizing pleasure in every step seems to be the right approach. Only 12% of the depressed patients with whom we have worked have stopped running. (A detailed exposition of the running technique used with these patients and other nonpatients is described in *Run to Reality* by Roger Eischens, John Greist, and Tom McInvaille.) Hard running, the sense of pushing oneself to one's limit, is a tradition in American competitive athletics. We all like to run hard and fast on occasion, but a steady diet of hurt, pain, and agony would depress anyone.

Running is not a panacea. There will be some depressed patients who don't respond to running therapy either because they don't follow the proper treatment prescription, or because their depression is atypical or unresponsive to this treatment method. Running seems a sensible treatment for many depressed people, since it's not expensive, and unlike some other treatments, it has beneficial physical side effects.

We are excited about the possibility that running may be as effective as other treatments currently available for moderate depression. Because the major cost lies in screening for hidden disorders of the cardiopulmonary system, running is less expensive than conventional psychotherapy. However, we hope people do not over generalize from the still-meager evidence regarding the beneficial effects of one kind of running on one kind of depression.

It is probable that a combination of running and psychotherapy will be the optimal treatment for many depressed people: Running will provide initial symptomatic relief, and subsequent psychotherapy will lead to changes in thinking and functioning in interpersonal, intrapsychic, and occupational spheres that would in turn reduce depressive stimulants.■

Acknowledgments

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