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Role of the Mind in Physical Healing and Health

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I'm delighted to be called to testify on the recent developments in research on the role of the mind in healing and health.

Stress contributes to many of the medical conditions confronted by health-care practitioners. In fact, when the reasons for patients' visiting physicians are examined, it becomes clear that between 60 to 90 percent of visits are prompted by conditions related to stress.

The Fight-or-Flight Response

To better understand the treatments for these conditions, which include mind/body therapies such as the relaxation response, it is best to first understand the physiology of the stress response. Stress has been defined as the-perception of threat or danger that requires behavioral change. It results in increased metabolism, increased heart rate, increased blood pressure, increased rate of breathing and increased blood flow to the muscles. These internal physiologic changes prepare us to fight or run away and thus the stress reaction has been named the 'fight-or-flight' response. The 'fight-or-flight' response was first described by the Harvard physiologist, Dr. Walter B. Cannon earlier in this century. It is mediated by increased release of adrenalin and noradrenalin (epinephrine and norepinephrine) into the blood stream.

The Relaxation Response

Building on the work of Swiss Nobel laureate Dr. Walter R. Hess, my colleagues and I over 25 years ago described a physiological response which is the opposite of Cannon's fight-or-flight response. It results in decreased metabolism, heart rate, blood pressure and rate of breathing. We labeled this opposite reaction the 'relaxation response.'

The relaxation response differs from the fight-or-flight response in another way. The fight-or-flight response occurs without requiring the use of a technique. It occurs when we are under stress. In contrast, two steps are usually required to elicit the relaxation response. They are: (1) the repetition of a word, a sound, a prayer, a phrase or a muscular activity and (2) when other, everyday thoughts intrude, there is a passive return to the repetition.

Scientific evidence has established that many medical diseases result from repeated exposure to stress and, as I noted, between 60 to 90 percent of visits to physicians are prompted by stress-related conditions. Our work and that of others has documented that regular elicitation of the relaxation response results in alleviation of many stress-related medical disorders. Specifically, the relaxation response has been demonstrated to be effective in the treatment of hypertension, cardiac arrhythmias, chronic pain, insomnia, anxiety, hostility, depression, premenstrual syndrome, infertility and the symptoms of both cancer and AIDS. In fact, to the extent that stress causes or exacerbates any condition, the relaxation response has been proven to be effective. Because of this scientifically-documented efficacy, a physiological basis for many millennia-old mind/body techniques has been established. The relaxation response became a part of mainstream medicine.

Mind/body therapies are scientifically-proven strategies that have become thoroughly integrated with pharmaceuticals and with surgery and procedures. Approximately 60% of US medical schools now teach the therapeutic use of relaxation-response techniques, they are frequently recommended therapy in standard medical textbooks, and a majority of family practitioners now use them in their practices.

The Placebo Effect

Another profound example of the mind's influence in healing can be demonstrated through the placebo effect. Throughout history medicine and healing has relied heavily on non-specific factors, that is, the placebo effect. In other words, what patients believe, think and feel has profound effects on the body. Physicians and other healers have historically appreciated the healthful effects of positive thoughts and emotions.

Modern medicine has largely disregarded and ridiculed the importance of mind/body interactions such as the placebo effect. Starting with the work of Dr. Louis Pasteur and Dr. Robert Koch about 150 years ago, the Western tradition of incorporating non-specific factors - the placebo effect - in treatments was progressively replaced with an almost total reliance on specific remedies for specific illnesses. The specific therapies were so dramatically effective that they became the sole treatments utilized. For example, insulin and antibiotics took the place of the power of the mind to heal. These awesome (specific) treatments also changed our attitudes toward the nature of healing. Rather than using a combination of specific

and non-specific therapies to promote healing, medicine began to value and rely exclusively on the specific effects of pharmacological and surgical and procedural interventions. The non-specific effects of beliefs, thoughts and emotions were devalued even though they are 50 to 90 percent effective in a vast number of conditions that include asthma, angina pectoris, rheumatoid arthritis, hypertension, all forms of pain, herpes simplex (cold sores) and post operative recovery.

The effects of the relaxation response should not be confused with the placebo effect. The relaxation response is a proven mind/body intervention. Measurable, predictable, and reproducible changes occur when we follow two specific steps. The placebo effect is nonspecific and occurs as a result of three sets of beliefs: 1) the beliefs of the health care provider (the healer); 2) the beliefs of the patient; and 3) the beliefs that ensue from the relationship between healer and the patient. The relaxation response will work when you follow the two specific steps - belief is not essential. Just carry out the steps as you would take a pill. It is like penicillin - it will work whether or not you believe in it.

The Three-Legged Stool

Incorporation of mind/body therapies in medical care can be conceptualized in terms of the analogy of a three legged stool. One leg is pharmaceuticals, a second is surgery and procedures, and the third leg is self-care. Health and well-being is balanced and optimal when all three legs of the stool are in place. However, for over a hundred years medicine has relied almost exclusively on the first two legs of the stool: pharmaceuticals and surgery. This reliance has led to an imbalance in healthcare. For 60 to 90 percent of the medical problems facing our society today, specific drug and surgical interventions alone, the first two legs, are not effective. Without utilization of mind/body, psychological and behavioral approaches, the treatment of many medical conditions is imbalanced and inadequate - patients receive less than optimal clinical care and the care they receive is more costly.

Alternative Medicine

It is important to distinguish the difference between mind/body therapies and so-called alternative medicine. First, therapies such as the relaxation response have scientific documentation of their therapeutic utility. In contrast, alternative treatments are without scientific foundation. After all, if alternative therapies were scientifically established, they would not be alternative.

Second, alternative therapies are similar to the first two legs of the three-legged stool. Like pharmaceuticals and surgery, they are procedures which are administered to the patient they are done to the patient - they are not self-care. For example, taking an herb is akin to taking a drug and acupuncture is akin to a procedure. Mind/body approaches such as the relaxation response are therapies

which require the patient manage their illness by learning self-care skills. They are part of the third leg.

A third, important distinction between alternative medicine and the third leg of the stool - self-care - is economic. Mind/body, self-care interventions reduce costs of medical care by reducing visits to doctors up to 5%. In prepaid, capitated systems, this is money in the bank. In contrast, when patients use an alternative therapy, such as acupuncture, they do not give up penicillin and surgery. Alternative medicine is cost additive.

There is little question that the use of alternative medicine helps patients. Homeopathy is therapeutically effective in many disorders, but it is effective, not because of the homeopathic remedy, but because of the belief in homeopathy, that is the belief of the patient in homeopathy, the belief of the person administering the homeopathic remedy and the belief engendered through the relationship between the patient and homeopathist.

Other alternative medicines may also be therapeutic, but are, most likely, effective because of the powerful placebo effect, not because of the remedy or procedure itself. It then becomes quite clear how to proceed with alternative medicines - test them against placebos as you would any other drug or procedure.

The Proper Use of Mind/Body Therapies

Let us now return to the scientifically-proven mind/body therapies such as the relaxation response. Consider for a moment that I were here today discussing a new drug and that scientific evidence indicated that this new drug could treat a very wide variety of prevalent medical conditions - conditions that lead to 60 to 90% of visits to physicians and that the drug had virtually no side effects. Furthermore, this new drug could also prevent these conditions from occurring and recurring. And, the new drug was demonstrated to reduce the total costs of health-care by as much as 30%. The discovery of such a new drug would be front page news and immediately embraced. Such scientifically-validated mind/body therapies have resulted in such clinical and economic benefits, but as yet have not been so embraced.

I'll now provide some examples of the current trends in how mind/body interventions such as the relaxation response can be more successfully integrated with mainstream medicine. I'll start with one particularly common and expensive medical complaint chronic pain. When integrated with routine biomedical care, mind/body approaches can result in the better treatment of chronic pain and in significant economic benefits. Millions of Americans are in chronic pain, which by definition, is pain that cannot be eliminated, but must be managed. Chronic pain sufferers, motivated both by medical and emotional factors, often become frequent users of the medical system. The treatment of chronic pain becomes extremely costly

and frustrating for patients and health care providers. In one study, we assessed clinic usage among chronic pain patients at an HMO who participated in our outpatient behavioral medicine program, of which the relaxation response is an integral part. There was a 36 percent reduction in clinic visits for over two years in the patients who participated in the behavioral medicine program as compared to their clinic usage prior to the -intervention. In 109 patients, the decreased visits projected to an estimated net savings of \$12,000 for the first year following treatment and \$24,000 for the second year. These savings did not include those realized by the decreased use of medications.

Another example of how these very mind/body interventions can result in better medical care and reduce medical costs is in the treatment of an extremely common disorder insomnia. Approximately 35 percent of the adult population experiences insomnia. Half of these insomniacs consider it a serious problem. Billions of dollars are spent each year on sleeping medications, making insomnia an extremely expensive condition. In fact, the direct costs to the nation are approximately \$15.4 billion yearly and actual costs are astronomical in terms of reduced quality of life, lowered productivity and increased morbidity. Although frequently employed, the chronic use of sleeping pills is ill-advised.

The shortcomings of such drug therapy, along with recognition of the role of behavioral factors in insomnia, have prompted our development of mind/body behavioral interventions for this condition. We studied the efficacy of a multifactor behavioral intervention for insomnia that included relaxation-response training. Compared to controls, those subjects who received behavioral and relaxation response treatment showed significantly more improvement in sleep patterns. On the average, before treatment it took patients 78 minutes to fall asleep. After treatment, it took 19 minutes. Patients who received behavioral and relaxation response treatment became indistinguishable from normal sleepers. In fact, the 75 percent reduction in sleep-onset latency observed in the treated group is the highest ever reported in the literature.

Barriers to the Widespread Use of Mind Body Therapies

Why, given data such as these have mind/body therapies such as the relaxation response not been more effectively integrated? Barriers to integration include 1) the lack of knowledge of the existing scientific data among health care providers, patients and policy makers in government and private industry; 2) a bias against mind/body interventions in medical care as being too 'soft'; 3) inadequate insurance payments for these treatments; and 4) a bias against shifting away from pharmaceutical, surgery and procedures to self-care approaches - this bias towards the first two legs is in fact, a major reason why so many people embrace alternative medicine. These barriers are currently being addressed by the NIH working task group under the leadership of the Office of Behavioral and Social Science Research.

It is also important to note that the research on behavioral therapies in the treatment of chronic pain and insomnia was reviewed in 1995 at a NIH Technology and Assessment Conference. The planning committee chairman was my late friend and colleague Dr. Richard Friedman. Dr. Julius Richmond, former HEW secretary under President Carter, was the chair of the independent panel that reviewed the evidence. Dr. Richmond stated in a press conference that it was Imperative' that psychological and behavioral interventions be integrated into routine medical care.

The full integration of mind/body, self-care medicine is completely compatible with existing health care approaches. The integration is important not only for better health and well-being, but also for a more economically feasible health care system. Mind/body medicine fulfills the needs of our people who want therapies that enhance and complement traditional medicine and that do so in a responsible, safe, and cost savings fashion. A truly balanced three-legged stool can and should be advocated and utilized for the health and well being of the people of our nation.

TRIUNE BRAIN MODEL

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