

Research: The Relationship Between Stress and Infertility

A Synopsis for Harvard Medical International and their Centers of Excellence and Constituents

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Infertility has been defined by the World Health Organization as "the inability of a couple to bring pregnancy to term after a year or more of regular unprotected intercourse". Approximately 10-15 percent of couples of childbearing age experience infertility. The psychological impact of infertility can be profound and depressive symptoms are more common in the infertile population than in matched fertile women. Approximately 10 percent of infertile women meet the criteria for a major depressive episode, 30-50 percent report depressive symptoms, and 66 percent report feeling depressed after infertility treatment failure. The majority of infertile women report that infertility is the most upsetting experience of their lives. Infertile women report equivalent levels of anxiety and depression as women with cancer, HIV status or heart disease.

Recent research indicates that psychological distress may impair fertility and that depressive symptoms may reduce the efficacy of infertility treatment. Several studies conducted within the past three years support the theory that psychological distress can have a significant adverse impact on successive rates in vitro fertilization (IVF). In one of the studies, women with depressive symptoms were half as likely to conceive as women who were not depressed, and in the most recent study of 151 women scheduled to undergo an IVF cycle the chance of a live birth was 93 percent higher in women with the highest positive-affect score. Researchers have concluded that the success rates of high-tech infertility treatment can be adversely affected by psychological stress.

Mind/body treatment of infertility patients has been shown to both increase pregnancy rates as well as reducing psychological distress. In a recent study conducted at the MBMI, 185 women who had been trying to conceive for one to two years were randomized into either a 10 week mind/body group, a ten week support group, or a routine care control group. The birth rates during the one year follow up period were as follows: - Mind/body 55%, support 54%, and controls 20%. In addition the mind/body patients reported significantly greater psychological improvements than the support or control patients. Patients in the clinical Mind/Body Program for Infertility show benefits as well; in four published studies on several hundred women with an infertility duration of 3.5 years, 42 percent conceived within six months of completing the program and there were significant decreases in all measured psychological symptoms including depression, anxiety and anger.

Infertile women report elevated levels of psychological distress and this distress may reduce their chances of conceiving. Mind/body treatment has been shown to be effective in both significantly increasing pregnancy rates as well as reducing psychological stress.

Selected references on the Relationship between stress and fertility

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Books by Alice Domar, PhD

CONQUERING INFERTILITY, A Mind/Body guide to enhancing fertility and coping with infertility. By Alice D Domar and Alice Lesch Kelly. Published by Viking (2001)

SIX STEPS TO INCREASED FERTILITY, An integrated Medical and Mind/Body Program to promote conception. A Harvard Medical School Book. By Robert L. Barbieri M.D, Alice D. Domar and Kevin R Loughlin, M.D. Published by Simon & Schuster (2000)

HEALING MIND, HEALTHY WOMEN, using the Mind Body Connection to manage stress and take control of your life. By Alice D Domar PhD and Henry Dreher. Published by Delta trade Paperbacks (1996)

Historical Research

In the mid 1980's Alice Domar PhD began working with cardiologist Herbert Benson the founder of the Mind/Body Institute in Boston; Benson pioneered the use of the relaxation technique to reduce the physical effects of stress. One day during a lecture Dr. Benson was speaking to a group of obstetricians and gynecologists when one of the doctors commented that the same gland that calms a stressed out system, the hypothalamus, also manages reproductive functioning. "Couldn't there be some relationship between the relaxation response and infertility?" the doctor asked.

Domar and Benson decided to examine the question. They organized a study, in collaboration with the doctor from the conference. They recruited 100 women with unexplained infertility, taught half of them the relaxation response and then compared the group's pregnancy rates over time to the rest. The research study was dropped because the control group wanted to participate in the learning of the relaxation response.

Current Research

In the first study published in 1999 in the *Journal of the American Medical Women's Association*, 42 percent of the 132 infertile women in the program conceived within 6 months. In the second study published in April 2000 in the *Journal of Fertility and Sterility*, 55 percent of the 148 infertile women in the program conceived within 6 months and actually delivered babies as did 54 percent of those participating in a support group. In the group that received no psychological help, only 20 percent conceived and gave birth.

Mind/body treatment programs for infertility patients have been shown to both increase pregnancy rates as well as reducing psychological distress. The Harvard Behavioural Medicine program for infertility has been in existence since 1987 in Boston. In recent studies *Journal of the American Medical Women's* (1999) & *Journal Fertility and Sterility* (2000) conducted at Harvard Medical School, 185 women who had been trying to conceive for one to two years were randomized into either a ten week mind/body group, a ten week support group, or a routine care control group.

The birth rates during the one year follow-up period were as follows: mind body – 55%, support group 54%, and controls 20%. In addition, the mind/body patients reported significantly greater psychological improvements than the support or control patients. In four other published studies on several hundred women with average infertility duration of 3.5 years, 42 percent conceived within six months of completing the program and there were significant decreases in all measured psychological symptoms including depression, anxiety, and anger.

This successful program is based on the work of two pioneers and experts in the fields **Alice Domar's PhD Harvard Behavioural Medicine Program for Infertility (1987)** currently director of the Mind/Body center for women's health at **BOSTON IVF** and **Jon Kabatt Zinn PhD** Mindfulness Stress Reduction Clinic and professor of Medicine at the University of **Massachusetts Medical School**.