

THE PLACE OF MIND-BODY BALANCING IN IVF SUCCESS

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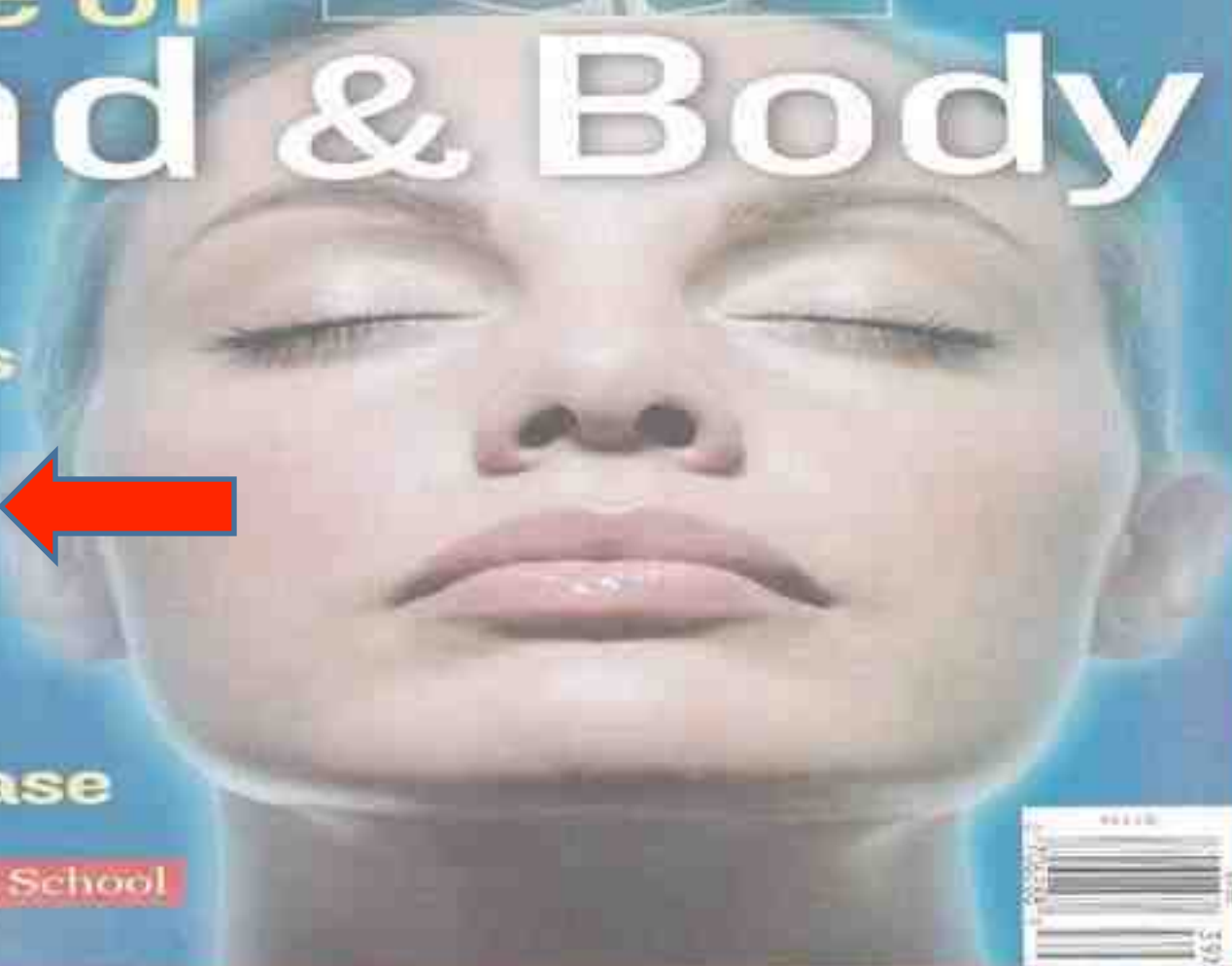
**MSRM
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The New Science of Mind & Body

HEALTH FOR LIFE

- **Forgiveness And Health**
- **Stress and Infertility**
- **Rethinking Hypnosis**
- **Clues to Heart Disease**



With Harvard Medical School

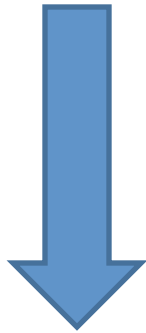


STRESS and IVF

- Stress takes a toll on a woman's ability to persevere through fertility treatments.
- Stress is the number one reason why patients drop out of treatment.

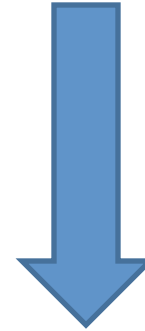
Domar AD. et al, Fertil Steril,1993
Olivius C et al,Fertil Steril,2004

Infertility



Stress

Stress

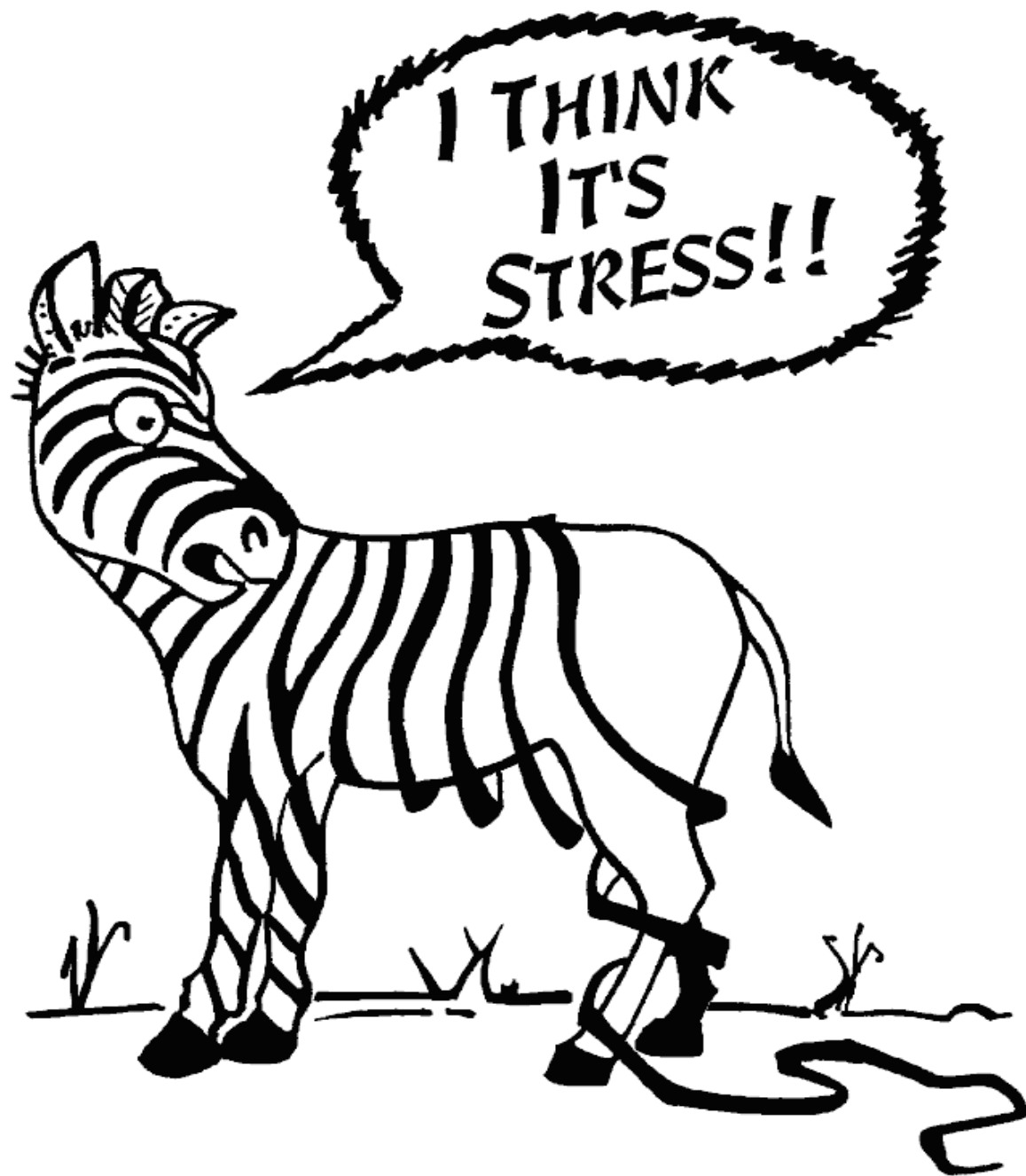


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Infertility

WHAT IS STRESS ?

- Physiological or biological **stress** is an organism's response to a stressor such as an environmental condition.
- Stress is a body's method of reacting to a challenge.



I THINK
IT'S
STRESS!!

Prevalence of depressive and anxiety disorders in an assisted reproductive technique clinic

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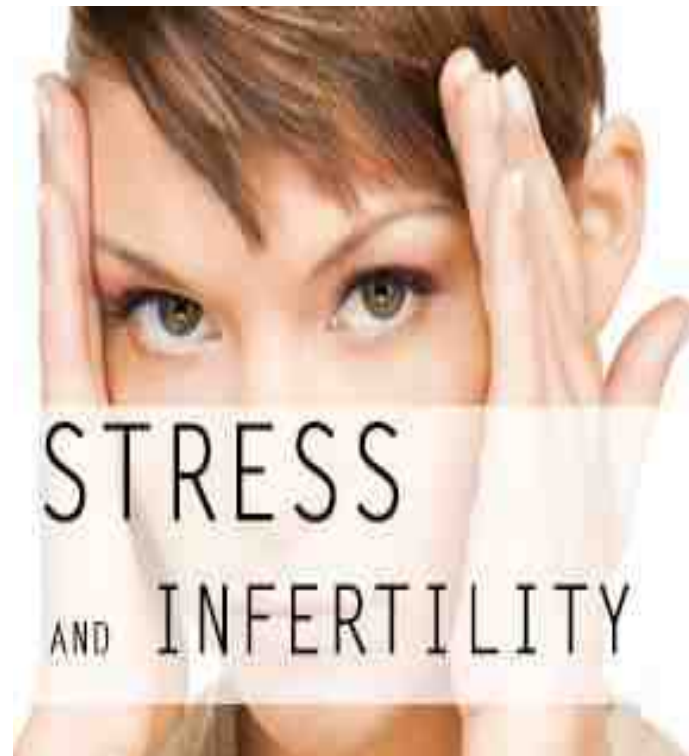
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BACKGROUND: Little is known about the prevalence of specific depressive and anxiety disorders in women before a new course of assisted reproductive technology treatment. Few studies have adopted the proper psychiatric diagnostic procedures. **METHODS:** All consecutive women visiting the assisted reproduction clinic of a university-affiliated medical centre, with the intention of starting a new assisted reproduction treatment course, were recruited. A psychiatrist made a diagnosis of psychiatric disorders using a structured interview, the Mini-International Neuropsychiatric Interview (MINI). **RESULTS:** Of a total of 112 participants, 40.2% had a psychiatric disorder. The most common diagnosis was generalized anxiety disorder (23.2%), followed by major depressive disorder (17.0%), and dysthymic disorder (9.8%). Participants with a psychiatric morbidity did not differ from those without in terms of age, education, income, or years of infertility. Women with a history of previous assisted reproduction treatment did not differ from those without in depression or anxiety. **CONCLUSIONS:** Depressive and anxiety disorders were highly prevalent among women who visited an assisted reproduction clinic for a new course of the treatment. Demographic features and a history of previous assisted reproduction treatment were not risk factors for these psychiatric morbidities in the assisted reproduction clinic.

Prevalence-Infertility

- Psychiatric disorder in infertile couples 25-60%
- N:112 infertile women
- General incidence: 40.2%
 - Anxiety disorder: 23.2%
 - Major depression: 17%

- Infertility diagnosis and treatment is significantly coreleted with stress symptoms (+)



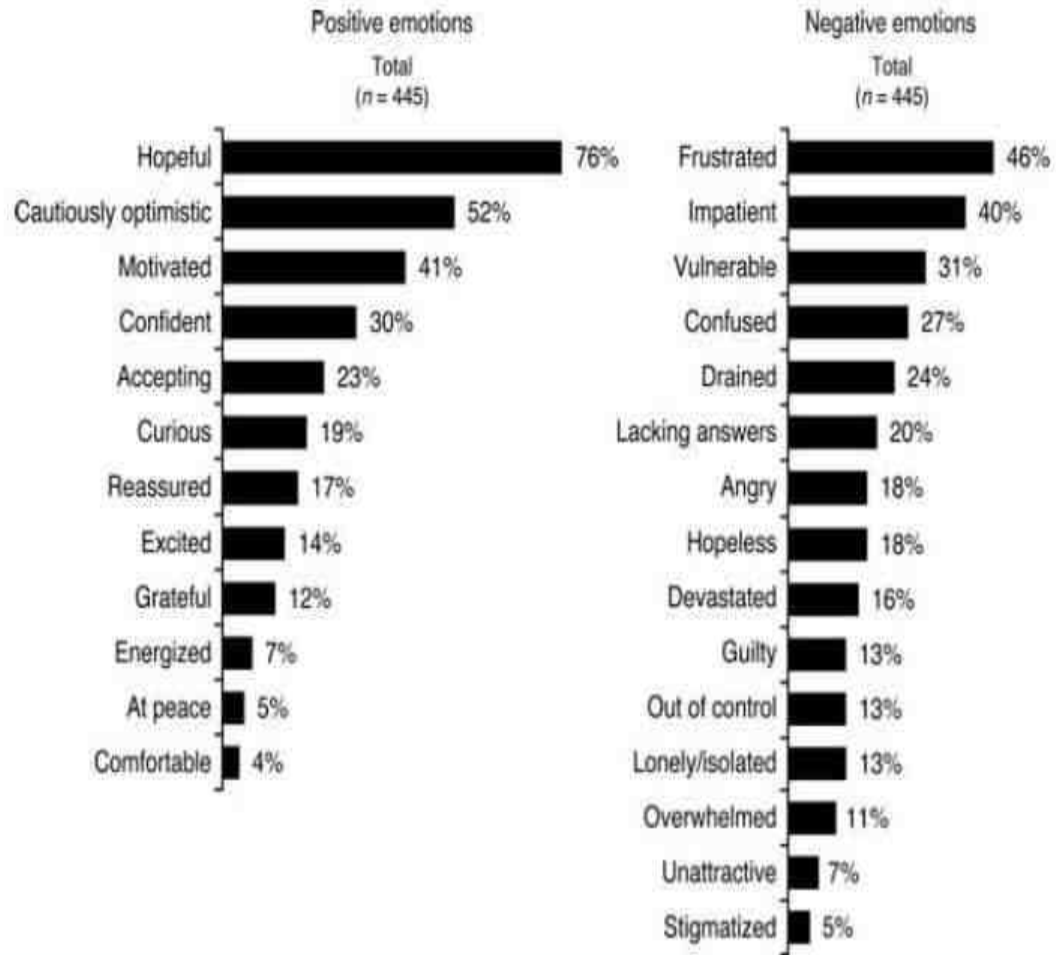


Figure 2 Positive and negative emotions in women associated with infertility and treatment.

CONTROVERSY: WHY COUPLES DISCONTINUE IVF TREATMENT

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Why do couples discontinue in vitro fertilization treatment? A cohort study

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Reasons for discontinuing treatment.

| Reason | n | % |
|--------------------------------|-----|-----|
| Psychological burden | 50 | 26 |
| Poor prognosis | 48 | 25 |
| Spontaneous pregnancy | 37 | 19 |
| Divorce | 28 | 15 |
| Physical burden | 11 | 6 |
| Serious disease | 3 | 2 |
| Others (adoption, moved, etc.) | 15 | 7 |
| Total | 192 | 100 |

Olivius. Discontinuation of IVF. Fertil Steril 2004.

Patient dropout in an assisted reproductive technology program: implications for pregnancy rates

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Objective: To study patient dropout and its impact on crude and cumulative pregnancy rates (PRs) after assisted reproductive technology (ART).

Design: Retrospective cohort study.

Setting: University hospital-based tertiary care fertility clinic.

Patient(s): Two hundred two couples applying for their first ART treatment cycle.

Main Outcome Measure(s): Drop-out rate and PR per cycle, cumulative drop-out rate and cumulative PR.

Result(s): After three treatment cycles, the cumulative drop-out rate was 126 of 202 (62.4%); 13.9% ($n = 28$) was due to active censoring. Active censoring was shown to flatter cumulative PRs by life-table analysis.

Conclusion: Dropout from ART is high, even when ART costs are covered by health cost insurance. Life-table analysis overestimates cumulative PRs in ART. (Fertil Steril® 1997;68: 278-81. © 1997 by American Society for Reproductive Medicine.)

Key Words: Dropout, censoring, ART, cumulative pregnancy rate, life-table analysis

Cumulative probability of live birth after three in vitro fertilization/intracytoplasmic sperm injection cycles

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Objective: To assess the probability of live birth after three available in vitro fertilization/intracytoplasmic sperm injection (IVF/ICSI) cycles.

Design: Retrospective, observational study.

Setting: University hospital.

Patient(s): Nine hundred seventy-four couples who started their first conventional IVF or ICSI cycle between January 1996 and December 1997. A total of 1985 stimulated cycles were initiated.

Intervention(s): Analysis of the cumulative live birth rate using the life-table approach with and without taking dropouts into account.

Main Outcome Measure(s): Cumulative live birth rate.

Result(s): The overall cumulative live birth rate after three completed stimulated cycles (including freezing/thawing cycles) was 65.5% with an "optimistic" approach. For the "realistic" and "pessimistic" approaches the corresponding figures were 63.1% and 55.5%, respectively. Unexpectedly, 65% of couples not achieving a live birth interrupted the full treatment program of three cycles.

Conclusion(s): The cumulative live birth rate gives the couple a more accurate prognosis of achieving a live birth after IVF/ICSI than the statistics usually provided. With the "realistic" estimation, 63% of the couples achieved childbirth after three available conventional IVF or ICSI cycles. Further studies are required to investigate the high drop-out rate. (Fertil Steril® 2002;77:505-10. ©2002 by American Society for Reproductive Medicine.)

Key Words: IVF, ICSI, probability, cumulative live birth, age

FIGHT or FLIGHT





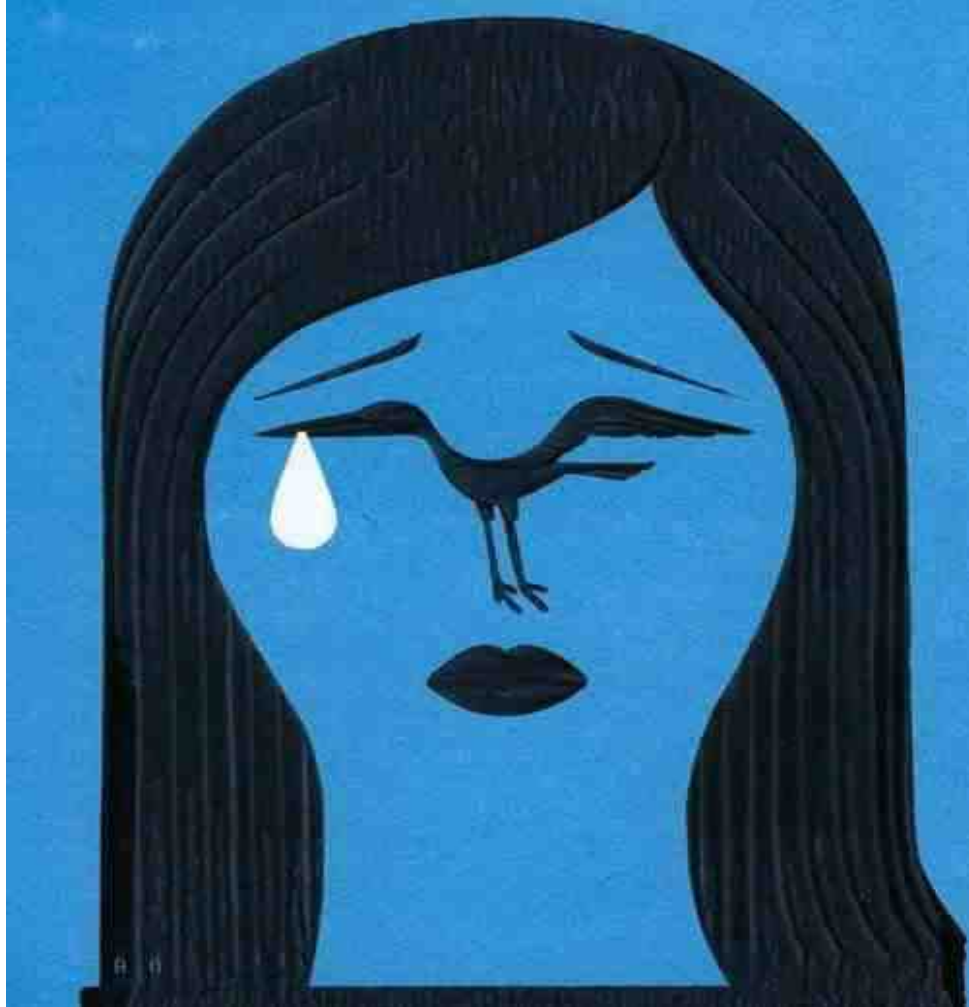
Team of IVF Specialists

Are you having trouble conceiving? We can help!

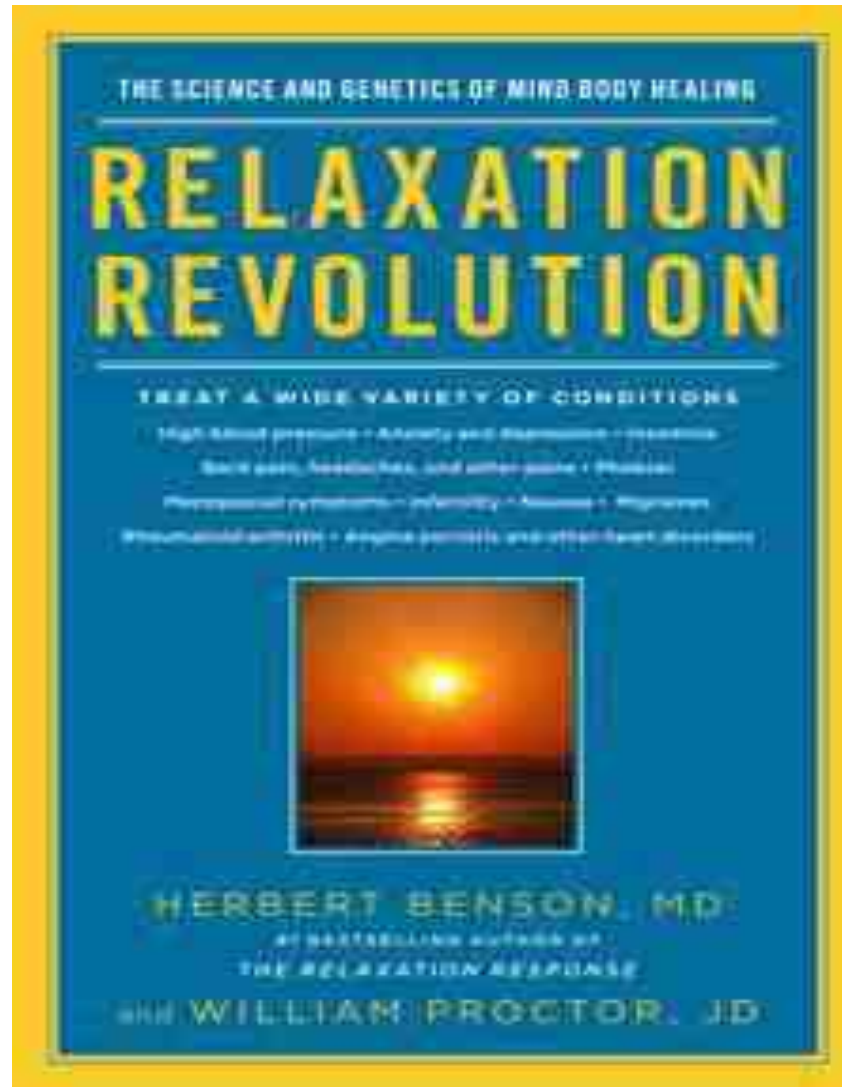
FLIGHT



Should fertilization treatment start with reducing stress?



Mind-Body Stress Reduction Program



Relaxation Response

- Dr. Herbert Benson, MD
- Founding president of the Mind-Body Medical Institute
- Associate Professor of Medicine, Harvard Medical School





BENSON-HENRY INSTITUTE
FOR MIND BODY MEDICINE



AT MASSACHUSETTS GENERAL HOSPITAL

*If there is a stress response, is
there a relaxation response?*



RELAXATION

[The “relaxation” phenomenon is a physical state of deep rest that changes physical and emotional responses to stress - the opposite of the fight or flight response]



Relaxation Response

- ↓ Heart rate slows
- ↓ Blood Pressure lowers
- ↓ Blood Lactate Levels reduce
- ↑ Immune System improves
- ↑ Sense of Well-being increases
- ↑ Sleep improves
- ↑ Normal Libido
- ↓ Brain Wave Patterns slow
- ↑ Digestion improves

Stress Response

- ↑ Heart rate increases
- ↑ Blood Pressure rises
- ↑ Cholesterol Levels go up
- ↓ Immune System is less effective
- ↑ Anxiety increases
- ↑ Depression more prevalent
- ↑ Sleep Disorders increase
- ↓ Libido decreases
- ↑ Irritability increases
- ↓ Digestion works less effectively



MIND-BODY STRESS REDUCTION PROGRAM FOR INFERTILITY

History

- The first Mind-Body Stress Reduction Program for infertility patients was offered in 1987 by Dr. Alice Domar, USA
- Dr. Domar was doing a study on the impact of teaching relaxation techniques to women with unexplained infertility, to see if those who learned such techniques would have higher pregnancy rates and less anxiety.
- The women who attended the first few groups experienced about a 33% pregnancy rate within a few months and their psychological symptoms were markedly reduced.

MIND-BODY STRESS REDUCTION PROGRAM and IVF RESULT

Impact of a group mind/body intervention on pregnancy rates in IVF patients

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Objective: To determine if women who were randomized to a mind/body program before starting their first IVF cycle would have higher pregnancy rates than control subjects.

Design: Randomized, controlled, prospective study.

Setting: Private academically affiliated infertility center.

Patient(s): A total of 143 women aged <40 years who were about to begin their first IVF cycle.

Intervention(s): Subjects were randomized to a ten-session mind/body program (MB) or a control group and followed for two IVF cycles.

Main Outcome Measure(s): Clinical pregnancy rate.

Result(s): Only 9% of the MB participants had attended at least one-half of their sessions at cycle 1 start. Pregnancy rates for cycle 1 were 43% for all subjects; 76% of the MB subjects had attended at least one-half of their sessions at cycle 2 start. Pregnancy rates for cycle 2 were 52% for MB and 20% for control.

Conclusion(s): MB participation was associated with increased pregnancy rates for cycle 2, prior to which most subjects had attended at least half of their sessions. (Fertil Steril® 2011;95:2269-73, ©2011 by American Society for Reproductive Medicine.)

Key Words: IVF, mind/body, depression, pregnancy, stress management

?

TABLE 2

Cycle 1 patient characteristics, mean (SD).

| | Mind/body | Control | P value |
|-----------------------------|---------------|---------------|---------|
| Sample size | 46 | 51 | |
| Peak E ₂ , pg/mL | 2,174 (1,123) | 1,943 (1,144) | .27 |
| No. of follicles | 13.4 (7.9) | 11.9 (7.1) | .37 |
| No. of mature follicles | 11.0 (6.6) | 9.3 (4.8) | .29 |
| No. of oocytes inseminated | 13.2 (7.8) | 11.7 (6.5) | .39 |
| No. ICSI ? | 2.2 (4.8) | 5.2 (6.4) | .01 |
| No. fertilized | 7.8 (5.5) | 8.3 (5.1) | .38 |
| No. of embryos transferred | 1.8 (0.7) | 1.8 (0.7) | .61 |
| No. cryopreserved | 1.5 (1.9) | 0.9 (1.3) | .17 |
| No. discarded | 4.6 (4.3) | 3.9 (3.4) | .66 |

Domar. Mind/body and pregnancy in IVF patients. Fertil Steril 2011.

TABLE 3

Cycle 2 patient characteristics, mean (SD).

| | Mind/body | Control | P value |
|-----------------------------|---------------|---------------|---------|
| Sample size | 21 | 20 | |
| Peak E ₂ , pg/mL | 2,105 (1,320) | 2,211 (1,118) | .59 |
| No. of follicles | 11.4 (7.7) | 9.2 (4.7) | .54 |
| No. of mature follicles | 9.7 (6.6) | 7.9 (3.8) | .69 |
| No. of oocytes inseminated | 11.2 (7.8) | 9.2 (4.7) | .62 |
| No. ICSI ? | 1.5 (3.3) | 3.5 (4.1) | .12 |
| No. fertilized | 7.0 (5.8) | 5.9 (3.4) | .92 |
| No. of embryos transferred | 2.0 (1.0) | 2.4 (0.8) | .11 |
| No. cryopreserved | 1.0 (2.2) | 0.4 (0.8) | .88 |
| No. discarded | 3.9 (3.8) | 3.1 (2.9) | .79 |

Domar. Mind/body and pregnancy in IVF patients. Fertil Steril 2011.

TABLE 4

Pregnancy rates by group and cycle.

| | Mind/body | Control | P value |
|-----------|---|-------------|---------|
| Cycle 1 | 43% (20/46) (54% 0 sessions, 37% 1–5 sessions, 9% 6–10 sessions) | 43% (22/51) | 1.0 |
| Cycle 2 ? | 52% (11/21) (5% 0 sessions, 19% 1–5 sessions, 76% 6–10 sessions) | 20% (4/20) | .05 |

Domar. Mind/body and pregnancy in IVF patients. Fertil Steril 2011.

Research Article

Effect of a Mind-Body Therapeutic Program for Infertile Women Repeating In Vitro Fertilization Treatment on Uncertainty, Anxiety, and Implantation Rate



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SUMMARY

Purpose: The study aimed to develop a mind-body therapeutic program and evaluate its effects on mitigating uncertainty, anxiety, and implantation rate of second-tital in vitro fertilization (IVF) women.

Methods: This study employed a nonequivalent control group nonsynchronized design. The conceptual framework and program content were developed from a preliminary survey of eight infertile women and the extensive review of the literature. Program focuses on three uncertainty-induced anxieties in infertile women: cognitive, emotional, and biological responses. To evaluate the effect of the intervention, the infertile women with unknown cause preparing for a second IVF treatment were sampled at convenience (26 experimental and 24 control).

Results: The experimental group in the study showed greater decrease in uncertainty and anxiety in premeasurements and postmeasurements than the control group did. However, no statistically significant differences in the implantation rate between groups were observed.

Conclusion: This study is meaningful as the first intervention program for alleviating uncertainty and anxiety provided during the IVF treatment process. The positive effects of the mind-body therapeutic program in alleviating both uncertainty and anxiety have direct meaning for clinical applications.

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CONCLUSION

- **MB stress reduction program which included relaxation training and stress management for ivf patient**
- **May be offered as first line therapy to all infertile couples regardless of the type of infertility ?**
- **Patient care program for patient-friendly ivf treatment**
- **Pregnancy rates?**
- **Might help patients to keep on pursuing ART treatments in a long term.**

