

Title of Intervention: MRFIT (The Multiple Risk Factor Intervention Trial Group)

Intervention Strategies: Group Education, Individual Education, Supportive Relationships

Purpose of the Intervention: To decrease three major risk factors of heart disease

Population: Men between the ages of 32-57 at risk for heart disease with no prior history of a heart attack

Setting: Major urban clinical sites throughout the country; health care facility-based

Partners: Health care facilities, Centers for Disease Control, Central Laboratory in San Francisco, Mortality Review Committee

Intervention Description: 6-year clinical trial

- **Group Education:** Group sessions were held for the participants covering the three target risk factors: cholesterol, smoking and hypertension. Audiotapes were used to spark discussion about topics such as nutrition and smoking.
- **Individual Education:** Individual counseling was offered to those who were unable or unwilling to attend group sessions. Case conferences were held monthly to discuss participant's progress and to develop individualized plans for achieving and maintaining risk factor reduction. Hypnosis was available at most clinical centers as an aid to smoking cessation. Self-monitoring using a written record was encouraged. Participants set explicit goals for changes in behavior with the interventionist. A "Quit Smoking Book," a workbook with exercises, was given to those trying to quit. American Heart Association Cookbooks were distributed. "A Brand Name Grocery Guide" listed food products available in the supermarkets that were compatible with the fat-controlled low cholesterol diet.
- **Supportive Relationships:** Feedback, support and positive reinforcement was given by the health worker or peer group. Spouses or other household members were trained to provide positive encouragement and to assist in maintaining a healthy environment for the participant. Spouses and other household members were able to attend behavior modification classes in order to provide a role model and a supportive home environment. Support groups, follow-up phone calls and buddy systems were used to reinforce positive behavior change. Participants were able to practice their new behaviors at self-help group meetings or on a weekend retreat. Audiotapes were provided to those who had quit smoking as additional reinforcement.

Theory: Behavioral Therapy (Bandura and Krasner)

Resources Required:

- **Staff/Volunteers:** Coordinator, nutritionists, behaviorists, trained health counselors, health care providers, smoking specialist, group process specialist
- **Training:** Training sessions to educate intervention staff on protocol
- **Technology:** Not mentioned
- **Space:** Space to hold sessions, space for clinics, space and time for monthly case conferences
- **Budget:** Not mentioned
- **Intervention:** Common protocol and materials for group sessions and individual counseling, audio and video equipment, films, cassettes, brochures, and pamphlets, four nutrition slide-tape units and accompanying brochures, the hypertension film "What Goes Up," smoking films from the American Heart Association and the American Cancer Society, antismoking film cassettes titled "We Can't Go on Like This," "The Ordeal of Arnold Hertz" and "Gambling", the MRFIT orientation film "The Heart of the Matter," "Quit Smoking Book," smoking patches to enhance success of those trying to quit, set of detailed nutritional and behavioral guidelines on weight control ("Progressive Eating Pattern"), MRFIT Guide, Brand Name Grocery Guide, datebook, American Heart Association Cookbooks, Quit Smoking Books, newsletters, telephones capable of conference calling
- **Evaluation:** Postage for questionnaires and postcards for address verification and reminders, random-zero sphygmomanometer, phlebotomy equipment, scale, stadiometer, print materials such as food diaries and questionnaires, cholesterol testing equipment

Evaluation:

- Design: Randomized control trial
- Methods and Measures:
 - Smoking status: self report and expired CO2 level
 - Diet: 24 hour dietary recall, 3 day food diary
 - Protein and sugar were accessed through urine samples
 - Leisure time activity: leisure time activity questionnaire
 - Hypertension status: blood pressure measurements taken as average of 3 per visit
 - Cholesterol status: serum and plasma cholesterol tests
 - Heart disease risk: Framingham risk score
 - Mortality: actual number of deaths recorded throughout the trial

Outcomes:

- Short Term Impact: Cardiovascular risk factor levels declined to a greater degree in intervention participants. Significant differences were found for cholesterol and blood pressure.
- Long Term Impact: A statistically non-significant difference in mortality from cardiovascular disease was found between the intervention and usual care groups.

Maintenance: Maintenance programs and Extended Intervention Programs for each risk factor were offered to all participants to maintain gains achieved and to continue to work toward goals.

Lessons Learned: Analysis suggests the program contributed to a reduction in risk factors over time that could substantially diminish the probability of cardiovascular disease mortality. Results indicate that within the setting of a multiple-risk-factor intervention program, it is possible to lower blood pressure with a degree of success similar to that obtained by trials in which hypertension was the sole target of treatment. Program smoking cessation data strongly suggests that continual contact plays an important role in achieving, maintaining and, for certain quitters who resumed smoking, re-achieving non-smoking status.

Citation(s):

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