Chapter 11: Program Design, Evaluation, Method, and Preliminary Results

The principles and methods of nonpharmacological treatment of hypertension are now being implemented in a study conducted in five physician–nurse primary care team practices in Israel.

11.1 Study Objective

The study is based on the assumption that the effectiveness of nonpharmacological measures—balanced nutrition, satisfactory weight, increased physical activity, relaxation, and refraining from smoking—in the control of hypertension and prevention of ASCVD has been established. It sets out to develop means for improving compliance, which is the main problem in the implementation of these measures in the community, and to evaluate cost effectiveness and applicability through primary care physician–nurse teams in collaboration with professional paramedical personnel.

11.2 Aims of the Program

Through nonpharmacological intervention in a subgroup of moderate hypertensives with no target organ damage, the program aims to achieve the following:

1. Satisfactory weight: ± 10% of ideal body weight
2. Balanced diet:
   a) Na⁺ 2–3 g/day
   b) Na⁺/K⁺ ratio 1:1
   c) Number of calories/day as needed to maintain satisfactory weight
   d) Fat constituting 30% of total calories
   e) Ratio of poly- to mono- to unsaturated fats 1:1:1
   f) Fiber consumption per day 30–50 g
   g) Consumption of at least 1.5 liter/day of liquids
3. Cessation of smoking
4. Physical activity: 4–6 times a week uninterrupted activity of 20–30 min, with an intensity leading to increase of pulse to 60% of maximum capacity according to age and sex
5. Relaxation: teaching relaxation techniques
6. Cognitive counselling: teaching patients to recognize situations which are stressful to them because of unreasonable beliefs and reactions, and to develop alternative ways of behavior to cope with these situations
11.3 Comparison of Two Methods of Administration

The study is performed in two modes. Both are based on the primary physician–nurse teams, who are intensively trained and routinely advised by medical and paramedical professionals (hypertension specialist, psychologist, nutritionist, physical activity instructor) as to how to deliver optimal blood pressure treatment, comprising both drug treatment and the nonpharmacological principles described above. In one mode the patients are treated directly only by the doctor-nurse team, to which consultation is provided by the paramedical team. In the other mode the patients undergo first a period of intensive instruction by the paramedical personnel, each of whom meet the patients in groups of six to ten during six 1-h weekly sessions. The long-term follow-up and motivation of the patient to adhere to the new life-style remain in the hands of the physician–nurse team.

11.4 Method

11.4.1 Location

The study is being performed in five primary care clinics of the Labor Union Sick Fund – Kupat Holim, which provides comprehensive health care for almost 80% of Israel’s total population. Thus, these individuals can be considered representative of the general population in their area of residence.

11.4.2 Study Population

The study population consists of two groups of uncomplicated hypertensive patients aged 20–65 years without target organ damage:
1. Controlled hypertensive patients whose mean blood pressure in mm Hg in the last 6 months under pharmacological treatment was < 160 mm Hg systolic and/or < 95 mm Hg diastolic.
2. Newly discovered untreated hypertensives whose last blood pressure measurement was 160–170 mm Hg systolic and/or 95–100 mm Hg diastolic.

11.4.3 Training of the Teams

All participating doctor–nurse teams received initial oral and written instructions as to optimal procedures for blood pressure control by the study team, which consisted of medical and paramedical specialists as well as epidemiologists. The instruction related to target blood pressure, accurate blood pressure measurement, proper pharmacological treatment, and definition and instruction of nonpharmacological treatment. Total time for adequate initial training is about 3–4 days.