

Title of Intervention: Heartbeat Limburg

Intervention Strategies: Campaigns and Promotions, Provider Education, Group Education, Individual Education, Supportive Relationships, Environments and Policies

Purpose of the Intervention: To decrease heart disease in the general and high risk populations

Population: Community, specifically low-income and high-risk individuals

Setting: Four districts of the city of Maastricht, Netherlands; school-based, worksite-based, community-based, health care facility-based

Partners: Municipal authorities, Regional Public Health Institute, community social work organizations, regional community health care organization, general practitioners/cardiologists, university, school districts, various local health organizations, local health committees

Intervention Description:

- Campaigns and Promotions: Several campaigns were conducted during the intervention. The overall initiative was promoted through brochures, regular newspaper columns, daily TV exercise program ("heartbeat on the move"), radio commercials and billboards and local demonstrations. A campaign promoted physical activity among individuals over 55 years of age. A multimedia campaign aimed to increase awareness of local options for exercise. Other campaign topics included healthy eating and tobacco cessation.
- Provider Education: Health advisors were given supplementary instructions about behavior change processes. They were intensively trained to use newly developed counseling protocol.
- Group Education: Group education opportunities included smoking cessation and cooking classes.
- Individual Education: Participants had access to a computer-tailored nutrition education program. Health advisors instructed high-risk patients on how to decrease risk behavior and risk factors by adopting a healthier lifestyle. The health advisor's approach for each patient was based upon that patient's readiness to change and personal risk factors.
- Supportive Relationships: Weekly walking and cycling groups were available for participants.
- Environments and Policies: The community adopted changes such as labeling of low-fat foods in markets, increasing levels of exercise education in schools and increasing government spending for school sports teams.

Theory: Theory of Planned Behavior, Health Belief Model, Transtheoretical/Stages of Change Approach

Resources Required:

- Staff/Volunteers: Activity leaders, health educators, social workers, nurses, dietitians, nutritionists, cardiologists, general practitioners, cardiovascular health advisor
- Training: Supplementary instructions about behavior change processes, intensive training for use of counseling protocol for health advisors
- Technology: Media creation capability
- Space: Space for community activities and events, space for advisory sessions
- Budget: €900,000 (Euros) over the five year period of intervention and evaluation
- Intervention: Evidence-based health promotion activities guides (one for use at municipality level and one specifically for use among low educated groups), labels for healthy foods at markets, posters, postcards, brochures, walking guide booklets and maps, TV time and messages, radio time and messages, billboard space and messages, newspaper space and messages, leaflets, free nicotine patches, promotional t-shirts as incentives
- Evaluation: Questionnaires, blood pressure measurement tool, scale, tape measure, blood draw, telephones and phone lines for telephone interviews

Evaluation:

- Design: Quasi-experimental (community), randomized controlled (high risk)

- **Methods and Measures:**
 - Written questionnaires assessed risk behaviors and psycho-social determinants
 - Written inventory questionnaires assessed the total number of prevention activities and organizations or groups that organized prevention activities
 - Process evaluation of the intervention included questionnaires, analysis of meeting minutes, use of registration system and small-scale evaluations of innovative activities, registration of patient flow, periodic judgment of counseling sessions by counseling experts, questions posed to patients about their experiences, interviews with general practitioners and cardiologists about their experience and level of support for the project
 - Measurements taken of blood pressure, blood lipids, height and weight
 - Cost-effectiveness evaluation of intervention measured with Chronic Disease Model of the RIVM
 - Quality of Life – Rand Congestive Heart Failure Battery and the Bulpitts Hypertension Questionnaire or Rand Health Insurance Study Blood Pressure Battery measured heart disease outcomes
 - Endpoint measurements were total cardiovascular risk, risk factors and risk behavior, morbidity and mortality

Outcomes:

- **Short Term Impact:** The community intervention reduced or prevented age- and time-related increase in BMI, waist circumference, blood pressure, and, in women, nonfasting glucose concentration as compared to control group. The intervention significantly decreased fat intake and increased physical activity intentions and knowledge of personal fat intake in program participants, especially those under the age of 49. Overall levels of social support, intention to perform and self-efficacy regarding physical activity increased. In the high risk intervention, a majority of patients who participated reported an overall positive regard for the counseling program. Fat intake was significantly reduced. There was an increase in physical activity among patients classified as obese at baseline.
- **Long Term Impact:** Not mentioned

Maintenance: Not mentioned

Lessons Learned: Changes at the organizational and policy levels seem more effective than individual-level changes. Health advisors will ensure the continuity in the preventive care system. They constitute a crucial link between medicine and public health. Quality was ensured at all levels by protocols (counseling protocol), guides (health promotion activities guides), guidelines (for best practice in general practices) and regular expert meetings.

Citation(s):

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