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Samorządowy powiatowy program profilaktyczny chorób układu krążenia

Self-governmental poviat prevention program of cardiovascular diseases

Streszczenie

Wstęp. Samodzielny Publiczny Zakład Opieki Zdrowotnej w Kraśniku w latach 2007-2010 realizował samorządowy profilaktyczny program zdrowotny pn. „Program profilaktyki chorób układu krążenia" wśród mieszkańców obszarów wiejskich w siedmiu gminach powiatu kraśnickiego. Program został zlecony i sfinansowany przez powiat kraśnicki, reprezentowany przez Starostwo Powiatowe w Kraśniku.

Cel. Celem prowadzonego programu było obniżenie zachorowalności i umieralności z powodu chorób układu krążenia populacji objętej programem poprzez wczesne wykrywanie, redukcję występowania i natężenia czynników ryzyka.

Materiał i metody. W programie wzięło udział 1 810 młodych (wiek 35-55 lat) osób, u których wcześniej nie stwierdzono żadnej choroby układu sercowo-naczyniowego. Program prowadzony był w trzech etapach. W pierwszym za pomocą ankiety występowania czynników ryzyka chorób układu krążenia wyselekcjonowano grupę osób, u których rozpoznano kryteria warunkujące udział w II etapie. Ten etap polegał na wizycie u lekarza kardiologa, który po analizie wcześniej zleconych badań biochemicznych i badaniu lekarskim kwalifikował do etapu III. W etapie tym zostały wykonane minimum trzy specjalistyczne badania kardiologiczne oraz kontrolna wizyta u lekarza kardiologa, który ustalał rozpoznanie i kierował do dalszego, stałego leczenia kardiologicznego.

Wyniki. U 41 osób biorących udział w programie, czyli u 2,26% analizowanej grupy stwierdzono choroby układu sercowo-naczyniowego, które wymagały dalszego leczenia specjalistycznego. Czynnikami ryzyka chorób układu krążenia, które najczęściej motywowały mieszkańców powiatu do udziału w programie profilaktycznym były obciążający wywiad rodzinny oraz otyłość/nadwaga.

Wnioski. Stwierdzono, że choroby układu krążenia stanowią poważny problem zdrowotny wśród młodych i z założenia zdrowych mieszkańców terenów wiejskich powiatu kraśnickiego. Uczestnicy chętnie biorą udział tylko w początkowym etapie programu. Dzięki podobnym programom profilaktycznym samorządy terytorialne mogą skutecznie rozpoznawać problemy zdrowotne swoich mieszkańców.

Słowa kluczowe: program profilaktyczny, samorząd powiatowy, choroby układu krążenia, populacja wiejska, promocja zdrowia.

Abstract

Introduction. Independent Public Health Care Centre in Krasnik in 2007-2010 implemented self- government preventive health program "The prevention of cardiovascular diseases" among rural residents in seven communes of Kraśnik Poviat. The program was commissioned and financed by Kraśnicki Poviat, represented by the Poviat Starosty in Kraśnik.

Aim. The aim of the program was to decrease morbidity and mortality from cardiovascular diseases in population covered by the program through early detection, reducing the incidence and intensity of risk factors.

Material and methods. The program covered 1,810 young subjects (35-55 years) who had not been diagnosed with any cardiovascular system disease. The program had three phases. In the first phase cardiovascular disease risk factors were identified with the survey and there was selected a group of people who were identified with benchmarks for participation in the second phase. Phase II consisted in visiting the cardiologist, who after the earlier analysis of biochemical and physical examinations chose the eligible subjects to phase III. In this step there were performed at least three specialist cardiological examinations and a follow up visit at the cardiologist, who confirmed the diagnosis and referred to a further, continuous cardiological treatment.

Results. In 41 people taking part in the program, i.e. 2.26% of the analyzed group, the cardiovascular system diseases were identified, which required further specialist treatment. The risk factors for cardiovascular diseases, which usually motivated poviat residents to participate in the preventive program, were: the family history and obesity/ overweight.

Conclusions. It was found that cardiovascular diseases are a serious health problem among the young and healthy inhabitants of rural areas of Kraśnik Poviat. Participants were willing to take part only in the initial stage of the program. With similar preventive programs local governments can effectively identify health problems of their residents.

Keywords: preventive program, poviat self-government, cardiovascular diseases, rural population, health promotion.

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INTRODUCTION

Local Government Act 1998, in addition to the introduction of new tiers of self government in the form of self-government poviats and voivodships, introduced the principle of the responsibility for satisfying the health needs of the residents of the respective areas [1]. Poviats were given supervision of the poviat hospitals and specialist outpatient care units based on the existing health care facilities, the activity of which in most cases corresponded with the newly established poviats. Local governments can also use their subordinate units to implement their own prevention programs, concerning most common health problems existing in their area [2]. The program for cardiovascular disease prevention in the Kraśnik Poviat has been implemented by Poviat Starosty and implemented in 2007-2010 by the Independent Public Health Care Centre in Kraśnik. The program was financed from the budget of the Kraśnik Poviat.

Kraśnicki Poviat, located in south-western part of the Lublin Province, in terms of total area of 100,534 hectares is classified under the 12th position in the region (24 poviats). The Kraśnik Poviat has 10 communes:

- Town of Kraśnik (commune);
- Annopol town and commune (urban – rural);
- Dzierzkowice (rural);
- Gościeradów (rural);
- Kraśnik (rural);
- Szastarka (rural);
- Trzydnik Duży (rural);
- Urzędów (rural);
- Wilkołaz (rural);
- Zakrzówek (rural);

There are 2 towns (Kraśnik and Annopol) and 206 villages in the poviat. The poviat total population is 99,531 people, including men – 48.6 thousand, women – 50.9 thousand. The population density in 1 square km is 99 people. The towns of Kraśnik Poviat are inhabited by 38,588 people; the countryside – by 60,943 people. Poviat prevention program of cardiovascular diseases was implemented in 2007 in the communes of Gościeradów and Urzędów, in 2008, in Dzierzkowice and Annopol communes; in 2009 in a rural community of Kraśnik, and in 2010 in communes of Trzydnik Duży and Wilkołaz.

The statistics on cardiovascular diseases in Poland are frightening. Currently, cardiovascular diseases are the cause of almost half of all deaths among Poles. It is assumed that each day due to myocardial infarction a hundred Poles die, seven million have hypertension, and approximately one million people have coronary heart disease. Also, analysis of data on the health of residents of the Kraśnik Poviat indicates that cardiovascular diseases are among the most common diseases. In 2008, cardiovascular diseases affected 17,946 people aged over 18 years, treated by primary health care physicians. This year, as much as 6.6%, i.e. 1,191 cases are the new cases. The problem of cardiovascular diseases concerned in the least persons between 19 and 34 years of age. Of course, with age the number of patients suffering these diseases is increasing steadily. The most common cardiovascular disease risk factor, both in county, state, and the country scale is high blood pressure. In 2008, in the Kraśnik Poviat it was found in 10,797 persons over 18 years of age who were treated in primary health care, i.e. at 60.2% of patients with cardiovascular diseases. A serious problem is the ischemic myocardium, which was diagnosed in 5,737 people, i.e. in 32% of population with cardiovascular disease. As a result of this disease 1,119 people had myocardial infarction [3].

Epidemiological and socio-medical studies show that an important role in the development of cardiovascular diseases is played by some behavior patterns making up the modern lifestyle [4,5]. These are: inadequate nutrition, little physical activity, smoking, drinking alcohol, stress [6]. These patterns repeated over a longer period of time can lead to biochemical and physiological disorders in humans, among others to dyslipidemia, obesity, diabetes, and hypertension. The inappropriate behavior and the induced biochemical disturbances are known as risk factors [7,8]. World Health Organization has identified the following risk factors as the most important for circulatory system diseases:

- hypertension (RR value> 140/90 mm Hg);
- dyslipidemia (elevated concentration in blood of total cholesterol, LDL-cholesterol, triglyceride and low HDL-cholesterol);
- smoking and alcohol abuse;
- lack of physical activity;
- overweight and obesity;
- impaired glucose tolerance;
- excessive stress;
- irrational diet (a diet high in saturated fats and low in vitamins and minerals);
- age;
- male gender;
- genetic load.

AIM

The overall objective of the program was decrease of morbidity and mortality due to cardiovascular diseases in population covered by the program through early detection and reducing the incidence and intensity of risk factors. Intermediate objectives were: increasing the efficiency of treatment and detection of cardiovascular diseases; early identification of persons at increased risk of cardiovascular disease; promotion of healthy lifestyles; not smoking, proper diet, physical activity.

MATERIAL AND METHODS

Information about the program was widespread among the population by the media campaign (local press, radio, television, the Internet) [9,10]. The posters with the relevant information were put in the offices, health centers, pharmacies, etc. The action was addressed to beneficiaries aged 35-55 years from various communes, who were not currently treated for cardiovascular disease and had not participated in similar programs in the previous years. Exclusion criterion in the program was cardiovascular disease identified in the medical history.

Beneficiaries reported to the first stage of the program where the selection was made by gathering the data by the staff with the use of survey "Risk factors for the incidence

TABLE 1. Participation of residents in various stages of the program.

Communes	Population	Participation in 1st phase	Selection to 2nd phase	Participation in 2nd phase	%	Selection to 3rd phase	Eligibility to specialist treatment	Participants %
Gościeradów, Urzędów 2007	16,320	700	118	70	59.32	28	14	2.00
Annopol, Dzierzkowice 2008	14,748	500	70	42	60.00	14	12	2.40
Kraśnik 2009	7,369	210	32	30	93.75	14	9	4.28
Trzydnik Duży, Wilkołaz 2010	12,339	400	60	26	43.33	9	6	1.50
Total	50,776	1 810	280	168	60.00	65	41	2.26

of cardiovascular diseases" The survey assessed 10 parameters: gender (male as 1 point.), the incidence of type 2 diabetes, age (over 45 years – 1 point.), high cholesterol history, smoking, alcohol abuse, high blood pressure, family history, lack of regular physical activity, obesity. For the occurrence of a given parameter at the examined person – 1 point was given (in case of age – over 45 years – 1 point.). People who scored in a survey 6 or more points, were classified to the second phase of the program. These people were referred to the blood biochemical tests that assessed the level of cholesterol, HDL, LDL, TG and fasting glucose, and then were referred to a cardiologist. The cardiologist analyzed the blood biochemical tests, risk factors for cardiovascular disease, carried out the medical examination and made the decision on how to proceed. The cardiologist classified the subjects to the third phase of the program. In this phase at least three of specialist cardiological examinations were performed: ECG, exercise test, exercise test on a treadmill, ECHO, and the Holter examination. The Holter examination + RR – was left to the decision of the cardiologist in charge. The results were interpreted by the cardiologist during the next visit, taking the final decision to continue the treatment mode of the patient, i.e. about the advisability of continued specialist ambulatory treatment or the usefulness of treatment in hospital. Each subject received an information card about the participation in the Self-Government Preventative Health Program under the title: Program for Prevention of Cardiovascular Diseases.

RESULTS

1. Participation of residents in each commune.
   From among the population of individual communes aged 35-55 years, the survey covered 1810 people. The eligibility to participate in subsequent stages of the program, the number of applicants and the number of respondents selected for further specialist treatment are presented in Table 1.
2. The most common health problems in the first phase of the program – a survey.
   In the first phase of the program ten risk factors were assessed basing on the questionnaire completed by the participants. The occurrence of six or more risk factors in the subject made him/her eligible to join in the second phase of the program, after making blood biochemical tests. The most common risk factors are presented in Table 2.

TABLE 2 The most common risk factors in the study group.

Ref.	Risk factor	Incidence in the study population %
1.	Age (>45 years)	54.76
2.	Gender (males)	50.06
3.	Family history	48.66
4.	Obesity/overweight	39.26
5.	High blood pressure	37.75
6.	Smoking	33.83
7.	No regular exercise	24.35
8.	Elevated levels of cholesterol in a family history	22.36
9.	Alcohol abuse	6.26
10.	Diabetes type 2	3.41

TABLE 3. Occurrence of elevated biochemical test results in the study group and in the total population.

Ref.	Type of biochemical test	% among the study population in 2nd phase	% in total population
1.	Elevated levels of FPG in the blood	12.75	1.21
2.	Elevated cholesterol above 220 mg% in blood	41.82	3.48
3.	Elevated levels of triglycerides in the blood	24.75	2.54

3. The occurrence of deviations from the norm in biochemical tests ordered in the second phase of the program.
   In the second phase, additional studies were ordered in the form of blood biochemistry. Table 3 shows the types of tests performed and the presence of elevated values of these indices in the group.

ANALYSIS OF RESULTS OF THE PROGRAM

Prevention program of cardiovascular diseases was conducted in 2007-2010 in seven rural communes of Kraśnik Poviat in which the population was 50,776 people. It is more than half of the poviat residents (51.01%). The program, after prior information campaign in media, was joined by 1,810 people, i.e. 3.56% of the population. It was a carefully selected group of young people aged 35-55 years who had never previously been diagnosed with cardiovascular disease. Previously diagnosed cardiovascular disease was

exclusionary criterion of the program. The idea of the program was well received by the residents; the promotion was held by the municipal authorities, primary care units from different municipalities, pharmacies, mayors, priests.

In the first stage of the program the staff of the Independent Public Health Care in Kraśnik via surveys selected a group of 280 people who were eligible for this stage, i.e. of 10 risk factors they identified six or more. This group accounted for 15.46% of the participants in the program and 0.55% of the residents of the surveyed communes. Such persons were referred for blood biochemical tests and for a cardiologist consultation. Then health education was carried out on prevention of cardiovascular diseases This medical advice was tailored to the health hazards that occurred in the study subjects. The cardiologist consultation was benefited by 186 people, i.e. 60.00% of the qualified respondents. All other persons for personal reasons resigned from this type of diagnosis and did not participate in the second phase of the program. After the examination by the cardiologist and the evaluation of the results of examinations, 65 people, i.e. 38.69% of those examined by a cardiologist, were classified to the third phase of the program. After the specialist cardiological examinations 41 people, i.e. 63.07% qualified for the third phase, were referred for continuous treatment in the cardiology clinics. No one involved in the program required urgent hospital treatment. Persons eligible for permanent cardiac therapy were 2.26% of the population, i.e. young and healthy so far local residents of the poviat.

Among the most common risk factors the first and second place is occupied by subjective factors: age over 45 years and gender, where male gender was adopted as a positive value. The age above 45 years accounted for 54.76% of the group taking part in the first stage of the program, while men accounted for 50.06% of this group. The next place was occupied by family history, where the diseases of the cardiovascular system in the family of the surveyed occurred in almost half of the subjects (48.66%). The following most frequently observed risk factor was obesity/overweight, which was found in 39.26% of the group. It seems that the presence of these two factors, namely family history or obesity/overweight was the most common reason for referral to the program. Other factors include high blood pressure during the test in the first phase of the program (37.75%), smoking (33.83%), lack of regular physical activity (24.35%) and increased levels of cholesterol in the interview (22.36%). Relatively few of the surveyed admitted to alcohol abuse – 6.26%, and the least reported risk factor was type 2 diabetes, diagnosed in 3.41% of the group. In laboratory studies performed and evaluated in phase II of the program, the commonest pathology was increased blood cholesterol level. These results were present at 41.82% of the people involved in this stage. It is also the positive result at 3.48% of the total study population. Elevated level of triglycerides in the blood was detected in 24.75% of people of the surveyed in the second stage, and elevated fasting glucose levels in blood were found in 12.75% of this group.

CONCLUSIONS

1. Cardiovascular diseases are a serious health problem among the young and healthy rural inhabitants of Kraśnik Poviat.
2. Residents of rural areas willingly participate in the initial stages of prevention programs. Far worse situation is with the declaration on the next steps.
3. Risk factors for cardiovascular disease, which most often motivated to participate in the prophylaxis, were: family history, and obesity / overweight.
4. Poviat, self-government prevention programs are a very good action to identify the health needs of residents of the area.

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