

# Multi-centre National Population Health Examination Survey (WOBASZ II study): assumptions, methods, and implementation

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## Abstract

**Background:** Cardiovascular diseases (CVDs) are the main cause of morbidity and mortality in developed countries. Despite the progress in diagnostics and treatment, it is expected that CVD will still be the main cause of death worldwide until at least 2030. From 1991 CVD mortality in Poland systematically decreased, but it is still higher than the average in Western Europe. In 2013 CVDs were the cause of 46% of all deaths in Poland (40.9% in men and 51.1% in women) and 26.9% of deaths among persons under 65 years of age. The epidemiologic assessment of prevalence, control and treatment of CVD risk factors, and monitoring of healthy behaviour and morbidity due to diseases like coronary artery disease, hypertension and diabetes is very important for health policy planning. The WOBASZ II is the newest Polish population based survey, performed in 2013–2014 to evaluate prevalence, control, treatment, and morbidity. The study was the continuation of WOBASZ (2003–2005).

**Aim:** To describe the goals and methods of the WOBASZ II study and to present the results of the recruitment.

**Methods:** The WOBASZ II study was planned as a cross-sectional survey of a random sample of Polish residents aged over 20 years. The selection, using the National Identity Card Registry of the Ministry of Internal Affairs, was made as a three-stage sampling, stratified according to administrative units (voivodeships), type of urbanisation (commune), and gender. The study protocol consisted of a questionnaire used in face-to-face interviews, physical examination, and blood samples. WOBASZ II was coordinated by the Department of Epidemiology, Cardiovascular Diseases Prevention and Health Promotion of the Institute of Cardiology in Warsaw in cooperation with medical universities in Gdansk, Katowice, Krakow, Lodz, and Poznan.

**Results:** Out of 15,120 persons, 1557 persons were not eligible. Out of eligible persons, 6170 (2760 men and 3410 women) were examined (the response rate 45.5%). The highest response rates were observed in Warminsko-Mazurskie (64.2%), Zachodniopomorskie (58.1%), and Kujawsko-Pomorskie (53.1%).

**Conclusions:** The importance of the WOBASZ study for the monitoring of the health state of Polish society, and for the assessment of prophylaxis efficiency and treatment of CVD and metabolic diseases, as well as for the evaluation of the actions in the field of health promotion, is difficult to overstate.

**Key words:** risk factors, cardiovascular diseases, national survey, Poland, WOBASZ

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## INTRODUCTION

Cardiovascular diseases (CVD) due to arteriosclerosis, such as coronary heart disease (CHD) and stroke, are the main causes of morbidity, invalidity, and premature mortality in developed countries. It is estimated that despite the significant progress in diagnostics and treatment, in the majority of countries CVD will remain the main cause of mortality until at least 2030.

Since 1991 mortality caused by CVD in Poland has been decreasing, but it still remains one of the highest in Europe [1]. In 2010 CVDs were the cause of 46.0% of all mortalities in Poland (40.8% in men and 51.8% in women) and the leading cause of premature mortalities (they constituted 26.9% of mortalities in people before the age of 65 years). Moreover, CVDs are not only the main cause of mortality, but also of morbidity and hospitalisation [2].

Although the etiopathogenesis of arteriosclerosis is not fully clarified, environmental factors related to improper lifestyle (low physical activity, improper diet, tobacco smoking), leading to the increase of blood pressure, abnormal lipid and carbohydrate metabolism, or obesity play a dominant role in its development and progression. Analysis with the use of the IMPACT model and data originating from studies from the period 1991–2005 indicate that mortality caused by coronary artery disease has decreased in the last 20 years mainly thanks to changes in lifestyle (54% observed mortality, 37.8% restorative medicine) [3, 4]. According to World Health Organisation (WHO) estimations, 3/4 of mortalities caused by CVD can be prevented by proper changes in lifestyle [5].

Apart from classic (hypertension, cigarette smoking, lipid disorders), the psychosocial risk factors of CVD are mentioned (depression symptoms [6], personality type, low level of social support, low socio-economic status [7]). These modifiable risk factors correlate with the frequency of occurrence of CHD, stroke, heart failure, peripheral arterial disease, and kidney failure [8]. Such conclusions were drawn based on the results of numerous studies, including the Framingham Heart Study, started in 1948, and nowadays the third generation of Framingham, Massachusetts participates in the study. It is believed that the term risk factor originates from the above-mentioned study.

A multi-centre case-control study, INTER-HEART, conducted in 52 countries with participation of almost 30,000 people demonstrated that six risk factors (hyperlipidaemia, cigarette smoking, hypertension, diabetes, abdominal obesity, and psycho-social factors) and three cardioprotective factors (consumption of fruit and vegetables, low alcohol consumption, and regular physical activity) determined 90% of myocardial infarction in men and 94% of myocardial infarction in women. Such dependency was determined in all regions of the world, both in young as well as in older people [9]. Estimations conducted in numerous countries in the world indicate that a decrease of risk factor levels in a population

gives better results in the reduction of cardiovascular mortality than an improvement in disease diagnostics and treatment.

The epidemiological evaluation of prevalence, control, and treatment of CVD risk factors in a population, as well as monitoring of health behaviour and morbidity in relation to chronic diseases of social importance, such as: hypertension, CHD, or diabetes, should constitute the basis for the development of rational and optimal (for both health and economic reasons) primary prevention programmes, directed toward the entire population (population strategy) and persons with high cardiovascular risk (high-risk strategy), bearing in mind secondary prevention.

The largest Polish epidemiological study evaluating the health condition of adult Poles is the WOBASZ (Wieloośrodkowe Ogólnopolskie BAdanie Stanu Zdrowia Ludności — Multi-Centre National Population Health Examination Survey) study, the first edition of which was carried out in 2003–2005 and the second in 2013–2014.

The aim of the present paper is to describe the goals and methods of the WOBASZ II study and to present the results of the recruitment.

### Goals of the WOBASZ II study

The following main goals of the study were assumed:

1. Assessment of the current epidemiological situation of CVD in Poland and in individual voivodeships (monitoring of prevalence and control of CVD risk factors in the population, as well as monitoring of health behaviour and morbidity in relation to chronic diseases of social importance such as: hypertension, coronary artery disease, diabetes);
2. Assessment of changes in the period of 10 years in the range of prevalence and control of the CVD risk factors in Poland;
3. Integration into the CVD risk factor monitoring system in the European Union (EU) of states within the framework of the European Health Examination Survey (EHES), of which we are co-executors.

The planned selection of a random sample and its size allows for a reliable assessment of the epidemiological situation in the Polish population in the field of CVD threat, in each of the 16 voivodeships as well as in the country as a whole. The use of standardised methods accepted by the EU allows for the comparability of our results with the results obtained in the other states of the Community.

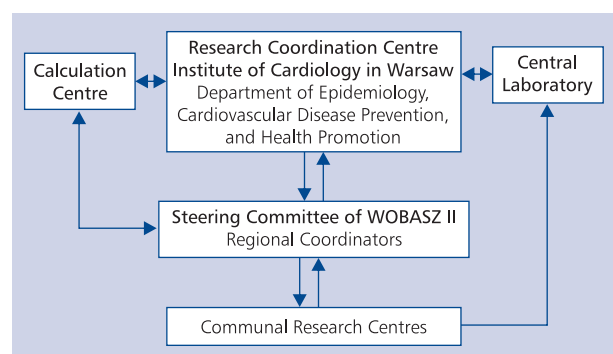
It is expected that the prospective observation of the persons examined within the frameworks of the WOBASZ and WOBASZ II studies will enable future verification of the SCORE algorithm in the Polish population.

## METHODS AND RESULTS

The methodology of the study (study protocol, training materials, set of questionnaires, and instructions on each element of

**Table 1.** Academic centres implementing WOBASZ II study

Academic centre	Regional coordinator	Operation area voivodeship
Department of Preventive Medicine and Education Chair of Hypertension and Diabetology Department of Arterial Hypertension and Diabetology, Medical University of Gdansk, Poland	Dr hab. n. med. T. Zdrojewski, prof. nadzw. GUMED	Kuyavian-Pomeranian (kujawsko-pomorskie) Pomeranian (pomorskie) West Pomeranian (zachodnio-pomorskie)
3 <sup>rd</sup> Department of Cardiology, Upper Silesian Centre of Cardiology, Medical University of Silesia, Katowice, Poland	Dr hab. n. med. K. Kozakiewicz	Opole (opolskie) Silesian (śląskie)
Department of Epidemiology and Population Studies, Institute of Public Health, Faculty of Health Sciences, Jagiellonian University Medical College, Krakow, Poland	Prof. dr hab. n. med. A. Pająk	Lesser Poland (małopolskie) Subcarpathian (podkarpackie) Holy Cross (świętokrzyskie)
Department of Preventive and Social Medicine, Medical University of Lodz, Poland	Dr hab. n. hum. W. Bielecki, prof. nadzw. UMED	Lower Silesian (dolnośląskie) Lublin (lubelskie) Lodz (łódzkie)
Department of Hypertension, Angiology, and Internal Medicine, Poznan University of Medical Sciences, Poland	Prof. dr hab. n. med. A. Tykarski	Greater Poland (wielkopolskie)
Department of Epidemiology, Cardiovascular Disease Prevention, and Health Promotion, Institute of Cardiology, Warsaw, Poland	Prof. dr hab. n. med. W. Drygas	Lubusz (lubuskie) Masovian (mazowieckie) Podlaskie (podlaskie) Warmian-Masurian (warmińsko-mazurskie)

**Figure 1.** Organisation chart for WOBASZ II programme

the study) was based on the Manual of Operations handbook of the WHO MONICA Project [10] study, the protocol of the first WOBASZ [11] study, and the guidelines of the EU on the methodology of epidemiological surveys of CVD (EHES) [12]. Preparations for the second WOBASZ study edition had been started in 2012.

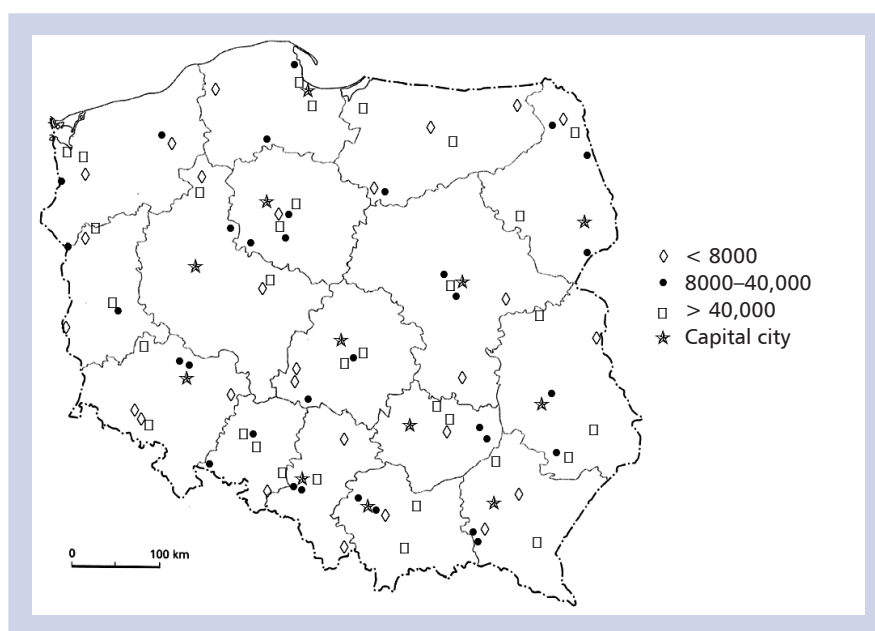
The project was coordinated by the Department of Epidemiology, Cardiovascular Diseases Prevention, and Health Promotion of the Institute of Cardiology in Warsaw, and five academic centres participated in its implementation (Table 1).

The study was accepted by the Field Bioethics Committee of the Institute of Cardiology in Warsaw.

Organisation chart of the study and list of regional centres with their operation area is presented in Figures 1 and 2 and in Table 1.

### **Studied population and method of sample drawing**

From the Polish population above the age of 19 years a sample of 15,200 people (from the electronic register — PESEL) of both genders was drawn at the Department of State Registers of the Ministry of the Interior. Drawing was conducted individually in each voivodeship. Sampling had three stages, stratified according to voivodeships, type of communes, and gender. From the list of six-sign identifiers and names of national territorial units developed by the Central Statistical Office, a list of Polish communes was elaborated: 1847 small communes (below 8000 citizens), 558 medium communes (8000–40,000 citizens), and 102 large communes (over 40,000 citizens). For each voivodeship: two small communes, two medium communes, and two large communes were selected, the same as those that participated in the WOBASZ study (2003–2005), whereas the drawn sample of individual persons was independent. In each commune among persons above the age of 19 years, 70 women and 70 men were drawn at the Department of State Registers of the Ministry of the Interior (from the electronic register — PESEL). The total (national) sample size amounted to 70 persons × two genders × six communes × 16 voivodeships = 13,440 persons. The sample included four communes from the voivodeship cities (Olsztyn, Opole, Szczecin, Zielona Gora). Furthermore, the study included citizens of the remaining 12 voivodeship cities, which were not entered to the national sample drawn in the abovementioned method. In those cities an additional number of 70 men and women were drawn, i.e. 12 × 70 × two genders = a total of 1680 persons in 12 cities. The total drawn sample size was 15,120 men and women.



**Figure 2.** Location of the drawn communes in WOBASZ II programme in categories of their populations' sizes

**Table 2.** Sample size and reportability according to voivodeships

Voivodeship	Number of examined	Number of unavailable	Reportability (%)
01. Lower Silesian (dolnośląskie)	346	41	36.8
02. Kuyavian-Pomeranian (kujawsko-pomorskie)	488	61	53.1
03. Lublin (lubelskie)	333	51	35.8
04. Lubusz (lubuskie)	276	160	33.7
05. Łódź (łódzkie)	276	166	33.9
06. Lesser Poland (małopolskie)	388	166	47.9
07. Masovian (mazowieckie)	390	13	40.3
08. Opole (opolskie)	394	75	51.5
09. Subcarpathian (podkarpackie)	274	124	38.3
10. Podlaskie (podlaskie)	493	27	51.7
11. Pomeranian (pomorskie)	388	0	39.6
12. Silesian (śląskie)	402	140	47.9
13. Holy Cross (świętokrzyskie)	356	211	46.3
14. Warmian-Masurian (warmińsko-mazurskie)	517	35	64.2
15. Greater Poland (wielkopolskie)	435	160	53.0
16. West Pomeranian (zachodnio-pomorskie)	414	127	58.1
Total number of examined	6170	1557	45.5

Eventually, 6170 patients (2760 men and 3410 women) were examined; reportability was 45.5% (Table 2).

### **Examination method**

Assumed examination procedures included:

1. Sending invitations to persons drawn for participation in the study;
2. Confirmation of personal data and obtaining respondent-written consent for participation in the study (questionnaire test, physical, blood collection) and additional consent for blood collection for DNA isolation used in the genetic study;
3. Conducting interviews according to the provided questionnaires;

4. Conducting blood pressure examinations and anthropometric measurements;
5. Blood collection for biochemical tests and preparing blood serum samples for courier parcel in dry ice for the Central Laboratory in Warsaw;
6. Sending reports to the local coordinator on the course of the study regarding the persons who did not report at the examinations;
7. Sending letters with individual examination results to individual respondents.

### ***Scope of the examination***

The examination included an interview, physical examination, and biochemical tests:

1. The interview according to the standard questionnaire:
  - a. Main questionnaire:
    - socio-demographic data (age, marital status, education);
    - economic situation (main source of income, per capita income in family);
    - health knowledge;
    - physical activity at work and in leisure;
    - addictions (cigarette smoking, alcohol consumption);
    - interviews on current and past diseases of the respondent, with special emphasis on hypertension, CHD (hospitalisations, history of coronary artery procedures), hyperlipidaemia, and diabetes (pharmacological and non-pharmacological treatment);
    - family interview about CVD (infarction, stroke);
    - health care;
  - b. Questionnaire on the current use of medications (in the two weeks prior to the examination: name of medications, reason for taking medications, daily dose);
  - c. Questionnaire on diet:
    - qualitative interview;
    - quantitative interview;
  - d. Psychological questionnaires (social support questionnaire of L. Berkman and L. Syme, Beck depression questionnaire, Geriatric Depression Scale, life quality questionnaire [WHOQoL]).
2. Physical examination:
  - a. Blood pressure measurements;
  - b. Heart rate measurement: manual and automatic;
  - c. Anthropometric measurements (height, body mass, abdominal and hip circumference);
  - d. Electrocardiogram (optional);
3. Biochemical tests (glucose during fasting, total cholesterol, triglycerides, high-density lipoprotein [HDL]-cholesterol, low-density lipoprotein [LDL]-cholesterol);
4. Collection of blood sample for genetic study.

Examinations were conducted depending on the local conditions — either in established stationary examination centres or in homes of the respondents during the time period 07:00–14:00. Each person participating in the examination was informed in writing on the goal of the examination, its course (including anthropometric measurements and blood collection for biochemical test and possible DNA isolation). Respondents after familiarising themselves with the information signed the consent for the examination along with its date.

The majority of questions in the main questionnaire and psychological questionnaire were of the closed type (answers exhausted all the possibilities). Questionnaires on diet and taking medications were characterised by different types of questions and their coding method.

Population diet assessment encompassed two methods: 1) qualitative interview on the customary frequency of consuming selected product groups in the 2–3 months prior to the examination and 2) quantitative interview on consumption of products and dishes in the period 24 h prior to the examination. The customary frequency of selected product group consumption was estimated using the following consumption frequency categories: 7 times per week, 4–6 times per week, 2–3 times per week, 1 time per week, 1–3 times per month, and less often than 1 time per month or never. In the quantitative interview on the consumption of dishes and products in the period 24 h prior the examination, to determine the sizes of servings consumed an album was developed by the Food and Nutrition Institute in Warsaw with over 200 photographs of the most commonly consumed dishes, products, and drinks. Moreover, the interview included taking vitamin and mineral compound supplements (name and dose).

For the assessment of psychological characteristics three psychological questionnaires were used:

1. L. Berkman and L. Syme social support questionnaire, the methodology of which follows the WHO MOPSY Study guidelines [13]. The questionnaire consisted of 27 questions, determining relations of a person with other persons in difficult situations and in everyday life. Social support level was determined using special coding tables and an algorithm enabling determination of low and high social support;
2. The depression questionnaire of A.T. Beck (BDI) consisted of 21 questions, which, after encoding, determined the level of depression symptoms' occurrence (from lack of symptoms to fully symptomatic depression) [14];
3. Quality of life questionnaire (WHOQoL) [15].

The measurement of height was performed after taking off shoes, depending on the place of examining the respondent, using a height measuring rod (examination at a communal centre) or a metre scale (at the respondent's home) with the accuracy of 0.5 cm. Body weight measurement was performed (without shoes and outerwear) with an accuracy of 0.1 kg using mobile, certified Baurer scales. For the measurement of



**Table 3.** Biochemical analysis methodology

Type of analysis	Laboratory method
Total cholesterol concentration	Enzymatic-colorimetric method with cholesterol esterase, with the use cholesterol oxidase (CHOD) and peroxidase (agent: Cholesterol Gen. 2)
HDL-cholesterol concentration	Uniform colorimetric enzymatic method, analysis with the use of cholesterol esterase and cholesterol oxidase affiliated from PEG (polyethylene glycol) to amine groups (agent: HDL-cholesterol plus third generation)
LDL-cholesterol concentration	Uniform colorimetric enzymatic method, analysis with the use of cholesterol oxidase (agent: LDL-cholesterol plus second generation)
Triglyceride concentration	Enzymatic-colorimetric method with glycerophosphate oxidase and 4-aminophenazone (agent: Triglycerides)
Glucose concentration	Enzymatic method with hexokinase, with the use of glucose 6-phosphate dehydrogenase (G6PDH) (agent: Glucose HK Gen 3)

HDL — high-density lipoprotein; LDL — low-density lipoprotein

**Table 4.** Structure of the Polish population as of 31.12.2013

Age:	0–19	20–34	35–44	45–54	55–64	65–74	75+
N	7 895 735	8 886 958	5 550 521	4 932 856	5 556 981	3 042 112	2 630 496

blood pressure, automatic AND UA-631 devices were used, approved by Association for the Advancement of Medical Instrumentation (AAMI). Prior the blood pressure measurement the examined person rested in the seating position for 5 min and the researcher measured the arm circumference to select the proper cuff. The blood pressure and heart rate measurements were performed three times on the right arm, in the seating position, at 1-min intervals. For the assessment of pressure value, the average from the second and third measurement was assumed.

#### **Laboratory test methodology**

Collected blood was centrifuged at regional centres and frozen (at  $-20^{\circ}\text{C}$ ). Then, serums were transported in dry ice to the Central Laboratory “Diagnostyka” at the Institute of Cardiology in Warsaw, where all biochemical tests were conducted. The Central Laboratory holds a CDC certificate (Centre for Disease Control — Lipid Standardisation Programme) in Atlanta and a European certificate of quality RIQAS (Random International Quality Assessment Scheme).

Analysis of lipid fraction and glucose concentrations were performed using a Cobas 6000 analyser by Roche with the use of agents from this company (Table 3).

Individual laboratory test results were entered in the Calculation Centre to the central computer database of all examined persons. Additionally, the results were sent to co-operating regional centres, which sent them directly to each participant with appropriate commentary and recommendations. Moreover, serum samples were secured for storage for future analyses.

General questionnaires were entered to the computer database at regional centres, whereas the remaining questionnaires (dietary, psychological, and medication card) — at the national centre for the entire national examined sample with the use of available software (EpiData, Excell, SAS, and others).

#### **Statistical estimation methods**

For estimation of the event (risk factors) prevalence in individual voivodeships and the whole of Poland, a direct standardisation will be implemented, following the Polish population structure as of 31.12.2013 (Table 4). The analysis will cover the following age groups: 20–34, 35–44, 45–54, 55–64, 65–74, and 75+ years. The comparison of standardised coefficients between study I and study II will be limited to the age group 20–74 years (the age range of the WOBASZ study) (Table 4).

#### **Number of examined and reportability**

Data collection was conducted from 02.09.2013 to 23.11.2014. Considering the collected and analysed data from 16 voivodeships (108 communes) 6170 persons were examined. The number of examined in each of the voivodeships is presented in Table 2. From the drawn sample of 15,120 persons (108 communes  $\times$  140), as a result of the conducted study 1557 cases of unavailable persons were identified, i.e. deceased or unavailable at the time of the study (away from home, state of health did not allow for participation in the study, or could not be contacted). After verification the drawn sample, i.e. the number of available persons, was 13,563. A total of 6170 persons reported to the

study. Reportability was defined as the ratio of the number of examined persons to the number of persons available in the study. Table 2 includes reportability coefficients in individual voivodeships and in the entire sample. In the entire sample of the studied Polish population the reportability was 45.5%. The highest reportability was achieved in the Warmian-Masurian, West Pomeranian, and Greater Poland voivodeships (Table 2).

## DISCUSSION

The Multi-centre National Population Health Examination Survey WOBASZ is the largest representative epidemiological study analysing health state, prevalence of risk factors, and health behaviour of society in Poland. Consecutive editions of the study: WOBASZ and WOBASZ II allow for the assessment of changes in the analysed coefficients in the period of 10 years. In this period gradual changes of population structure, socioeconomic situation, and lifestyle have taken place. Following trends prevailing in the majority of developed countries, the Polish population has aged, and the average life expectancy has increased (2006: 71.5 years for men and 80 years for women; 2014: 73 years for men and 81.6 for women) [16]. The epidemiological situation in the field of CVD has also changed.

The results of the WOBASZ study (2003–2005) as well as the NATPOL 2011 study, published in international and national literature, indicate high prevalence of hyperlipidaemia, hypertension, obesity, metabolic syndrome, and diabetes and high level of global risk within the population of adults in Poland [17, 18]. Following the arrangements of the Project Steering Committee, first results of WOBASZ II study will be officially presented during a special session of the VII Conference “Kardiologia Prewencyjna” (Preventive Cardiology) in Krakow, November 2015. Moreover, it has been determined that at the turn of 2015 and 2016 the first WOBASZ II study results will be published in international literature. The first series of approximately 15–20 papers will cover health state, prevalence of the most important risk factors, health behaviour, and multiannual change trends of the analysed factors.

The issue remaining to be discussed is reportability in the WOBASZ II study, which did not exceed 50%. Although significantly lower than in the first study (76.9%), it follows current trends in European studies, current expectations, and recommendations of international expert groups. In the scientific studies, reportability is influenced by numerous factors such as: age of the examined (reportability increases with age up to approximately 65 years, and in the older groups decreases, especially among women), gender (reportability is higher among women), geographical region, and method of data collection (this especially regards questionnaire tests). In the 1980s reportability in the studies of health state and survey tests was at the level of 80%, but nowadays it rarely exceeds 40–50% [19, 20]. During the European Health Examination Survey Pilot Study, conducted in the period 2009–2012 in

12 European countries, including Poland, reportability ranged from 16% to 57% among men and from 31% to 74% among women [21]. The phenomenon of decreasing reportability in studies of health state may be influenced by the increasing number of both scientific studies, as well as telephone marketing research [22].

The latest European guidelines (EHES) suggest that for the conducting of national screening of people in the age range 25–64 years, a sample of 4000 persons is sufficient [23]. The EHES recommendations are similar to the STEPS recommendations, according to which, to obtain representative results for a general population, a sample with an equal number of men and women in each of the 10-year age groups should be selected (500 in each age group) [24].

## CONCLUSIONS

As mentioned above, the results of the WOBASZ II study are the subject of publications currently being prepared. We are certain that the results of this newest, representative national study and comparison with the results of the WOBASZ study, conducted in 2003–2005, will be very interesting, and not only for cardiology circles. The importance of the WOBASZ study for the monitoring of the health state of Polish society, assessment of prophylaxis efficiency and treatment of CVD and metabolic diseases, as well as for the evaluation of the actions in the field of health promotion, is difficult to overstate.

An additional value resulting from the WOBASZ programme is the close cooperation of the leading research centres in Poland: epidemiologists, clinicians, specialists in the field of public health and health promotion, and the possibility to share experience and improve practical skills, particularly among young scientists.

The WOBASZ II project was financed from the financial resources at the disposal of the Minister of Health within the framework of the health programme entitled: **National Program for the Equalisation of Accessibility to Cardiovascular Disease Prevention and Treatment for 2010–2012 POLKARD — goal: Analyses and epidemiology — “Monitoring of the epidemiological situation in Poland in the field of cardiovascular diseases.”**

### *Steering Committee of WOBASZ and WOBASZ II*

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# Wieloośrodkowe Ogólnopolskie Badanie Stanu Zdrowia Ludności (badanie WOBASZ II): założenia, metody i realizacja

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## Streszczenie

**Wstęp:** Od 1991 r. umieralność z powodu chorób układu sercowo-naczyniowego (CVD) w Polsce maleje, ale nadal jest jedną z wyższych w Europie. W 2013 r. CVD stanowiły 46,0% wszystkich zgonów w Polsce (40,9% wśród mężczyzn i 51,1% wśród kobiet) oraz były wiodącą przyczyną zgonów przedwczesnych (26,9% zgonów wśród osób przed 65. rż.). Ocena epidemiologiczna dotycząca rozpowszechniania, kontroli i leczenia czynników ryzyka CVD w populacji oraz monitorowanie zachowań zdrowotnych i chorobowości w odniesieniu do przewlekłych chorób o znaczeniu społecznym, takich jak nadciśnienie, choroba wieńcowa czy cukrzyca są bardzo istotne z punktu widzenia planowania polityki zdrowotnej, w tym programów prewencji pierwotnej i wtórnej. Najnowszym badaniem przekrojowym w Polsce jest WOBASZ II realizowane w latach 2013–2014, którego celem była ocena rozpowszechniania i kontroli czynników ryzyka CVD w populacji oraz monitorowanie zachowań zdrowotnych i chorobowości w odniesieniu do przewlekłych chorób o znaczeniu społecznym, takich jak: nadciśnienie, choroba wieńcowa, cukrzyca. Powyższy projekt stanowił kontynuację badania WOBASZ (2003–2005).

**Cel:** Celem niniejszej publikacji było przedstawienie założeń i celów oraz metodyki badania WOBASZ II.

**Metody:** Projekt WOBASZ II zaplanowano jako badanie próby losowej populacji polskiej w wieku 20 lat i starszych. Schemat losowania próby był dwustopniowy, stratyfikowany ze względu na województwa i kategorie gmin. Operatem losowania był powszechny elektroniczny system ewidencji ludności PESEL. Każdy respondent, po wyrażeniu zgody, został poddany badaniu kwestionariuszowemu, przedmiotowemu (3-krotne pomiary ciśnienia tętniczego krwi, pomiar masy ciała i wzrostu) oraz miał pobraną krew w celu oznaczenia lipidogramu i stężenia glukozy na czczo, a także w celu izolacji DNA dla badań genetycznych. Projekt WOBASZ II koordynował zespół Zakładu Epidemiologii, Prewencji Chorób Układu Krążenia i Promocji Zdrowia Instytutu Kardiologii w Warszawie we współpracy z uniwersytetami medycznymi w Gdańsku, Katowicach, Krakowie, Łodzi i Poznaniu.

**Wyniki:** Z wylosowanej w 16 województwach próby, liczącej 15 120 osób, w wyniku przeprowadzonego badania stwierdzono 1557 przypadków osób niedostępnych do badania. Spośród pacjentów dostępnych zgłosiło się 6170 osób (2760 mężczyzn i 3410 kobiet; zgłaszalność 45,5%). Najwyższą zgłaszalność zanotowano w województwie warmińsko-mazurskim (64,2%), zachodniopomorskim (58,1%) oraz kujawsko-pomorskim (53,1%).

**Wnioski:** Wyniki badania WOBASZ II, których publikację przewidziano na przełomie lat 2016/2017, będą miały istotne znaczenie dla analizy zmian w rozpowszechnieniu czynników ryzyka, skuteczności działań w zakresie promocji zdrowia i zapobiegania chorobom przewlekłym oraz dla oceny skuteczności leczenia m.in.: nadciśnienia tętniczego i hiperlipoproteinemii w Polsce w XXI wieku.

**Słowa kluczowe:** czynniki ryzyka, choroby układu sercowo-naczyniowego, badanie przekrojowe, Polska, WOBASZ

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