CONTENT

Foreword

First goal of every public health survey is promotion of health and reduction of risks for diseases of public health importance.
Increase of chronic non-communicable diseases present key public health concern in majority of developing countries as well as in Federation Bosnia and Herzegovina. In fact, ongoing changes in society, changes in lifestyle (dietary habits, reduced physical activity, stress, smoking, and alcohol) are in relation with increase of non-communicable diseases rate, especially with cardio-vascular diseases, diabetes, cancers and other.
Diverse social, cultural and economic environment are reason for variations in type and distribution of risk factors in development of chronic diseases and therefore every country needs to undertake country specific preventive and promoting programs based on assessment of population health status and health needs. One of important activities of the Public Health Institute of Federation of Bosnia and Herzegovina is monitoring of population health status and needs that is necessary for evaluation of chronic non-communicable diseases control.
This public health surveys are conducted with aim to determine needs of Federation of Bosnia and Herzegovina population and to identify health risks and other ill health determinants. In that way population at risk would be detected and designing and implementation of integrated preventive and control measures in community would be possible as well as evaluation of efficacy of conducted measures.
Population surveys give basic information on association of chronic non- communicable diseases risk factors and need for conduction of preventive and promotion programs.
Taking into consideration that those surveys are conducted according to internationally established standards, collected data will enable establishment of data base and conduction of further periodical surveys as well as possibility of international comparison of results.
Such surveys supported by international expert consultations are effective tool for capacity building of local public health professionals for conduction of independent public health research as well as development and testing of internationally established risk factor survey methodology. They also enable inclusion of Federation of Bosnia and Herzegovina in international surveillance network.

Prim. dr. Zlatko Vučina

D I R E C T O R

Contributors

This report is prepared in context of the World Bank supported project "Basic Health – Public Health and Disease Control". The project included components on Capacity Building, Surveillance and Monitoring System and Development of Tobacco Control Strategy in the Federation of Bosnia and Herzegovina. The Project was coordinated by Steering committee including members from the Ministry of Health and the Federal Public Health Institute in Bosnia and Herzegovina. The project was managed by the Consortium led by Helsinki Consulting Group Ltd. The Consortium included also KTL (National Public health Institute in Finland), Pulmonary Association HELI in Finland and international Health Development Group Ltd in Denmark.

The third component of the Project consisted of two population-based surveys: Non-communicable Disease (NCD) Risk Factor Survey among Adult Population and Health Behaviour Survey among School Aged Children. This report presents the methodology and results of the NCD Risk Factor Survey. The following institutes, consultants and project personnel contributed to the survey planning, implementation and reporting.

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Executive summary

A Non-Communicable Risk Factor survey was carried out among adult population in the Federation of Bosnia and Herzegovina in autumn 2002. The aim of the survey was to provide information on non-communicable diseases and their risk factors among population aged 25 to 64 years. The survey was also planned to serve as foundation for development of health monitoring system in the Federation of Bosnia and Herzegovina.

A three stage stratified sampling methodology was used to define a representative population sample of 3020 individuals in the Federation of Bosnia and Herzegovina. The participation rate was 91, 5 %. The survey methodology followed the WHO MONICA protocol and the later recommendations of the European Health Risk Monitoring (EHRM) project. The survey included a questionnaire, which was filled in during an interview, and physical measurements including blood pressure, height, weight, pulse, waist and hip measurements.

Regarding the major non-communicable disease risk factors the smoking rates, hypertension, obesity and sedentary life-style seemed to be the most prominent public health problems among the adult population in the Federation of Bosnia and Herzegovina. About 50 % of men and 30 % of women reported to be daily smokers. Among non-smokers more than 60 % reported daily exposure to environmental tobacco smoke. Almost 40 % of the participants had their blood pressure level over 140/90 mmHg. About 75% of both men and women were overweight and 16 % of men and 20% of women were obese. Only 15 % of participants reported at least moderate physical activity in leisure time.

As a whole the non-communicable disease risk factor profile in the Federation of Bosnia and Herzegovina seems to be relatively high. There is an urgent need for preventive action. This survey data provides unique information for needs of health promotion planning in the Federation of Bosnia and Herzegovina. The future monitoring activities, based on these experiences, can be utilized in evaluation of disease prevention and health promotion activities in the Federation.

1. Background

Non-communicable diseases (NCD) exceed the communicable disease in causing mortality and disability in most countries. By the year 2000, NCDs already contributed to almost 60% of the deaths worldwide. The coronary heart disease is the most common single cause of death in the world. Leading NCDs including cardiovascular diseases, cancer, chronic obstructive pulmonary disease and diabetes, as well as mental health disorders and injuries are closely related to lifestyles.

The WHO global strategy in 2000 address the critical role of physiological and behavioral risk factors in non-communicable diseases. Highest priority in prevention should be given to risk factors creating highest risk for disease and which are most prevalent in the population. Continuing surveillance of levels and patterns of risk factors is of fundamental importance to planning and evaluating preventive activities.

The recent changes in health policy aiming at shifting the focus of health care more towards health promotion and disease prevention require effective needs assessment. Accurate mortality and disease registers and reliable and comprehensive database on risk factors, health related behaviours, health status and utilization of health services are needed. Population surveys carried out with well-planned standardized methodology and procedures are an essential tool for establishment of database on health indicators. Development of comprehensive health monitoring system including population surveys carried out in regular basis guarantees the accuracy and efficient use of the health indicator database.

Health monitoring is an important tool providing necessary data to define disease burden, identify populations at highest risk and determine the prevalence of health risks. Risk factor data is needed to 1) provide ongoing or routine prevalence estimated of NCD risk factors, 2) track health trends over time, 3) develop targeted programs, policy and legislation, 4) evaluate program and policy progress and success and 5) demonstrate progress in meeting global or national health objectives.

In context of the World Bank supported project on Capacity Building, Surveillance and Monitoring System and Development of Tobacco Control Strategy in the Federation of Bosnia and Herzegovina a Non-Communicable Risk Factor survey was carried out among adult population in the Federation of Bosnia and Herzegovina. This survey will serve as sound foundation for development of health monitoring system in the Federation of Bosnia and Herzegovina. The health information collected is of fundamental importance in planning of preventive programmes and strategies. The database will serve also research activities in the Federal Public Health Institute.

The Risk Factor Survey was carried out in Autumn 2002. The survey followed the WHO MONICA protocol and the later recommendations of the European Health Risk Monitoring (EHRM) project.

2. Methodology

2.1. Sample design

The target population of the Non-Communicable Risk Factor Survey were all 25 to 64 year old residents in the Federation of Bosnia and Herzegovina. The sampling unit was an individual and the sample size was 3020 persons. Sampling was designed as a three-stage stratified sample and was carried out by the Statistical Institute in the Federation of Bosnia and Herzegovina.

For the first stage, the urban and rural strata were defined in each municipality and then segmented. The number of segments to be included in the sample at municipality level was determined using the probability proportionate to size (PPS) method. This number of randomly selected segments was 151. The final list of selected strata in sample is as an Appendix 1.

For the second stage, the interviewers visited the mapped areas of the selected segments and made a list of the households in each segment. Households were listed up to 100 households. From each segment twenty households were randomly selected.

At the third stage the survey team visited the selected households and listed all the persons aged 25-64 year living in the household. The survey subject was then randomly selected among these eligible persons living in the household. Sampling methodology is described in detail in the Protocol for Non-Communicable Disease Risk Factor Survey (1).

2.2. Data collection methods

The fieldwork was carried out in September-December 2002. The data collection followed closely the recommendations of the WHO MONICA project (2) and the European Union European Health Risk Monitoring (EHRM) project (3). The field work was carried out by ten teams. Each field work team consisted of two trained nurses or physicians. The list of field workers is as an Appendix 2.

Survey included an interview, which followed a structured questionnaire, and physical measurements. The sampling method, questionnaire and survey protocol were piloted in July 2002 in Sarajevo kanton.

2.2.1. Questionnaire

Survey questionnaire was based on WHO CINDI Health Monitor Survey including core questions of health behavior and related isuues. Additional questions on risk factors and diseases were included from EHRM protocol as well as from the WHO MONICA questionnaire. Questions related to use of health services were added from the EURO HIS Survey. Final questionnaire is as an annex in the Protocol for Non-Communicable Disease Risk Factor Survey (1). Survey questionnaires were completed by the interviewer. The english version of questionnaire is as an Appendix 3.

2.2.2. Physical measurements

Physical measurements included anthropometric mesurements: height, weight, and waist and hip circumference and blood pressure and pulse measurement.

Physical measurements were carried out in following order:

1. Height measurement
2. Weight measurement
3. First measurement of waist
4. First measurement of hip
5. Second measurement of waist
6. Second measurement of hip
7. First measurement of blood pressure
8. Pulse measurement
9. Second measurement of blood pressure

2.2.3. Anthropometric measurements

Height and weight measurement

Height and weight were measured from all participants except wheelchair bound individuals or persons who have difficulty standing steady. Height was measured by stadiometer attached either to the wall or to separate lath. Weight was measured in light clothing by a digital scale calibrated against a beam-balance scale.

Waist and hip measurement

Waist and hip was measured with the plastic tailors measuring tape. The length of the tape was checked every second week against the height rule. Waist circumference was measured at a level midway between the lower rib margin and iliac crest with tape all around the body in horizontal position. Hip circumference was measured as the maximal circumference over the buttocks. The measurement procedure is the same as for waist measurement, except for tape position.

2.2.4. Blood pressure measurement

Blood pressure was measured with a simple mercury sphygmomanometer. Blood pressure was measured in sitting position after at least 5 minutes rest. Measurement was taken from the right arm resting on the desk so that the antecubital fossa was at the level of heart. Two measurments were taken one minute apart. Between the measurments a 30 second pulse was measured. The first appearance of a clear, repetitive tapping sound (Korotkoff Phase 1) was recorded as systolic pressure. The disappearance of repetitive sounds (Phase 5) was recorded as diastolic pressure.

2.2.5. Cholesterol measurement

The survey protocol included also a blood sampling for cholesterol measurement from a subsample in Sarajevo. Because of limited resources for the field work the participants in the Sarajevo kanton were invited to a blood sample draw to the nearest health center. Only a very few participants arrived for blood sampling and thus the analyses were not carried out. In future surveys it is recommended to consider blood sampling in the households to receive blood samples for cholestrol and other analyses form a representative population sample.

2.3. Training

For the survey implementation training was organized both for the survey coordinating team and for fieldwork personnel. Survey coordinating team was trained on principles and general methodologies of non-communicable disease risk factor surveys. They also went through training on anthropometric measurement techniques and interviewing techniques. In addition blood pressure measurement technique was trained in KTL, Finland, for one study nurse working in the Federal Public Health Institute. During the survey implementation she was responsible for blood pressure measurement training of the fieldwork team.

Fieldwork team was trained a week before the survey fieldwork period. Training was organized in the Federal Public Health Institute in Sarajevo by the local Survey Coordinating team and consortium consultants. Interviewers went through two day training on sampling and interviewing techniques. Study nurses or physicians, who made the measurements, went through a one week training including general information on sampling and interviewing and detailed training on measurement techniques. Blood pressure measurement was training using training videotapes and double listening technique. Measurement techniques were also practised during a small pilot survey organized during the training week.

2.4. Data entry and management

The person identification data, interview data and data on physical measurements of each participant were recorded to a questionnaire. In addition full information on the survey subjects in sample was recorded to the sampling lists. Questionnaire and sampling lists were frequently submitted to the Federal Public Health Institute.

Information from questionnaires and sampling lists were entered to database using Access data recording programme. The database includes information on both participants and non-participants i.e. 3020 records. Data recording instructions are as annex in the Protocol for Non-Communicable Disease Risk Factor Survey (1). Access database was converted to SPSS for data cheking and correction. Raw SPSS database, correction syntax and final SPSS database are archived.

For data analyses a separate database including only participants was created. Additional indicators such as mean systolic blood pressure, BMI, smoking index etc were created to the database following the instructions of the European Health Risk Monitoring project. Also some ready categorization was made to facilitate the data analyses.

3. Basic data

This section describes the result of the sampling and response at interview, together with some basic characteristics of the final study sample. The items presented here have been selected from questions Q1 through Q12 in the survey questionnaire.

3.1. From initial sample to final study sample

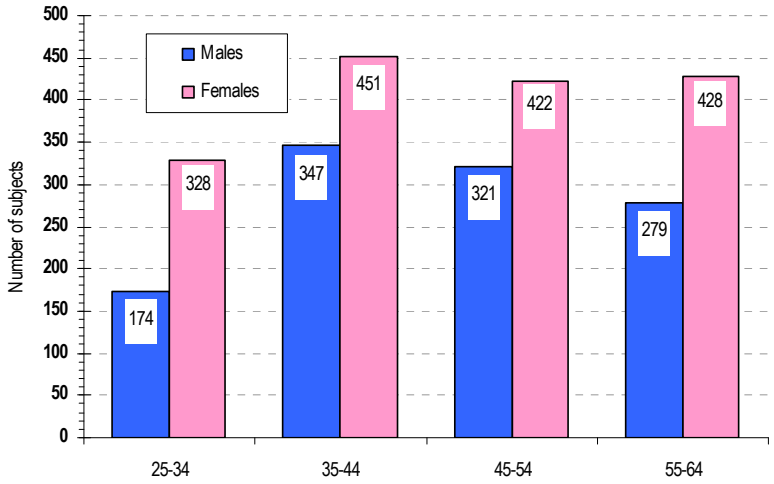
Out of the initial sample of 3020 subjects, 3007 were eligible for the survey and 2750 has responded (overall response rate: 91.5%), as shown in Table 3.1. The response rate varies from 80.9% in Sarajevo kanton to 100% in the kantons of Posavski and Gorazde. The variation in response rate by kanton is statistically highly significant (X^2: 161.34, DF=9, P<0.001).

Table 3.1. Overview of sample: Responders versus non-responders

Kanton	Resp.	Non-resp.	Total	Respons (%)
1. Unsko-sanski	392	7	**399**	98.2
2. Posavski	60	0	**60**	100.0
3. Tuzlanski	637	59	**696**	91.5
4. Zeničko-dobojski	443	75	**518**	85.5
5. Bosansko-podrinjski	40	0	**40**	100.0
6. Srednje-bosanski	290	10	**300**	96.7
7. Hercegovačko-neretvanski	312	5	**317**	98.4
8. Zapadno-hercegovački	99	1	**100**	99.0
9. Sarajevski	386	91	**477**	80.9
10. Herceg-bosanski	91	9	**100**	91.0
Total	**2750**	**257**	**3007**	**91.5**

The study sample of 2750 respondents is characterized by an excess of female subjects and relatively few subjects in the age group 25-34 years (Fig. 3.1).

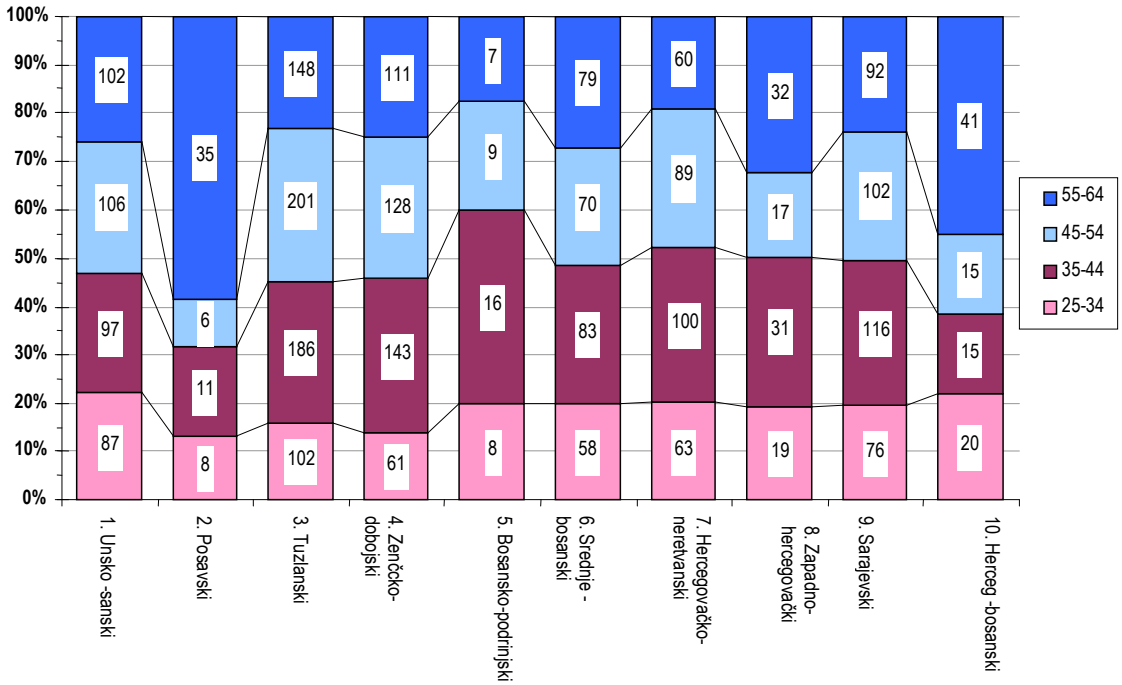
Fig. 3.1. The study sample (2750 subjects, male/female ratio: 1121/1629) by age group and gender



3.2. Basic characteristics of the study sample

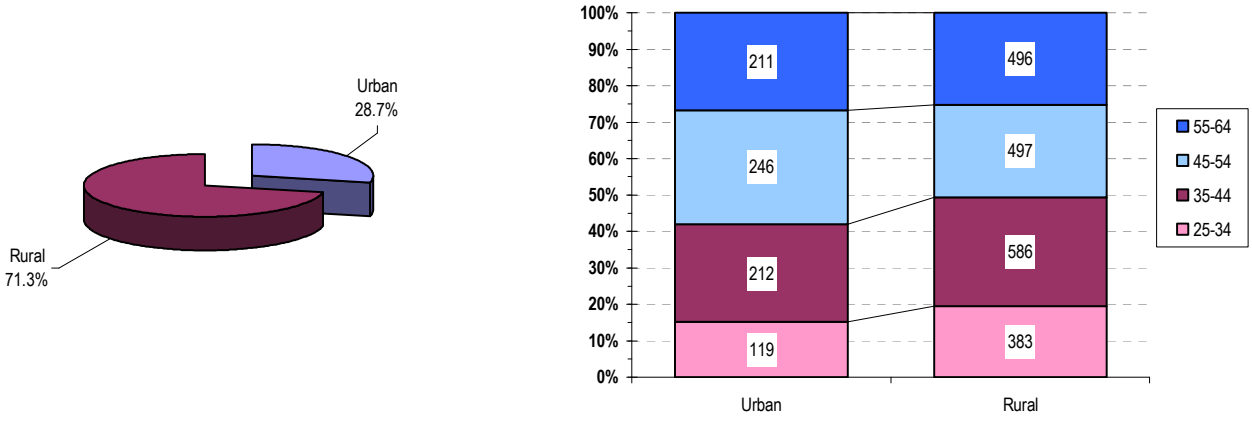
The age structure of the study sample varies considerably between the kantons (Fig. 3.2). This applies to both genders and is statistically highly significant (see Appendix 4, Table A1 for further details).

Fig. 3.2. Age structure (four age groups, genders combined) by kantons



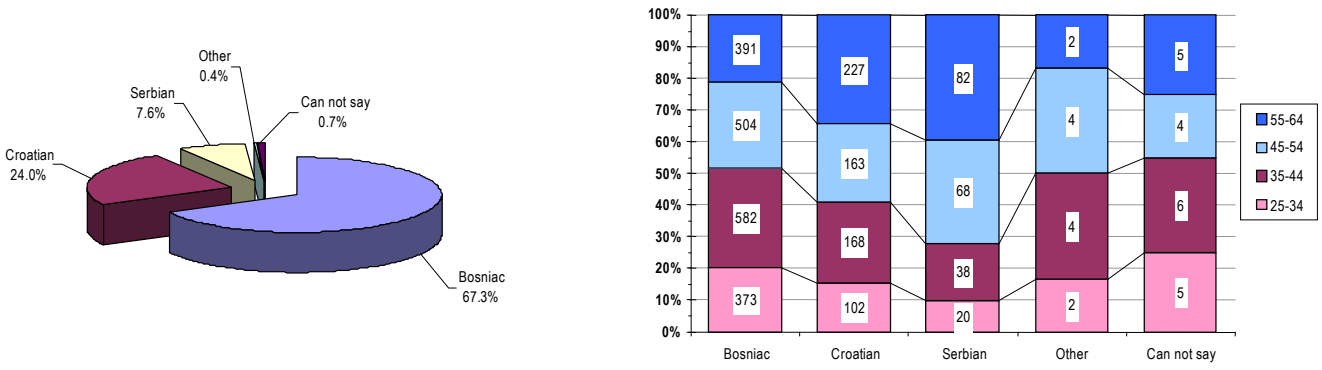
Almost 29% of the subjects reside in urban areas (Fig. 3.3). The urban population is slightly older than the rural population; overall, this is statistically significant but the significance appears to be caused by differences in the female population only (see Appendix 4, Table A2 for further details).

Fig. 3.3. Distribution by urban/rural residence: Plain distribution (left) and distribution by four age groups (right)



The study sample represents three major nationality groups: Bosniac, Croatian and Serbian, with only very few subjects in the groups of other nationalities and unclassifiable (Fig. 3.4). There is a very marked and systematic difference in age structure, with the Bosniac population representing the youngest population and the Serbian population representing the oldest (Fig. 3.4). This difference is statistically highly significant (see Appendix 4, Table A3 for further details).

Fig. 3.4. Distribution by nationality: Plain distribution (left) and distribution by four age groups (right)



The distribution of the study sample by marital status is shown in Fig. 3.5. The far majority (80%) of the subjects are married, and only relatively few subjects live alone (the singles, separated/divorced and widowed categories). As expected, the distribution by marital varies considerably and statistically highly significant across age groups and for both genders, with singles having the youngest age composition and widowed having the oldest age composition (see Appendix 4, Table A4 for further details)

Fig. 3.5. Distribution by marital status: Plain distribution (left) and distribution by four age groups (right)

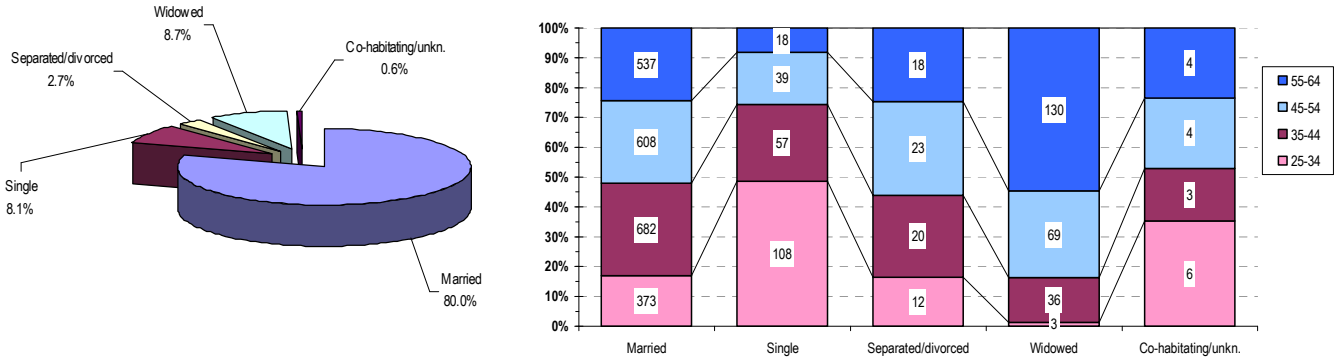
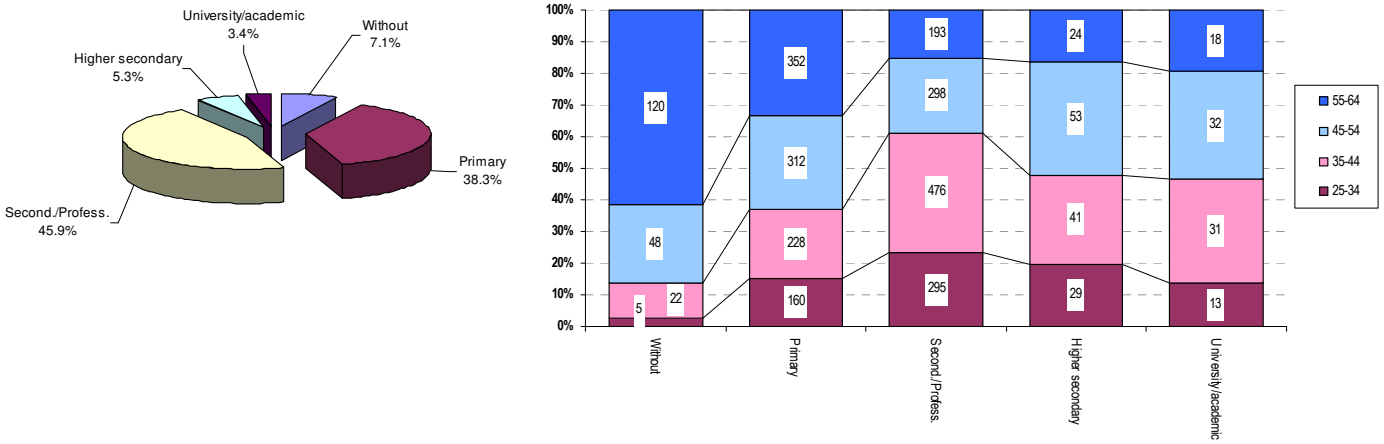


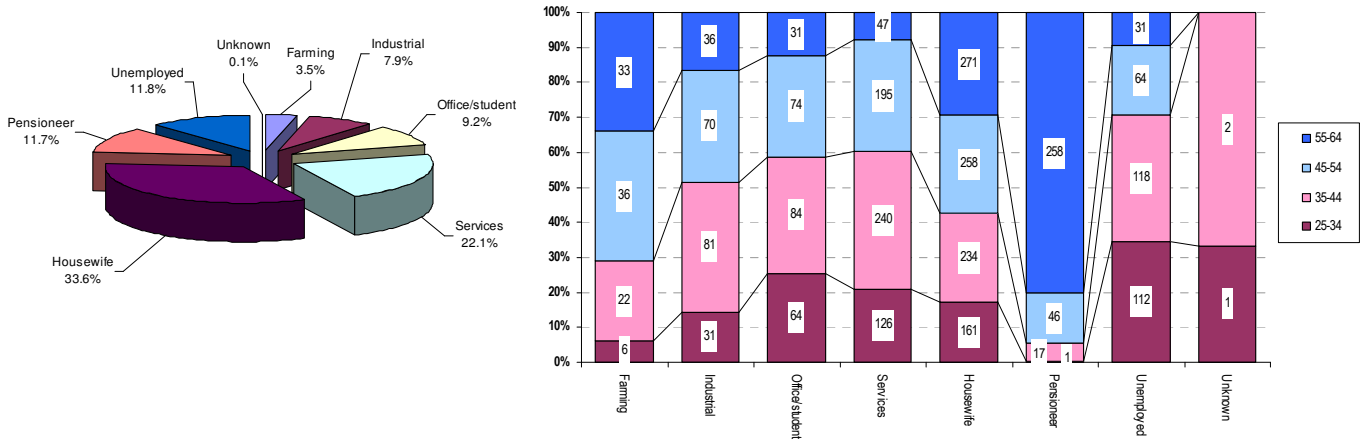
Fig. 3.6 illustrates the distribution by highest educational status achieved. Overall, 7.1% report to be without any education (with a considerable difference between the genders: 1.2% for males and 11.2% for females); subjects aged 45 years and more heavily dominate this category. More than 50% of the subjects have a secondary/professional education or higher, somewhat higher for male than for female subjects. The interaction with age is statistically highly significant, overall as well as for the two genders separately (see Appendix 4, Table A5 for further details).

Fig. 3.6. Distribution by highest educational level achieved: Plain distribution (left) and distribution by four age groups (right)



The distribution by current professional status is shown in Fig. 3.7. The category housewife is the largest category (overall: 33.6%, specifically in female subjects: 56.5%). Occupation with services represents for both male and female subjects the second largest category. The proportion of subjects reporting to be unemployed is relatively high (11.8% overall, 15.7% for male and 9.1% for female subjects, respectively), with a dominance of subjects aged less than 45 years. Appendix 4, Table A6 contains further details, including statistical assessments.

Fig. 3.7. Distribution by professional status: Plain distribution (left) and distribution by four age groups (right)



The reported household size is shown as cumulative distribution in Fig. 3.8. The household size includes persons of all ages. About 25% of the responders report to live in households of size two or less, 75% in households of size up to 4 persons, while 25% report to live in households of size 4 or more. The highest household size reported is 13.

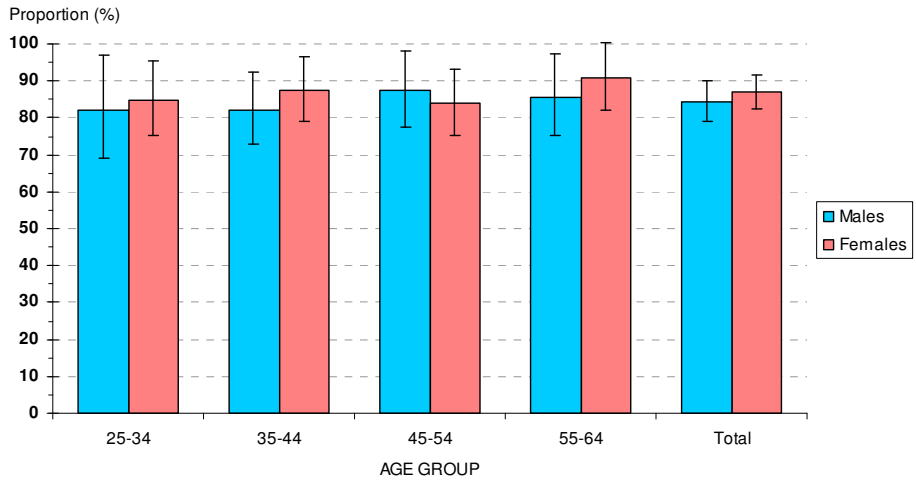
Fig. 3.8. Cumulative distribution (%) by household size (regardless of age). One subject with missing data excluded

4. Health care services

This section describes a few aspects related to utilization of health care among the responding subjects. The items presented here have been selected from questions Q13 through Q32 in the survey questionnaire.

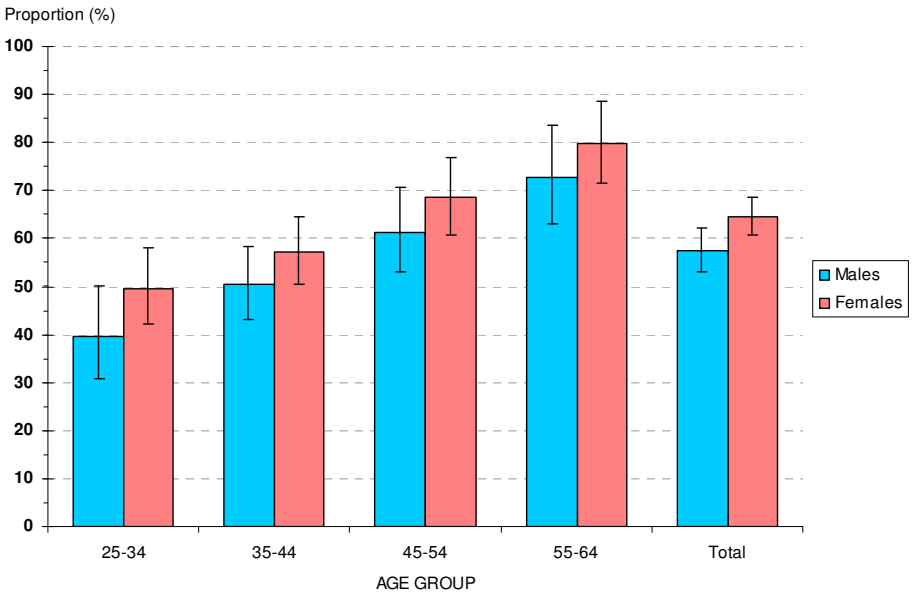
Overall, 85.9% of the respondents have **health insurance** (84.5% for male subjects and 86.9% for females), Fig. 4.1. The proportion having health insurance is quite similar across age groups, and only for males is the interaction with age statistically marginally significant. See Appendix 4, Table A7 for further details.

Fig. 4.1. Reporting to having health insurance, by gender and four age groups



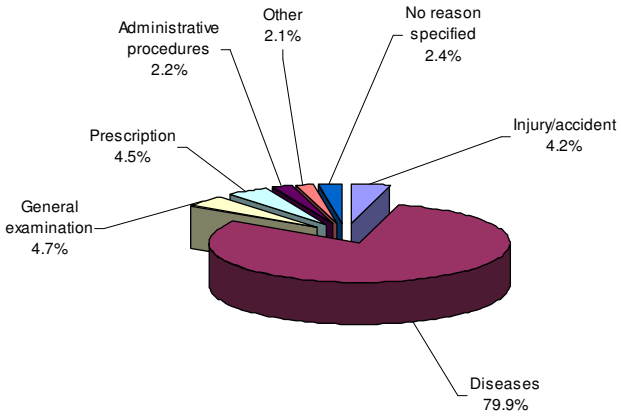
Concerning **visiting a doctor** (whether in the public and/or the private sector) during the last year, 61.6% respond positively. Female subjects have seen a doctor somewhat more frequently (64.5%) than male subjects (57.4%), Fig. 4.2. For both genders the proportion increases linearly with age (Fig. 4.2.); this interaction with age is statistically highly significant, overall as well as for males and females separately (see Appendix 4, Table A8 for further details).

Fig. 4.2. Reporting to having seen a doctor (in public and/or private sector) during last year, by gender and four age groups



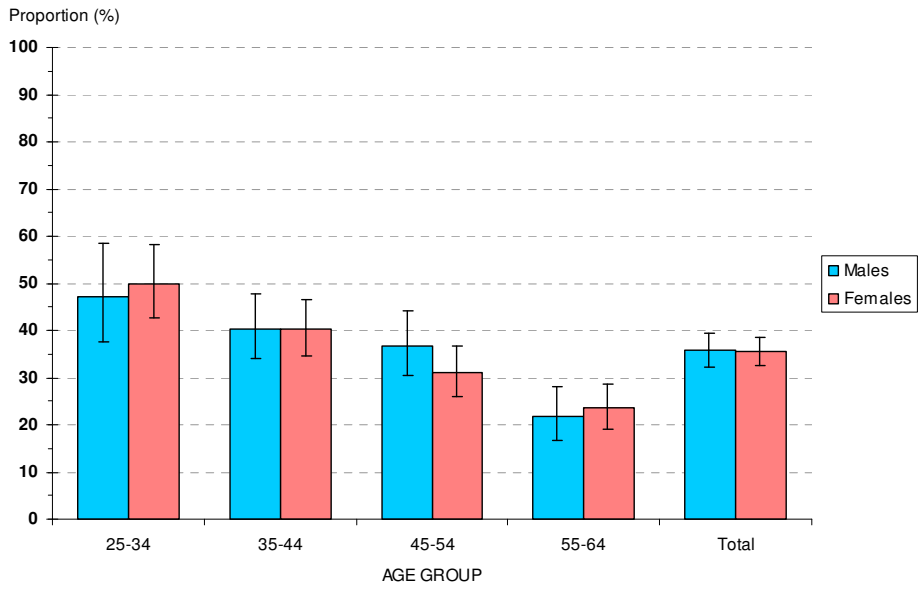
The most frequent single reason for visiting a doctor during the last year is "diseases" (representing 79.9% of those with one or more visits) (Fig. 4.3, with further details in Appendix 4, Table A9).

Fig. 4.3. Reasons for visiting a doctor (age groups and genders combined)



Concerning **visiting a dentist** (whether in the public and/or the private sector), during the last year, 35.6% respond positively. There is virtually no differences between the two genders (Fig. 4.4.), but for both genders the proportion *decreases* linearly with age (Fig. 4.4.); this interaction with age is statistically highly significant, overall as well as for males and females separately (see Appendix 4, Table A10 for further details).

Fig. 4.4. Reporting to having seen a dentist (in public and/or private sector) during last year, by four age groups and gender

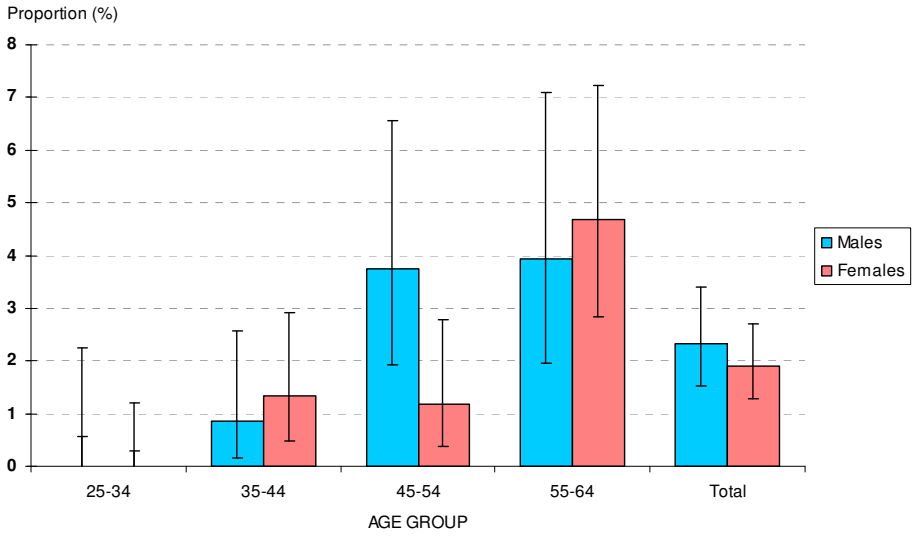


5. Self-reported diseases and conditions

This section describes a few aspects related to self-reported diseases and conditions among the responding subjects. The items presented here have been selected from questions Q33 through Q49 in the survey questionnaire.

Overall, 2.1% report to have experienced a **myocardial infarction**, slightly more for male subjects (2.3%) than for female subjects (1.9%), Fig. 5.1. The proportions increase for both genders with age (Fig. 5.1), and the interaction with age is statistically highly significant for each gender separately as well as overall (see Appendix 4, Table A11 for further details).

Fig. 5.1. Self-reported myocardial infarction (ever): Proportions, with 95% C.L., by four age groups and gender



Overall, 1.7% report to have experienced a **stroke or cerebral haemorrhage**, slightly more for male subjects (2.0%) than for female subjects (1.5%), Fig. 5.2. The proportions increase for both genders with age (Fig. 5.2), and the interaction with age is statistically highly significant for each gender separately as well as overall (see Appendix 4, Table A12 for further details).

Overall, 5.4% report to have **diabetes**, slightly less for male subjects (4.8%) than for female subjects (5.8%), Fig. 5.3. The proportions increase for both genders with age (Fig. 5.3), and the interaction with age is statistically highly significant for each gender separately as well as overall (see Appendix 4, Table A13 for further details).

Overall, 14.7% report to be in current **treatment with antihypertensives**, considerably less for male subjects (10.0%) than for female subjects (18.0%), Fig. 5.4. The proportions increase for both genders with age (Fig. 5.4), and the interaction with age is statistically highly significant for each gender separately as well as overall (see Appendix 4, Table A14 for further details).

Table 5.1 shows the correlation between self-reported treatment with antihypertensives and the blood pressure status as measured at interview (see also Section 7 of this report). Among the subjects with mild hypertension, 72.0% (629/874) were *not* in treatment. Among the subjects with severe hypertension, 43.3% (82/189) were *not* in treatment. Hypertension will be reported further in connection with the presentation of blood pressure data (Section 7 of this report). Hypertension is in this respect defined as systolic blood pressure $\geq$140 *or* diastolic blood pressure $\geq$90; severe hypertension is defined as systolic blood pressure $\geq$160 *or* diastolic blood pressure $\geq$100.

Fig. 5.2. Self-reported stroke/cerebral haemorrhage (ever): Proportions, with 95% C.L., by four age groups and gender

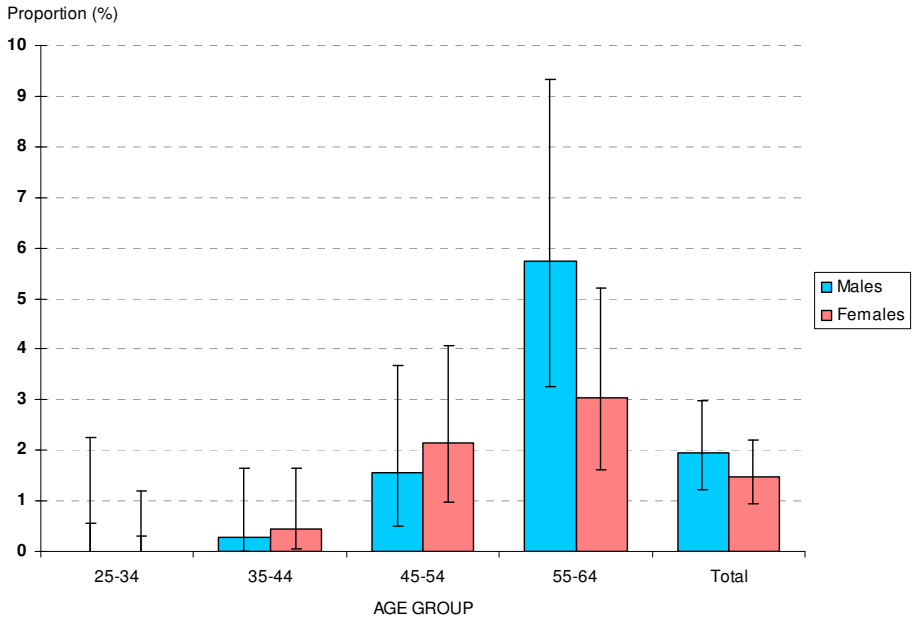


Fig. 5.3. Self-reported diabetes (ever): Proportions, with 95% C.L., by four age groups and gender

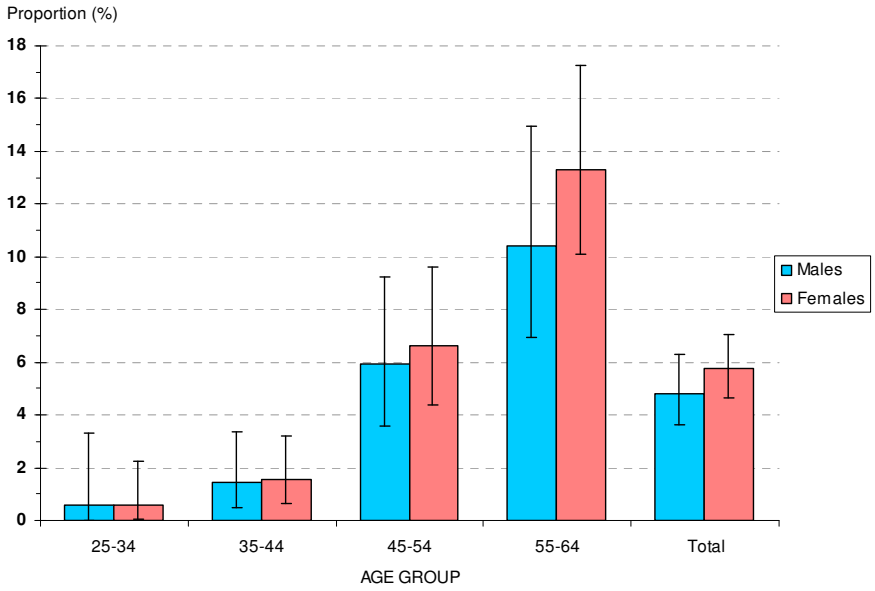


Fig. 5.4. Self-reported current treatment with antihypertensives: Proportions, with 95% C.L., by four age groups and gender

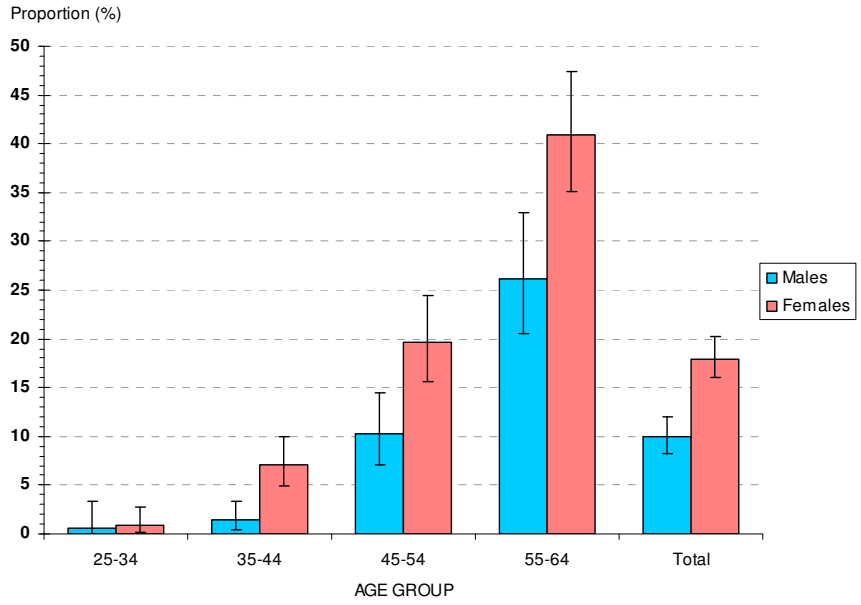


Table 5.1. Blood pressure status versus being treated with antihypertensives. Age groups and genders combined

	Bood pressure status					
		Hypertension				
Antihypertensives	Normotension	Mild	Severe	Unknown	**Total**	**%**
Yes	63	234	107	1	405	14.7%
No	1584	629	82	7	2302	83.7%
Unknown	30	11	0	2	43	1.6%
Total	**1677**	**874**	**189**	**10**	**2750**	**100.0%**

Fig. 5.5 illustrates how the subjects have reported the time interval since **last measurement** of blood cholesterol, blood pressure and blood sugar. Overall, within the last years 34.8%, 63.4% and 41.9% have had measurements of blood cholesterol, blood pressure and blood sugar, respectively.

Based upon self-reported presence of chronic diseases, the subjects have been grouped in two categories, *with* chronic disease (reporting yes to myocardial infarction and/or stroke and/or diabetes) and *without* chronic diseases (all other subjects); thus, chronic disease is defined in this narrow sense for the present purpose (Fig. 5.6). Subjects with chronic diseases have been examined within the last year much more frequently than subjects without chronic disease, particularly concerning measuring blood pressure. However, a substantial proportion of subjects, even for those with chronic disease, have not been examined within the last year, if ever. See Appendix 4, Table A15 for further details.

Fig. 5.5. Relative distributions of having had measurements of blood cholesterol, blood pressure and blood sugar. By time since last measurement. Age groups and genders combined

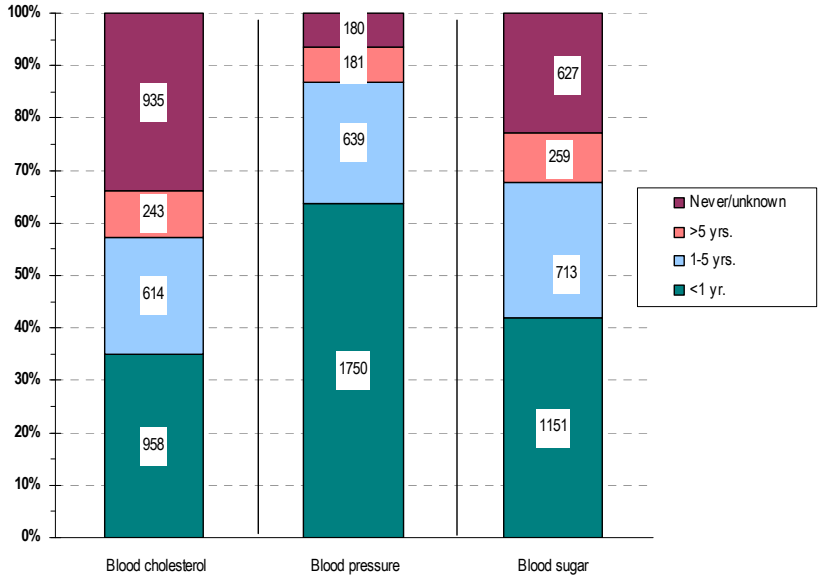
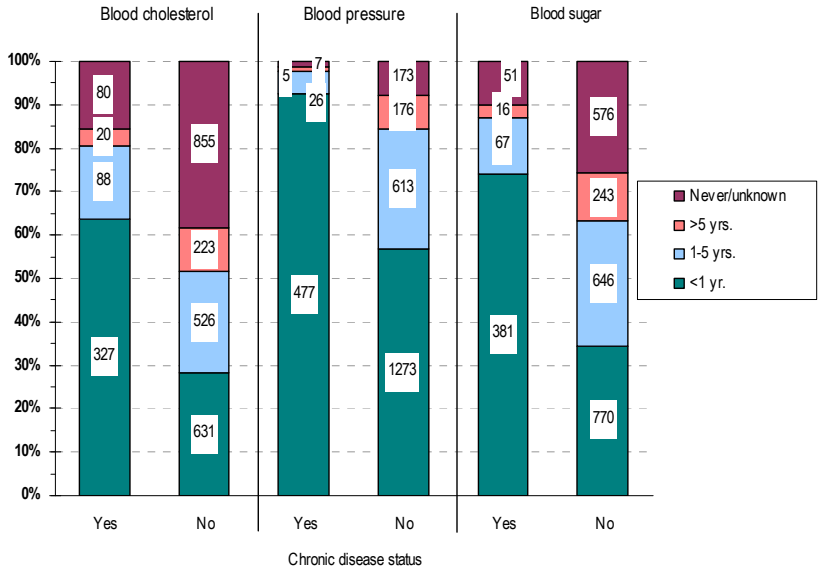


Fig. 5.6. Relative distributions of having had measurements of blood cholesterol, blood pressure and blood sugar. By time since last measurement and chronic disease status (*). Age groups and genders combined



* Chronic disease: Self-reported myocardial infarction *and/or* stroke *and/or* diabetes

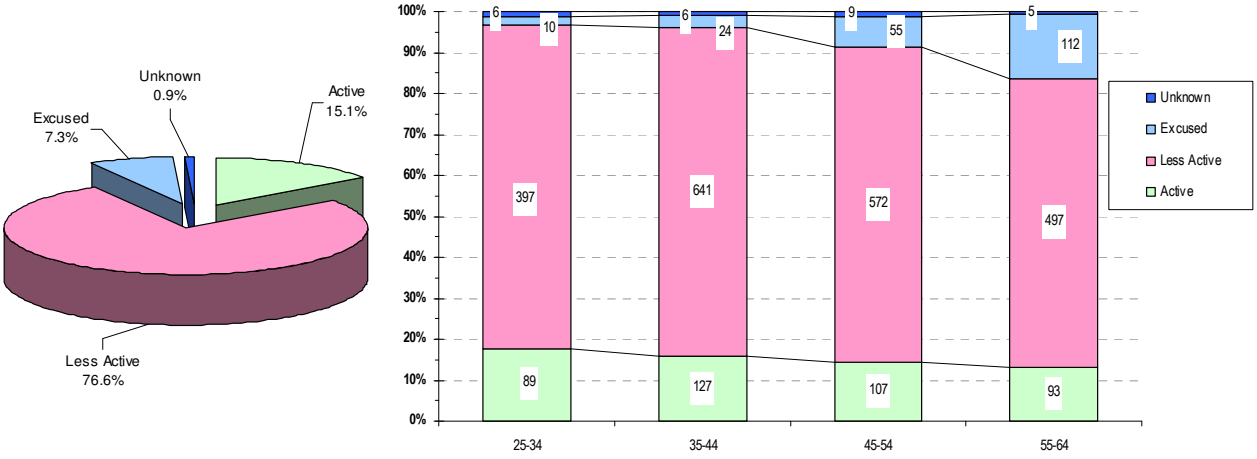
6. Health-related behaviour

This section describes a few aspects related to health-related behaviour. The items presented here have been selected from questions Q50 through Q78 in the survey questionnaire.

6.1. Physical activity

Overall, 15.1% of the subjects report to be physically active (defined as doing physical exercise which produces at least mild shortage of breath or perspiration more frequently than once a week) in leisure time, Fig. 6.1. There is a statistically significant interaction with age so that relatively more young subjects are physically active. Across age groups, the proportion of physically active subjects is higher for male subjects (19.6%) than for female subjects (12.0%), see Appendix 4, Table A16 for details.

Fig. 6.1. Physical activity in leisure time: Plain distribution (left) and distribution by four age groups (right)



6.2. Smoking

Based on a combination of answers to various smoking-related questions, all respondents have been classified by current smoking status. Overall, a high proportion (37.6%) reports to be daily smokers (Fig. 6.2), and the proportion is particularly high in the younger age groups. Furthermore, the proportion of daily smokers is much higher for male subjects (49.2%) than for female subjects (29.7%), Appendix 4, Table A17. The interaction with age is statistically significant for the genders combined as well as for male subjects and female subjects separately. See Appendix 4, Table A17 for further details.

Specifically for all subjects who are classified as daily smokers, there is a high proportion (49.6%) of subjects with a desire to stop smoking, evenly distributed across age groups (Fig. 6.3). On the other hand, 35.7% of the daily smokers report no desire to stop smoking (Fig. 6.3). See Appendix 4, Table A18 for further details

Fig. 6.2. Current smoking habits: Plain distribution (left) and distribution by four age groups (right)

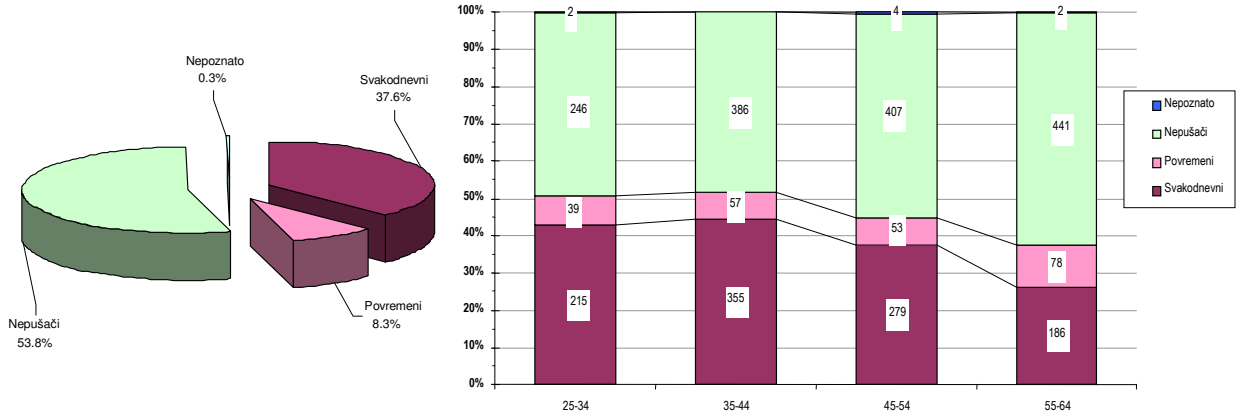
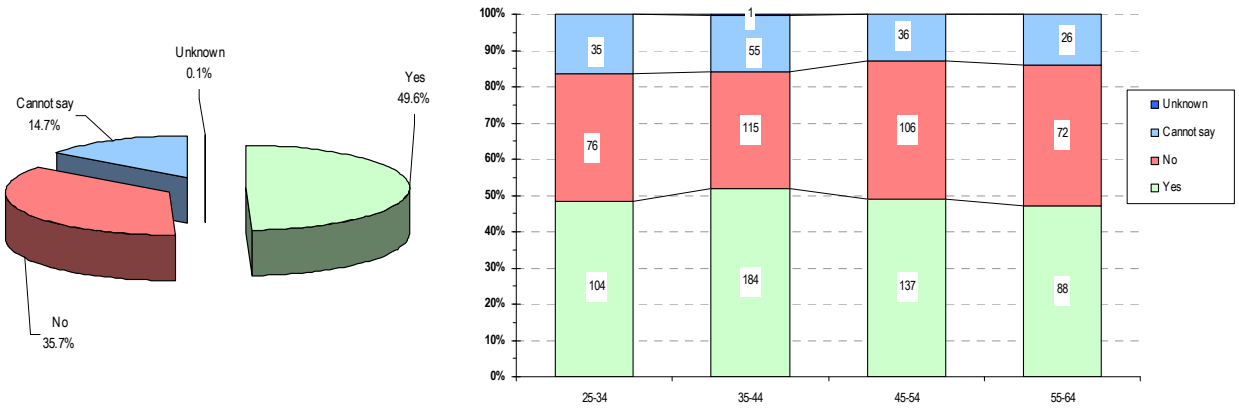
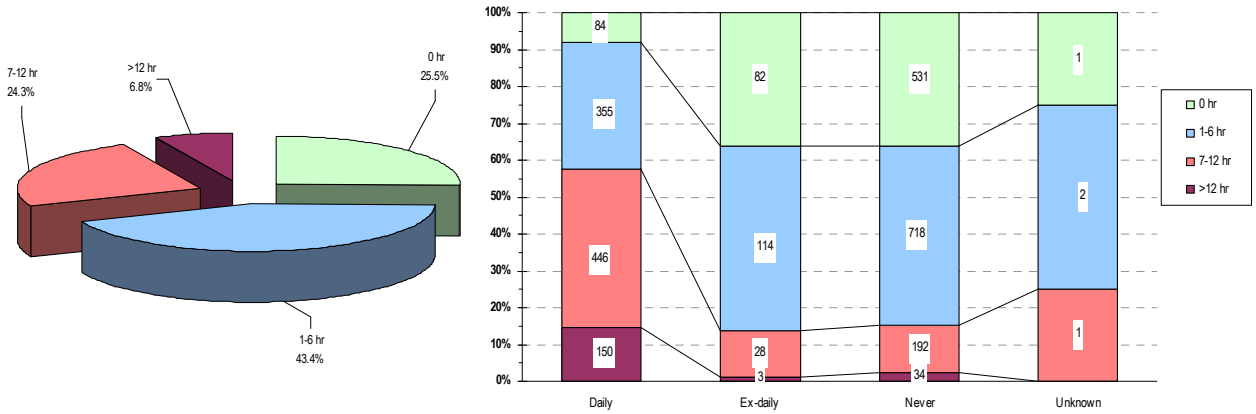


Fig. 6.3. Desire to stop smoking (only including daily smokers): Plain distribution (left) and distribution by four age groups (right)



Overall, more than 30% of the respondents report exposure to passive smoking for 7 hours or more per day while about 25.5% are unexposed (Fig. 6.4). The distribution of amount of exposure within current smoking status is also shown in Fig. 6.4. As expected, subjects classified as daily smokers, represents a category with high level of exposure to passive smoking (more than 55% of the subjects are exposed for 7 hours or more per day). The categories of ex-daily smokers and never smokers have similar proportions (about 15% of subjects exposed to passive smoking for 7 hours or more per day)(Fig. 6.4).

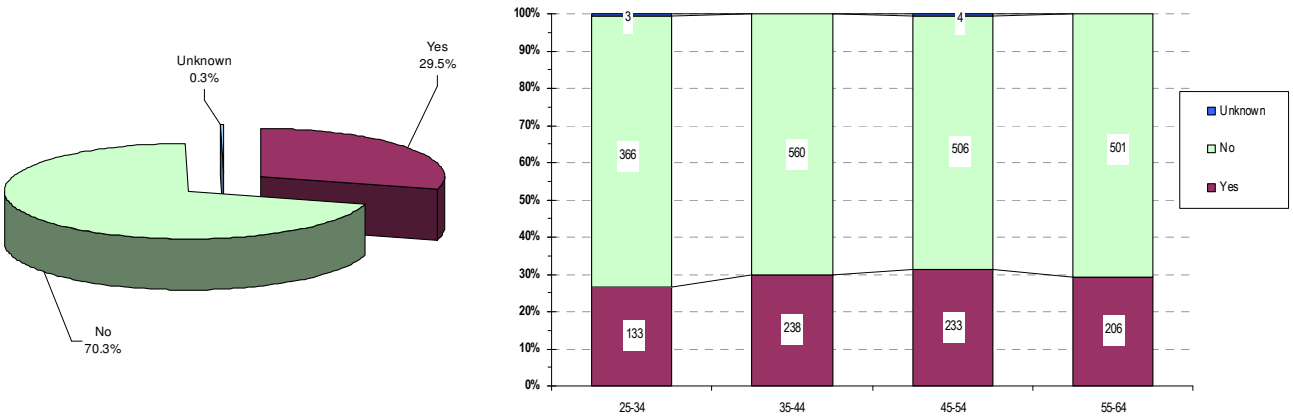
Fig. 6.4. Exposure to passive smoking (hours per day): Plain distribution (left) and distribution by current smoking status (right)



6.3. Alcohol

Overall, 29.5% of all respondents report consumption of alcohol (amount consumed not considered) during the last year before interview; this proportion is quite similar across age groups (Fig. 6.5). There is a considerable difference between male and female subjects in this respect. Thus, 54.1% of the male subjects reported consumption of alcohol against 12.5% of the female subjects (Appendix 4, Table A20). There is no statistically significant interaction between alcohol consumption and age, neither overall nor for each gender separately (see Appendix 4, Table A20 for further details).

Fig. 6.5. Consumption of alcohol (any amount) during last year: Plain distribution (left) and distribution by four age groups (right)



By combining answers to alcohol-related questions it has been possible to classify all respondents by usual drinking habits. Furthermore, from answers to questions about amount and type of alcohol consumed the last week before interview it has been possible to estimate the amount of pure alcohol consumed during that week. The correlation between usual drinking habits and amount of pure alcohol consumed during the last week is shown in Table 6.1. Almost 6% of the respondents report a daily intake of alcohol, and this category also presents with relatively highest amount of alcohol consumed. About 70% of the subjects are classified as never drinking alcohol. About 13-14% may be classified as heavy drinkers (who consumed 70 or more gram pure alcohol during the week before interview), and within this group about 33% are classified as daily drinkers.

Table 6.1. Amount of alcohol consumed last week (estimated gram pure alcohol per week), by usual drinking habits (age groups and genders combined)

	Amount (in gram alcohol) consumed last week					
Drinking habit	**0**	**1-39**	**40-69**	**≥70**	**Total**	**%**
Daily	1	25	11	121	158	5.7%
Once/few times per week	10	89	54	169	322	11.7%
Few times per month or year	89	123	38	75	325	11.8%
Never drinking	1933	0	0	0	1933	70.3%
Unknown	-	-	-	-	12	0.4%
Total	**2033**	**237**	**103**	**365**	**2750**	**100.0%**
% :	73.9%	8.6%	3.7%	13.3%		

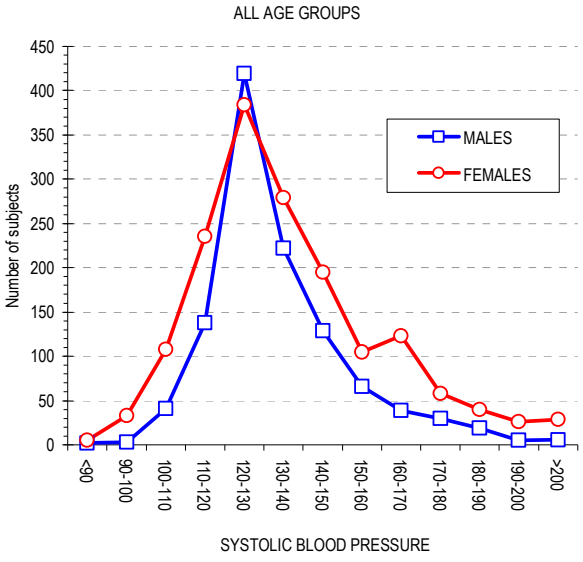
7. Physical risk factors

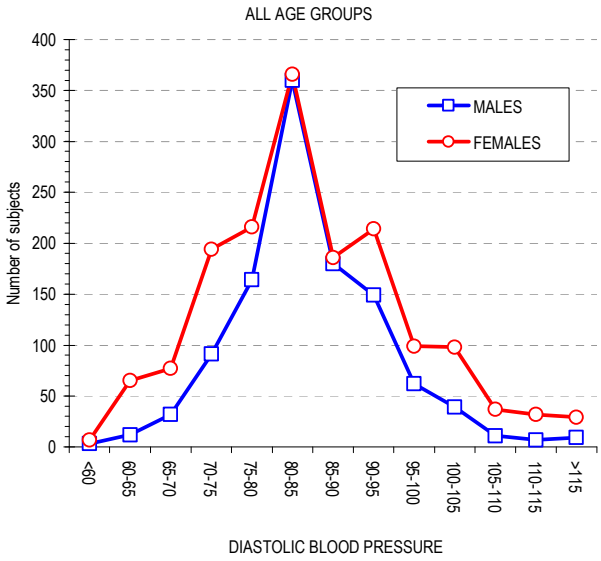
This section describes a few aspects related to the measurements performed as part of the survey.

7.1. Blood pressure and hypertension

Blood pressure measurements (as a rule, double readings – with final value taken as the mean of the two readings) are available for all but 11 subjects (2 male and 9 female subjects). The frequency distributions of systolic and diastolic blood pressure are shown in Fig. 7.1 for male and female subjects separately (but, with combined age groups). The mean values are slightly, but statistically significantly, higher for females than for males. This applies to the systolic as well as the diastolic blood pressure. Furthermore, the standard deviations are larger for the female distributions than for the male distributions, indicating that female subjects have "broader" distributions.

Fig. 7.1. Blood pressure distribution: Systolic (left) and diastolic (right), by gender (age groups combined)



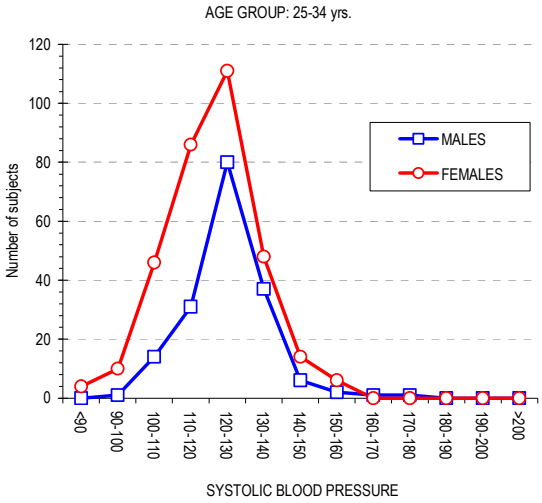


	Male	Female	All
Number	1119	1620	2739
Mean	132.35	135.07	133.96
Stand.dev.	18.17	24.18	21.96
SE(mean)	0.54	0.60	0.42
T-test of difference between means:		3.195	**0.001**

	Male	Female	All
Number	1119	1620	2739
Mean	83.81	84.02	83.94
Stand.dev.	9.48	12.37	11.28
SE(mean)	0.28	0.31	0.22
T-test of difference between means:		5.483	**<0.001**

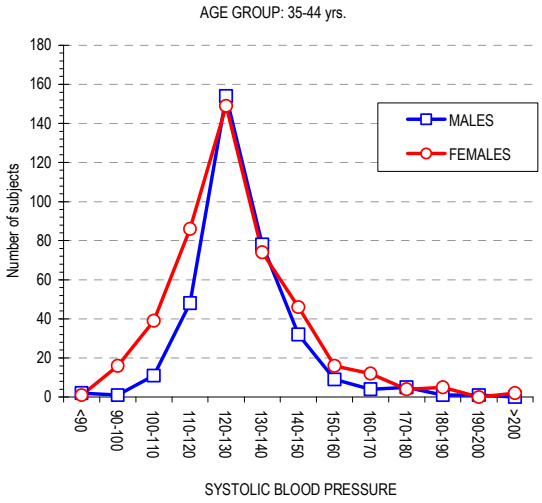
The distribution of systolic blood pressure by age groups and genders are shown in Fig. 7.2. It appears that for the younger age groups, male subjects have slightly higher mean blood pressure whereas for the older age groups, femal subjects have slightly higher mean blood pressure. The mean values tend to increase with age, and the general pattern of "broader" distributions for female subjects than for male subjects is rather consistent across age groups.

Fig. 7.2. Systolic blood pressure: distribution, by age groups and gender



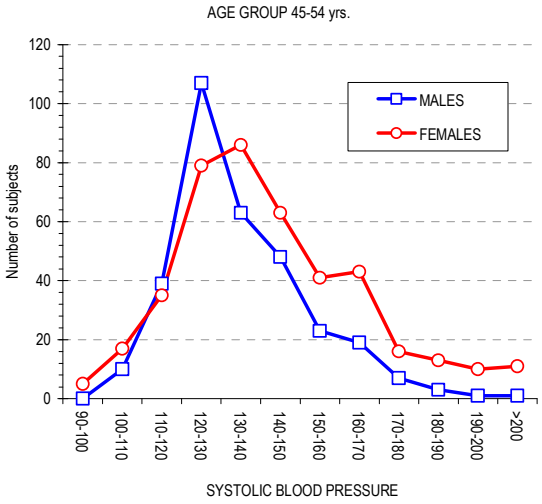
	Male	Female	All
Number	173	325	498
Mean	123.51	119.54	120.92
Stand.dev.	10.81	12.77	12.26
SE(mean)	0.82	0.71	0.55

T-test of difference between means: 3.479 **<0.001**



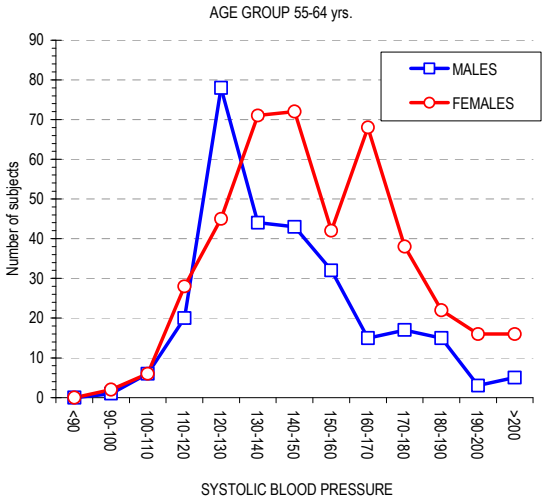
	Male	Female	All
Number	346	450	796
Mean	127.91	125.98	126.82
Stand.dev.	13.19	17.85	16.01
SE(mean)	0.71	0.84	0.57

T-test of difference between means: 1.693 **0.091**



	Male	Female	All
Number	321	419	740
Mean	133.75	141.24	137.99
Stand.dev.	16.51	24.51	21.72
SE(mean)	0.92	1.20	0.80

T-test of difference between means: 4.722 **<0.001**



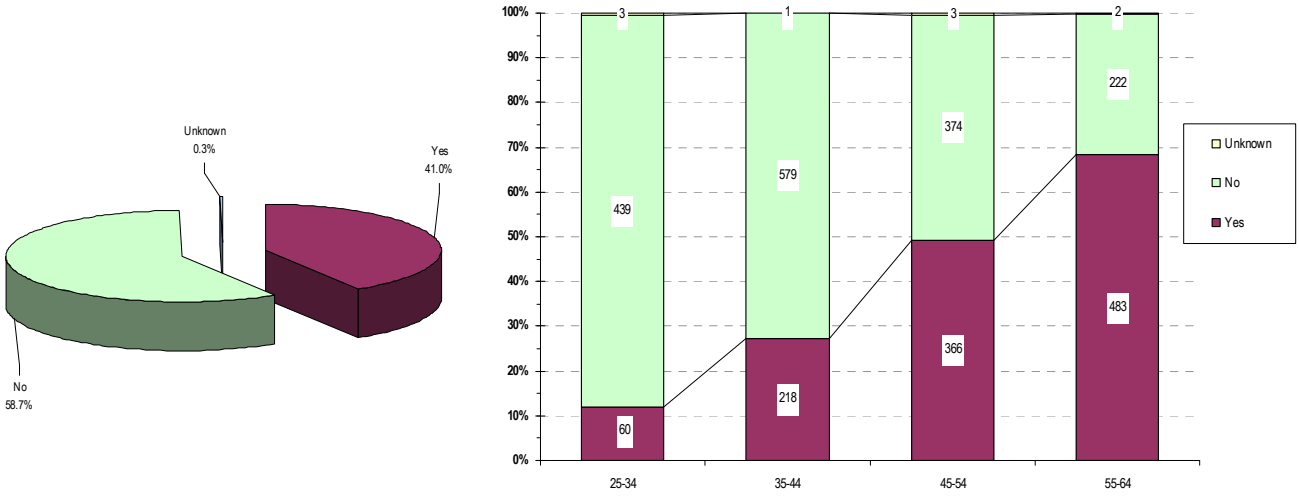
	Male	Female	All
Number	279	426	705
Mean	141.71	150.44	146.99
Stand.dev.	23.71	25.10	24.91
SE(mean)	1.42	1.22	0.94

T-test of difference between means: 4.617 **<0.001**

Based on the blood pressure measurement combined with information on current treatment with antihypertensives, subjects have

been classified as having **potential hypertension** if either in treatment with antihypertensives and/or if the systolic blood pressure ≥140 and/or the diastolic blood pressure ≥90 (see also Table 5.1). Overall, 41.0% of all subjects have potential hypertension (Fig. 7.3), somewhat higher for female subjects (44.8%) than for male subjects (35.5%), Appendix 4, Table A21. The proportion of subjects increases considerably with age, so that almost 70% of all subjects aged 55-64 years have potential hypertension. The interaction with age is statistically highly significant for the genders combined as well as for the genders separately (see Appendix 4, Table A21 for further details).

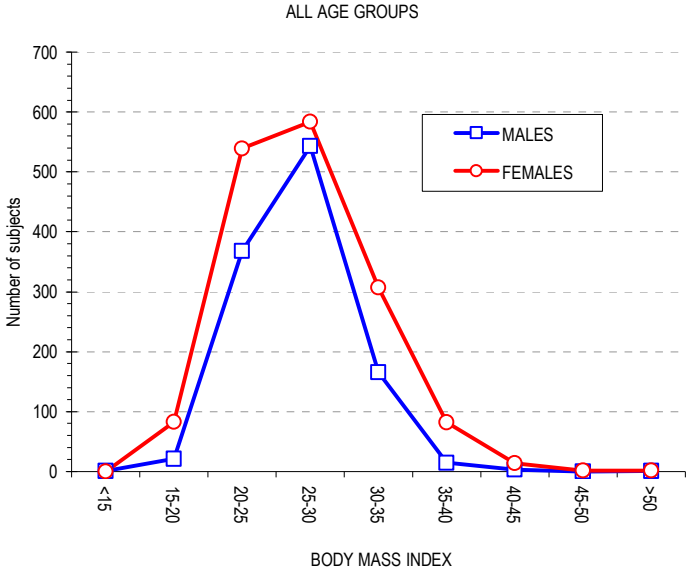
Fig. 7.3. Potential hypertension: Plain distribution (left) and distribution by four age groups (right)



7.2. Body Mass Index

Measurements on height and weight (single values) are available for all but 24 subjects (4 male and 20 female subjects).The frequency distributions of Body Mass Index (expressed in kg/m^2) are shown in Fig. 7.4 for male and female subjects separately (but, with combined age groups). The mean values are slightly, but statistically significantly, higher for females than for males. Furthermore, the standard deviations are larger for the female distributions than for the male distributions, indicating that female subjects have "broader" distributions.

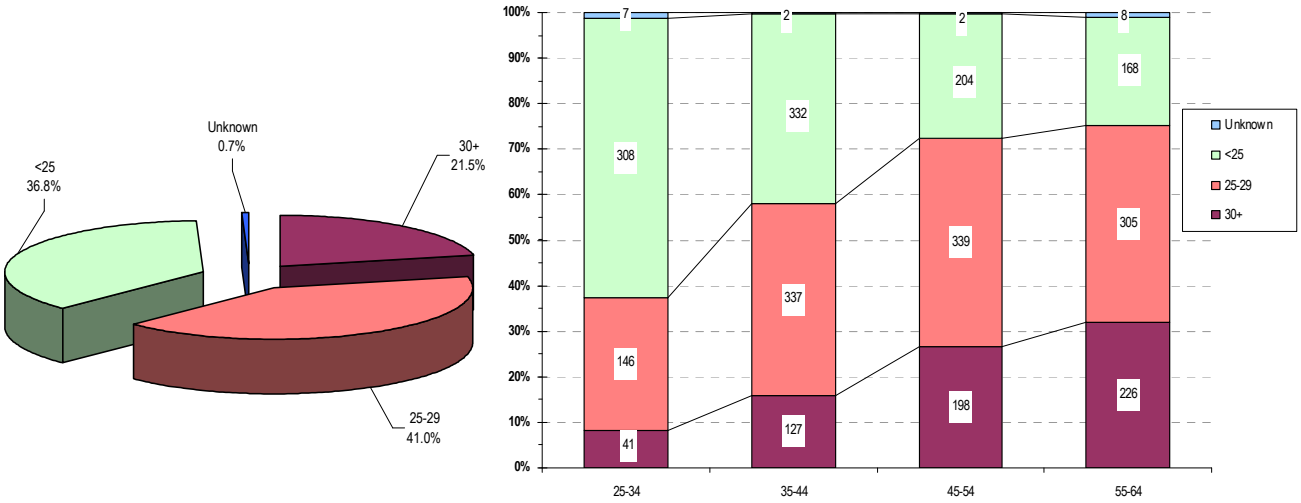
Fig. 7.4. Body Mass Index: distribution by gender (age groups combined)



	Male	Female	All
Number	1118	1613	2731
Mean	26.53	27.02	26.82
Stand.dev.	3.62	4.94	4.46
SE(mean)	0.11	0.12	0.09
T-test of difference between means:		7.825	<0.001

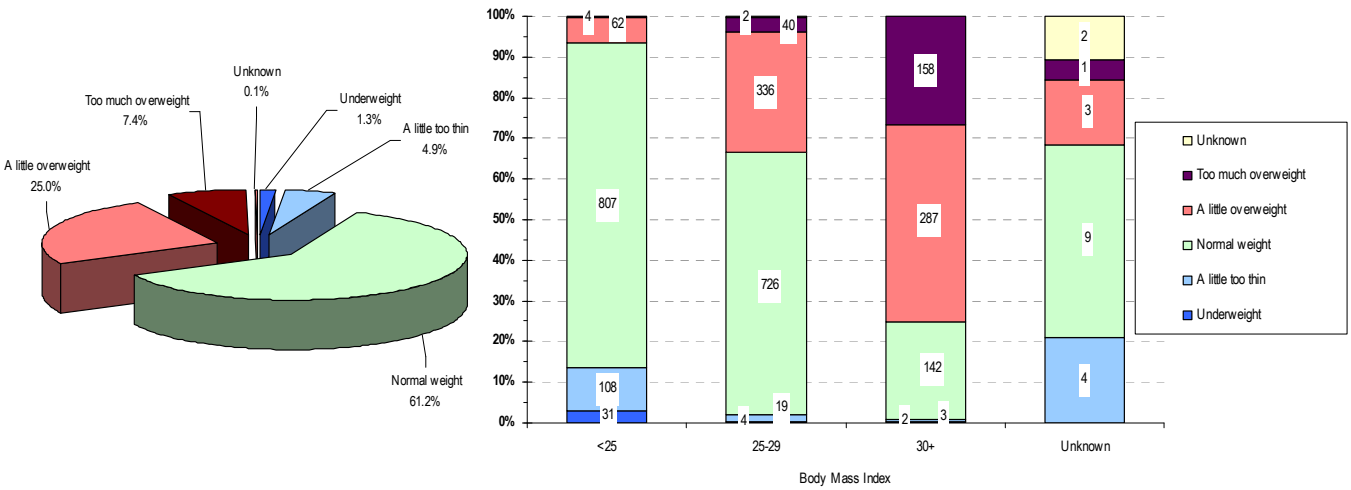
Fig. 7.5 shows the results after grouping Body Mass index-values into normal (<25 kg/m^2), overweight (25-29 kg/m^2) and obesity (≥30 kg/m^2). Overall 21.5% are obese, while 41.0% are overweight and 36.8% have normal or lower Body Mass Index. The proportion of subjects with overweight, and particularly obesity, increases statistically significantly with age (Fig. 7.5 and Appendix 4, Table A22). Furthermore, the proportion of obesity is generally higher for female than for male subjects whereas overweight (BMI between 25 and 30) is more frequent among male than among females subjects. See Appendix 4, Table A22 for further details.

Fig. 7.5. Body Mass Index categories: Plain distribution (left) and distribution by four age groups (right)



The distribution on Body Mass Index in categories has been correlated with answers from the respondents concerning self-perceived weight (Fig. 7.6). Overall, 61.2% of the subjects classify themselves as having normal weight, 6.2% consider themselves to be under normal weight, while 32.4% consider themselves to having higher than normal weight. Even in the group of obese subjects, about 25% consider themselves to having normal weight or below normal.

Fig. 7.6. Self-perceived weight: Plain distribution (left) and distribution by Body Mass Index (right)



Summary conclusions

The Non-Communicable Risk Factor Survey carried out in Autumn 2002 was the first population based risk factor survey carried out in the Federation of Bosnia and Herzegovina. The main objective of the survey was to assess the chronic disease risk factor prevalence in Bosnian population. Also important information was achieved on health behaviour, use of health services and disease prevalence and symptoms. The database collected serves the further development of health monitoring system in Bosnia and Herzegovina as well as research activities in the federal Public Health Institute. In this report the preliminary analyses of the survey data is presented.

The target population for the Non-Communicable Disease Risk Factor Survey were all 25 to 64 year old residents in the Federation of Bosnia and Herzegovina. The survey sample was 3020 persons. The purified sample was 3007 persons of which 2750 participated the study. The response rate (91.5 %) was very high. There was relative excess of female subjects and relative deficit of subjects in the youngest age group (25-34 yrs.)

There were subjects in the sample from each ten kantons. Sample size in kantons varied according to population size. Sample was biggest in Tuzlanski kanton (696) and smallest in Gorazde kanton (40). Highest participation rate (100%) was in small kantons Goradze and Posavski and lowest in Sarajevo kanton (81%). About 67 % of the participants were Bosniacs, 24 % Croatians, 8% Serbian and 1% other nationalities.

Relatively high proportion of participants (7%) reported to be without any education. This was particularly prevalent in the oldest age group (55-64 years). Only 3,4% had university or other academic level education. Also the proportion of unemployed was relatively high. About 12% of participants reported to be unemployed. Over 50% of women reported to be housewives. More than 20 % of participants worked in services.

Concerning health care services a very high proportion of participants (86%) reported to have health insurance. More than 60% of participants had visited a doctor either in public or private sector during the last year. In the oldest age group (55-64 years) more than 70 % of men and almost 80 % of women had visited a doctor during the last year. About 35 % of both men and women had visited dentist during the last year.

Over 60% of participant have had their blood pressure measured during the last years and only less than 10 % report that their blood pressure is never measured. Blood cholesterol was measured during the last year from 35 % of participants and blood sugar from 42 % of participants. However, almost 35 % of participant reported that their blood cholesterol is never measured and more than 20 % that their blood sugar is never measured.

Relatively few subjects (less than 2 %) reported having experienced a myocardial infarction or stroke/cerebral haemorrhage. However, this does not mean low cardiovascular disease burden in the population, because a large proportion of myocardial infarction and stroke patients dye in their first disease attack. The prevalence of diabetes (about 5 %) is comparable to other populations in Central Eastern Europe. Hypertension appears to be a major problem in the population. Almost 40 % of participants had their blood pressure level over 140/90 mmHg. The proportion of potential hypertensives (BP more than 140 /90 mmHg and/or anti-hypertensive medication) was 41 %. Relatively high proportion of hypertensives was not under medication and the treatment was not efficient for a relatively big proportion of hypertensives under drug treatment.

Lifestyle among participants was very sedentary. Only 15 % of participants reported at least moderate leisure time physical activity. Sedentary lifestyle is also reflected on prevalence of overweight. More than 16 % of men and 20 % of women were obese. Only 35 % of men and 38 % of women had normal weight.

Smoking was very prevalent especially among men. Almost 50 % of men reported to be daily smokers. The respective rate among women was about 30 %. Almost 50 % of smokers reported a desire to quit smoking. Over 60 % of non-smokers reported to be daily exposed to environmental tobacco smoke.

Perspectives:

1. This data set provides unique opportunities for further explorative analyses to search for attributes (by geography, type of residence, professional status) of subjects with already established chronic disease and who need more efficient treatment as well as subjects at high risk for developing disease (smokers, overweight/obese, high blood pressure). By means of the identification of such attributes it may be possible to target primary and secondary prevention programmes to specific segments of the population
2. The experiences and results obtained from this survey provide the platform for the establishment of routine monitoring of major diseases/conditions and risk factors, by performing future similar surveys at regular intervals
3. The data set is extremely valuable as a resource for training public health professionals in analysis and reporting of survey data and thereby improving the standards for planning, implementation, analysis and reporting of future surveys.

References

1. Protocol for Non-Nommunicable Disease Risk Factor Survey. The Federation of Bosnia and Herzegovina. year 2002. Federal Public Health Institute, 2002.

2. WHO MONICA Project. Survey protocol. http://www.ktl.fi/publications/monica/index.html

3. Tolonen H, Kuulasmaa K, Laatikainen T et al. European Health Risk Monitoring Project. Recommendation for indicators, international collaboration, protocol and manual for operations for chronic disease risk factor surveys. http://www.ktl.fi/ehrm/

APPENDIX 1:

Sampling lists

TIM 1.

Red broj	Šifra općine	PK	Broj dom.	IME OPĆINE	IME NASELJA	IME MZ	Grad/Ostalo	
1.	10049	23	97	BIHAĆ	BIHAĆ	OZIMICE	G	
2.	10049	92	98	BIHAĆ	BIHAĆ	RUZICA	G	
3.	10049	200	12	BIHAĆ	KULEN VAKUF	KULEN VAKUF		O
4.	10049	250	76	BIHAĆ	TURIJA	VRSTA		O
5.	11118	26	53	VELIKA KLADUŠA	GLAVICA	MALA KLADUŠA		O
6.	11118	69	46	VELIKA KLADUŠA	MRČELJI	TODOROVO		O
7.	11118	113	114	VELIKA KLADUŠA	TRN	POLJE		O
8.	10227	14	87	CAZIN	CAZIN	CAZIN	G	
9.	10227	51	91	CAZIN	ĆORALIĆI	ĆORALIĆI		O
10.	10227	96	55	CAZIN	MUTNIK	MUTNIK		O
11.	10227	139	102	CAZIN	STIJENA	STIJENA		O
12.	11240	108	47	BUŽIM	MRAZOVAC	BUŽIM		O
13.	10090	46	61	BOSANSKA KRUPA	DONJA ŠUVAJA	ŠUVAJA		O
14.	10090	121	205	BOSANSKA KRUPA	OTOKA	OTOKA		O
15.	10120	81	54	BOSANSKI PETROVAC	SKAKAVAC	ŠUVAJA		O

TIM 2.

Red broj	Šifra općine	PK	Broj dom	IME OPĆINE	IME NASELJA	IME MZ	Grad/Ostalo	
1.	10723	60	124	ORAŠJE	MATIĆI	MATIĆI		O
2.	10707	49	42	ODŽAK	BRUSNICA MALA	BRUSNICA MALA		O
3.	10138	77	135	DOMALJEVAC-ČAMAC	GREBNICE	GREBNICE		O
4.	10162	187	124	BRCKO	BRKA	BRKA	G	
5.	10162	276	115	BRČKO	PALANKA	PALANKA		O
6.	10391	77	124	GRADAČAC	GRADAČAC	VAROČ	G	
7.	10391	98	121	GRADACAC	MIONICA	MIONICA 1		O
8.	10391	148	101	GRADAČAC	TURIĆ	TURIĆ		O
9.	10987	30	167	SREBRENIK	DONJI PODPEĆ	PODPEĆ		O
10.	10987	79	153	SREBRENIK	LUKA	LUKA		O
11.	10987	133	103	SREBRENIK	TINJA DONJA	TINJA DONJA		O
12.	10383	67	148	GRABANICA	GRABANICA	GRABANICA	G	
13.	10383	44	72	GRABANICA	DŽAKULE	DŽAKULE		O
14.	10383	136	99	GRABANICA	PISKAVICA	PISKAVICA		O
15.	11258	16	59	DOBOJISTOK	BRIJESNICA MALA	BRIJESNICA MALA		O

TIM 3.

Red broj	Općina	PK	Broj dom.	IME OPĆINE	IME NASELJA	IME MZ	Grad /Ostalo	
1.	11088	332	61	TUZLA	TUZLA	STARI GRAD	G	
2.	11088	419	66	TUZLA	TUZLA	MOSNIK	G	
3.	11088	498	26	TUZLA	TUZLA	KREKA	G	
4.	11088	568	123	TUZLA	TUZLA	GRABOVICA	G	
5.	11088	627	159	TUZLA	TUZLA	SJENJAK	G	
6.	11215	11	47	ŽIVINICE	DUBRAVE DONJE	DUBRAVE DONJE		O
7.	11215	58	86	ŽIVINICE	KRĆIĆI	PODGAJEVI		O
8.	11215	112	132	ŽIVINICE	TUPKOVIC GORNJI	TUPKOVIĆI		O
9.	10499	51	69	KLADANJ	PRIJANOVIĆI	STUPARI		O
10.	10456	73	97	KALESIJA	MILJANOVIĆI	MILJANOVIĆI		O
11.	10456	146	67	KALESIJA	VUKOVIJE GORNJE	VUKOVIJE GORNJE		O
12.	11312	2	105	SAPNA	BALJKOVICA	BALJKOVICA		O
13.	11339	64	152	TEOČAK	STARI TEOČAK	STARI TEOČAK		O
14.	11231	77	70	ČELIĆ	LUKAVICA	LUKAVICA		O
15.	11088	252	46	TUZLA	TUZLA	STARI GRAD		O

TIM 4.

Red broj	Općina	PK	Broj dom	IME OPĆINE	IME NASELJA	IME MZ	Grad /Ostalo	
1.	11088	68	93	TUZLA	DRAGUNJA DONJA	DRAGUNJA		O
2.	11088	143	34	TUZLA	LJEPUNICE	LJEPUNICE		O
3.	11088	192	140	TUZLA	PETROVICE DONJE	PASCI GORNJI		O
4.	11045	44	89	TEŠANJ	KRAŠEVO	TEŠANJKA		O
5.	11045	94	132	TEŠANJ	POTOČANI	JELAH		O
6.	11045	164	55	TEŠANJ	ŽABLJAK	TEŠANJKA		O
7.	10634	43	74	MAGLAJ	GORNJA BOČINJA	BOČINJA		O
8.	10634	128	156	MAGLAJ	NOVI ŠEHER	NOVI ŠEHER		O
9.	11177	198	57	ZAVIDOVIĆI	ZAVIDOVIĆI	KLEK	G	
10.	11177	19	127	ZAVIDOVIĆI	CINOVIĆI	BREZIK		O
11.	10600	143	102	LUKAVAC	LUKAVAC	LUKAVAC	G	
12.	10600	65	213	LUKAVAC	DOBOSNICA	DONJA DOBOSNICA		O
13.	10600	217	50	LUKAVAC	SMOLUĆA DONJA	SMOLUĆA		O
14.	10014	19	108	BANOVIĆI	BANOVIĆI	GRAD 2	G	
15.	10014	65	49	BANOVIĆI	OSKOVA	OSKOVA		O

TIM 5.

R.br	Općina	PK	Br. dom	IME OPĆINE	IME NASELJA	IME MZ	Grad/Ostalo	
1.	11185	255	41	ZENICA	ZENICA	PRVI MAJ	G	
2.	11185	325	99	ZENICA	ZENICA	NEDO RADIĆ	G	
3.	11185	420	66	ZENICA	ZENICA	JOSIP JOVANOVIĆ	G	
4.	11185	494	98	ZENICA	ZENICA	BRATSTVO	G	
5.	11185	578	60	ZENICA	ZENICA	IBRAHIM PERVIZ	G	
6.	11185	14	33	ZENICA	BUKOVICA	GRADIŠĆE		O
7.	11185	94	73	ZENICA	LOKVINE	LOKVINE		O
8.	11185	176	72	ZENICA	STRANJANI	STRANJANI		O
9.	10189	57	40	BREZA	VARDIŠTE	VARDIŠTE		O
10.	10448	96	115	KAKANJ	KAKANJ	KAKANJ 2	G	
11.	10448	50	58	KAKANJ	D. KAKANJ	DONJI KAKANJ		O
12.	10448	199	47	KAKANJ	ZGOŠĆA	ZGOŠĆA		O
13.	10928	70	65	SAR.-VOGOŠĆA	VOGOŠĆA	VOGOŠĆA 2		O
14.	10715	32	72	OLOVO	KOLAKOVIĆI	DUGANDZIĆI		O
15.	11100	10	63	VAREŠ	BREZIK	PRZIĆI		O

TIM 6.

R.br	Općina	PK	Br. Dom	IME OPĆINE	IME NASELJA	IME MZ	Grad/Ostalo	
1.	11061	167	104	TRAVNIK	TRAVNIK	CENTAR	G	
2.	11061	63	123	TRAVNIK	KRALJEVICE	25. NOVEMBAR		O
3.	11061	250	64	TRAVNIK	TURBE	TURBE		O
4.	11207	2	110	ŽEPČE	BEGOV HAN	BEGOV HAN		O
5.	11207	29	14	ŽEPČE	OZIMICA	OZIMICA		O
6.	11126	165	42	VISOKO	VISOKO	CENTAR	G	
7.	11126	26	78	VISOKO	DOBRINJE	DOBRINJE		O
8.	11126	103	90	VISOKO	SEOČA	DOBRINJE		O
9.	10219	63	76	BUSOVAČA	POLJE	KA]UNI		O
10.	10472	90	133	KISELJAK	RADANOVIĆI	DRAŽEVIĆI		O
11.	10545	36	89	KRESEVO	VOLUJAK	POLJE		O
12.	10324	73	10	FOJNICA	VOLJEVAC	OSTRUŽNICA		O
13.	11142	46	52	VITEZ	PRNJAVOR	POČULICA		O
14.	10774	74	85	NOVI TRAVNIK	NOVI TRAVNIK	MARŠALA TITA	G	
15.	10774	90	141	NOVI TRAVNIK	RAT	ROSTOVO		O

TIM 7.

R.br	Općina	PK	Br. Dom	IME OPĆINE	IME NASELJA	IME MZ	Grad/Ostalo	
1.	11401	168	87	MOSTAR-ZAPAD	MOSTAR	AVENIJA	G	
2.	11401	209	118	MOSTAR-ZAPAD	MOSTAR	BIJELI BRIJEG	G	
3.	11401	35	62	MOSTAR-ZAPAD	MOSTAR	GORANĆI		O
4.	11371	315	261	MOSTAR-JUGOZAP.	MOSTAR	RODOČ II		O
5.	11355	353	103	MOSTAR-JUG	ŽITOMISLIĆI	ŽITOMISLIĆI		O
6.	10766	20	60	RAMA	HERE	UŽDOL		O
7.	10731	57	31	POSUŠJE	VINJANI	VINJANI		O
8.	10405	79	54	GRUDE	TIHALJINA	TIHALJINA		O
9.	10243	3	110	ČAPLJINA	BIVOLJE BRDO	BIVOLJE BRDO		O
10.	10260	8	116	ČITLUK	BLATNICA	BLATNICA		O
11.	10570	13	52	ŠIROKI BRIJEG	DOBRKOVIĆI	DOBRKOVIĆI		O
12.	10570	64	70	ŠIROKI BRIJEG	LJUBOTIĆI	LJUBOTIĆI		O
13.	10626	39	46	LJUBUŠKI	KLOBUK	KLOBUK		O
14.	10685	16	46	NEUM	GOR.HRASNO	GORNJE HRASNO		O
15.	10995	12	37	STOLAC	BJELOJEVIĆI	BURMAZI		O

TIM 8.

R.br	Općina	PK	Br. dom	IME OPĆINE	IME NASELJA	IME MZ	Grad/Ostalo	
1.	10588	86	61	LIVNO	LOPATICE	VIDOSI		O
2.	10588	147	42	LIVNO	VRBICA	CELEBIC		O
3.	10308	99	60	TOMISLAVGRAD	PRISOJE	PRISOJE		O
4.	10308	22	116	TOMISLAVGRAD	DONJI BRISNIK	BRISNIK		O
5.	10294	93	73	DONJI VAKUF	PRUSAC	PRUSAC		O
6.	10375	58	57	GORNJI VAKUF	KUTE	VOLJICE		O
7.	10430	121	53	JAJCE	KREZLUK	KREZLUK		O
8.	10197	72	48	BUGOJNO	BUGOJNO	CRNICE	G	
9.	10197	165	243	BUGOJNO	VUCIPOLJE	VUCIPOLJE		O
10.	11053	30	70	DRVAR	MOKRONOGE	MOKRONOGE		O
11.	10812	212	77	SANSKI MOST	SANSKI MOST	SANSKI MOST-LIJEVA OBALA	G	
12.	10812	2	35	SANSKI MOST	BATKOVĆI	STARA RIJEKA		O
13.	10812	81	103	SANSKI MOST	HRUSTOVO	HRUSTOVO		O
14.	10812	154	36	SANSKI MOST	OTIS	LUSCI PALANKA		O
15.	10502	92	84	KLJUČ	HUMICI	HUMICI		O

TIM 9.

R.br	Općina	PK	Br. dom	IME OPĆINE	IME NASELJA	IME MZ	Grad/Ostalo	
1.	10880	37	89	SARAJEVO-NOVO SARAJEVO	SARAJEVO DIO	AVDO HODŽIĆ	G	
2.	10880	151	87	SARAJEVO-NOVO SARAJEVO	SARAJEVO DIO	DONJI POFALIĆI	G	
3.	10880	250	52	SARAJEVO-NOVO SARAJEVO	SARAJEVO DIO	KOVAČIĆI	G	
4.	10880	333	88	SARAJEVO-NOVO SARAJEVO	SARAJEVO DIO	IVAN KRNDELJ	G	
5.	10880	410	51	SARAJEVO-NOVO SARAJEVO	SARAJEVO DIO	BRATSTVO-JEDINSTVO	G	
6.	10855	83	253	SARAJEVO-ILIDŽA	SARAJEVO DIO	OSIJEK	G	
7.	10855	166	636	SARAJEVO-ILIDŽA	SARAJEVO DIO	LUŽANI	G	
8.	10855	12	196	SARAJEVO-ILIDŽA	KOBILJAČA	RAKOVICA		O
9.	10847	68	119	SARAJEVO-HADŽIĆI	MIŠEVIĆI	BINJEŽEVO		O
10.	11398	134	171	MOSTAR-STARI GRAD	MOSTAR	LUKA 1	G	
11.	11398	271	83	MOSTAR-STARI GRAD	MOSTAR	DONJA MAHALA	G	
12.	11363	74	55	MOSTAR-JUGOISTOK	KRUŽANJ	PODVELEŽ		O
13.	10529	164	119	KONJIC	ORAHOVICA	ORAHOVICA		O
14.	10529	23	28	KONJIC	BUŠČAK	PARSOVIĆI		O
15.	10421	33	52	JABLANICA	JELAČIĆI	JABLANICA 1		O

TIM 10.

R.br	Općina	PK	Br. dom	IME OPĆINE	IME NASELJA	IME MZ	Grad/Ostalo	
1.	10839	29	95	SARAJEVO-CENTAR	SARAJEVO DIO	BETANIJA	G	
2.	10839	122	31	SARAJEVO-CENTAR	SARAJEVO DIO	KOŠEVO 1	G	
3.	10839	226	61	SARAJEVO-CENTAR	SARAJEVO DIO	SOUKBUNAR	G	
4.	10839	313	92	SARAJEVO-CENTAR	SARAJEVO DIO	KOŠEVSKO BRDO	G	
5.	10871	36	108	SARAJEVO-NOVI GRAD	SARAJEVO DIO	NOVINARSKO NASELJE	G	
6.	10871	126	31	SARAJEVO-NOVI GRAD	SARAJEVO DIO	DOBRINJA 1	G	
7.	10871	223	51	SARAJEVO-NOVI GRAD	SARAJEVO DIO	IVO ANDRIĆ	G	
8.	10871	310	94	SARAJEVO-NOVI GRAD	SARAJEVO DIO	RAGIB DŽINDO	G	
9.	10871	391	61	SARAJEVO-NOVI GRAD	SARAJEVO DIO	DVADESET PETI NOVEMBAR	G	
10.	10871	488	69	SARAJEVO-NOVI GRAD	SARAJEVO DIO	PAVLE GORANIN 3	G	
11.	10871	569	151	SARAJEVO-NOVI GRAD	SARAJEVO DIO	STARO HRASNO	G	
12.	10901	123	78	SARAJEVO-STARI GRAD	SARAJEVO DIO	KOVAČI	G	
13.	10901	260	58	SARAJEVO-STARI GRAD	SARAJEVO DIO	ŠIROKAČA	G	
14.	10863	71	260	SARAJEVO-ILIJAŠ	LJEŠEVO	LJEŠEVO		O
15.	10367	168	74	GORAŽDE	OŠANICA	OŠANICA		O
16.	10367	15	109	GORAŽDE	BOGUŠIĆI	BOGUŠIĆI		O

APPENDIX 2

Survey teams

Risk factor survey FBiH 2002
Survey teams

TIM 1	Intervjuer	01	DINA MIHELČIĆ	Studentica 6. god. medicine	ZZJZ USK, Bihac
	Mjeritelj	02	MUHIBA KRMPOTIĆ	Viši sanitarni tehničar	ZZJZ USK, Bihać
TIM 2	Intervjuer	03	dr GORAN PAVIĆ	Liječnik na specijalizaciji	DZ Orašje
	Mjeritelj	04	NENAD SENKOVIĆ	Medicinski tehničar	DZ Domaljevac
TIM 3	Intervjuer	05	JASMINA BEŠLAGIĆ	medicinski tehničar	Dom zdravlja Tuzla
	Mjeritelj	06	DAMIR BESLAGIĆ	Medicinski tehničar	ZZJZ TK, Tuzla
TIM 4	Intervjuer	07	MAIDA HODŽIĆ	medicinski tehničar	ZZJZ TK, Tuzla
	Mjeritelj	08	ADNAN HODŽIĆ	medicinski tehničar	ZZJZ TK, Tuzla
TIM 5	Intervjuer	09	ELDINA VALENTIĆ	medicinski tehničar	ZZJZ ZDK, Zenica
	Mjeritelj	10	SAUDIN TUTINIĆ	medicinski tehničar	ZZJZ ZDK, Zenica
TIM 6	Intervjuer	11	dr AMRA ŽIVANOVIĆ	specijalista socijalne medicine	ZZJZ SBK, Travnik
	Mjeritelj	12	SELMA HADŽIBEGOVIĆ	medicinski tehničar	ZZJZ SBK, Travnik
TIM 7	Intervjuer	13	JULIJANA MARTINOVIĆ	Viši sanitarni tehničar	Federalni ZZJZ Mostar
	Mjeritelj	14	MIRA PUPIĆ	Viši sanitarni tehničar	Federalni ZZJZ Mostar
TIM 8	Intervjuer	15	dr OLGA BABIĆ	pedijatar	ZZJZ HBZ, Livno
	Mjeritelj	16	dr ZDRAVKO BABIĆ	epidemiolog	ZZJZ HBZ; Livno
TIM 9	Intervjuer	17	AZEMINA BEŠIĆ	medicinski tehničar	Federalni ZZJZ, Sarajevo
	Mjeritelj	18	RASIM SMAJKIĆ	medicinski tehnicar	Zavod za zdrav.zastitu Mostar
TIM 10	Intervjuer	19	Prim dr SNJEŽANA BALTA	Epidemiolog	ZZJZ Kantona Sarajevo
	Mjeritelj	20	ALIJA PRELJEVIĆ	viši sanitarni tehničar	ZZJZ Kantona Sarajevo

APPENDIX 3

Survey questionnaire

RISK FACTOR SURVEY

Questionnaire code I_I_I_I_I /I_I_I

QUESTIONNAIRE

Canton I_I_I

Municipality I_I_I_I_I_I

Interwievers code I_I_I

Date I_I_I_I_I_I_I

ID code I_I_I_I_I_I_I_I_I_I_I_I_I_I

BASIC INFORMATION

1 Gender

1 male
2 female

2 Year of birth

I_I_I_I_I

3 Nationality

1 bosinac
2 croatian
3 serbian
4 jewish
5 other
6 can not say

4 Marital status

1 married
2 co-habiting
3 single
4 separated, divorced
5 widowed

5 Total number of years of full time education (including basic levels)

I_I_I

6 What is the highest level of your education

1 without education
2 primary education
3 secundary education
4 professsional education
5 higher secundary education, high education
6 university education, academic education

7 Professional status

1 farming
2 industrial, construction work
3 office work, intellectual work
4 services work
5 student
6 housewife
7 pensioneer
8 unemployed

8 What is your net monthly household income

1 < 150 KM
2 150 - 250 KM
3 251 - 500 KM
4 501 - 1000 KM
5 1001 – 2500 KM
6 2501 – 5000 KM
7 > 5000 KM

9 What is your net annual household income?

1 <1500 KM
2 1500 - 2500 KM
3 2501 - 5000 KM
4 5001 - 10 000 KM
5 10 001 – 20 000 KM
6 20 001– 50 000 KM
7 > 50 000 KM

10 How many persons are included in your household?

I_I_I

11 How many persons over 18 years are included in your household?

I_I_I

12 Are you satisfied with your living conditions at home

1 very satisfied
2 satisfied
3 somewhat satisfied
4 unsatisfied
5 very unsatisfied

HEALTH SERVICES AND HEALTH STATUS

13 How far is the nearest health center or other health institution where you can receive health sevices?

1 700 m
2 701 - 1500 m
3 1501 - 2000 m
4 2001 – 5000 m
5 > 5000 m

14 Do you have health insurance?

1 Yes
2 No

15 Would you like to have a family doctor?

1 Yes
2 No

16 How many times did you visit a doctor in last 12 month (- except the gravidity and delivery, do not include visits to the dentist)

1 In public sector I_I_I
2 In private sector I_I_I

17 How many times did you visit the doctor, general practitioner or family doctor during the last 4 weeks because of personal needs?

I_I_I

18 **What is the main reason for your consultation with the doctor in the primary health care?**

1 injury - accident
2 diseases
3 examination which is not in relation with diseases
4 prescription
5 administrative procedures
6 other

19 **How many times during the last 4 week did you visit the doctor in urgent issues?**

I_I_I

20 **How many times during the last 4 week did you visit the specialist?**

I_I_I

21 **When you visited your doctor last time how much you paid for (in KM)**

1	medical examination	I_I_I KM
2	presciption	I_I_I KM
3	diagnostic tests	I_I_I KM

22 **Are you satisfied with health workers services**

1 very satisfied
2 satisfied
3 somewhat satisfied
4 unsatisfied
5 very unsatisfied

23 **Are you satisfied with the protection of your privacy in health care?**

1 very satisfied
2 satisfied
3 somewhat satisfied
4 unsatisfied
5 very unsatisfied

24 When you visited your doctor last time how long did you wait for services

1 less than 10 minutes
2 10 - 20 minutes
3 21 minutes - 1 hour
4 1 -2 hours
5 2 or more hours

25 Have you been in hospital during the last 12 months?

1 Yes
2 No

26 How many days were you in hospital during your last hospitalization?

I_I_I

27 During hospitalization how much did you pay for (in KM)

1	medical examination	I_I_I KM
2	presciption	I_I_I KM
3	diagnostic tests	I_I_I KM

28 Where you satisfied with health services during the hospitalisation?

1 very satisfied
2 satisfied
3 somewhat satisfied
4 unsatisfied
5 very unsatisfied

29 Where you satisfied with the protection of your privacy during the hospitalisation?

1 very satisfied
2 satisfied
3 somewhat satisfied
4 unsatisfied
5 very unsatisfied

30 How many times during the last 12 months you visited dentist in

1	public sector	I_I_I
2	private sector	I_I_I

31 How many times have you visited dentist during the last 4 weeks because of personal health needs?

I_I_I

32 Which of the following best describes your usual visit to dentist?

1	once a year or more for check up
2	one time in two years for check up
3	one time in more than two years for check up
4	only in case of toothache or other symptoms
5	never or very rarely

33 During the last year (12 months) have you been diagnosed as having or been treated for any of the following conditions

	yes	no
heart failure	1	2
angina pectoris	1	2
myocardial infarction	1	2
stroke	1	2
cancer	1	2
asthma	1	2
pulmonary emphysema	1	2
chronic bronchitis	1	2
rheumatism arthritis	1	2
back illness	1	2
gastritis or ulcer	1	2
cholelitiasis	1	2
chronic uretritis	1	2

34 Have you had any of the following symptoms during the last month (30 days)?

	yes	no
rheumatic pain	1	2
joint pain	1	2
back pain	1	2
swelling of legs	1	2
varicose veins	1	2
constipation	1	2
continous stomach pain	1	2
headache	1	2
nausea	1	2
difficulties in moving	1	2

35 Has a doctor ever diagnosed you for myocardial infarction?

1 yes, what year was the last one? I_I_I_I_I
2 no

36 Has a doctor ever diagnosed you with stroke or cerebral hemorrhage?

1 yes, what year was the last one? I_I_I_I_I
2 no

37 Are you ccurrently taking Aspirin or equivalent acetylsalicyl acid containing medication to prevent or treat heart disease or stroke?

1 yes
2 no
3 uncertain

38 When was your blood cholesterol last measured

1 within the past 12 months
2 1 - 5 years ago
3 more than 5 years ago
4 never

39 Have you been told by a health professional in the past year (12 months) that you have elevated blood cholesterol level?

1 yes
2 no
3 uncertain

40 **Are you currently taking medication prescribed by a doctor to lower your blood cholesterol level?**

1 yes
2 no
3 uncertain

41 **Has a doctor in the past year ordered you to change your lifestyle in order to lower your total blood cholesterol?**

1 yes
2 no
3 uncertain

42 **When was your blood pressure last measured by health professionals**

1 within the past 12 months
2 1 -5 years ago
3 more than 5 years ago
4 never

43 **Have you been told by health professionals in the past year (12 months) that you have elevated blood pressure or hypertension?**

1 yes
2 no
3 uncertain

44 **Are you currently taking medication prescribed by a doctor to lower your blood pressure?**

1 yes
2 no
3 uncertain

45 **Has doctor in the last year, 12 months, ordered you to change your lifestyle in order to lower your blood pressure?**

1 yes
2 no
3 uncertain

46 When was your blood sugar last measured?

1 within the last 12 months
2 1-5 years ago
3 more than 5 years ago
4 never

47 Have you ever been told by a doctor that you have diabetes?

1 yes
2 no (proceed to question 50)
3 uncertain

48 When was your diabetes diagnosed?

1 during last 12 months
2 1 - 5 years ago
3 more than 5 years ago

49 Are you currently taking any treatment to control diabetes? (you can choose several alternatives)

1 dietary counselling
2 tablet treatment
3 insulin treatment
4 none

FOOD HABITS

50 Which kind of fat do you usually use at cooking (circle only one alternative)

1 vegetable oil
2 margarine
3 butter and butter product
4 lard, animal fat
5 no fat at all
6 I don't know
7 I don't usually prepare food at home

51 What kind of fat do you mostly use on bread ? (circle only one alternative)

1 none
2 margarin
3 butter
4 butter product consisting mainly of butter
5 lard, animal fat

52 If you drink milk do you usually use?
(circle only one alternative)

1 whole milk
2 consumer milk (3.3%)
3 low – fat milk (2% - 2.8%)
4 milk with 1% fat
5 skimmed milk (without fat, with vit A and D)
0 I don't drink milk

53 How many glasses of milk or yoghurt do you drink a day?

milk l_l
yoghurt l_l

54 How many cups of coffee or tea do you usually drink a day

coffe l_l
tea l_l

55 How many slices of bread do you usually eat per day

rye bread l_l slices a day
white bread l_l slices a day
other bread l_l slices a day

56 Do you add salt to your meals at the table?

1 never
2 when the food is not salty enough
3 almost always before tasting

57 In your opinion are you

1 underweight
2 a little too thin
3 normal weight
4 a little overweight
5 too much overweight

58 Do you take vitamins, mineral nutrients and other nutritive preparates

1 never (proceed to question 60)
2 yes, sometimes
3 yes, every day

59 Why do you take nutritive preparates?

1 to treat illnesses by myself
2 to prevent diseases
3 diet supplement
4 aesthetics reasons
5 recommendation of family or friends
6 doctors order
7 other reasons

60 During the last year have you been advised by health professionals to change your dietary habits for health reasons?

1 Yes
2 No
3 Uncertain

61 How often during the last week have you consumed the following foods and drinks?

	never	1-2 times	3-5 times	6-7 times
boiled potatoes	1	2	3	4
fried potatoes	1	2	3	4
rice / pasta	1	2	3	4
cereals	1	2	3	4
porridge	1	2	3	4
cheese	1	2	3	4
chicken	1	2	3	4
fish	1	2	3	4
meat	1	2	3	4
meat products (sausages et.)	1	2	3	4
fresh vegetables	1	2	3	4
other vegetables	1	2	3	4
fresh fruit	1	2	3	4
fresh berries	1	2	3	4
other fruit/ berries	1	2	3	4
sweet pastries	1	2	3	4
sweets	1	2	3	4
soft drinks	1	2	3	4
eggs	1	2	3	4

PHYSICAL ACTIVITY

62 **How many minutes a day do you spend**
walking or riding a bicycle to and from your work?

1 I don't work at all
2 I work at home
3 I go to work by car
4 less than 15 minutes a day
5 15 – 30 minutes a day
6 31 – 60 minutes a day
7 more than one one hour a day

63 **In your leisure time, how often do you do physical exercise,**
which makes you at least mildly short of breath or perspire?

1 daily
2 4 – 6 times a week
3 2-3 times a week
4 once a week
5 2 – 3 times a month
6 few times a year or less
7 I cannot exercise because of health reasons
8 I cannot exercise because of disability

64 **How physically strenuous is your work**

1 very light (mainly sitting)
2 light (mainly walking)
3 medium (lifting, carrying light loads)
4 heavy manual work (climbing, carryng heavy loads)

SMOKING

65 **Have you ever smoked 100 cigaretes, cigares, pipes in your life**

1 yes
2 no (proceed on question 75)
3 uncertain

66 **Have you ever smoked daily**

1 yes
2 no (proceed on question 75)
3 uncertain

67 Do you now smoke

1 yes, daily (proceed on question 69)
2 yes occassionally
3 not at all

68 When did you stop smoking daily? (If you have quit smoking several times, give the time when you last stopped smoking daily)

1 yesterday or today
2 2 days - 6 days ago
3 1 week - less than 1 month ago (proceed to quest. 74)
4 1 month - less than 1 year ago (proceed to quest. 74)
5 1 - 5 years ago (proceed to question 75)
6 more than 5 years ago (proceed to question 75)

69 On average how many times a day do you smoke (= number of cigarettes, cigars or pipefuls)

I_I_I

70 Which of the products do you frequently smoke

manufactured cigarettes	1 yes	2 no
self rolled cigarettes	1 yes	2 no
pipe	1 yes	2 no
cigars	1 yes	2 no

71 Would you like to quit smoking?

1 no
2 yes
3 I cant say

72 If you would try to quit smoking, do you think you could succeed?

1 no
2 yes
3 I cant say

73 Have you ever seriously tried to quit smoking? If you have, when was the last time?

1 never
2 over a year ago
3 6 months - a year ago
4 1 month - 6 months ago

74 Have you during the past year (12 months) been advised by health professionals to stop smoking ?

1 yes
2 no
3 I have not smoked during the past 12 months

75 How many hours a day are you exposed to tobacco smoke? (If you are not exposed mark 0)

1	at home	I_I_I
2	in the working place	I_I_I
3	other places	I_I_I

ALCOHOL

76 During the last year (12 months) have you consumed any alcoholic drinks (beer, wine, spirits)

1 yes
2 no (proceed to question 79)

77 How many glasses (regular restaurant portions), bottles of the following drinks have you had during the last week (if you have not had any, mark 0)

beer	I_I_I bottles 1/3 liter	I_I_I bottles 1/2 liter
free – mixed highballs or coctails		I_I_I glasses
wine		I_I_I glasses (2 dl)
strong alcohol		I_I_I glasses (half dl)

78 How often do you usually drink alcohol

1 daily
2 few times a week
3 once a week
4 few times a month
5 few times a year
0 I never consume alcohol

FOR WOMEN ONLY

79 Are you pregnant at the moment?

1 yes (you can stop answering to this question)
2 no

80 Have you had any period during the past six months

1 yes
2 no

81 Are you currently using hormone replacement therapy

1 yes (except gravidity)
2 no

Date l_l_l_l_l_l_l_l

HEALTH WORKERS IDENTIFICATION CODE l_l_l

PRACTICAL SEGMENT

1 Height l_l_l_l l_l cm (with the accuracy of 1 mm)

2 Weight l_l_l_l l_l kg (with the accuracy of 100 g)

3 Waist measurement l_l_l_l l_l cm (with the accuracy of 0,5 cm)
l_l_l_l l_l cm

4 Hip measurement l_l_l_l l_l cm (with the accuracy of 0,5cm)
l_l_l_l l_l cm

5 Blood pressure 1 measurement l_l_l_l / l_l_l_l
2 measurement l_l_l_l / l_l_l_l

6 Pulse l_l_l_l / 30 s

7 Invited for blood sample draw?

1 yes
2 no

APPENDIX 4:

Documentary tables

Table A1. Study sample by age group, gender and kanton

Kanton	AGE GROUP (males+females) 25-34	35-44	45-54	55-64	Total
1. Unsko-sanski	87	97	106	102	392
2. Posavski	8	11	6	35	60
3. Tuzlanski	102	186	201	148	637
4. Zeničko-dobojski	61	143	128	111	443
5.Bos-podrinj.	8	16	9	7	40
6. Srednje-bosanski	58	83	70	79	290
7. Hercegovačko-neretvanski	63	100	89	60	312
8. Zapadno-hercegovački	19	31	17	32	99
9. Sarajevo	76	116	102	92	386
10. Herceg-bosanski	20	15	15	41	91
Total	**502**	**798**	**743**	**707**	**2750**

Statistics: X^2: 96.47, DF: 27, P: <0.001

Kanton	AGE GROUP (males) 25-34	35-44	45-54	55-64	Total
1. Unsko-sanski	16	28	28	33	105
2. Posavski	4	7	3	16	30
3. Tuzlanski	45	95	119	88	347
4. Zeničko-dobojski	18	67	53	38	176
5.Bos-podrinj	2	4	3	3	12
6. Srednje-bosanski	22	30	24	21	97
7. Hercegovačko-neretvanski	25	47	39	22	133
8. Zapadno -hercegovački	4	14	9	14	41
9. Sarajevo	31	49	37	22	139
10. Herceg-bosanski	7	6	6	22	41
Total	**174**	**347**	**321**	**279**	**1121**

Statistics: X^2: 72.91, DF: 27, P: <0.001

Kanton	AGE GROUP (females) 25-34	35-44	45-54	55-64	Total
1. Unsko-sanski	71	69	78	69	287
2. Posavski	4	4	3	19	30
3. Tuzlanski	57	91	82	60	290
4. Zeničko-dobojski	43	76	75	73	267
5. Bosansko-podrinjski	6	12	6	4	28
6. Srednje-bosanski	36	53	46	58	193
7. Hercegovačko-neretvanski	38	53	50	38	179
8. Zapadno-hercegovački	15	17	8	18	58
9. Sarajevo	45	67	65	70	247
10. Herceg-bosanski	13	9	9	19	50
Total	**328**	**451**	**422**	**428**	**1629**

Statistics: X^2: 55.10, DF: 27, P: 0.001

Table A2. Study sample by age group, gender and urban/rural residence

Residence	AGE GROUP (males+females) 25-34	35-44	45-54	55-64	Total
Urban	119	212	246	211	788
Rural	383	586	497	496	1962
Total	**502**	**798**	**743**	**707**	**2750**

Statistics: X^2: 15.42, DF: 3, P: 0.001

Residence	AGE GROUP (males) 25-34	35-44	45-54	55-64	Total
Urban	50	87	101	66	304
Rural	124	260	220	213	817
Total	**174**	**347**	**321**	**279**	**1121**

Statistics: X^2: 5.73, DF: 3, P: 0.126

Residence	AGE GROUP (females) 25-34	35-44	45-54	55-64	Total
Urban	69	125	145	145	484
Rural	259	326	277	283	1145
Total	**328**	**451**	**422**	**428**	**1629**

Statistics: X^2: 20.60, DF: 3, P: <0.001

Table A3. Study sample by age group, gender and nationality

	AGE GROUP (males+females)						
Nationality	**25-34**	**35-44**	**45-54**	**55-64**	**Total**	**%**	Statistics:
Bosniac	373	582	504	391	1850	67.3%	
Croatian	102	168	163	227	660	24.0%	X^2: 84.99
Serbian	20	38	68	82	208	7.6%	DF: 12
Other	2	4	4	2	12	0.4%	P: <0.001
Can not say	5	6	4	5	20	0.7%	
Total	**502**	**798**	**743**	**707**	**2750**	**100.0%**	

	AGE GROUP (males)						
Nationality	**25-34**	**35-44**	**45-54**	**55-64**	**Total**	**%**	Statistics:
Bosniac	129	241	218	157	745	66.5%	
Croatian	37	82	75	89	283	25.2%	X^2: 36.79
Serbian	4	23	27	32	86	7.7%	DF: 12
Other	1	0	1	0	2	0.2%	P: <0.001
Can not say	3	1	0	1	5	0.4%	
Total	**174**	**347**	**321**	**279**	**1121**	**100.0%**	

	AGE GROUP (males+females)						
Nationality	**25-34**	**35-44**	**45-54**	**55-64**	**Total**	**%**	Statistics:
Bosniac	244	341	286	234	1105	67.8%	
Croatian	65	86	88	138	377	23.1%	X^2: 66.16
Serbian	16	15	41	50	122	7.5%	DF: 12
Other	1	4	3	2	10	0.6%	P: <0.001
Can not say	2	5	4	4	15	0.9%	
Total	**328**	**451**	**422**	**428**	**1629**	**100.0%**	

Table A4. Study sample by age group, gender and marital status

	AGE GROUP (males+females)						
Marital status	**25-34**	**35-44**	**45-54**	**55-64**	**Total**	**%**	Statistics:
Married	373	682	608	537	2200	80.0%	
Single	108	57	39	18	222	8.1%	X^2: 289.62
Separated/divorced	12	20	23	18	73	2.7%	DF: 12
Widowed	3	36	69	130	238	8.7%	P: <0.001
Co-habitating/unkn.	6	3	4	4	17	0.6%	
Total	**502**	**798**	**743**	**707**	**2750**	**100.0%**	

	AGE GROUP (males)						
Marital status	**25-34**	**35-44**	**45-54**	**55-64**	**Total**	**%**	Statistics:
Married	108	302	289	252	951	84.8%	
Single	58	32	17	2	109	9.7%	X^2: 180.88
Separated/divorced	3	8	6	5	22	2.0%	DF: 12
Widowed	0	4	8	19	31	2.8%	P: <0.001
Co-habitating/unkn.	5	1	1	1	8	0.7%	
Total	**174**	**347**	**321**	**279**	**1121**	**100.0%**	

	AGE GROUP (females)						
Marital status	**25-34**	**35-44**	**45-54**	**55-64**	**Total**	**%**	Statistics:
Married	265	380	319	285	1249	76.7%	
Single	50	25	22	16	113	6.9%	X^2: 161.28
Separated/divorced	9	12	17	13	51	3.1%	DF: 12
Widowed	3	32	61	111	207	12.7%	P: <0.001
Co-habitating/unkn.	1	2	3	3	9	0.6%	
Total	**328**	**451**	**422**	**428**	**1629**	**100.0%**	

Table A5. Study sample by age group, gender and highest educational level achieved

	AGE GROUP (males+females)						
Education level	**25-34**	**35-44**	**45-54**	**55-64**	**Total**	**%**	Statistics:
Without	5	22	48	120	195	7.1%	
Primary	160	228	312	352	1052	38.3%	X^2: 321.66
Second./Profess.	295	476	298	193	1262	45.9%	DF: 12
Higher secondary	29	41	53	24	147	5.3%	P: <0.001
University/academic	13	31	32	18	94	3.4%	
Total	**502**	**798**	**743**	**707**	**2750**	**100.0%**	

	AGE GROUP (males)						
Education level	**25-34**	**35-44**	**45-54**	**55-64**	**Total**	**%**	Statistics:
Without	1	0	2	10	13	1.2%	
Primary	34	46	79	133	292	26.0%	X^2: 133.98
Second./Profess.	122	261	195	111	689	61.5%	DF: 12
Higher secondary	8	24	29	16	77	6.9%	P: <0.001
University/academic	9	16	16	9	50	4.5%	
Total	**174**	**347**	**321**	**279**	**1121**	**100.0%**	

	AGE GROUP (females)						
Education level	**25-34**	**35-44**	**45-54**	**55-64**	**Total**	**%**	Statistics:
Without	4	22	46	110	182	11.2%	
Primary	126	182	233	219	760	46.7%	X^2: 254.18
Second./Profess.	173	215	103	82	573	35.2%	DF: 12
Higher secondary	21	17	24	8	70	4.3%	P: <0.001
University/academic	4	15	16	9	44	2.7%	
Total	**328**	**451**	**422**	**428**	**1629**	**100.0%**	

Table A6. Study sample by age group, gender and professional status

	AGE GROUP (males+females)						
Professional status	**25-34**	**35-44**	**45-54**	**55-64**	**Total**	**%**	Statistics:
Farming	6	22	36	33	97	3.5%	
Industrial	31	81	70	36	218	7.9%	X^2: 780.18
Office/student	64	84	74	31	253	9.2%	DF: 21
Services	126	240	195	47	608	22.1%	P: <0.001
Housewife	161	234	258	271	924	33.6%	
Pensioneer	1	17	46	258	322	11.7%	
Unemployed	112	118	64	31	325	11.8%	
Unknown	1	2	0	0	3	0.1%	
Total	**502**	**798**	**743**	**707**	**2750**	**100.0%**	

	AGE GROUP (males)						
Professional status	**25-34**	**35-44**	**45-54**	**55-64**	**Total**	**%**	Statistics:
Farming	5	22	36	29	92	8.2%	
Industrial	24	77	64	35	200	17.8%	X^2: 419.25
Office/student	29	45	40	19	133	11.9%	DF: 21
Services	62	127	116	30	335	29.9%	P: <0.001
Housewife	1	0	0	2	3	0.3%	
Pensioneer	1	10	26	144	181	16.1%	
Unemployed	52	65	39	20	176	15.7%	
Unknown	0	1	0	0	1	0.1%	
Total	**174**	**347**	**321**	**279**	**1121**	**100.0%**	

	AGE GROUP (females)						
Professional status	**25-34**	**35-44**	**45-54**	**55-64**	**Total**	**%**	Statistics:
Farming	1	0	0	4	5	0.3%	
Industrial	7	4	6	1	18	1.1%	X^2: 388.29
Office/student	35	39	34	12	120	7.4%	DF: 21
Services	64	113	79	17	273	16.8%	P: <0.001
Housewife	160	234	258	269	921	56.5%	
Pensioneer	0	7	20	114	141	8.7%	
Unemployed	60	53	25	11	149	9.1%	
Unknown	1	1	0	0	2	0.1%	
Total	**328**	**451**	**422**	**428**	**1629**	**100.0%**	

Table A7. Study sample by age group, gender and having health insurance

Health insurance	AGE GROUP (males+females) 25-34	35-44	45-54	55-64	Total	%
Yes	421	680	634	628	2363	85.9%
No	78	112	107	79	376	13.7%
Unknown	3	6	2	0	11	0.4%
Total	**502**	**798**	**743**	**707**	**2750**	**100.0%**

Statistics (excl. unknowns): X^2: **5.85** DF: **3** P: **0.119**

Health insurance	AGE GROUP (males) 25-34	35-44	45-54	55-64	Total	%
Yes	143	285	280	239	947	84.5%
No	29	60	41	40	170	15.2%
Unknown	2	2	0	0	4	0.4%
Total	**174**	**347**	**321**	**279**	**1121**	**100.0%**

Statistics (excl. unknowns): X^2: **3.28** DF: **3** P: **0.351**

Health insurance	AGE GROUP (females) 25-34	35-44	45-54	55-64	Total	%
Yes	278	395	354	389	1416	86.9%
No	49	52	66	39	206	12.6%
Unknown	1	4	2	0	7	0.4%
Total	**328**	**451**	**422**	**428**	**1629**	**100.0%**

Statistics (excl. unknowns): X^2: **10.41** DF: **3** P: **0.015**

Table A8. Study sample by age group, gender and having visited a doctor during last 12 months

Seen a doctor	AGE GROUP (males+females) 25-34	35-44	45-54	55-64	Total	%
Yes	232	433	486	544	1695	61.6%
No	269	365	256	163	1053	38.3%
Unknown	1	0	1	0	2	0.1%
Total	**502**	**798**	**743**	**707**	**2750**	**100.0%**

Statistics (excl. unknowns): X^2: **142.96** DF: **3** P: **<0.001**

Seen a doctor	AGE GROUP (males) 25-34	35-44	45-54	55-64	Total	%
Yes	69	175	197	203	644	57.4%
No	104	172	124	76	476	42.5%
Unknown	1	0	0	0	1	0.1%
Total	**174**	**347**	**321**	**279**	**1121**	**100.0%**

Statistics (excl. unknowns): X^2: **57.61** DF: **3** P: **<0.001**

Seen a doctor	AGE GROUP (females) 25-34	35-44	45-54	55-64	Total	%
Yes	163	258	289	341	1051	64.5%
No	165	193	132	87	577	35.4%
Unknown	0	0	1	0	1	0.1%
Total	**328**	**451**	**422**	**428**	**1629**	**100.0%**

Statistics (excl. unknowns): X^2: **88.13** DF: **3** P: **<0.001**

Table A9. Study sample by age group, with reason for having visited a doctor during last 12 months (genders combined)

Reason	AGE GROUP (males+females) 25-34	35-44	45-54	55-64	Total	%
Injury/accident	8	36	13	14	71	2.6%
Diseases	171	331	390	462	1354	49.2%
General examination	11	24	24	21	80	2.9%
Prescription	9	11	30	26	76	2.8%
Administrative procedures	9	11	11	7	38	1.4%
Other	13	9	8	5	35	1.3%
No reason specified	11	11	10	9	41	1.5%
No visit/unknown	270	365	257	163	1055	38.4%
Total	**502**	**798**	**743**	**707**	**2750**	**100.0%**

Table A10. Study sample by age group, gender and having visited a dentist during last 12 months

	AGE GROUP (males+females)						Statistics
Seen a dentist	**25-34**	**35-44**	**45-54**	**55-64**	**Total**	**%**	(excl. unknowns):
Yes	246	322	249	162	979	35.6%	X^2: **99.27**
No	254	475	493	545	1767	64.3%	**DF: 3**
Unknown	2	1	1	0	4	0.1%	**P: <0.001**
Total	**502**	**798**	**743**	**707**	**2750**	**100.0%**	

	AGE GROUP (males)						Statistics
Seen a dentist	**25-34**	**35-44**	**45-54**	**55-64**	**Total**	**%**	(excl. unknowns):
Yes	82	140	118	61	401	35.8%	X^2: **36.95**
No	91	207	203	218	719	64.1%	**DF: 3**
Unknown	1	0	0	0	1	0.1%	**P: <0.001**
Total	**174**	**347**	**321**	**279**	**1121**	**100.0%**	

	AGE GROUP (females)						Statistics
Seen a dentist	**25-34**	**35-44**	**45-54**	**55-64**	**Total**	**%**	(excl. unknowns):
Yes	164	182	131	101	578	35.5%	X^2: **65.44**
No	163	268	290	327	1048	64.3%	**DF: 3**
Unknown	1	1	1	0	3	0.2%	**P: <0.001**
Total	**328**	**451**	**422**	**428**	**1629**	**100.0%**	

Table A11. Study sample by age group, gender and self-reported myocardial infarction (ever)

	AGE GROUP (males+females)						Statistics
Myocardial infarction	**25-34**	**35-44**	**45-54**	**55-64**	**Total**	**%**	(excl. unknowns):
Yes	0	9	17	31	57	2.1%	X^2: **32.82**
No	500	788	725	676	2689	97.8%	**DF: 3**
Unknown	2	1	1	0	4	0.1%	**P: <0.001**
Total	**502**	**798**	**743**	**707**	**2750**	**100.0%**	

	AGE GROUP (males)						Statistics
Myocardial infarction	**25-34**	**35-44**	**45-54**	**55-64**	**Total**	**%**	(excl. unknowns):
Yes	0	3	12	11	26	2.3%	X^2: **13.44**
No	173	344	309	268	1094	97.6%	**DF: 3**
Unknown	1	0	0	0	1	0.1%	**P: 0.004**
Total	**174**	**347**	**321**	**279**	**1121**	**100.0%**	

	AGE GROUP (females)						Statistics
Myocardial infarction	**25-34**	**35-44**	**45-54**	**55-64**	**Total**	**%**	(excl. unknowns):
Yes	0	6	5	20	31	1.9%	X^2: **25.82**
No	327	444	416	408	1595	97.9%	**DF: 3**
Unknown	1	1	1	0	3	0.2%	**P: <0.001**
Total	**328**	**451**	**422**	**428**	**1629**	**100.0%**	

Table A12. Study sample by age group, gender and self-reported stroke/cerebral haemorrhage (ever)

	AGE GROUP (males+females)						Statistics
Stroke/cer.hem.	**25-34**	**35-44**	**45-54**	**55-64**	**Total**	**%**	(excl. unknowns):
Yes	0	3	14	29	46	1.7%	X^2: **42.23**
No	500	794	728	677	2699	98.1%	**DF: 3**
Unknown	2	1	1	1	5	0.2%	**P: <0.001**
Total	**502**	**798**	**743**	**707**	**2750**	**100.0%**	

	AGE GROUP (males)						Statistics
Stroke/cer.hem.	**25-34**	**35-44**	**45-54**	**55-64**	**Total**	**%**	(excl. unknowns):
Yes	0	1	5	16	22	2.0%	X^2: **29.40**
No	173	346	316	263	1098	97.9%	**DF: 3**
Unknown	1	0	0	0	1	0.1%	**P: <0.001**
Total	**174**	**347**	**321**	**279**	**1121**	**100.0%**	

	AGE GROUP (females)						Statistics
Stroke/cer.hem.	**25-34**	**35-44**	**45-54**	**55-64**	**Total**	**%**	(excl. unknowns):
Yes	0	2	9	13	24	1.5%	X^2: **16.67**
No	327	448	412	414	1601	98.3%	**DF: 3**
Unknown	1	1	1	1	4	0.2%	**P: <0.001**
Total	**328**	**451**	**422**	**428**	**1629**	**100.0%**	

Table A13. Study sample by age group, gender and self-reported diabetes (ever)

	AGE GROUP (males+females)						Statistics
Diabetes	**25-34**	**35-44**	**45-54**	**55-64**	**Total**	**%**	(excl. unknowns):
Yes	3	12	47	86	148	5.4%	X^2: **109.71**
No	484	779	689	618	2570	93.5%	**DF: 3**
Unknown	15	7	7	3	32	1.2%	**P: <0.001**
Total	**502**	**798**	**743**	**707**	**2750**	**100.0%**	

	AGE GROUP (males)						Statistics
Diabetes	**25-34**	**35-44**	**45-54**	**55-64**	**Total**	**%**	(excl. unknowns):
Yes	1	5	19	29	54	4.8%	X^2: **34.28**
No	165	338	300	250	1053	93.9%	**DF: 3**
Unknown	8	4	2	0	14	1.2%	**P: <0.001**
Total	**174**	**347**	**321**	**279**	**1121**	**100.0%**	

	AGE GROUP (females)						Statistics
Diabetes	**25-34**	**35-44**	**45-54**	**55-64**	**Total**	**%**	(excl. unknowns):
Yes	2	7	28	57	94	5.8%	X^2: **75.75**
No	319	441	389	368	1517	93.1%	**DF: 3**
Unknown	7	3	5	3	18	1.1%	**P: <0.001**
Total	**328**	**451**	**422**	**428**	**1629**	**100.0%**	

Table A14. Study sample by age group, gender and self-reported current treatment with antihypertensives

	AGE GROUP (males+females)						Statistics
Antihypertensives	**25-34**	**35-44**	**45-54**	**55-64**	**Total**	**%**	(excl. unknowns):
Yes	4	37	116	248	405	14.7%	X^2: **370.63**
No	479	748	622	453	2302	83.7%	**DF: 3**
Unknown	19	13	5	6	43	1.6%	**P: <0.001**
Total	**502**	**798**	**743**	**707**	**2750**	**100.0%**	

	AGE GROUP (males)						Statistics
Antihypertensives	**25-34**	**35-44**	**45-54**	**55-64**	**Total**	**%**	(excl. unknowns):
Yes	1	5	33	73	112	10.0%	X^2: **124.30**
No	165	335	286	204	990	88.3%	**DF: 3**
Unknown	8	7	2	2	19	1.7%	**P: <0.001**
Total	**174**	**347**	**321**	**279**	**1121**	**100.0%**	

	AGE GROUP (females)						Statistics
Antihypertensives	**25-34**	**35-44**	**45-54**	**55-64**	**Total**	**%**	(excl. unknowns):
Yes	3	32	83	175	293	18.0%	X^2: **251.37**
No	314	413	336	249	1312	80.5%	**DF: 3**
Unknown	11	6	3	4	24	1.5%	**P: <0.001**
Total	**328**	**451**	**422**	**428**	**1629**	**100.0%**	

Table A15. Study sample by chronic disease status (*) and self-reported measurement of blood cholesterol, blood pressure and blood sugar

	BLOOD CHOLESTEROL. Time since last measurement				
Chronic disease*	**<1 yr.**	**1-5 yrs.**	**>5 yrs.**	**Never/unknown**	**Total**
Yes	327	88	20	80	515
No	631	526	223	855	2235
Total	**958**	**614**	**243**	**935**	**2750**

	BLOOD PRESSURE. Time since last measurement				
Chronic disease*	**<1 yr.**	**1-5 yrs.**	**>5 yrs.**	**Never/unknown**	**Total**
Yes	477	26	5	7	515
No	1273	613	176	173	2235
Total	**1750**	**639**	**181**	**180**	**2750**

	BLOOD SUGAR. Time since last measurement				
Chronic disease*	**<1 yr.**	**1-5 yrs.**	**>5 yrs.**	**Never/unknown**	**Total**
Yes	381	67	16	51	515
No	770	646	243	576	2235
Total	**1151**	**713**	**259**	**627**	**2750**

*: Selfreported heart disease and/or stroke and/or diabetes

Table A16. Physical exercise: Usual activity in leisure time, by age groups (genders combined)

	AGE GROUP (males+females)						Statistics
Activity level	**25-34**	**35-44**	**45-54**	**55-64**	**Total**	**%**	(excluding unknowns):
Active	89	127	107	93	416	15.1%	X^2: **120.05**
Less Active	397	641	572	497	2107	76.6%	**DF: 12**
Excused	10	24	55	112	201	7.3%	**P: <0.001**
Unknown	6	6	9	5	26	0.9%	
Total	**502**	**798**	**743**	**707**	**2750**	**100.0%**	

	AGE GROUP (males)						Statistics
Activity level	**25-34**	**35-44**	**45-54**	**55-64**	**Total**	**%**	(excluding unknowns):
Active	42	70	53	55	220	19.6%	X^2: **51.11**
Less Active	126	264	244	178	812	72.4%	**DF: 12**
Excused	3	12	23	45	83	7.4%	**P: <0.001**
Unknown	3	1	1	1	6	0.5%	
Total	**174**	**347**	**321**	**279**	**1121**	**100.0%**	

	AGE GROUP (females)						Statistics
Activity level	**25-34**	**35-44**	**45-54**	**55-64**	**Total**	**%**	(excluding unknowns):
Active	47	57	54	38	196	12.0%	X^2: **74.71**
Less Active	271	377	328	319	1295	79.5%	**DF: 12**
Excused	7	12	32	67	118	7.2%	**P: <0.001**
Unknown	3	5	8	4	20	1.2%	
Total	**328**	**451**	**422**	**428**	**1629**	**100.0%**	

Table A17. Smoking: Current smoking status, by age groups (genders combined)

	AGE GROUP (males+females)						Statistics
Smoking status	**25-34**	**35-44**	**45-54**	**55-64**	**Total**	**%**	(excluding unknowns):
Daily	215	355	279	186	1035	37.6%	X^2: **62.99**
Ex-daily	39	57	53	78	227	8.3%	**DF: 12**
Never	246	386	407	441	1480	53.8%	**P: <0.001**
Unknown	2	0	4	2	8	0.3%	
Total	**502**	**798**	**743**	**707**	**2750**	**100.0%**	

	AGE GROUP (males)						Statistics
Smoking status	**25-34**	**35-44**	**45-54**	**55-64**	**Total**	**%**	(excluding unknowns):
Daily	92	192	157	111	552	49.2%	X^2: **41.65**
Ex-daily	9	24	31	56	120	10.7%	**DF: 12**
Never	72	131	133	112	448	40.0%	**P: <0.001**
Unknown	1	0	0	0	1	0.1%	
Total	**174**	**347**	**321**	**279**	**1121**	**100.0%**	

	AGE GROUP (females)						Statistics
Smoking status	**25-34**	**35-44**	**45-54**	**55-64**	**Total**	**%**	(excluding unknowns):
Daily	123	163	122	75	483	29.7%	X^2: **61.99**
Ex-daily	30	33	22	22	107	6.6%	**DF: 12**
Never	174	255	274	329	1032	63.4%	**P: <0.001**
Unknown	1	0	4	2	7	0.4%	
Total	**328**	**451**	**422**	**428**	**1629**	**100.0%**	

Table A18. Smoking: Desire to stop smoking among daily smokers (Table A21), by age groups (genders combined)

	AGE GROUP (males+females)						Statistics
Smoking status	**25-34**	**35-44**	**45-54**	**55-64**	**Total**	**%**	(excluding unknowns):
Yes	104	184	137	88	513	49.6%	X^2: **3.81**
No	76	115	106	72	369	35.7%	**DF: 12**
Cannot say	35	55	36	26	152	14.7%	**P: 0.987**
Unknown	0	1	0	0	1	0.1%	
Total	**215**	**355**	**279**	**186**	**1035**	**100.0%**	

*Table A19. Smoking: Exposure to passive smoking (hours per day), by current smoking status (Table A22)**

	EXPOSURE (hours per day)						Statistics
Smoking status	**0 hr**	**1-6 hr**	**7-12 hr**	**>12 hr**	**Total**	**%**	(excluding unknowns):
Daily	84	355	446	150	1035	37.8%	X^2: 612.37
Ex-daily	82	114	28	3	227	8.3%	DF: 12
Never	531	718	192	34	1475	53.8%	P: <0.001
Unknown	1	2	1	0	4	0.1%	
Total	**698**	**1189**	**667**	**187**	**2741**	**100.0%**	

*: 9 subjects excluded due to missing information

Table A20. Alcohol: Consumption of alcohol (any amount) during last year, by age groups (genders combined)

	AGE GROUP (males+females)						Statistics
Consumption of alcohol	**25-34**	**35-44**	**45-54**	**55-64**	**Total**	**%**	(excl. unknowns):
Yes	133	238	233	206	810	29.5%	X^2: 3.49
No	366	560	506	501	1933	70.3%	DF: 3
Unknown	3	0	4	0	7	0.3%	P: 0.322
Total	**502**	**798**	**743**	**707**	**2750**	**100.0%**	

	AGE GROUP (males)						Statistics
Consumption of alcohol	**25-34**	**35-44**	**45-54**	**55-64**	**Total**	**%**	(excl. unknowns):
Yes	89	188	183	147	607	54.1%	X^2: 1.81
No	84	159	138	132	513	45.8%	DF: 3
Unknown	1	0	0	0	1	0.1%	P: 0.614
Total	**174**	**347**	**321**	**279**	**1121**	**100.0%**	

	AGE GROUP (females)						Statistics
Consumption of alcohol	**25-34**	**35-44**	**45-54**	**55-64**	**Total**	**%**	(excl. unknowns):
Yes	44	50	50	59	203	12.5%	X^2: 1.88
No	282	401	368	369	1420	87.2%	DF: 3
Unknown	2	0	4	0	6	0.4%	P: 0.599
Total	**328**	**451**	**422**	**428**	**1629**	**100.0%**	

Table A21. Potential hypertension, by age groups (genders combined)

	AGE GROUP (males+females)						Statistics
Potential hypertension	**25-34**	**35-44**	**45-54**	**55-64**	**Total**	**%**	(excl. unknowns):
Yes	60	218	366	483	1127	41.0%	X^2: 476.60
No	439	579	374	222	1614	58.7%	DF: 3
Unknown	3	1	3	2	9	0.3%	P: <0.001
Total	**502**	**798**	**743**	**707**	**2750**	**100.0%**	

	AGE GROUP (males)						Statistics
Potential hypertension	**25-34**	**35-44**	**45-54**	**55-64**	**Total**	**%**	(excl. unknowns):
Yes	22	89	129	158	398	35.5%	X^2: 111.05
No	151	257	192	121	721	64.3%	DF: 3
Unknown	1	1	0	0	2	0.2%	P: <0.001
Total	**174**	**347**	**321**	**279**	**1121**	**100.0%**	

	AGE GROUP (females)						Statistics
Potential hypertension	**25-34**	**35-44**	**45-54**	**55-64**	**Total**	**%**	(excl. unknowns):
Yes	38	129	237	325	729	44.8%	X^2: 386.68
No	288	322	182	101	893	54.8%	DF: 3
Unknown	2	0	3	2	7	0.4%	P: <0.001
Total	**328**	**451**	**422**	**428**	**1629**	**100.0%**	

Table A22. Body Mass Index (kg/m²), by age groups (genders combined)

	AGE GROUP (males+females)						Statistics
BMI category	**25-34**	**35-44**	**45-54**	**55-64**	**Total**	**%**	(excluding unknowns):
30+	41	127	198	226	592	21.5%	X^2: **259.08**
25-29	146	337	339	305	1127	41.0%	**DF: 12**
<25	308	332	204	168	1012	36.8%	**P: <0.001**
Unknown	7	2	2	8	19	0.7%	
Total	**502**	**798**	**743**	**707**	**2750**	**100.0%**	

	AGE GROUP (males)						Statistics
BMI category	**25-34**	**35-44**	**45-54**	**55-64**	**Total**	**%**	(excluding unknowns):
30+	20	47	59	59	185	16.5%	X^2: **30.84**
25-29	67	170	169	137	543	48.4%	**DF: 12**
<25	86	130	93	81	390	34.8%	**P: 0.002**
Unknown	1	0	0	2	3	0.3%	
Total	**174**	**347**	**321**	**279**	**1121**	**100.0%**	

	AGE GROUP (females)						Statistics
BMI category	**25-34**	**35-44**	**45-54**	**55-64**	**Total**	**%**	(excluding unknowns):
30+	21	80	139	167	407	25.0%	X^2: **248.18**
25-29	79	167	170	168	584	35.9%	**DF: 12**
<25	222	202	111	87	622	38.2%	**P: <0.001**
Unknown	6	2	2	6	16	1.0%	
Total	**328**	**451**	**422**	**428**	**1629**	**100.0%**	

Table A23. Body Mass Index (kg/m²) versus self-perceived weight (age groups and genders combined)

	BMI						Statistics
Self-conceived weight	**<25**	**25-29**	**30+**	**Unknown**	**Total**	**%**	(excluding unknowns):
Underweight	31	4	2	0	37	1.3%	X^2: **1015.89**
A little too thin	108	19	3	4	134	4.9%	**DF: 15**
Normal weight	807	726	142	9	1684	61.2%	**P: <0.001**
A little overweight	62	336	287	3	688	25.0%	
Too much overweight	4	40	158	1	203	7.4%	
Unknown	0	2	0	2	4	0.1%	
Total	**1012**	**1127**	**592**	**19**	**2750**	**100.0%**	

APPENDIX 5:

Abbreviations

Abbreviations

BMI	*Body mass index*
CINDI	WHO/EURO Countrywide Integrated Non-communicable Disease Intervention Programme
C.L.	*Confidence limit*
DBP	*Diastolic blood pressure*
EHRM	*European Health Risk Monitoring project*
FPHI	*Federal Public Health Institute*
MONICA	*WHO Multinational MONItoring of trends and determinants in CArdiovascular disease*
NCD	*Non-communicable diseases*
SBP	*Systolic blood pressure*
SD, Std	*Standard deviation*