Biomed. Papers 147(1), 87–94 (2003)

SOCIO-ECONOMIC PREDICTORS OF LIFE STYLE. A PILOT STUDY

Hana Šlachtová*, Hana Tomášková, Anna Šplíchalová

Department of Health Impact Assessment, Institute of Public Health, Partyzánské nám. 7, 702 00 Ostrava, Czech Republic, e-mail: hana.slachtova@zuova.cz

Received: June 20, 2003; Accepted in revised form July 10, 2003

Key words: Socio-economic status/ Life-style/ Risk behaviour/ Activity/ Psychical well-being

In epidemiological studies there exists the evidence of relationship between socio-economic status (SES) and health. The suspicious cause of these differences is life-style. The aim of the presented study was to identify the relationship between SES, demographic characteristics and the life-style in an industrial region. A structured questionnaire was distributed to a random sample of some 3,000 aged 25–70 and collected by postal delivery. The SES and demographic factors being analysed were sex, age, education, marital status and economic situation of the family in the relationship with a wide range of information on life style. The data was analysed using the chi-square test and logistic regression. The total number of analysed questionnaires was 634. The lowest response-rate was in the group with the basic education. Significant differences were found by sex in education (less women with university degree) and household income (more women in the lowest income category, men in the highest one). A detail analysis of the aggregated variables (adjusted for all SES variables) found: passivity and contentment were in adverse correlation with the level of education and economic situation; psychical well-being was correlated with family status and economic situation, risk behaviour was correlated with all SES factors except sex and education. Among the analysed factors economical situation of respondents' family and education were the most significant determinants of the differences in life-style.

INTRODUCTION

In epidemiological studies there exists the evidence of relationship between socio-economic status (SES) and health. The suspicious cause of these differences is life-style, especially in the specific population of the industrial city whose life-style is impacted by heavy and coal-mining industry. The presented pilot study was provided in the framework of the project funded by the Grant Agency MoH CR – "Subjective approach of inhabitants of Ostrava to their health in association with their life-style, socio-economic status and education". The aim of the study was to identify the relationship between SES, demographic characteristic and the life-style in an industrial region.

MATERIALS AND METHODS

A structured questionnaire was distributed to a random sample of some 3, 000 of the population in Ostrava (an industrial city with a total population over 300 thousands) aged 25–70 and collected by postal delivery. The data were double-entered, cleaned and analysed using the statistical software STATA[26].

The study of reliability was a part of the project. The repeatability of answers, 180 questionnaires being sent again after a six weeks interval, was assessed by two methods: by the percentages of agreement and using the Kappa index[7, 14]. The agreement rate varied from 46 % to 100 % and the value of the Kappa index from – 0.01 to 1. The agreement performed by the Kappa index was divided into 4 groups (≤ 0.4 – poor; 0.41–0.6 – average; 0.61–0.80 – good; 0.81–1 – almost perfect). The agreement across the questionnaire was poor in 6.6 % of the questions, average – in 31.1 %, good – in 45.9 % and almost perfect – in 16.4 % of the questions. The questions where the agreement of answers was evaluated as average or even weak three types of solution was used: a) substitution by analogous questions with a higher agreement, b) the aggregation of the answers if possible, or c) the questions were not used for the analyses. These important results were considered in further analyses of the data and in the interpretation of the study results.

The SES and demographic factors were analysed by sex, age, education, marital status, economical situation of the family and density of housing in relationship to a wide range of information on life-style. The methods used were chi-square test, the analysis of variance ANOVA and logistic regression.

PRELIMINARY RESULTS

The total number of returned and completed questionnaires was 634 (21.1 % of the response rate). The lowest response-rate was in the group with the basic education.

Characteristic of the study sample

The compound of study sample by sex and age was homogeneous. The consistence of respondents by education did not corresponded with education characteristics of inhabitants in the city – absolutely and relatively the lowest response-rate was in the group with the basic education that leads to uderrepresentativity of this social class[1]; relatively the highest interest was noticed in the group with the university education.

Significant differences were found by sex in education (higher number of men in the category with apprenticeship and university education, higher number of women with the basic and secondary education), in marital status (more women living alone in the age over 51). More than 47 % of the respondents were employed, mostly in the heavy industry (26.6 %). More than a half of the respondents has been employed in one institution for more than 5 years. One third have been registered in the employment office, (59.7 % out of them for less than a half year, but a quarter more than one year). The total unemployed respondents were 6.6 % (which was below the official unemployment rate in the Czech Republic – 8.8 %). The group was too small to allow creating the separate group for analysis. About 70% of the respondents live with a partner and the same number is without a religion.

The respondents evaluated their life standard as average (71.6 %), they were not satisfied with the standard (56.5 %) and they perceived the worsening trend. Significant differences were found by sex in household income (more women in the lowest income category, men in the highest).

Life-style

Most of the respondents did not do any regular physical activity (61.0 %) – they declare lack of free time and conditions. They spend their time taking care of children, housekeeping. About a quarter of the respondents do not leave the city for weekends, but half of the people spend holidays out of the city, usually travelling. Leisure time (23 hours/week in average), weekend and holiday activities were significantly correlated with education – the higher education, the more active (sport, physical training, hiking, trips) people were unlike people with the lower education who prefer to stay at home. Active ways of spending leisure time were also correlated with age and economic situation. Very busy were age groups between 41–60 who reported significantly less free time, less frequency of contacts with friends, less time for physical training.

Half of the respondents regularly drink black coffee (1–2 cups a day), 56.5 % are smokers or ex-smokers. As for a diet most of the people have regular intake of food – at least one hot meal a day. More than a half of respondents reported their nourishment as healthy, significantly more in women ($p < 0.01$) and older people ($p < 0.001$). The larger group of respondents spent about 30–40 % of their incomes (40.4 % of the respondents) on food.

The older people were, the significantly more they looked for information about healthy life-style and underwent preventive medical care. Women spent nearly twice as much time by taking care of children and keeping the house and had half as much free time as men. Women also significantly more searched for information about healthy life-style, applied the recommendations, unlike men prefer to undergo the preventive medical examination.

Most of the respondents suffered by serious problems (54.2 %), mostly family and financial ones. They also declared frequent contacts with friends and general contentment. As for the values – health was given priority in 98 % of respondents, followed by relationships with children and partners.

Relationships of the life style with the SES factors

Based on the rough analysis of relationships across the SES factors, life-style, approach to own health and health preventive measures, and behavioural characteristics (using the chi-square test and the analysis of variance ANOVA) the aggregated variables for passivity, contentment, psychical well-being and risk behaviour were created and the relationships with the SES factors were analysed using logistic regression.

Passivity significantly correlated with education – significantly more passive people were in the group with basic education – these people were 4.5 times more passive ($p < 0.001$) compared with people with the university degree. The passivity showed adverse correlation with the level of education. This correlation remains the same after adjustment for all SES factors (Table 1).

Passivity was also significantly correlated with occupational status ($p < 0.05$), but this correlation disappeared after adjustment in the model (Table 1). People with an average economic situation were about half as passive as people with the economic situation below average. This relationship was significant and did not show changes after adjustment for all SES factors (Table 1).

The definition of lack of psychical well-being was based on the occurrence of 5–7 factors out of following ones: serious problems, problematic relationships to other people, tendency to stress, low ability of coping with stress, lack of satisfaction with the economical situation, distress, excitability, lack of contentment. Lack of psychical well-being significantly correlated with economic situation ($p < 0.001$) also after adjustment for all factors in the model (Table 2). Lack of psychical well-being was more than 1.5 higher in people living alone ($p < 0.05$). Other significant correlations of lack of psychical well-being and education or density of housing ($p < 0.05$) disappeared after adjustment for all SES factors (Table 2).

Table 1. Passivity in relationship with SES factors (passive individual – often watch TV, leisure time spend by reading, do not leave the city during weekend and holidays, rare contacts with friends; **N of passive – 106, N of active – 353**).

	Categories of variables	N	CRUDE OR			MODEL I		
			OR	95%CI	P	OR	95%CI	P
Sex	men	283	1+			1+		
	women	352	1.11	0.72–1.72	0.639	0.99	0.60–1.64	0.982
Age	25–30	74	1+			1+		
	31–40	114	0.79	0.33–1.90	0.607	0.91	0.36–2.30	0.848
	41–50	152	1.52	0.69–3.31	0.297	1.66	0.73–3.80	0.229
	51–60	153	1.30	0.59–2.87	0.520	1.31	0.55–3.13	0.545
	> 60	135	1.50	0.67–3.35	0.319	1.27	0.47–3.41	0.632
Education	University	140	1+			1+		
	Basic	76	4.54	2.13–9.67	0.000	3.74	1.59–8.80	0.000
	Apprenticeship	211	1.66	0.87–3.17	0.125	1.60	0.81–3.20	0.178
	Secondary	207	1.51	0.79–2.87	0.211	1.59	0.81–3.12	0.176
Occupation	Active	348	1+			1+		
	Non-active	286	1.62	1.04–2.50	0.031	1.20	0.62–2.32	0.581
Family	With a partner	443	1+			1+		
	Living alone	190	0.95	0.59–1.55	0.846	0.96	0.53–1.75	0.899
Economic situation	Below average	138	1+			1+		
	Average	444	0.46	0.28–0.76	0.002	0.54	0.31–0.93	0.026
	Over average	38	0.40	0.12–1.26	0.116	0.62	0.17–2.19	0.456
Density of housing	room/person	625	0.87	0.64–1.17	0.347	0.94	0.63–1.41	0.766

1+ referent category
P –P > |z|
Model I – controlled for all variables in model

Table 2. Lack of psychical well-being in relationship with SES factors (serious problems, problematic relationships to other people, tend to stress, low ability of coping with stress, lack of satisfaction with the economical situation, distress, excitability, lack of contentment; **N of psychical well-being – 238, N of lack of psychical well-being – 147**).

	Categories of variables	N	CRUDE OR			MODEL I		
			OR	95%CI	P	OR	95%CI	P
Sex	men	283	1+			1+		
	women	352	1.00	0.66–1.52	0.991	1.19	0.71–1.99	0.508
Age	25–30	74	1+			1+		
	31–40	114	1.56	0.70–3.50	0.277	1.82	0.72–4.63	0.206
	41–50	152	2.01	0.94–4.30	0.071	2.27	0.94–5.49	0.069
	51–60	153	0.92	0.42–1.99	0.832	1.58	0.63–4.01	0.331
	> 60	135	0.60	0.26–1.37	0.226	0.89	0.31–2.55	0.822
Education	University	140	1+			1+		
	Basic	76	2.09	1.00–4.36	0.049	0.77	0.30–2.55	0.597
	Apprenticeship	211	1.99	1.09–3.64	0.024	0.99	0.50–1.99	0.989
	Secondary	207	1.60	0.86–2.94	0.135	0.96	0.48–1.91	0.912
Occupation	Active	348	1+			1+		
	Non-active	286	0.92	0.61–1.39	0.697	0.86	0.44–1.70	0.678
Family	With a partner	443	1+			1+		
	Living alone	190	1.62	1.03–2.52	0.034	2.09	1.16–3.78	0.014
Economic situation	Below average	138	1+			1+		
	Average	444	0.16	0.09–0.27	0.000	0.16	0.09–0.30	0.000
	Over average	38	0.04	0.01–0.16	0.000	0.04	0.07–0.18	0.000
Density of housing	room/person	625	0.68	0.50–0.93	0.017	0.73	0.49–1.09	0.127

1+ referent category
P –P > |z|
Model I – controlled for all variables in model

Very interesting findings were detected when analysing risk behaviour in relationship with SES factors.

Risk behaviour was significantly adversely correlated with age (especially in the age groups over 51) – this relationship declined after adjustment in the model (Table 3). In people living alone risk behaviour appeared nearly twice as much as than in people with a partner ($p < 0.01$) and after adjustment for all the SES factors this relationship strengthened ($p < 0.001$) and in fact risk behaviour of people living alone is more than three times as likely often than in the other people. Risk behaviour was significantly higher also in people living in overcrowded housing conditions ($p < 0.01$ after adjustment) and in people with an active occupational status ($p < 0.001$ after adjustment). The significant differences in risk behaviour between men and women in favour of women ($p < 0.01$) lost its significance after adjustment (Table 3)

The lack of contentment was significantly adversely correlated with education – after adjustment in the model (Table 4) there remained the significant differences only between the group with the basic education and the other educational groups ($p < 0.01$).

Further significant adverse relationship was found between lack of contentment and the economic situation – the relationship remains statistically significant also after adjustment for all the SES factors ($p < 0.001$). People living in overcrowded housing conditions were about as half as contented as other people but this relationship disappeared after adjustment (Table 4).

Active ways of spending holidays significantly declined with increasing age (also in adjusted data – Table 5). People living in more comfortable housing conditions (concerning density of housing) were more than a twice as likely to spend their holidays in an active way and this applied to people living alone too. Family status differences in a way of spending holiday disappeared after adjustment in the model.

A holiday activity (Table 5) was also significantly correlated with education, exists a trend – but after adjustment the significant difference remained only between the group with a basic education and the other educational groups ($p < 0.01$). The positive correlation was also found between holiday activity and economic situation – people with an average economic situation of family are more than twice as likely to have an active holiday and people with the above standard economic situation more that three times as likely ($p < 0.01$).

Table 3. Risk behaviour in relationship with SES factors (no physical activity – after omitting people with health reasons, drink more than 3 cups of coffee a day, smoker, without regular food, self-evaluation of own diet as unhealthy, do not visit a physician when health disorders appear, work having a temperature caused by a cold, refuse sickness benefits, no preventive medical examinations, do not limit intake of unhealthy foods **N with risk behaviour – 286, N with non-risk behaviour – 138**).

	Categories of variables	N	CRUDE OR			MODEL I		
			OR	95%CI	P	OR	95%CI	P
Sex	men	283	1+			1+		
	women	352	0.59	0.39–0.89	0.012	0.67	0.39–1.13	0.133
Age	25–30	74	1+			1+		
	31–40	114	0.96	0.47–1.99	0.922	0.89	0.38–0.06	0.783
	41–50	152	0.77	0.39–1.52	0.453	0.51	0.23–1.11	0.091
	51–60	153	0.25	0.12–0.50	0.000	0.39	0.17–0.90	0.027
	> 60	135	0.45	0.01–0.13	0.000	0.16	0.50–0.54	0.003
Education	University	140	1+			1+		
	Basic	76	0.65	0.30–1.40	0.272	1.06	0.36–3.13	0.915
	Apprenticeship	211	1.15	0.65–2.02	0.628	1.01	0.50–2.05	0.982
	Secondary	207	1.14	0.63–2.04	0.665	1.01	0.48–2.11	0.975
Occupation	Active	348	1+			1+		
	Non-active	286	0.13	0.08–0.21	0.000	0.17	0.08–0.34	0.000
Family	With a partner	443	1+			1+		
	Living alone	190	1.72	1.12–2.64	0.013	3.28	1.77–6.05	0.000
Economic situation	Below average	138	1+			1+		
	Average	444	0.78	0.48–1.29	0.335	0.73	0.38–1.40	0.343
	Over average	38	0.23	0.06–0.83	0.025	0.15	0.36–0.64	0.010
Density of housing	room/person	625	0.52	0.37–0.73	0.000	0.53	0.34–0.82	0.005

1+ referent category
P –P > |z|
Model I – controlled for all variables in model

Table 4. Lack of contentment in relationship with SES factors (contentment – satisfaction with economical situation of the family, feeling of recreation after holidays, satisfaction with amount of sleep and diet situation, seldom distressed or excited, self-evaluation of a very good physical condition, general contentment; **N of content – 383, N of discontent – 114**).

	Categories of variables	N	CRUD E OR			MODEL I		
			OR	95%CI	P	OR	95%CI	P
Sex	men	283	1+			1+		
	women	352	0.93	0.61–1.42	0.753	0.97	0.58–1.63	0.920
Age	25–30	74	1+			1+		
	31–40	114	1.50	0.71–3.16	0.287	1.76	0.73–4.20	0.207
	41–50	152	1.84	0.91–3.73	0.090	2.23	0.98–5.07	0.057
	51–60	153	0.68	0.31–1.47	0.324	0.89	0.35–2..15	0.777
	> 60	135	0.48	0.21–1.11	0.087	0.55	0.19–1.58	0.270
Education	University	140	1+					
	Basic	76	4.41	1.99–9.78	0.000	3.78	1.40–10.23	0.009
	Apprenticeship	211	2.91	1.52–5.58	0.001	1.85	0.88–3.91	0.107
	Secondary	207	1.99	1.01–3.90	0.046	1.84	0.87–3.88	0.110
Occupation	Active	348	1+			1+		
	Non-active	286	0.83	0.54–1.27	0.384	0.79	0.40–1.57	0.505
Family	With a partner	443	1+			1+		
	Living alone	190	1.32	0.84–2.08	0.221	1.27	0.70–2.31	0.434
Economic situation	Below average	138	1+			1+		
	Average	444	0.15	0.09–0.24	0.000	0.15	0.88–0.27	0.000
	Over average	38	0.03	0.00–0.19	0.000	0.03	0.00–0.25	0.001
Density of housing	room/person	625	0.50	0.34–0.74	0.000	0.81	0.51–1.30	0.389

1+ referent category
P –P > |z|
Model I – controlled for all variables in model

Table 5. Active ways of spending holidays (sport, hiking, trekking, travelling and exploring **N of active – 210, N of passive – 321**).

	Categories of variables	N	CRUD E OR			MODEL I		
			OR	95%CI	P	OR	95%CI	P
Sex	men	283	1+			1+		
	women	352	1.31	0.92–1.86	0.137	1.10	0.74–1.63	0.645
Age	25–30	74	1+			1+		
	31–40	114	0.49	0.26–0.93	0.028	0.57	0.29–1.12	0.102
	41–50	152	0.54	0.30–0.98	0.043	0.64	0.32–1.17	0.137
	51–60	153	0.44	0.24–0.80	0.007	0.34	0.18–0.67	0.002
	> 60	135	0.39	0.20–0.74	0.004	0.23	0.10–0.51	0.000
Education	University	140	1+			1+		
	Basic	76	0.32	0.15–0.67	0.002	0.34	0.15–0.78	0.011
	Apprenticeship	211	0.50	0.32–0.80	0.004	0.63	0.38–1.05	0.078
	Secondary	207	0.76	0.48–1.21	0.248	0.86	0.52–1.40	0.533
Occupation	Active	348	1+			1+		
	Non-active	286	0.95	0.66–1.35	0.759	1.56	0.93–0.60	0.093
Family	With a partner	443	1+			1+		
	Living alone	190	1.49	1.02–2.18	0.040	1.05	0.66–1.17	0.835
Economic situation	Below average	138	1+			1+		
	Average	444	1.90	1.17–3.07	0.009	1.94	1.14–3.33	0.016
	Over average	38	3.35	1.52–7.36	0.003	2.41	0.99–5.86	0.052
Density of housing	room/person	625	1.48	1.17–1.88	0.001	1.54	1.11–2.12	0.008

1+ referent category
P –P > |z|
Model I – controlled for all variables in model

DISCUSSION

The many papers affirm the significant relationship between health and education, SES and health, and lifestyle and health[2, 3, 4, 8, 9]. Analysis of the relationship between health and SES is the aim of an increasing number of epidemiological studies[25].

Socio-economic status is determined by age, sex, education, occupation and related social position and income, marital status and living conditions. Health status declines with each decline in SES[8]. According to most literature sources life-style and risk behaviour have a close relationship to SES[13, 27]; SES is even mentioned as a predictor of health[8, 13].

When looking for gender differences the only significant correlation with respect to sex was found in our data between risk behaviour – women's behaviour was less than half as risky, but this relationship lost its significance after adjustment. It can be suggested that the risk behaviour is related with employment and related role overload and/or conflict leading to stress[24]. In addition employed women reported incomes at the lowest category unlike men at the highest category that corresponds with the literature[8].

In accordance with the literature[27] in our study age was correlated with risk behaviour (adversely), and also with an active way of spending holiday. Contrary to literature sources reporting the age-related difficulties[18] and decreasing contentment[15], our study did not confirm correlation between age and contentment, well-being and passivity.

In a lot of epidemiological studies education is supposed to be a determinant of SES and life-style, and an important socio-economic health confounder[3, 13, 27]. Our preliminary results detected the significant differences only between the groups of people with a basic education to other educational groups. This relationship was found for contentment, spending active holiday and passivity and was not found for well-being and risk behaviour. There is a very interesting finding that no relationship between risk behaviour and education was found in our study that corresponds with some of the literature sources[23].

The definition of occupational status was complicated – based on literature there exist 10 thousand different types of occupation[28]. The question on occupation status was asked in 8 categories, but due to a small frequency in some categories (unemployed, private entrepreneur) further relationships were analysed using the two categories economically active/non-active. Some authors give economical activity to relationship with health[8, 24]; our preliminary findings correspond with their results – risk behaviour is significantly correlated with economical activity. Other correlations with respect to economical activity were not found in our study.

Significant differences were found in our sample by marital status (more women living alone in the age over 51), what can be in combination with social isolation related with onset of cancers in women[17]. People without a spouse or a partner were more than 3 times as likely to have risk behaviour and twice as likely lack of psychical well-being. Social isolation reported in literature could lead to lowered interest in own health and to very high incidence of alcoholism[9].

In our country it is very difficult to obtain information on household income – in a national health survey 25 % of respondents did not indicate their income[19]. The question on household income was asked in two different ways. First as a categorical variable of income amount that was created similarly to the range of categories in the Survey of health status in inhabitants of the Czech Republic[19]. The poverty line is given by the Czech citizens to the middle of the interval of income specified in our study[6]. The other question asked the respondent for subjective evaluation of the economic situation of the family. When the two questions on income/economic situation were compared some categories overlapped each other. In addition the agreement (using the Kappa index) was lower in the categorical/factual question. This was the reason for using the subjective evaluation of economical situation instead of the numerical expression of the income for the further analysis.

Economical situation of the family was in the most significant correlation with contentment, psychical well-being and in the adverse correlation with risk behaviour (only the over average category). Significant differences were found between groups with below average and average income categories – people in average income category are twice as likely to spend holiday in an active way, contrary a half less as likely to be passive.

Some findings of epidemiological studies declare the association of health and the density of housing[2]. The results of our pilot study indicated the adverse correlation between the density of housing and risk behaviour, and positive association with an active way of spending holiday. Other significant relationships between the density of housing and psychical well-being and contentment shifted to not significant after adjustment.

An increasing number of studies have reported that those who are more religious experience greater well-being and life satisfaction[12]. In our study the relationships could not be analysed with respect to religiosity due to the sample compound about 71.6 % people without belief and religious people were concentrated in upper age categories.

An ambitious definition of health was expressed by WHO – health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity[11].

Therefore among the aggregated variables also variables for psychical well-being and contentment were created. These two factors are mentioned in the literature as important factors that may affect health[16, 17]. Our pilot study results declare a very strong correlation of contentment and well-being with economic situation of the family. In the sample 77.1 % of respondents expressed contentment what is more than a stable value of

contentment in the Czech population – varied from 51–55 % during the last 5 years[5]. Lack of well-being was perceived twice as likely more in people living alone. Our findings correspond with the national data[15].

Life-style is determined by leisure time activities, social contacts and risk behaviour in the presented study. More than 67.2 % of respondents reported frequent contacts with friends, what is similar result as in the Czech general population survey[20]. Passive way of leisure time preferred 23.1 % of respondents. It is more optimistic result that the national survey of health status result, where 34 % men and 44 % women is presented to be passive[21]. In our preliminary results the leisure time, weekend and holiday activities were significantly correlated with education – preference of sitting activities being reported in literature[22] is related in our research with the group with a lower education. The uderrepresentativity of this educational category (mentioned above) is probably a cause of the difference between our pilot study results and the national data. The active way of spending holiday was correlated with age, education, economical situation and the density of housing. In spite of that the physical activity is in literature stressed as a determinant of health[8], only 39.6 % of respondents of our sample spent their holiday in an active way. In accordance to literature[10] health as a value is given a priority also in our pilot study results, but contrary an active life-style is not out of people interest.

Our pilot study results found the significant correlations of SES factors (namely occupation, marital status, economic situation and density of housing) with risk behaviour – these findings are supported by other studies findings[27], but contrary to previously published research there exist also literature sources that did not confirmed any correlation between SES and healthy life-style[23].

Some studies indicate that healthy life-style is determined by educational level, social position and culture values of the childhood family[10, 13], rather than being viewed in more individualistic terms in relation to behavioural patterns[8].

CONCLUSIONS

The most of the respondents do not practise any regular physical activity. Leisure time, weekend and holiday activities were significantly correlated with education, age and economical situation. The passivity showed the adverse correlation with the level of education and economical situation.

About 57 % of respondents were smokers or exsmokers. More than a half of respondents reported their diet as healthy, significantly more in women and older people. Risk behaviour was significantly adversely correlated with age and is higher in people living alone, living in overcrowded housing conditions and people with an active occupational status. No relationship between risk behaviour and education was found.

Most of the respondents suffer by serious problems, mostly family and financial ones. The lack of psychical well-being was higher in people with a poor economic situation of family and people living alone. The lack of contentment was in significant adverse correlation with education and economic situation.

The most significant predictors of life-style were identified to be economical situation of respondents' family and education.

The preliminary results of the whole project (including the health study) found that health status was better in groups with a higher education; education was positively correlated with active way of life, but no differences were found in risk behaviour by education. These preliminary results suggest that health status is more affected by an active way of life than risk behaviour.

Health status was also positively correlated with an economical situation of respondents' family, but only in the group with an economical situation better than average was found significantly less frequent risk behaviour.

ACKNOWLEDGEMENT

This study was realised within the grant Nr. NJ/6139-3 funded by the Grant Agency of the Czech Ministry of Health.

REFERENCES

1. Baumann A, Stieber J, Lowel H. (1997) Nonparticipation as a factor influencing the value of follow-upstudies – MONIKA Survey. Gesundheitswessen, Apr *59* Suppl 1, 19–25.
2. Bobák M, Koupilová I, Příkazský V, Kříž B. (1996) The relationship between socioeconomic factors and mortality in the regions in the Czech Republic during 1989–1993. Čas Lék Čes *135*, 753–7.
3. Bobák M, Škodová Z, Píša Z. (1994) The relationship between education and prevalence of cardiovascular risk factors. Čas Lék Čes *133*. 627–3.
4. Bobák M, Pikhart H, Hertzman C, Rose R, Marmot M. (1998) Socioeconomic factors, perceived control and self-reported health in Russia. A cross-sectional survey. Soc Sci Med *2*, 269–79.
5. Červenka J. Contentment and fears of public. Centre for research of public opinion. (cited 2002 April 11). Available from http://www.cvvm.cz/index.php3?rubrika=O (in Czech).
6. Červenka J. Where people see a poverty line? Centre for research of public opinion. (cited 2002 April 24). Available from http://www.cvvm.cz/index.php3?display=8&rubrika=&offset=11&oblast= (in Czech).
7. Cohen J. (1960) A coefficient of agreement for nominal scales. Educational and Psychological Measurement *20*, 37–46.
8. Denton M, Walters V. (1999) Gender differences in structural and behavioral determinants of health: an analysis of social production of health. Soc Sci Med *48*, 1221–35.
9. Ginter E. Epidemic of coronary heart disease in central and Eastern Europe: the role of life style, dietary or environmental factors? In: International Symposium on Environmental Epidemiology in Central Eastern Europe, Smolenice, Slovak Republic, 24–27 Sept 1997, Proceedings, p. 103–105.
10. Huličník S. (1980) The importance of information about the influence of subjective factors for actual health practice. Čs zdravotnictví *5*, 216–8.

11. Kaprio LA.: Forty Years of WHO in Europe. Copenhagen: World Health Organization, 1991.
12. Koenig HG. (1998) Religious attitudes and practices of hospitalized medically ill older adults. Int. J Geriat Psych *13*, 213–24.
13. Koivusilta L, Rimpelä A, Rimpelä M. (1998) Health related lifestyle in adolescence predicts adult educational level: a longitudinal study from Finland. J Epidem Comm Health *52*, 794–801.
14. Landis JR, Koch GG. (1977) The measurement of observer agreement for categorical data., Biometrics *33*, 159–174.
15. Matoušková E. (2002) Survey of health status of the Czech population – Project EUROHIS 2001 (Quality of life). Aktualní informace UZIS, No 3 (cited 2002 January 14). Available from http://www.uzis.cz/cz/archiv02/3_02.htm.
16. Matoušková E. Survey of health status of the Czech population – Project EUROHIS 2001 (Mental health). Aktualní informace UZIS, 2001, No 79 (cited 2001 December 28). Available from http://www.uzis.cz/cz/archiv01/79_01.htm.
17. Matthews K. (1994) Health psychology: Why do same people get sick and some stay well? Ann Rev Psych *45*, 229–59.
18. Menec VH, Chipperfield JG, Perry RP. (1999) Self–perceptions of health: A prospective analysis of mortality, control, and health. J Geron: Psycho Sci *2*, 85–93.
19. Procházková I. Survey of health status in inhabitants of the Czech Republic – Project HIS CR 1999 (Income and life conditions). Aktualní informace UZIS, 2000, No 53 (cited 2000 August 11). Available from http://www.uzis.cz/cz/archiv00/53_00.htm.
20. Procházková I. Survey of health status in inhabitants of the Czech Republic – Project HIS CR 1999 (Social health). Aktualní informace UZIS, 2000, No 61 (cited 2000 September 18). Available from http://www.uzis.cz/cz/archiv00/61_00.htm.
21. Procházková I. Survey of health status in inhabitants of the Czech Republic – Project HIS CR 1999 (Evaluation of health status). Aktualní informace UZIS, 2000, No 64 (cited 2000 September 25). Available from http://www.uzis.cz/cz/archiv00/64_00.htm.
22. Procházková I. Survey of health status in inhabitants of the Czech Republic – Project HIS CR 1999 (Lifestyle – nutrition, physical activity). Aktualní informace UZIS, 2000, No 21 (cited 2000 May 5). Available from http://www.uzis.cz/cz/archiv00/21_00.htm.
23. Richmond DE, McCracken H, Broad H. (1996) Older adults and healthy lifestyle issues: Results of a community study. NZ Med J *109*, 122–5.
24. Rose KM, Newman B, Bennet T, Tyroler HA. (1997) Employment status and high blood pressure in women: variations by time and by sociodemographic characteristics. Ann Epidemiol *7*, 107–14.
25. Šlachtová H, Šplíchalová A (2001) Review of SES, life-style and life-conditions factors being investigated in studies presented in the ISEE Conferences 1998–2000. Epidemiology *4*, S31.
26. Stata Corp.: STATA Statistical Software: Release 7, College Station, Texas, STATA Corporation, 2001.
27. Stronegger WJ, Freidl W, Rasky E. (1997) Health behavior and risk behavior: Socioeconomic differences in an Austrian rural county. Soc Sci Med *3*, 423–6
28. Zima P. Komunita a komunikace. In: Komunita a komunikace Praha: IZV UK, 1999, 149–92.