

Attitude to cardiovascular disease prevention and treatment in open population: gender differences

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Summary

Objective

To determine gender differences in the parameters of subjective-objective measure of health in the urban population aged 25-64 years and their attitude to prevention and treatment of cardiovascular diseases (CVD).

Materials and methods

This study was made according with the algorithms of the program of World Health Organization (WHO) «MONICA - psychosocial» on the representative sample of Tyumen population between males and females (2000 people total).

Results

Obtained results show that the majority of Tyumen population aged 25-64 years, mostly young women and older men, trusts in the possibility of prevention of serious diseases. A major part of this open population objectively estimates the possibilities of modern medicine in the prevention of heart disease, young women have the most critical attitude and old women have the least critical one. More than a half of Tyumen population, particularly men of the old age group, believe in successful treatment of heart disease.

Conclusion

Investigation of people's attitude to CVD prevention and treatment is important for planning and development of prevention strategies, and identification of gender differences in subjective-objective measure of health allows estimating the needs of specific populations in preventive care.

Key words

Open population of Tyumen, gender differences, attitude to prevention, attitude to treatment, cardiovascular diseases.

Introduction

Scientific studies performed as a part of various epidemiologic and prevention programs demonstrated that medical activity of population is a necessary condition for reduction of cardiovascular morbidity and mortality in population [1, 2]. Among the risk factors of cardiovascular diseases (CVD) that characterize condition and features of people's motivation in relation to their health, the parameters of subjective-objective attitude to their health like the attitude to the possibilities of CVD prevention and treatment have particular importance. These parameters have been investigated by one international epidemiological project of the World Health Organization (WHO) called "MONICA psychosocial" (Monitoring trends and determinants in Cardiovascular disease) [3]. The necessity to study this problem is caused by low efficacy of preventive programs, planning and development of which have been performed only as a part of biomedical model of health and healthcare [4, 5]. Attitude to their own health, CVD prevention and treatment have been investigated in numerous national studies, which have related mostly to male's populations [3, 6-10]. At the same time, coronary heart disease is the leading cause of death in males and females, and it is worth to mention that the absolute amount of female death cases due to coronary heart disease is higher than the same number of male ones [11]. There are gender features of CVD formation and course, but gender differences of subjective-objective measure of health in Russian populations are not enough studied; it makes it more difficult to plan, perform and control the efficacy of preventive interventions, realization of which could be more efficient taking into account existing gender differences in population [1, 2, 5, 12, 13].

The aim of this work is to determine gender differences in the parameters of subjective-objective measure of health in the open urban population aged 25-64 years and their attitude to prevention and treatment of CVD.

Materials and methods

Single-stage epidemiological study was performed using representative sample formed from the voting list of the citizens of one of administrative districts of Tyumen city. between 2000 males and females, among them 500 individuals were selected for each one of four decades of life (25-34, 35-44, 45-54, 55-64 years). Inclusion factors for the population sample were: males and females aged 25-64 years registered and living at the territory of the Central administrative district of Tyumen city. Exclusion factors for the population sample were: refugees, militaries, students and prisoners, that was identified according to the respondent's words, these data were not included in the analysis. Each Tyumen dweller included in the population sample received invitation for participation in cardiologic screening. If potential participant didn't answer to the first mail, other three letters were invited to his mailbox with the interval of 7-10 days, otherwise we tried to made an attempt of participants' involvement through phone or personal contact.

Each participant gave informed consent for participation in cardiologic screening in written form. Study's protocol was approved by local Ethic Committee.

The response to cardiologic screening in males was 85% (n=850), and its value in females was 70.4% (n=704). Investigation of patients' attitude to CVD prevention and treatment was performed through compilation of a standard WHO questionnaire "MONICA psychosocial" "Awareness and attitude towards your

health" by the method of house-to house poll. The questions included in this form were accompanied with fixed answers, from which respondents could choose the variant that was the most correct one according with their personal opinion.

Statistical analysis of obtained results was performed using SPSS 11.5, STATISTICA 22.0 and "Microsoft Excel" software according with the rules of variation statistics. Age structure of urban Russian population between 25-64 years was used for the analysis and standardization of obtained data. Pearson's χ^2 test was used for statistical assessment of differences between the groups. P-value <0.05 was considered significant.

Results and discussion

The attitude to CVD of males and females aged 25-64 years and belonging to the open population according with their age is presented in the Table 1.

64.3% of male respondents and 67.0% of female respondents of the open population gave a definite answer "yes, definitely yes" on the question "Do you think that healthy person of Your age could avoid several severe diseases if he used some preventive measures in advance?" Statistically significant differences in the answers to these question were obtained in young and elderly age groups: 25-34 years: 58.2% – 71.2% ($p < 0.05$); 55-64 years: 70.7% – 57.0% ($p < 0.01$). 34.8% of male respondents and 32.2% of female respondents had undetermined position for this question (answer "Maybe, yes"), statistically significant differences were observed in the same age groups, on the contrary, more often in males than in females: 25-34 years: 41.8% – 28.2% ($p < 0.05$); 55-64 years: 28.8% – 42.1% ($p < 0.01$). Minimal number of both males and females gave negative answer ("Unlikely") to this question independently on their age (0.9% – 0.8%). At the same time, giving an answer to the question «Do You believe that a healthy person of Your age could get sick with a severe disease within next 5-10 years?", the majority of the open population (62.8% males and 64.9% females) gave uncertain answer ("Probably"), and 36.2% of males and 32.6% of females answered "Very likely". We didn't detect statistically significant gender differences of these parameters in age groups and in population. As in the situation with the first question, minimal number of males and females (.9% – 2.5% ($p < 0.05$), respectively) responded with the answer "Unlikely", significant gender differences in this case were obtained not only for the population in general, but also for the elderly

age group of people aged 55-64 years: 0.9% – 2.5% ($p < 0.05$) (Table 1).

Talking about opportunities of modern medicine in CVD prevention, the majority of the open population (44.1% of males and 45.4% of females), independently on their age, had positive opinion, according with which modern medicine may prevent the majority of heart diseases. The majority of females had most categorical opinion ("Yes, all heart diseases") comparing with males in population in general: 10.6% – 5.9% ($p < 0.001$), and in age category of 55-64 years: 17.8% – 5.1% ($p < 0.001$). In general, males and females of the open population had equally realistic attitude to CVD prevention. Answering the question "Do You believe that modern medicine may prevent heart diseases?", 42.4% of males and 37.1% of females gave the answer "It depends on the disease", gender differences were presented in the age group of 25-34 years: 43.4% versus 30.5% ($p < 0.05$). The answer: "Not, just several" was given by the minimal number of males and females (6.9% and 6.1%, respectively) with no significant differences between age groups. Another categorical answer ("Not, neither one of them") was given by 0.7% of males and 0.8% of females (Table 1).

57.5% of males and 51.4% of females, independently on their age, had positive opinion about the possibility of modern medicine to successfully cure the majority of heart diseases. 55.8% of males and 39.3% of females agreed with the answer "Yes, the majority of the diseases" ($p < 0.001$). Women of 55-64 years had the most categorical opinion about it. Comparing with males, the biggest number of females answered "Yes, all heart diseases" and "Not, neither one of them": 13.1%-6.0% ($p < 0.05$) and 1.9%-0% ($p < 0.05$), respectively. 4.3% of males and 0% of females ($p < 0.01$) gave the answer "Not, just several", significant gender differences were present in the age group of 45-54 years: 4.3%-0.1% ($p < 0.01$) (Table 1).

The majority of national studies demonstrated subjective positive attitude of population to preventive health screening, at the same time less than 10% of males and females thought that took enough care about their health [3, 6, 9, 14]. The results of a current study in Novosibirsk population (the same protocol was used for both studies) were comparable in relation to males: 54% of males in Novosibirsk and around 50% of males in Tyumen believed that modern medicine can prevent all or the majority of heart diseases. But gender differences in two urban populations had opposite results: females of Tyumen population had more positive attitude to preventive mea-

Table 1. Attitude to CVD prevention and treatment in males and females aged 25-64 years in the open population

Question / Attitude	Age groups											
	25-34		35-44		45-54		55-64		25-64		SC	
	Total (n)	%	Total (n)	%	Total (n)	%	Total (n)	%	Total (n)	%	Total (n)	%
1. Do you think that healthy person of Your age could avoid several severe diseases if he used some preventive measures in advance?												
1.1. Yes, definitely yes	71 / 126	58.2/71.2	150/156	72.1/68.4	93/153	58.5/ 66.2	152/122	70.7/57.0**	466/557	66.2/65.5	64.3/67.0	
1.2. Maybe, yes	51/50	41.8/28.2	56/71	26.9/31.1	62/75	39/32.5	62/90	28.8/42.1**	231/286	32.8/33.6	34.8/32.2	
1.3. Unlikely	0/1	0/0.6	2/1	1/0.4	4/3	2.5/1.3	1/2	0.5/0.9	7/7	1.0/0.8	0.9/0.8	
2. Do You believe that modern medicine may prevent heart diseases?												
2.1. Yes, all heart diseases	6/17	4.9/9.6	12/17	5.8/ 7.5	13/24	8.2/10.4	11/38	5.1/17.8***	42/96	6.0/11.3***	5.9/10.6	
2.2. Yes, the majority of the diseases	56/96	45.9/54.2	88/107	42.3/46.9	72/92	45.3/ 39.8	91/ 69	42.3/32.2	307/364	43.6/42.8	44.1/45.4	
2.3. It depends on the disease	53/54	43.4/30.5*	90/94	43.2/41.2	60/94	37.7/40.7	96/ 85	44.7/39.7	299/327	42.5/38.5	42.4/37.1	
2.4. Not, just several	6/9	4.9/ 5.1	17/10	8.2/ 4.4	12/20	7.5/8.7	17/ 16	7.9/7.5	52/ 55	7.4/6.5	6.9/6.1	
2.5. Not, neither one of them	1/1	0.8/ 0.6	1/0	0.5/0	2/1	1.3/0.4	0/6*	0/2.8	4/8	0.6/0.9	0.7/0.8	
3. Do You believe that nowadays it is possible to treat successfully heart diseases?												
3.1. Yes, all heart diseases	15/16	12.3/9.0	12/20	5.8/8.8	12/19	7.5/8.2	13/ 28	6/13.1*	52/83	7.4/9.8	8.3/9.5	
3.2. Yes, the majority of the diseases	73/110	59.8/62.1	116/120	55.8/52.6	92/114	57.9/42.4	120/84	55.8/39.3***	401/428	57.0/50.4**	57.5/51.4	
3.3. It depends on the disease	34/49	27.9/27.7	77/83	37.0/36.4	54/86	34.0/37.2	78/87	36.3/40.7	243/305	34.5/35.9	33.3/34.3	
3.4. Not, just several	0/2	0/1.1	2/5	1/2.2	0/10	0/4.3**	4/11	1.9/5.1	6/28	0.9/3.3**	1.1/2.8	
3.5. Not, neither one of them	0	0	1/0	0.5/0	1/2	0.6/0.9	0/4	0/1.9*	2	0.3/0.7	0.3/0.5	

Comments: * - p<0,05; ** - p<0,01; *** - p<0,001; statistically significant differences between males and females are signed with (*); SC – characteristic standardized by age.

tures, whereas in Novosibirsk population males had the same attitude [3].

Conclusion

Therefore, the major part of open urban population believes in the possibility of severe diseases' prevention, the most favorable conditions for preventive programs development were observed in young females of 25-34 years old and in males aged 55-64 years.

The majority of open population estimates realistically the possibilities of modern medicine in the context of heart diseases' prevention; young females aged 25-34 years demonstrate the most critical attitude, and elderly females have the least critical attitude to it.

More than half of Tyumen population believes in successful treatment of heart diseases, males of 55-64 years old have the most positive attitude to it.

Investigation of people's attitude to CVD prevention and treatment is important for planning and development of prevention strategies, and identification of gender differences in subjective-objective measure of health allows estimating the needs of specific populations in preventive care.

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