

Awareness of cardiovascular diseases risk factors, attitude towards their health and sleep disorders among the 25–64 years old population in Russia/Siberia (WHO International «MONICA-psychosocial» program)

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Objective: to establish associations of awareness and attitude towards cardiovascular diseases (CVDs) prevention in people with sleep disorders in an open population of Novosibirsk aged 25–64 years.

Patients and methods. We carried out screening surveys of representative samples of the 25–64 years old population: in 2013–2016 – V screening (427 men, mean age – 34 ± 0.4 years, response rate – 71%; 548 women, mean age – 35 ± 0.4 years, response rate – 72%); in 2015–2018 – VI screening (275 men, mean age – 49 ± 0.4 years, response rate – 72%; 390 women, mean age – 45 ± 0.4 years, response rate – 75%) using the protocol of the WHO international program «MONICA-psychosocial». Jenkins sleep evaluation questionnaire was used to evaluate sleep disorders in the study population.

Results and discussion. Participants with sleep disorders believed that they were «not entirely healthy» (men – 65.5%, $\chi^2=57.825$, $df=8$, $p<0.001$ and women – 69.6%, $\chi^2=96.883$, $df=4$, $p<0.001$); had health related complaints (men – 78.2%, $\chi^2=24.179$, $df=2$, $p<0.001$ and women – 85.2%, $\chi^2=55.144$, $df=2$, $p<0.001$), and clearly did not care enough about their health (men – 32.7%, $\chi^2=29.31$, $df=4$, $p<0.001$ and women – 34.1%, $\chi^2=28.116$, $df=4$, $p<0.001$). Men with sleep disorders more often assumed that they were more likely to get a serious illness within the next 5–10 years ($\chi^2=12.976$, $df=4$, $p<0.01$). Participants with sleep disorders were confident that modern medicine can prevent (men – 10.9%, $\chi^2=19.079$, $df=2$, $p<0.001$ and women – 13.3%, $\chi^2=21.944$, $df=2$, $p<0.01$) and successfully treat (men – 3.6%, $\chi^2=24.142$, $df=8$, $p<0.01$ and women – 3.7%, $\chi^2=15.538$, $df=8$, $p<0.05$) only some heart diseases. Men and women with sleep disorders are more likely to seek medical attention in case of severe pain or discomfort in the heart area, but do not seek medical advice if this pain or unpleasant sensation is mild (men – 63.6%, $\chi^2=14.867$, $df=6$, $p<0.05$ and women – 60%, $\chi^2=17.872$, $df=6$, $p<0.01$). Among the participants with sleep disorders men more often believe that the doctor «knows more than me» (36.4%), and women (48.1%) chose an answer: «I will not necessarily agree with the opinion of the doctor after a general examination, until a thorough evaluation has been carried out by specialists» ($\chi^2=5.917$, $df=2$, $p<0.05$). Women with sleep disorders were more likely to continue to work if they did not feel very well (54.1%, $\chi^2=12.455$, $df=4$, $p<0.05$) or their body temperature rose (37.8%, $\chi^2=12.937$, $df=4$, $p<0.05$).

Conclusion. People with sleep disorders generally have a more negative attitude towards their health and are skeptical about the possibilities of modern medicine to prevent and treat CVDs, which is reflected in their attitude to work and preventive check-ups.

Keywords: awareness of cardiovascular diseases risk factors; attitudes towards health; sleep disorders; population.

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Introduction

According to reports from the World Health Organization (WHO), cardiovascular diseases (CVD) are the leading cause of death worldwide, accounting for more than 17 million of the total number of deaths from non-infectious chronic diseases (NCDs). Of these deaths, more than 7 million are associated with coronary heart disease (CHD) and more than 6 million are due to stroke. In less than 10 years, the number of premature deaths from CVD may rise by one third. To reduce the risk of premature death from noncom-

municable diseases by 25% by 2025, which is a global goal of WHO [1], it is necessary to determine the modifiable factors, i.e. identify those lifestyle factors that are associated with a lower incidence of CVD. One of the modifiable risk factors for CVD is high-quality healthy sleep [2]. Sleep is a complex set of brain processes that supports the physiological needs of a person [3]. Sleep is part of the sleep-wake cycle. This cycle, consisting of approximately 8 hours of sleep at night and 16 hours of daytime wakefulness in humans, is controlled by a combination of two internal influences: sleep

homeostasis and circadian rhythms [4]. Unlike wakefulness, sleep is a period of inactivity and recovery of mental and physical functions. Sleep is thought to provide time for inputting information gained during waking into memory, and for reestablishing communication between different parts of the brain. Sleep is also the time when other systems in the body replenish their energy and repair their tissues [5], and is the basis for wellness and optimal health [6–8]. People who get enough quality sleep have more energy, better cognitive function, memory, alertness, and performance during the day, and a healthier immune system [9]. Good quality of sleep is one of the basic needs of people and is important for their health [10]. Healthy quality sleep depends on a wide range of causes, including medical and psychological conditions [11]. Factors that influence sleep include age, medications, diet, and environmental factors such as shift work [12]. Sleep disturbances can affect the quality of life, and lack of treatment can lead to serious health problems [13]. In recent years, more and more data indicate that sleep disorders are associated with the risk of morbidity and mortality from CVD [14], especially since most diseases of the cardiovascular system can be prevented, even by improving the quality of sleep [15].

Therefore, taking into account the above stated, as well as the absence of such epidemiological studies carried out in the Russian Federation, the purpose of our study was to analyze the awareness and attitude towards the prevention of CVD in persons with sleep disorders in the open working-age population of 25–64 years old in Novosibirsk.

Materials and methods

Screening studies of representative samples of the population of 25–64 years old were carried out in one of the districts of Novosibirsk: at screening V, in 2013–2016, 975 people were examined, including 427 men (mean age 34 ± 0.4 years, response rate – 71%), and 548 women (mean age 35 ± 0.4 years, response rate – 72%) (budgetary topic No. AAAA-A17-117112850280-2); and at screening VI, in 2015–2018 (The International Project on Cardiovascular Disease in Russia [IPCDR]), 665 people were examined, including 275 men (mean age 49 ± 0.4 years, response rate – 72%), and 390 women, (mean age 45 ± 0.4 years, response rate – 75%). General surveys in 2013–2016 and in 2015–2018 were carried out according to the standard methods included in the WHO MONICA-psychosocial (MOPSY) program [16]. Self-assessment of health status, attitudes towards prevention methods and health-related behavior were studied using the WHO MONICA-psychosocial (MOPSY) scale [16] «Awareness and attitude towards one's health». The standard Jenkins Sleep Questionnaire was used to study sleep disorders. Statistical analysis was performed using the SPSS version 20 software package [17]. To check the statistical significance of the differences between the groups, we used Pearson's chi-square test χ^2 [18]. The results were considered statistically significant at $p \leq 0.05$.

Results

Individuals with sleep disorders more often gave the answers «not quite healthy» to the question «How do you assess your health?»: 65.9% of men and 69.6% of women. On the contrary, respondents who did not experience sleep prob-

lems more often believed that they were «healthy»: men – 47.7%, women – 37.6%, respectively (men $\chi^2=57.825$; $df=8$; $p<0.001$ and women $\chi^2=96.883$; $df=4$; $p<0.001$). When answering the question: «Do you have any complaints about your health?» among individuals with sleep disorders, 78.2% of men and 85.2% of women gave the answer «yes»; among those who had no sleep problems, only 45.8% of men and 53.2% of women answered in the affirmative (men $\chi^2=24.179$; $df=2$; $p<0.001$ and women $\chi^2=55.144$; $df=2$; $p<0.001$). When asked: «Do you think you care enough for your health?», 32.7% of men and 34.1% of women with sleep disorders answered «obviously not enough», but only 13.6% of men and 15.8% of women without sleep disorders thought so (men $\chi^2=29.31$; $df=4$; $p<0.001$ and women $\chi^2=28.116$; $df=4$; $p<0.001$) (Table 1).

The next issue was to study the attitude towards prevention of CVD among people with sleep disorders in the open population of working-age. The answer to the question: «Do you think that a healthy person of your age can get a serious illness within the next 5–10 years?» was different only among men: 49.1% of people with sleep disorders considered it «highly probable», while only 29.4% of men with good sleep gave the same answer ($\chi^2=12.976$; $df=4$; $p<0.01$). No differences were found among women ($\chi^2=3.623$; $df=2$; $p>0.05$). Similarly, no differences were found in the answers to the question: «Do you think a healthy person of your age can avoid some serious diseases if he/she takes preventive measures in advance?», since the majority of respondents, regardless of self-assessment of sleep, answered in the affirmative (men $\chi^2=5.411$; $df=4$; $p>0.05$ and women $\chi^2=3.623$; $df=2$; $p>0.05$). The majority of men and women answered in the affirmative to the question «Do you believe that modern medicine can prevent heart disease?»; however, the answer «no, only some» was observed more often among people with sleep disorders than among people with good sleep: among men, 10.9% and 8.5%, respectively ($\chi^2=19.079$; $df=2$; $p<0.001$); among women 13.3 % and 5.9%, respectively ($\chi^2=21.944$; $df=2$; $p<0.01$). Then the participants were asked: «Do you think that at present it is possible to successfully treat all heart diseases?» The answer «no, only a few diseases» prevailed among men (3.6%) and women (3.7%) with sleep disorders, compared with men (1.7%) and women (1.7%) without sleep disorders (men $\chi^2=24.142$; $df=8$; $p<0.01$ and women $\chi^2=15.538$; $df=8$; $p<0.05$) (Table 2).

We analyzed the attitude of the participants to their health, medical care, depending on their self-assessment of sleep. Men and women experiencing sleep disturbances more often consult a doctor in case of severe pain or discomfort in the heart area, but do not seek medical advice if this pain or discomfort is mild (63.6% and 60%, respectively), in comparison with people assessing their sleep as «good» (54.8% and 51.3%, respectively) (men $\chi^2=14.867$; $df=6$; $p<0.05$ and women $\chi^2=17.872$; $df=6$; $p<0.01$). Among people with sleep disorders, men more often choose the answer «A doctor knows more than me, and if he examined me and said that I am sick or healthy, I believe him» (36.4%); and women choose the answer: «I do not necessarily agree with the opinion of a doctor after a general examination, until a thorough examination is carried out by specialists» (48.1%) ($\chi^2=5.917$; $df=2$; $p<0.05$). There were no statistically significant differences in people's opinions about modern methods of diag-

Table 1. *Awareness, attitude towards their health and sleep disorders among the 25–64 years old open population (2013–2018), n (%)*

Questions	good		Sleep satisfactory		poor	
	men	women	men	women	men	women
1. How do you assess your health?						
Absolutely healthy	11 (3,1)	7 (1,7)	4 (1,5)	7 (1,95)	0	0
Good	81 (22,9)	104 (24,6)	28 (10,5)	37 (10,3)	3 (5,45)	9 (6,7)
Healthy	169 (47,7)	159 (37,6)	112 (41,9)	104 (29,0)	15 (27,3)	23 (17,0)
Not quite healthy	87 (24,6)	147 (34,7)	117 (43,8)	204 (56,8)	36 (65,45)	94 (69,6)
Sick	6 (1,7)	6 (1,4)	6 (2,3)	7 (1,95)	1 (1,8)	9 (6,7)
T o t a l ...	354 (100)	423 (100)	267 (100)	359 (100)	55 (100)	135 (100)
$\chi^2=57,825$; df=8; p<0,001 (men); $\chi^2=96,883$; df=4; p<0,001 (women)	$\chi^2=13,416$; df=4; p<0,01		$\chi^2=12,772$; df=4; p<0,05		$\chi^2=3,983$; df=4; p>0,05	
2. Do you have any complaints about your health?						
Yes	162 (45,8)	225 (53,2)	155 (58,1)	254 (70,8)	43 (78,2)	115 (85,2)
No	192 (54,2)	198 (46,8)	112 (41,9)	105 (29,2)	12 (21,8)	20 (14,8)
T o t a l ...	354 (100)	423 (100)	267 (100)	359 (100)	55 (100)	135 (100)
$\chi^2=24,179$; df=2; p<0,001 (men); $\chi^2=55,144$; df=2; p<0,001 (women)	$\chi^2=3,962$; df=1; p<0,05		$\chi^2=10,35$; df=1; p<0,001		$\chi^2=0,914$; df= 1; p>0,01	
3. Do you believe that you take sufficient care of your health?						
Yes	51 (14,4)	83 (19,6)	27 (10,1)	44 (12,2)	10 (18,2)	19 (14,1)
I could take more care	255 (72,0)	273 (64,55)	163 (61,1)	221 (61,6)	27 (49,1)	70 (51,8)
Obviously not enough	48 (13,6)	67 (15,85)	77 (28,8)	94 (26,2)	18 (32,7)	46 (34,1)
T o t a l ...	354 (100)	423 (100)	267 (100)	359 (100)	55 (100)	135 (100)
$\chi^2=29,31$; df=4; p<0,001 (men); $\chi^2=28,116$; df=4; p<0,001 (women)	$\chi^2=5,309$; df=2; p>0,05		$\chi^2=1,022$; df=2; p>0,05		$\chi^2=0,511$; df=2; p>0,05	

nosing heart diseases, as well as in answers to the question: «Have you had pleasant experiences associated with medical care?», depending on the self-assessment of sleep in the groups of men and women (Tab. 3).

Attitudes towards work, preventive health checks depending on self-assessment of sleep are presented in Table 4. When asked: «If you do not feel well at work, what do you do?», women with sleep problems more often answered that they continued to work (54.1%), than women who rated their sleep as «good» (41.4%) ($\chi^2=12.455$; $df=4$; $p<0.05$); there were no significant differences among men ($\chi^2=3.484$; $df=5$; $p>0.05$). The next question was: «If you have the flu or fever, what do you do?» Women who assessed their sleep as «bad» more often worked as usual (37.8%), in comparison with women who rated their sleep as «good» (22.9%) ($\chi^2=12.937$; $df=4$; $p<0, 05$); in the group of men, no significant differences were found ($\chi^2=8.407$; $df=4$; $p>0.05$). Men and women, regardless of self-assessment of sleep, believed that preventive health checks were useful (Table 4).

Discussion

Self-rated health, awareness and knowledge of CVD prevention and risk factors are closely related to mortality, morbidity and other outcomes, and have become one of the most commonly used health indicators today [19]. On the other hand, sleep disorders, which imply poor sleep quality, lead to losses in daily human activities, affect labor productivity and quality of life in general, contribute to morbidity, including CVD, which also has a strong social and economic impact [20]. Therefore, the ratio of these two indicators is important for determining the goals of preventive work among the population. In our study, two-thirds of men and women with sleep problems were more likely to think they were «not entirely healthy» when they assessed their health. People who assessed their sleep as poor were twice more likely to have complaints about their health than respondents who thought they had «good» sleep. Men and women who rated their sleep as «bad» noted that they did not take good care of their health. Men with sleep problems thought they could get a serious illness within the next 5–10 years twice

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Table 2. *Attitude towards CVDs prevention and sleep disorders among the 25–64 years old open population (2013–2018), n (%)*

Questions	good		Sleep satisfactory		poor	
	men	women	men	women	men	women
4. Do you believe that a healthy person of your age can get a serious illness within the next 5–10 years?						
Highly probable	104 (29,4)	138 (32,6)	94 (35,2)	118 (32,9)	27 (49,1)	50 (37,0)
Probable	236 (66,7)	268 (63,4)	169 (63,3)	235 (65,4)	28 (50,9)	81 (60,0)
Improbable	14 (4,0)	17 (3,9)	4 (1,5)	6 (1,7)	0	4 (3,0)
T o t a l ...	354 (100)	423 (100)	267 (100)	359 (100)	55 (100)	135 (100)
$\chi^2=12,976$; df=4; p<0,01 (men); $\chi^2=4,749$; df=4; p>0,05 (women)	$\chi^2=0,979$; df=2; p>0,05		$\chi^2=0,387$; df=2; p>0,05		$\chi^2=3,594$; df=2; p>0,05	
5. Can a healthy person of your age avoid serious diseases if he /she takes actions in advance?						
Yes, definitely	238 (67,2)	275 (65,0)	158 (59,2)	228 (63,5)	35 (63,6)	77 (57,0)
Possibly	112 (31,7)	144 (34,0)	107 (40,1)	129 (35,9)	20 (36,4)	56 (41,5)
Unlikely	4 (1,1)	4 (1,0)	2 (0,7)	2 (0,6)	0	2 (1,5)
T o t a l ...	354 (100)	423 (100)	267 (100)	359 (100)	55 (100)	135 (100)
$\chi^2=5,411$; df=4; p>0,05 (men); $\chi^2=3,623$; df=2; p>0,05 (women)	$\chi^2=0,546$; df=2; p>0,05		$\chi^2=1,251$; df=2; p>0,05		$\chi^2=1,359$; df=2; p>0,05	
6. Can modern medicine prevent heart disease?						
Yes, all heart diseases	60 (16,9)	57 (13,4)	43 (16,1)	56 (15,6)	14 (25,5)	17 (12,6)
Yes, most heart diseases	155 (43,8)	178 (42,1)	85 (31,8)	119 (33,1)	16 (29,1)	38 (28,2)
It depends on the disease	102 (28,8)	161 (38,1)	109 (40,8)	154 (42,9)	19 (34,5)	60 (44,4)
Only some of them	30 (8,5)	25 (5,9)	28 (10,5)	30 (8,4)	6 (10,9)	18 (13,3)
None	7 (2,0)	2 (0,5)	2 (0,8)	0	0	2 (1,5)
T o t a l ...	354 (100)	423 (100)	267 (100)	359 (100)	55 (100)	135 (100)
$\chi^2=19,079$; df=2; p<0,001 (men); $\chi^2=21,944$; df=2; p<0,01 (women)	$\chi^2=12,10$; df=4; p<0,05		$\chi^2=3,702$; df=4; p>0,05		$\chi^2=5,892$; df=4; p>0,05	
7. Do you think that all heart diseases can be successfully treated now?						
Yes, all of them	62 (17,5)	38 (9,0)	40 (15,0)	32 (8,9)	12 (21,8)	17 (12,6)
Yes, most of them	200 (56,5)	232 (54,8)	126 (47,2)	186 (51,8)	24 (43,7)	55 (40,8)
It depends on the disease	86 (24,3)	146 (34,5)	90 (33,7)	135 (37,6)	16 (29,1)	57 (42,2)
Only some of them	6 (1,7)	7 (1,7)	11 (4,1)	6 (1,7)	2 (3,6)	5 (3,7)
None	0	0	0	0	1 (1,8)	1 (0,7)
T o t a l ...	354 (100)	423 (100)	267 (100)	359 (100)	55 (100)	135 (100)
$\chi^2=24,142$; df=8; p<0,01 (men); $\chi^2=15,538$; df=8; p<0,05 (women)	$\chi^2=17,7$; df=3; p<0,001		$\chi^2=9,584$; df=3; p<0,05		$\chi^2=4,443$; df=4; p<0,05	

as often as those who assessed their sleep as «good». Men and women with sleep disturbances were more pessimistic about the possibilities of modern medicine to prevent and treat heart disease. Men and women experiencing sleep disturbances more

often consulted a doctor in case of severe pain or discomfort in the heart area, but did not go to a doctor if this pain or discomfort was mild. Among people with sleep disorders, men more often believed that doctors knew more and trusted them, while

Table 3. *Attitude towards their health, health intervention and sleep disorders among the 25–64 years old open population (2013–2018), n (%)*

Questions	good		Sleep satisfactory		poor	
	men	women	men	women	men	women
8. One of the health problems in middle-aged people is heart disease. There are different opinions about them. With which of the opinions do you agree?						
I regularly have a medical check-up, even if I don't have chest pain or discomfort	33 (9,3)	46 (10,9)	13 (4,9)	26 (7,3)	9 (16,4)	7 (5,2)
I see a doctor for any chest pain or discomfort	111 (31,4)	150 (35,4)	94 (35,2)	115 (32,0)	9 (16,4)	45 (33,3)
I would see a doctor for severe chest pain, but not for mild pain	194 (54,8)	217 (51,3)	146 (54,7)	195 (54,3)	35 (63,6)	81 (60,0)
I would not see a doctor, even for severe pain	16 (4,5)	10 (2,4)	14 (5,2)	23 (6,4)	2 (3,6)	2 (1,5)
T o t a l ...	354 (100)	423 (100)	267 (100)	359 (100)	55 (100)	135 (100)
$\chi^2=14,867$; df=6; p<0,05 (men); $\chi^2=17,872$; df=6; p<0,01 (women)	$\chi^2=4,547$; df=3; p>0,05		$\chi^2=2,2$; df=3; p>0,05		$\chi^2=10,70$; df=3; p<0,05	
9. People's opinions about contemporary diagnostic methods are different. With which of the opinions do you agree?						
I trust my well-being. If I don't feel any pain, it means I am healthy	106 (30,0)	91 (21,5)	82 (30,7)	77 (21,5)	18 (32,7)	26 (19,3)
I trust the doctor, who know more than me	124 (35,0)	143 (33,8)	94 (35,2)	120 (33,4)	20 (36,4)	44 (32,6)
I could disagree with the doctor's opinion without additional medical tests	124 (35,0)	189 (44,7)	91 (34,1)	162 (45,1)	17 (30,9)	65 (48,1)
T o t a l ...	354 (100)	423 (100)	267 (100)	359 (100)	55 (100)	135 (100)
$\chi^2=0,396$; df=4; p>0,05 (men); $\chi^2=0,594$; df=4; p>0,05 (women)	$\chi^2=9,944$; df=2; p<0,01		$\chi^2=9,935$; df= 2; p<0,01		$\chi^2=5,917$; df=2; p<0,05	
10. Have you had pleasant health care experiences?						
Never	135 (38,1)	100 (23,7)	81 (30,3)	83 (23,1)	15 (27,3)	31 (23,0)
Once or twice	93 (26,3)	86 (20,3)	69 (25,8)	79 (22,0)	14 (25,5)	35 (25,9)
Several times	103 (29,1)	181 (42,8)	92 (34,5)	153 (42,6)	18 (32,7)	55 (40,8)
Often	20 (5,7)	50 (11,8)	25 (9,4)	40 (11,2)	8 (14,5)	13 (9,6)
Very often	3 (0,8)	6 (1,4)	0	4 (1,1)	0	1 (0,7)
T o t a l ...	354 (100)	423 (100)	267 (100)	359 (100)	55 (100)	135 (100)
$\chi^2=13,817$; df=8; p>0,05 (men); $\chi^2=2,487$; df=8; p>0,05 (women)	$\chi^2=34,9$; df=4; p<0,001		$\chi^2=10,046$; df=4; p<0,05		$\chi^2=2,218$; df=4; p>0,05	

women chose the answer: «I don't necessarily agree with the doctor's opinion after a general examination, until a thorough examination is carried out by specialists». Women with sleep problems were more likely to continue working if they were not feeling well or had fever, compared with women without sleep problems.

According to the world literature, sleep disorders contribute to metabolic disorders, inflammatory processes, which, in general, have a negative effect on health [21]. Perhaps, that is why, in our population men and women with sleep disorders assessed their health status more negatively; were more skeptical about the potential of modern medicine to prevent and treat CVD; which was reflected in their attitude to work and preventive medical examinations.

Sleep quality is one of five factors that are considered important for the assessment of healthy sleep that is understood as a multivariate sleep-wake model adapted to individual, social and environmental requirements in order to ensure physical and mental well-being [22]. Preventive monitoring of sleep quality and detection of sleep disturbances is useful for early detection of individuals at high risk of developing CVD [23]. Due to the strong impact of sleep disorders on population health, it is necessary to monitor their patterns and trends to identify the most vulnerable social and demographic segments, signaling appropriate strategies for controlling and treating disorders, and promoting healthy sleep [20].

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Table 4. *Attitude to work, preventive check-ups and and sleep disorders among the 25–64 years old open population (2013–2018), n (%)*

Questions	good		Sleep satisfactory		poor	
	men	women	men	women	men	women
11. What do you usually do if you feel unwell at the workplace? (non-working and retired respondents answered as if they worked)						
I continue to work	140 (39,6)	175 (41,4)	105 (39,3)	148 (41,2)	17 (30,9)	73 (54,1)
I stop my work to have a rest	182 (51,4)	196 (46,3)	130 (48,7)	150 (41,8)	33 (60,0)	43 (31,8)
I see a doctor	32 (9,0)	52 (12,3)	32 (12,0)	61 (17,0)	5 (9,1)	19 (14,1)
T o t a l ...	354 (100)	423 (100)	267 (100)	359 (100)	55 (100)	135 (100)
$\chi^2=3,484$; df=5; p>0,05 (men); $\chi^2=12,455$; df=4; p<0,05 (women)	$\chi^2=3,066$; df=2; p>0,01		$\chi^2=4,353$; df=2; p>0,05		$\chi^2=12,936$; df=2; p<0,01	
12 If you have the flu or fever, what do you do?						
I continue to work as usual	116 (32,8)	97 (22,9)	89 (33,3)	95 (26,5)	10 (18,2)	51 (37,8)
I stay at home and do everything to return to work as soon as possible	166 (46,9)	227 (53,7)	137 (51,3)	193 (53,7)	35 (63,6)	63 (46,7)
I stay at home until I feel better	72 (20,3)	99 (23,4)	41 (15,4)	71 (19,8)	10 (18,2)	21 (15,5)
T o t a l ...	354 (100)	423 (100)	267 (100)	359 (100)	55 (100)	135 (100)
$\chi^2=8,407$; df=4; p>0,05 (men); $\chi^2=12,937$; df=4; p<0,05 (women)	$\chi^2=9,373$; df=2; p<0,01		$\chi^2=4,307$; df=2; p>0,05		$\chi^2=7,021$; df=2; p<0,05	
13. In your opinion, is a preventive health check-up useful?						
Yes, it is useful	313 (88,4)	372 (88,0)	215 (80,5)	305 (85,0)	40 (72,7)	116 (85,9)
May be	41 (11,6)	50 (11,8)	47 (17,6)	50 (13,9)	12 (21,8)	18 (13,3)
It is doubtful	0	1 (0,2)	5 (1,9)	3 (0,8)	2 (3,7)	1 (0,8)
Not useful	0	0	0	1 (0,3)	1 (1,8)	0
T o t a l ...	354 (100)	423 (100)	267 (100)	359 (100)	55 (100)	135 (100)
$\chi^2=28,122$; df=6; p>0,05 (men); $\chi^2=3,847$; df=6; p>0,05 (women)	$\chi^2=0,851$; df=2; p>0,05		$\chi^2=3,729$; df=3; p>0,05		$\chi^2=7,141$; df=3; p>0,05	

Conclusions

1. It was revealed that people with sleep disorders more often believed that they were not «entirely healthy» (65.9% of men and 69.6% of women); had complaints about their health (78.2% of men and 85.2% of women); and thought that they did not take sufficient care of their health (men – 32.7% and women – 34.1%).

2. It was demonstrated that men (49.1%) with sleep disorders were more likely to think that it is «very probable» that they could develop a serious illness within the next 5–10 years; also, people with sleep disorders believed that modern medicine can

prevent (men – 10.9%, women – 13.3%) and treat (men – 3.6% and women – 3.7%) only some of heart diseases.

3. It was found that people with sleep disorders more often sought medical aid only in case of severe pain or discomfort in the heart area (men – 63.6% and women – 60%); men more often trusted the opinion of doctors (36.4%), and women agreed with the opinion of a doctor only after a thorough examination (48.1%).

4. It was found that among individuals with sleep disorders women more often continued to work if they did not feel very well (54.1%), or if they had a fever (37.8%).

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