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RESEARCH ARTICLE

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Gender Differences and Dynamic of Health Care Behaviors in Population Aged 25-64 Years from 1988 To 2017

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ABSTRACT

Aim: To determine gender differences and dynamic of health care behaviors in an open population of 25-64 years over a long-term period - 29 years in Russia / Siberia (Novosibirsk).

Methods: Within the framework of the screening in 1988-89 under the WHO MONICA-psychosocial (MOPSY) program (n=1676, 49.5% males, mean age 44.1±0.4 years), in 2003-2005 under the international project HAPIEE (n=1650, 34,9% males, mean age 54,25±0,2 years), in 2013-2016 (n=975, 43,8% males, mean age 34,5±0,4 years) and 2016-2017 rr.(n=663, 41,3% years 51,95±0,32 years) within the framework of the budgetary theme No. AAAA-A17-117112850280-2, random representative samples of men and women in one of districts in Novosibirsk were examined. The utilization of health care services and care-seeking behavior were assessed using the questionnaire "Knowledge and attitude towards own' s health".

Results: In terms of diagnostic methods, in 1988, about 40% of men and women relied more on their own well-being. By 2017, confidence in medical opinions had grown among men, but women were more likely to disagree with the doctor's opinion before conducting a thorough examination.

The proportion of people who never experienced pleasant emotions associated with medical care was approximately equal for men and women in 1988 - about 40%. This proportion remained unchanged for men by 2017, while for women it dropped to 26.5%. More than half of the male population and 2/3 of the female population aged 25-64 continued to work if they feel unwell at the workplace in 1988. The proportion of such persons decreased in subsequent periods of observation. And women in spite of poor health continued to work more often than men as in 1988. In the case of flu or fever, men were more likely than women to report continuing to work as usual. The proportion of such persons decreased from 1988 to 2017. Women, on average, 3-5% more often than men took measures to return to work as soon as possible.

Conclusions: From 1988 to 2017, there was an increase in the level of trust in the opinion of a doctor among men and a higher frequency of using additional diagnostic methods among women. In dynamics, satisfaction with health care services increased only among women. People of both sexes have become more careful about their health in case of feeling unwell at the workplace over 29 years of observations.

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Introduction

Gender differences in health care use are due to many factors. Recent studies show that women are more likely to use outpatient care, but the difference with men is not significant: 50% and 43% of women and men, respectively, have attended outpatient care at least once in the last 12 months. The frequency of hospitalizations among women is also higher over the past 5 years: 25 and 17% for women and men, respectively. However, the increased use of hospital services by women was observed at the age of 18–39 years and, presumably, is associated with the reproductive health of women. The gender gap was small at the age of 40 and over. More frequent contacts of women with health services can contribute to the emergence of gender differences, as they are more informed and aware of the diagnoses and symptoms given by the doctor [1].

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A number of researchers estimate an actual utilization of health care services by an indirect method with determining the rate of reimbursement for services in medical organizations. The average rate of reimbursement for hospital services, rehabilitation services and mental health care is higher for men than for women, not only among the elderly. Payments for men exceed compensation for women even among people under 20 and the gap is observed in all age groups depending on the type of service [2]. Thus, even for young men who do not experience deterioration in health due to the accumulated effect of an unfavorable lifestyle the rates of reimbursement for care provided are still higher than for women of the same age (with the exception of outpatient care).

Greater male response to health care may also result from limited access to health care for women. Survey data in Poland for the period 2006–2013 show that more women reported difficulties in obtaining care due to long waiting times, financial limitations and inappropriate times of patient visits [2]. This bias shows that the health care system has failed to provide equal access in the face of economic hardships and time pressures that women face. In both primary care and dental care access problems were more evident for women than for men between 2006–2013. Only in the part of outpatient specialized care were access problems the same for both sexes. This may reflect the fact that in this area of health care the average payment for services was higher for women. It is fair to say that gender bias in access to health services was most pronounced in socially vulnerable groups with low income and low educational level, as well as the unemployed. However, even among those with higher incomes, employed and well-educated, men had a more advantageous position [2]. The opposite trend was observed in the United States. In 2004, the average health care expenditure for women was 32% higher [3]. Whereas recent data from European countries show that 56% of health care budgets were spent on female patients [4]. In addition, in Canada, the average health expenditure for women in 2012 exceeded the average expenditure for men ($ 4.181 vs $ 3.563 per person) [5].

Other areas where men are favored in the health insurance system include insurance coverage, private health financing, and cultural barriers to accessing health services. Compulsory state health insurance in Europe covers most of the population; however, the majority of the uninsured are women. The structure of private health spending is also disadvantageous for women; voluntary private insurance is biased in favor of men, who have twice the insurance coverage, while women tend to spend more out of pocket and are more vulnerable to excessive health spending. In terms of cultural factors, stereotypes make it difficult for female patients to use certain procedures including the treatment of alcohol dependence and related illnesses. Women are more likely than men to report discrimination and inequities in health care access.

Our research complements these prior scientific reports. Evaluating a large number of people from the general population participating in screening over the years but with a common design, increases the generalizability and relevance required for epidemiological protocols based on research principles. Thus, the aim of our study was to study gender differences and dynamic of health care behaviors in population aged of 25-64 years over a long-term period - 29 years.

Methods

The results of our study were obtained on the basis of a survey of the male and female population living in one of the districts of Novosibirsk. The examinations were carried out within the framework of screenings 1988-89, 1994-95, 2003-2005, 2013-2016 and 2016-2017. Under the III screening of the WHO program «Multinational Monitoring of Trends and Determinants of Cardiovascular Disease - Optional Psychosocial Sybstudy» (MONICA-MOPSY) representative sample of residents aged 25–64 years was examined in 1988-1989 (n=1676, 49.5% males, mean age 44.1±0.4 years, response rate - 69.8%) [6].

In the course of another international project HAPIEE (Health, Alcohol and Psychosocial factors In Eastern Europe) persons aged 45-64 were examined in 2003-2005 (n=1650, 34.9% males, mean age 54,.25±0.2 years, response rate – 66.5%) [7]. In the framework of the screening studies a random representative sample survey of the population aged 25-44 years conducted in 2013-2016 by the budget scientific research theme, Gov.Task № 01201282292 (n=975, 43.8% males, mean age 34.5±0.4 years, response rate – 71.5%).Within the framework of the budget theme No. AAAA-A17-117112850280-2 a survey of persons aged 35-64 was carried out in 2016-2017 (n=663, 41.3% males, mean age 51.95±0.32 years, response rate – 73.6%). The study included residents of the same district of Novosibirsk as in 1994-95, 2003-2005 and 2013-2016.

All samples were formed on the basis of electoral lists of citizens using a table of random numbers. A random mechanical selection procedure was used. The general survey was carried out according to the standard methods accepted in epidemiology and included in the MONICA program [6]. The methods were strictly standardized and complied with the requirements of the MONICA project protocol. Validation and processing of material according to the WHO MONICA-psychosocial program was carried out at the Information Collection Center of the MEDIS Institute in Munich, Germany (Institut für Medizinische Informatik und Systemforschung). Quality control was carried out in MONICA quality control centers: Dundee (Scotland), Prague (Czech Republic), Budapest (Hungary). The presented results were considered satisfactory.

The screening survey program included registration of socio-demographic data according to the standard epidemiological protocol of the WHO MONICA-psychosocial program: identification number, place of residence, full name, date of birth, date of registration, gender, marital status, educational level, professional status.

Indicators of the utilization of health care services and care-seeking behavior were assessed using the questionnaire "Knowledge And Attitude Towards Own's Health" scale proposed by the MOPSY protocol and adapted to the studied population [8]. The subjects were asked to answer the questions of the scale themselves according to the instructions placed on the scale. Individuals who did not complete the questionnaire were not included in the analysis. Statistical analysis was performed using the SPSS software package version 11.5. The study participants were standardized by age groups in the analysis. To compare the indicators between screenings, the corresponding age groups were used. To check the statistical significance of differences between groups, we used: the chi-square test ($\chi 2$). As a criterion

of statistical significance the value of the chi-square was taken into account at a certain number of degrees of freedom. The reliability of analysis was accepted at a significance level of p<0.05.

Results

With regard to diagnostic methods, in 1988, men and women more often relied on their own well-being: "If I feel good it means I am not sick" was considered by 43.3% of men and 39.7% of women aged of 25-64 years. This was especially often observed in the group of 35-44 years - 46% for both sexes (p <0.05). 32.6% of men and 36% of women aged of 25-64 years "could disagree with the opinion of the doctor before conducting thorough medical tests". The lowest doctor's authority among women was observed in the age group 35-44y where only 15% trusted his opinion which is 1.5 times lower than the level of trust of men in this age group (p <0.05).

People in older age groups trusted the doctor's opinion more often but in 2003-05 this indicator increased only in men (36.3%) but not women aged of 45-64 years (p <0.001). In dynamics, the share of those who "disagree with the doctor's opinion before conducting thorough research" has increased in women, especially in the 55-64y age group up to 46% (p <0.001). This indicator has not changed in men compared to 1988. In 2003-05, the proportion of those who rely on their own health in diagnostics decreased (30.7% and 27.6% for men and women aged of 45-64 years; p <0.001).

The level of trust to the doctor slightly increased by 2013-16 and amounted to 30% in the groups of 25-34 and 35-44 years with no gender differences. Compared to 1988, the population aged of 25-44 years was less likely to rely on their own health and were inclined to disagree with the doctor opinion until a thorough examination was carried out. The greatest gender difference in these indicators was noted in the 35-44 age group, where 29.3% of men and only 18.2% of women trusted their own well-being; whereas "a thorough health survey" were inclined to spend 39% of men and 51% of women of this age (p <0,01).

In 2016-2017, men of older age groups more often than women in matters of diagnosis preferred to trust their own well-being: 41.3% and 25.7%, respectively (p = 0.01). Women of all age groups in comparison with men preferred to conduct additional tests more often before agreeing with the opinion of the doctor (27% and 42%, for men and women aged of 35-64 years, respectively; p <0.001). In comparison with screenings in previous years, the population more often recognized the doctor's opinion as a priority, although these estimates ranged from 30 to 47%, differing significantly by gender (p for all ≤0.05).

Table 1: Gender differences and dynamic of health care behaviors in population of 25-64 years depending on age

Health care behavior		25-34 years				35-44 years				45-54 years				55-64 years				25-64 years			
		M		F		M		F		M		F		M		F		M		F	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
People's opinions about contemporary diagnostic methods are different. Which opinion do you agree with?																					
1. I trust my well-being	1988	82	40.4	65	35.7	91	46	96	46,4	73	42,4	68	38,4	67	44,7	48	35,3	316	43,3	282	39,7
2. I trust the doctor		43	21.2	41	22.5	48	24,2	31	15,0	37	21,5	43	24,3	48	30,7	57	41,9	176	24,1	173	24,3
3. I could disagree with the doctor's opinion without additional medical tests		78	38.4	76	41.8	59	29,8	80	38,6	62	36,0	66	37,3	37	24,7	31	22,8	238	32,6	256	36,0
Total		203	100	182	100	198	100	207	100	172	100	177	100	152	100	136	100	730	100	711	100
		n.s.				χ^2=6.768 df=2 p<0.05				n.s.				n.s.				n.s.			
1. I trust my well-being	2003									86	28.3	154	27,8	91	33,5	142	27,3	177	30,7	296	27,6
2. I trust the doctor										114	37.5	151	27,3	95	34,9	139	26,7	209	36,3	290	27,0
3. I could disagree with the doctor's opinion without additional medical tests	2003									104	34.2	249	44,9	86	31,6	239	46,0	190	33,0	488	45,4
										304	100	554	100	272	100	520	100	576	100	1074	100
										χ2=12.184 df=2 p<0.01				χ2=15.309 df=2 p<0.001				χ2=26.142 df=2 p<0.001			
1. I trust my well-being	2013	47	28.5	53	24.9	76	29,3	61	18,2									123	29,0	114	20,8

2. I trust the doctor		49	29.7	64	30.0	82	31,7	103	30,7									131	30,9	167	30,5
3. I could disagree with the doctor's opinion without additional medical tests		69	41.8	96	45.1	101	39,0	171	51,0									170	40,1	267	48,7
Total		165	100	213	100	259	100	335	100									424	100	548	100
						χ^2=12.522 df=2 p<0.01												χ^2=10.575 df=2 p<0.01			
1. I trust my well-being	2017					14	19.7	20	20.4	27	32,9	23	16,7	50	41,3	39	25,7	91	33,2	82	21,1
2. I trust the doctor						34	47.9	30	30.6	29	35,4	51	37,0	46	38,0	62	40,8	109	39,8	143	36,9
3. I could disagree with the doctor's opinion without additional medical tests						23	32.4	48	49.0	26	31,7	64	46,4	25	20,7	51	33,6	74	27,0	163	42,0
						71	100	98	100	82	100	138	100	121	100	152	100	274	100	388	100
						χ^2=5.950 df=2 p=0.051				χ^2=8.725 df=2 p<0.05				χ^2=9.223 df=2 p=0.01				χ^2=19.422 df=2 p<0.001			

The proportion of people who never experienced pleasant experiences related to health care was approximately equal for men and women in 1988 - about 40%. Only 8.1% of men and 9.5% of women aged of 25-64 years regularly encountered pleasant emotions during medical care (the combined answer is "often" and "very often"); their share did not exceed 6% in younger age groups. In 2003-05, the proportion of those who have never experienced satisfaction from medical care decreased to 34% of men and 28.2% of women aged 45-64, although no significant gender differences were found in the structure of answers. An even greater decrease was established in 2013-2016 in younger age groups, only. The proportion of women who often experience "pleasant exaltations" was higher in group of 25-34 years - 6.7% and 11.3% and 35-44 years - 8.7% and 13.2%, for men and women, respectively (p for all <0.05). It should be noted that this proportion of women was even higher in 2016-17 reached a peak of 20.4% in the 35-44 age group for the entire observation period, significantly ahead of men in estimates; except for the oldest age group 55-64 years, although there the differences did not reach statistical significance. In 2017, as in previous years, men more often reported that they "never had pleasant experiences" during utilization of health care (40.9% and 26.5%, for men and women aged of 35-64 years; p <0.001).

Table 2: Gender differences and dynamic of health care behaviors in population of 25-64 years depending on age

Health care behavior		**25-34 years**				**35-44 years**				**45-54 years**				**55-64 years**				**25-64 years**			
		M		**F**		**M**		**F**		**M**		**F**		**M**		**F**		**M**		**F**	
		N	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**
Have you had pleasant health care experiences?																					
1. Never	1988	96	47.1	75	41.4	94	47,2	93	44.7	73	42,7	58	33.1	54	36,2	41	31.1	319	43.8	272	38.6
2. One or two times		40	19.6	42	23.2	49	24,6	48	23.1	30	17,5	43	24.6	33	22,1	25	18.9	152	20.6	160	22.7
3.Several		53	26	53	29.3	47	23,6	55	26.4	51	29,8	54	30.9	44	29,5	43	32.6	199	27.3	206	29.2
4. Often		12	5.9	6	3.3	6	3,8	9	4.3	13	7,6	16	9.1	15	10,1	20	15.2	46	6.3	51	7.2
5.Very often		0	0	5	2.8	0	0	3	1.4	4	2,3	4	2.3	3	2,0	3	2.3	13	1.8	16	2.3
Total		201	100	181	100	196	100	208	100	171	100	175	100	149	100	132	100	729	100	705	100
		χ^2=8.604 df=4 p=0.072				n.s.				n.s.				n.s.				n.s.			
1. Never	2003									112	36.8	167	30,1	84	30,9	136	26,2	196	34,0	303	28,2
2. One or two times										54	17.8	111	20,0	51	18,8	107	20,6	105	18,2	218	20,3
3. Several										110	36.2	221	39,9	112	41,2	215	41,3	222	38,5	436	40,6
4. Often										26	8.6	45	8,1	22	8,1	54	10,4	48	8,3	99	9,2
5. Very often										2	0.7	10	1,8	3	1,1	8	1,5	5	0,9	18	1,7
Total										304	100	554	100	272	100	520	100	576	100	1074	100
										n.s.				n.s.				n.s.			
1. Never	2013	49	29.9	35	16.5	79	31,0	79	23,8									128	30,5	114	21,0

2. One or two times		50	30.5	52	24.5	65	25,5	68	20,5								115	27,4	120	22,1
3. Several		54	32.9	101	47.6	89	34,9	141	42,5								143	34,1	242	44,5
4. Often		11	6.7	22	10.4	19	7,5	41	12,3								30	7,2	63	11,6
5. Very often		0	0	2	0.9	3	1,2	3	0,9								3	,7	5	,9
Total		164	100	212	100	255	100	332	100								419	100	544	100
		χ^2=16.431 df=4 p<0.01				χ^2=9.962 df=4 p<0.05											χ^2=22.741 df=4 p<0.001			
1. Never	2017					28	39.4	22	22.4	40	48,8	31	22,5	44	36,4	50	32,7	112	40,9	103	26,5
2. One or two times						17	23.9	22	22.4	23	28,0	32	23,2	23	19,0	30	19,6	63	23,0	84	21,6
3. Several						24	33.8	34	34.7	15	18,3	61	44,2	38	31,4	60	39,2	77	28,1	155	39,8
4. Often						2	2.8	18	18.4	4	4,9	10	7,2	16	13,2	13	8,5	22	8,0	41	10,5
5. Very often						0	0	2	2.0	0	0	4	2,9	0	0	0	0	0	0	6	1,5
Total						71	100	98	100	82	100	138	100	121	100	153	100	274	100	389	100
						χ^2=13.927 df=4 p<0.01				χ^2=24.350 df=4 p<0.001				n.s.				χ^2=22.047 df=4 p<0.001			

The gender aspects of health care seeking were studied. More than half of the male and 2/3 of the female population aged 25-64 continued to work if they feel unwell at the workplace in 1988 (p <0.01). There were more such women in the youngest age group - 73.6% (p = 0.001). In the same age group, the proportion of men and women equally rarely sought medical help, in case of illness at work - 11%. The frequency of visits to a doctor increased with age in both sexes. The proportion of those who cut work and rest varied in different age groups with the exception of the 35-44 age group where there was gender equality of opinions - 26%.

In the older age groups, in 2003-2005, the proportion of people who cut work and rest in case of illness increased: 39.4% of men and 31.1% of women aged of 45-64 years (p <0.001). As before, women continued to work more often than men: group of 45-54 years - 41.1% and 54.2%, group of 55-64 years - 44.5% and 52.3%, for men and women, respectively (p for all <0.05). The proportion of those who sought medical help was at the 1988 level. In 2013-2016, young men more often than women preferred to cut work and rest; especially, these differences were found in the 35-44 age group: 59.8% of men and 44.5% of women (p = 0.001). But men were less likely to see a doctor if they feel unwell at the workplace (4.8% in the group of 25-34 years). There was only 2-3% more women seeking medical help in both age groups.

The downward trend in reducing number of those who continued to work while felt discomfort persisted in 2016-2017. But, as in previous periods, women more often than men continued to work if they "felt bad": 39.4% and 42.7%, for men and women 35-64 years old (p <0.05). The frequency of visits to a doctor did not change in the 35-44 age group but increased with age, reaching 29.4% among women aged of 55-64 years. It was 1.5 times higher compared with men in the same age group (n.s.).

In response to the question: "If you have flu or fever, what do you do?" - in 1988, both sexes were more likely to report that they were continuing to work as usual. "Fever" men continued to work more often than women. And although these differences were not significant in other age groups it was found significant in the 35-54 age group: 59.6% and 47.1% (p <0.05). In subsequent periods of observation, this proportion decreased by 17-20% in favor of those who "stayed at home and did everything possible to return to work as soon as possible." The proportion of those who “stayed at home until feel better” was small in 1988 and did not differ by gender, amounting to 14%. This proportion increased only in 2013-16 in the younger age groups, reaching 20% without significant gender differences. Among those who stay at home in the event of influenza women, on average, 3-5% more often than men took measures to return to work as soon as possible.

After 29 years, as in 1988, men of middle age groups more often than women continued to work with influenza: 35-44 age group - 36.6% and 21.4% (ns), 45-54 age group - 41.5% and 23,9% (p <0.01). The share of men aged of 35-44 years “staying at home until they felt better” decreased by 6% compared to 2013, while for women this proportion has not changed.

Table 3: Gender differences and dynamic of health care behaviors in population of 25-64 years depending on age

Health care behavior		25-34 years				35-44 years				45-54 years				55-64 years				25-64 years			
		M		F		M		F		M		F		M		F		M		F	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
What do you usually do if you feel unwell at the workplace																					
1. I continue to work	1988	119	58.3	134	73.6	114	57,9	134	64.4	93	53,4	124	67.8	75	50,7	58	43.0	405	55.6	455	63.5
2. I cut my work and have a rest		62	30.4	27	14.8	50	25,4	54	26.0	41	23,6	34	18.6	34	22,9	31	23.0	189	25.9	150	20.9
3. I see a doctor		23	11.3	21	11.5	33	16,8	20	9.6	40	23,0	25	13.7	39	26,4	46	34.1	135	18.5	112	15.6
Total		204	100	182	100	197	100	208	100	174	100	183	100	148	100	135	100	729	100	717	100
		$\chi2$=13.534 df=2 p=0.001				$\chi2$=4.660 df=2 p=0.097				$\chi2$=8.332 df=2 p<0.05				n.s.				$\chi2$=9.436 df=2 p<0.01			
1. I continue to work	2003									125	41.1	300	54,2	121	44,5	272	52,3	246	42,7	576	53,3
2. I cut my work and have a rest										126	41.4	186	33,6	101	37,1	148	28,5	227	39,4	334	31,1
3. I see a doctor										53	17.4	68	12,3	50	18,4	100	19,2	103	17,9	168	15,6
Total										304	100	554	100	272	100	520	100	576	100	1074	100
										χ^2=13.783 df=2 p=0.001				χ^2=6.541 df=2 p<0.05				χ^2=17.756 df=2 p<0.001			
1. I continue to work	2013	81	49.1	92	43.2	81	31,0	145	43,3									162	38,0	237	43,2
2. I cut my work and have a rest		76	46.1	106	49.8	156	59,8	149	44,5									232	54,5	255	46,5
3. I see a doctor		8	4.8	15	7.0	24	9,2	41	12,2									32	7,5	56	10,2
Total		165	100	213	100	261	100	335	100									426	100	548	100
		n.s.				χ^2=13.755 df=2 p=0.001												χ^2=6.551 df=2 p<0.05			
1. I continue to work	2017					26	36.6	48	49.0	35	42,7	66	47,8	47	38,8	52	34,0	108	39,4	166	42,7
2. I cut my work and have a rest						40	56.3	39	39.8	39	47,6	50	36,2	50	41,3	56	36,6	129	47,1	145	37,3
3. I see a doctor						5	7.0	11	11.2	8	9,8	22	15,9	24	19,8	45	29,4	37	13,5	78	20,1
Total						71	100	98	100	82	100	138	100	121	100	153	100	274	100	389	100
						n.s.				n.s.				n.s.				χ^2=8.126 df=2 p<0.05			

Table 4: Gender differences and dynamic of health care behaviors in population of 25-64 years depending on age

Health care behavior		25-34 years				35-44 years				45-54 years				55-64 years				25-64 years			
		M		F		M		F		M		F		M		F		M		F	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
If you have flu or fever, what do you do?																					
1. I continuing to work as usual	1988	97	47.8	80	44	118	59,6	99	47,1	98	57,6	97	54,5	69	46,6	61	46,6	384	53,0	341	48,0
2. Stay at home and do everything to return to work as soon as possible		60	29.6	70	38.5	55	27,8	88	41,9	55	32,4	63	35,4	59	39,9	45	34,4	233	32,1	268	37,7
3. Stay at home until feel better		46	22.7	32	17.6	25	12,6	23	11,0	17	10,0	18	10,1	20	13,5	25	19,1	108	14,9	101	14,2
Total		203	100	182	100	198	100	210	100	170	100	178	100	148	100	131	100	725	100	710	100
		n.s.				χ^2=9.017 df=2 p<0.05				n.s.				n.s.				χ^2=5.074 df=2 p=0.079			
1. I continuing to work as usual	2003									110	36.2	188	33,9	92	33,8	145	27,9	202	35,1	333	31,0
2. everything to return to work as soon as possible										151	49.7	308	55,6	146	53,7	301	57,9	297	51,6	609	56,7
3. Stay at home until feel better										43	14.1	58	10,5	34	12,5	74	14,2	77	13,4	132	12,3
Total										304	100	554	100	272	100	520	100	576	100	1074	100
										n.s.				n.s.				n.s.			
1. I continuing to work as usual	2013	50	30.3	59	27.7	76	29,2	93	27,8									126	29,6	152	27,8
2. I cut my work and have a rest		80	48.5	103	48.4	131	50,4	170	50,9									211	49,6	273	49,9
3. I see a doctor		35	21.2	51	23.9	53	20,4	71	21,3									88	20,7	122	22,3
Total		165	100	213	100	260	100	334	100									425	100	547	100
		n.s.				n.s.												n.s.			
I continuing to work as usual	2017					26	36.6	21	21.4	34	41,5	33	23,9	32	26,4	44	29,1	92	33,6	98	25,3
2. Stay at home and do everything to return to work as soon as possible						35	49.3	54	55.1	31	37,8	85	61,6	73	60,3	76	50,3	139	50,7	215	55,6
3. Stay at home until feel better						10	14.1	23	23.5	17	20,7	20	14,5	16	13,2	31	20,5	43	15,7	74	19,1
Total						71	100	98	100	82	100	138	100	121	100	151	100	274	100	387	100
						χ^2=5.537 df=2 p=0.063				χ^2=11.913 df=2 p<0.01				n.s.				χ^2=5.564 df=2 p=0.062			

Discussion

In terms of diagnostic methods, in 1988, about 40% of men and women relied more on their own well-being. Then there was the lowest doctor's authority among young women. People in older age groups trusted the doctor's opinion more often, but in 2003-05 this indicator increased only among men - 36.3%, but not women. In the period 2013-2017, the population was less likely to rely on their own well-being and were inclined to disagree with the opinion of the doctor, until a thorough examination was carried out. The largest gender difference in these indicators was noted in the 35-44 age group, where half of the women intended to conduct “thorough health check up”. Men of older age groups more often than women preferred to trust their own well-being in matters of diagnosis: 41.3% and 25.7%, respectively. In comparison with screenings of previous years, the population more often recognized the doctor's opinion as a priority although these estimates ranged from 30 to 47%, significantly differing by gender. Other researchers also note the extreme skepticism of women in the confidence to provide adequate care [9]. Probably, such a bias affects the authority of the attending physician, reduces the number of patients or requires in-depth diagnostics.

The proportion of people who had never pleasant experiences related to medical care was approximately equal for men and women in 1988 - about 40%. This proportion remained unchanged for men by 2017, while for women it dropped to 26.5%. At the same time, the proportion of women who often “had pleasant experiences” was 5% higher. Among men of the oldest age group 55-64 years, the proportion of those who never had pleasant experiences was lower than in the younger age categories which are due to the more frequent visits in this age group. In women, such age-related features were observed in 1988 and 2003 but in 2017 they were no longer identified. Thus, in our study men more often than women experienced unpleasant emotions during health care-seeking. This is at odds with reports of higher female dissatisfaction with the use of health resources [2]. But the orientation of budgets for health care towards the female sex is noted in many developed countries which, probably, can “stop” the issues of inequality and gender discrimination [3-5].

More than half of the male and 2/3 of the female population aged 25-64 continued to work if they feel unwell at the workplace in 1988 ($p < 0.01$). The proportion of such persons decreased to 40% in subsequent periods of observation. And women in spite of poor health continued to work more often than men as in 1988. In younger age groups, the share of those who sought medical help in case of malaise at work was at the level of 11% and did not increase over time both among men and women. In the dynamics, the proportion of people who reduced work and rest in case of illness increased: 47.1% of men and 37.3% of women.

In response to the question: "If you have flu or fever, what do you do?" - in 1988, both sexes were more likely to report that they were continuing to work as usual. "Fever" men continued to work more often than women. In subsequent periods of observation, this proportion decreased by 17-20% in favor of those who "stayed at home and did everything do to return to work as soon as possible". Women, on average, 3-5% more often than men took measures to return to work as soon as possible. After 29 years, the share of men “staying at home until they felt better” remained at 15% while for women this proportion increased to 20%.The increased proportion of people continuing to work when they feel unwell may be related to employers. Opportunities to pay for sick days are limited, especially in businesses. Socio-economic distress and high competition in the labor market forces employees to act to the detriment of their health. And this should be taken into account when developing policies and responses.

Creating a wider population of immunized individuals can significantly reduce the proportion of individuals showing flu symptoms in the workplace. However, when deciding to provide vaccination as part of prophylactic examinations, one should take into account the lower adherence to this preventive measure among men as compared to women [10].

Equal access to appropriate education on infection prevention and control, personal protective equipment (PPE), basic hygiene and sanitation products and psychosocial support is critical to ensuring a safe and healthy workplace. These elements should take into account the special needs of women, including differences in the design and size of PPE that can compromise the protection of women. Working hours and shifts should be focused on preventing burnout. Resources for mental health and psychosocial support, sick leave, insurance, and timely wages should also be available. In decision-making at the national, subnational or organizational levels, women workers should be actively involved in the allocation of resources, equipment, policies and practices that affect their health and well-being [11].

Also, it should be recognized that improving population health characteristics and developing preventive measures by increasing health care costs is a one-sided and not the most effective solution. As noted in a recent report by the Organization for Economic Cooperation and Development: “Health care spending is growing so rapidly in advanced economies that by mid-century they will become unaffordable / unfeasible without reforms in this area” [12].

If social spending is aimed at the social determinants of health then it is a form of spending on preventive health care, qualitatively reducing risks for the entire population instead of treating sick people. Redirecting resources from health care to social services is an effective way to improve health outcomes. A recent study in Canada showed that an increase in social spending by 1 cent - by 0.1% reduces potential mortality and 0.01% increases life expectancy [13]. Implementing such measures through specific determinants such as reducing unemployment, increasing educational attainment, improving lifestyle and behavioral impact, as well as access to health care resources, can be enhanced with innovative technologies. Such technologies related to healthcare services, genomics, personalized devices for health, remove social barriers [14].

Conclusions

- In terms of diagnostic methods, in 1988, about 40% of men and women relied more on their own well-being. By 2017, confidence in doctor’s opinion had grown among men, but women were more likely to disagree with the doctor's opinion before conducting a thorough examination.
- The proportion of people who never experienced pleasant emotions associated with medical care was approximately equal for men and women in 1988 - about 40%. This proportion remained unchanged for men by 2017, while

for women it decreased to 26.5%.

- More than half of the male population and 2/3 of the female population aged 25-64 continued to work if they feel unwell at the workplace in 1988. The proportion of such persons decreased to 40% in subsequent periods of observation. And women in spite of feeling unwell continued to work more likely than men as in 1988.
- In the case of flu or fever, men were more likely than women to report continuing to work as usual. The proportion of such persons decreased from 1988 to 2017. Women, on average, 3-5% more often than men took measures to return to work as soon as possible.

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