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Principal directions of preventive measures of prevalence of risky and dangerous alcohol consumption among health workers

The research of the proportion of risky, dangerous, and possibly addicted alcohol consumption among doctors of Yakutsk city was conducted. The interrelation of social and hygienic aspects accompanying risky and dangerous alcohol consumption was studied and risk factors were identified.

Keywords: doctors, health workers, risky alcohol consumption, dangerous consumption, possibly addicted consumption, risk factors, prevention, Yakutsk city.

Health workers, protecting population's health, work in high professional risk conditions, they often forget about themselves and the need of protection against danger connected with their activity [1]. Many researchers consider hospital environment extremely aggressive [1, 2, 3]. Health workers work in the conditions of high emotional tension that leads to fast nervous breakdown and «burning out syndrome" progress [2, 8]. The general case rate of health workers on majority of indicators exceeds other professional groups [3, 13]. So, in 2009 the general case rate among Yakutsk health workers was 1943 per 1000 workers that exceeded adult population general cases (1579 per 1000 people), health workers pathological prevalence (2048 per 1000 people) exceeded Yakutsk population indicator (1385 per 1000 people), health workers cases of morbidity with temporal disability (72, 5 per 100) exceeded population cases of morbidity with temporal disability (53, 5 per 100) [4].

In social, economic and medical aspects alcohol consumption has been one of the most serious problems of mankind for a long time [5]. Numbers of researchers refer doctor's profession to factors of increased risk of alcohol and drugs abuse [6, 10]. Higher level of mental disorders in comparison with average indicator of population is noted among doctors, and it is usually considered to have connections with features of medical profession. According to National institute of mental health (the program of epidemiological research (ECA)), 137 397 doctors or 20, 1%

suffer from alcoholism. In Great Britain about 90% of doctors [9] regularly take alcoholic drinks. In New Zealand researches revealed that drinking habit frequency among doctors makes 1, 7% [10].

L.F. Tikhomirova [7] analyzed 851 cases of alcohol consumption among different health workers. 3, 2% of surveyed male doctors take alcoholic drinks more than once a week. It is considered to be a group of risk. Anesthesiologists made 36%, surgeons — 27, 4%, radiologists — 14, 29%, physiotherapists — 9, 0%, obstetricians-gynecologists — 6, 15%, dentists — 4, 94%. As well as majority of other social and professional categories of population, the debut of alcoholic disease among doctors accrues mainly to young age: 20-24 years (23%), 25-29 years (33%).

Treatment of doctors with alcohol consumption has a number of specific features, even in case of treatment in the ant alcohol center [11]. Recognition of alcoholism put guilt trip, shame and unwillingness to discuss this problem with anybody. Many doctors know about the biopsychosocial causes of alcoholism and treat treatment critically and incredulity since the majority has a feeling of fatality due to the fact of forecasting awareness.

But nevertheless, long or lifelong remission is possible and as a number of authors' researches show it varies from 27% to 92% of cured doctors [12].

In 2009 the government of the Russian Federation approved "The concept on realization of state policy on drop in coverage of alcoholic products abuse and alcohol preventive measures among the population of the Russian Federation for the period until 2020". The concept purpose is the reduction of alcohol consumption per capita. Due to the remaining high prevalence of alcoholism in RS (Y), in 2010 the program "Against measures aimed at alcoholism prevention in the Republic of Sakha (Yakutia)" was accepted.

Research of "medical" alcoholism specific character is difficult due to ethical component. Colleagues, friends, psychiatrists and even narcologists, realizing the full extent of alcoholism demonstration among colleagues, optimize the forecast due to deontological moods. Precedence of punitive measures on the part of the state, administrations, and society leave alone the doctor suffering from alcohol dependence. Meanwhile, social, medical, professional and human losses from similar tactics continue to be.

Research objective: development of integrated scientifically based program on early identification, specific prevention and rehabilitation of doctors consuming alcohol in risky, dangerous and probably dependent mode.

Materials and methods. Historical, retrospective, continuous, selective and sociological methods were the main research instruments. Doctors working in Yakutsk and the system, directed on prevention and rehabilitation of doctors with risky and dangerous alcohol consumption were the object of research. For carrying out anonymous, sociological research the group of 365 respondents

was created to represent the population of 2294 Yakutsk doctors. The response was 90, 4%. Under probability level of certain forecast at not less than 95% (p.<0,05), the representational sample size was calculated by means of the OpenEpi program and confirmed the group of 330 doctors sufficiency. Further according to the method of random sampling, thanks to above-mentioned program the serial numbers of respondents of sampling were calculated. Statistical data processing was carried out by means of standard SPSS package (version 13,0). Intergroup distinctions were estimated by means of nonparametric criteria. 4 groups were created for the comparative analysis: 1) group of anesthesiologists; 2) group of surgeons; 3) group of doctors of therapeutic profile; 4) group of doctors of other specialties. Distribution on specialties in random sampling was similar to population: 7,1% respondents were anesthesiologists, 8,5% - surgeons, 22,1% - therapists and about 60,0% - doctors of other specialties.

Research results. Analyzing obtained data it was founded out that by 2009, there had been 2294 doctors in Yakutsk health care organizations of municipal, republican and federal control (47,0% from all working doctors of RS (Y)) serving about 1 million of RS (Y) population and guests of the republic. There were 1774 (79, 4%) women, 460 (20, 5%) men accordingly. The structure of specialties was as follows: 158 (6, 8%) anesthesiologists, 188 (8, 1%) surgeons, 481 (20, 9%) doctors of therapeutic profile, 1407 (61, 3%) doctors of other specialties. All respondents were represented by 29 health care organizations. Among respondents there were 69 (21, 0%) men and 261 (79, 0%) women.

In age structure experts of 30-40 years (30%) prevailed. As a whole the age structure has the following features: before 30 years – 26,7%, 30-40 years - 30%, 40-50 years – 20,1%, 50-60 years – 17,2%, 60 years and later – 6,0%. Doctor's average age was 43, 9±0, 4 years. For perspective research of demographic indicators the average life expectancy of died anesthesiologists was calculated. Before Belavezha Accords of 1991, on cessation of the USSR existence the average life expectancy of the died anesthesiologist was 56±1,26 years, the average life expectancy of anesthesiologists died after 1990 was 47,6±2,87 years.

Sociological anonymous poll consisted of 3 blocks of questions which had to create answers by the following criteria: 1) prevalence of health harmful risky, dangerous and probably addicted alcohol consumption; 2) satisfaction with living conditions and workplace; 3) questions which would allow to reveal risk factors for carrying out correlation with risky and dangerous alcohol consumption.

The international screening questionnaire AUDIT (Alcohol Use Disorders Identification Test) was chosen as a tool for 1st block of questions disclosure. The questionnaire was developed by the World Health Care Organization experts in 1982 for identification of harmful alcohol

consumption and it is "the gold standard" for primary addiction research. Sensitivity of AUDIT is really high and varies, from 76 to 99% according to researchers. The questionnaire doesn't aim to establish the exact diagnosis, but it allows assuming the existence of problems at a patient. Interpretation of questionnaire answers allows revealing: a) low probability of alcoholic dependence; b) excessive, risky alcohol consumption; c) dangerous alcohol consumption and health harmful alcohol consumption; d) possible existence of alcohol addiction.

The analysis of conducted research led to the following results. The low probability of demonstration of alcohol consumption was found among the majority of examined doctors and was 71, 51% (n=236). Excessive or risky consumption was revealed among 18, 18% (n=60) of doctors. The health-harmful dangerous consumption was registered among 9, 09% (n=30) of doctors. Possible presence of alcohol addiction was revealed among 1, 21% (n=4). The age of doctors taking alcohol in a risky and dangerous mode was 43, 6±11, 6 years. Men's proportion within this group was 93, 2%.

The results within anesthesiologists group were the following: 56, 5% - low probability of addiction, 21, 7%- risky consumption, 17, and 3% - consumption with harmful consequences, 4, and 3% -possible addiction (tab. 1). In the group of surgeons: 53,5% - low probability of dependence, 25,0% - risky consumption, 17,8% - consumption with harmful consequences, and 3,5% - possible addiction. In group of therapists: 87,7% - low probability of dependence, 13,8% - risky consumption, 1,3% - consumption with harmful consequences, there were no people with possible existence of addiction among therapists. In group of doctors of other specialties: 69,1% - low probability of dependence, 19,6% - risky consumption, 10,1% - harmful consequences, and 1,0% - doctors of other specialties probably have a dependence.

Regarding all investigated group, proportions of doctors were distributed as follows: Low probability of dependence: anesthesiologists - 3,9±1,06 (see column P±m in tab. 1), surgeons - 4,5±1,16, therapists - 18,5±4,89, doctors of other specialties - 41,5±2,75. Risky consumption: anesthesiologists -1,5±0,59, surgeons - 2,1±0,79, therapists - 3,0±1,42, doctors of other specialties - 11,8±1,42. Health-harmful dangerous consumption: anesthesiologists - 1,2±0,59, surgeons - 1,5±0,67, therapists - 0,3±0,30, doctors of other specialties - 6,0±0,51. Possible presence of alcohol addiction: anesthesiologists - 0,3±0,30, surgeons - 0,3±0,30, therapists – 0, doctors of other specialties - 0,6±0,60.

Table 1.

Incidence of alcohol consumption within groups, incidence in groups, regarding all examined with risky, dangerous and possibly addicted alcohol consumption among doctors.

Criteria of alcohol consumption	Anesthesiologists n=23			Surgeons n=28			Therapists n=72			Doctors of other specialties n=198		
	n	% within group	P±m	n	% within group	P±m	n	% within group	P±m	n	% within group	P±m
Low probability	13	56,5	3,9±1,06	15	53,5	4,5±1,16	61	87,7	18,5±4,89	137	69,2	41,5±2,75
Excessive or risky	5	21,7	1,5±0,59	7	25,0	2,1±0,79	10	13,8	3,0±0,42	39	19,6	11,8±1,42
Health-harmful dangerous	4	17,3	1,2±0,59	5	17,8	1,5±0,67	1	1,3	0,3±0,30	20	10,1	6,0±0,51
Possible presence	1	4,3	0,3±0,30	1	3,5	0,3±0,30	-	-	-	2	1,0	0,6±0,60

At the next stage the correlation interrelation between 30 risk factors and answers of doctors with risky, dangerous and probably addicted alcohol consumption was investigated. As mentioned above, the proportion of doctors taking alcohol in risky, dangerous and possibly addicted mode was 28, 5% (n=94). As a result of assessment of interrelation according to nonparametric Spearman correlation coefficient ("r"), reliable, direct and weak interrelation between risky, dangerous and addicted alcohol consumption and 7 leading risk factors was established. Factors are ranked as follows: 1) 1st alcohol consumption before 14 years (r=0,19); 2) alcohol consumption in order to dumping emotional and psychic tension (r=0,19); 3) presence of close relatives with dangerous consumption (r=0,16); 4) regular alcohol consumption during students years (r=0,14); 5) modern alcohol consumption 2-3 times a week (r=0,13); 6) dissatisfaction with financial situation (r=0,12); 7) existence of drinking environment (r =0,12).

Communication establishment of risk factors with prevalence volume of risky and dangerous alcohol consumption among Yakutsk doctors allowed developing the project of secondary and tertiary preventive measures for immediate introduction. System measures of primary prevention are necessary for warning further alcohol expansion.

The program of prevention of risky and dangerous Yakutsk doctors alcohol consumption consists of 3 modules: 1) Primary prevention: healthy life style and negative alcohol attitude formation; mindset training of people of all age, children social protection, public control on child education at all levels: education, policy, economy, culture, control over mass media. At this stage the main role is given to family; 2) secondary prevention: early diagnostics, psychologists introduction to the staff, disclosure of psychological trouble of the personality and anti-stressful, psychological assistance (discussions, communicating groups, work with environment and family); 3) tertiary level: compulsory doctors social insurance upon unexpected mistakes, medical-social readapting: mental injuring factors leveling with labor readapting. Possible change of specialization up to profession change by the example of foreign countries on the basis of state, social services, public organizations and state-private partnership expense.

Conclusion:

1. 71, 51% of doctors have low probability of alcohol consumption demonstration and it is the majority of the examined doctors. Doctors with excessive or risky consumption - 18, 18%. Doctors with health-harmful dangerous consumption - 9, 09%. Possible presence of alcohol addiction among Yakutsk doctors -1, 21% that is less than all-Russian indicator (1, 82%), as well as among RS(Y) population (1, 91%).

2. 10, 30% is the total proportion of Yakutsk doctors with health-harmful dangerous alcohol consumption and doctors with possible demonstration of addiction. Men proportion within this group was 93, 22%; the average age was 43, 6±11, 62 years.

3. Surgeons and anesthesiologists (46, 32% and 43, 31% accordingly) have the greatest proportion of risky and dangerous alcohol consumption. 30, 73% and 15, 12% - doctors of other specialties and therapists - accordingly.

4. Probable risk of possible presence of alcohol consumption: anesthesiologists - 4,3%, surgeons - 3,5% and doctors of other specialties - 1,0%.

5. The interrelation between risky, dangerous, possibly addicted alcohol consumption and 7 social- hygienic risk factors of alcohol consumption among Yakutsk doctors is established: 1) 1st alcohol consumption before 14 years; 2) presence of close relatives with dangerous alcohol consumption; 3) regular alcohol consumption during students years; 4) modern alcohol consumption 2-3 times a week; 5) dissatisfaction with financial position; 6) existence of drinking

environment; 7) alcohol consumption for the purpose of emotional tension dumping.

6. Development of scientifically-based integrated program on rehabilitation and prevention of alcohol consumption among Yakutsk health workers which could become an effective instrument of implementation of the republican program "Against measures aimed at alcoholism prevention in the Republic of Sakha (Yakutia)".

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