

АДДИКТИВНОЕ ПОВЕДЕНИЕ И АЛКОГОЛЬНАЯ ЗАВИСИМОСТЬ У СТУДЕНТОВ-МЕДИКОВ СТАРШИХ КУРСОВ (РАСПРОСТРАНЕННОСТЬ, КОМОРБИДНОСТЬ И ЛЕЧЕНИЕ)

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Актуальность. Высокий уровень учебной нагрузки и стресс создают риск злоупотребления алкоголем студентами-медиками, как способ преодоления стресса. **Целью** исследования была верификация распространенности аддиктивного поведения и алкоголизма у студентов-медиков и их коморбидности с психическими расстройствами для разработки подходов к терапии. **Материалы и методы.** Медико-социологическим, психометрическим методами и «Методикой клинической скрининг-диагностики аддиктивного и зависимого поведения» обследовано 455 студентов старших курсов Медицинского института. **Результаты.** Проблемы, связанные со злоупотреблением алкоголем, выявлены в 13% случаев. Аддиктивное поведение выявлено у 11,2% студентов: 14,8% – среди лиц мужского и 9,9% – женского пола. Алкогольная зависимость 1 клинической стадии диагностирована у 1,8% студентов: 6,6% – среди юношей и 1,2% – девушек. Лица с аддиктивным поведением и зависимостью характеризовались высоким уровнем социальной фрустрированности и агрессивности, низким уровнем самомотивации, неспособностью контролировать свои эмоции, низким уровнем ответственности, терпимости и негативным мышлением. Среди выявленных психических расстройств преобладали невротические, связанные со стрессом и соматоформные расстройства, а также расстройства личности. У лиц с аддиктивным поведением и алкоголизмом была более высокая частота астении, тревоги и депрессии, а также обсессивно-компульсивных симптомов, социофобии и дисморфофобии, что создавало дополнительные затруднения в социальной адаптации. **Заключение.** Исследование выявило высокий уровень коморбидности аддиктивного поведения и алкогольной зависимости с психическими расстройствами. Своевременное применение методов авersiveивной терапии (при помощи современных бихевиоральных психотехнологий нейролингвистического программирования) в сочетании с выработкой и закреплением оптимальных способов совладания со стрессом позволяют достичь как качественной ремиссии алкоголизма, так и предупредить его формирование.

Ключевые слова: аддиктивное поведение, алкоголизм, коморбидность, студенты-медики, факторы риска, авersiveивная терапия.

ADDICTIVE BEHAVIOR AND ALCOHOLISM IN MEDICAL STUDENTS OF SENIOR COURSES (PREVALENCE, COMORBIDITY AND TREATMENT)

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Background. A high level of academic load and stress create risks of alcohol abuse among medical students because they use it as a method of coping with stress. **The aim** of research was to verify the incidence of addictive behavior and alcoholism among medical students and their comorbidity with mental disorders, for development of therapeutic approaches. **Materials and**



Methods. 455 Medical students were examined using medico-sociological, psychometric methods and the author's «Methods of clinical screening-diagnostics of addictive and dependent behavior». **Results.** Alcohol abuse was detected in 13.0% of cases. Addictive behavior was revealed in 11.2% of students: 14.8% among males and 9.9% among females. The 1st clinical stage of alcohol dependence was diagnosed in 1.8% of students: 6.6% among males and 1.2% among females. Individuals with addictive behavior and dependence were characterized by a high level of social frustration, negative thinking and aggressiveness, low level of self-motivation, inability to control emotions, low level of responsibility, intolerance and negative thinking. Predominating mental disorders included stress-related neurotic, somatoform and personality disorders. Individuals with addictive behavior and alcoholism exhibited a high level of asthenia, anxiety, depression, obsessive-compulsive symptoms, social phobia and dysmorphophobia which created additional difficulties in social adaptation. **Conclusion.** The study revealed a high level of comorbidity of addictive behavior and alcohol dependence with mental disorders. Methods of aversion therapy in combination with development and fixation of optimal methods of coping with stress permit to achieve qualitative remission of alcoholism and to prevent its formation.

Keywords: *addictive behavior, alcoholism, comorbidity, medical students, risk factors, aversion therapy.*

Patients with alcohol dependence in Russia make 1.5-2% of the total population, with the majority of individuals with alcohol problems being at the age 20-26 (71.8%) years [1-3]. According to some authors, a factors of intensive growth of alcoholism is economic crisis and the established social-psychological situation in the country producing a decompensating influence on young people [4].

According to some data [5,6], almost 4% of students of a medical institution consider themselves dependent on alcohol, and parents of 2.5% of students suffer from alcoholism (with the established diagnosis). This creates a high risk for formation of both alcohol dependency and for boundary mental disorders.

In this context, the *aim* of research was to identify the incidence of addictive behavior associated with alcohol intake, formation of alcohol dependency among medical students, and its comorbidity with mental disorders, for development of therapeutic approaches.

Materials and Methods

Using a continuous sampling method, 455 students of senior courses of a medical university were examined: 333 (73%) females and 122 (27%) males at the age from 20 to 26 (22.0 ± 1.1) years. All the participants gave the voluntary informed consent for the procedure of testing and for clinico-psychopathological

examination. The research work was approved by Ethic Committee of Belgorod National Research University.

The main examination methods were:

1. Medico-sociological method – a questionnaire-based survey (socio-demographic information, peculiarities of social adaptation).

2. Psychometric method: Method of screening diagnosis of addictive and dependent behavior [7]; Hospital scale of anxiety and depression [8], method of psychological diagnostics of social frustration level [9]; method «Kinds of aggression» of L.G. Pochebut [10]; methods of diagnostics of personality maturity [11].

3. Clinico-psychopathological method (taking subjective anamnesis, analysis of complaints, clinical interview, observation);

4. Statistical method: descriptive statistics, non-parametric Mann-Whitney test for comparison of two independent groups, χ^2 criterion with Yates' correction for contingency tables 2x2.

Comparative analysis was conducted in two groups. The main group included students with addictive behavior and dependency – 59 individuals: 22 (37.3%) boys and 37 (62.7%) girls. The main group was divided into two subgroups: subgroup 1 – individuals with addictive behavior (51 individuals) and subgroup 2 – students with alcohol dependen-

cy (8 individuals). The comparison group included 286 students: 61 (21.3%) – boys and 225 (78.7%) girls with no addictive behavior and dependences.

The study was conducted in four stages:

1st stage – medico-social research and screening diagnosis of addictive and dependent behavior.

2nd stage – clinico-psychopathic examination.

3^d stage – therapeutic (with psychotherapy on request).

4th stage – control stage (control of effectiveness of measures of the 3^d stage).

Results and Discussion

It was found that 69.5% of students tried alcohol: 70.5% of males and 69.1% of females. 39.3% of examined individuals used strong drinks only on holidays, 24.6% used alcohol 1-2 times a month, 4.6% – up to once a week and 0.9% individuals used alcohol 2-3 times a week.

The most commonly used alcoholic beverages were dry wine – 24.8%, beer – 9.3%, strong drinks (vodka, cognac and whiskey) – 6.4%, alcoholic cocktails – 2.9%, fortified wine – 2.6% and other alcoholic beverages – 1.8%. Another 23.5% of individuals preferred several alcoholic drinks at once.

Alcohol abuse at the level of addictive behavior was found in 51 (11.2%) individuals: 18 (14.8%) males and 33 (9.9%) females. The first clinical stage of alcohol dependency was found in 8 (1.8%) students: 4 (6.6%) boys and 4 (1.2%) girls.

Analysis of social-demographic characteristics of students of the first subgroup (addictive behavior) showed that more students of this group (5.9%) grew without parental support than in the comparison group (0.7%) ($\chi^2=4.8$ $p<0.03$) that was especially characteristic of male individuals ($\chi^2=6.5$ $p<0.01$): 16.7% and 0.0%, respectively. In families of students with addictive behavior the father was more rarely the head of the family ($\chi^2=4.3$ $p<0.04$) than in comparison group: 31.4% and 53.1%, respectively. Here, the head of the family more commonly

was the mother than the father, both among students with alcohol dependency: 87.5% and 12.5%, respectively ($\chi^2=6.3$ $p<0.01$), and with addictive behavior: 58.8% and 31.4% respectively ($\chi^2=6.7$ $p<0.01$). Students with addictive behavior more ($\chi^2=13.0$ $p<0.001$) trusted mother than father: 76.5% and 39.2% of individuals, respectively.

Alcohol abuse in the family was noted in 52.9% of students with addictive behavior, and in 62.5% of students dependent on alcohol, which did not differ from the comparison group – 46.9%.

Existence of a close friend was less common among students dependent on alcohol (50%) than among students with addictive behavior – 92.2% ($\chi^2=7.2$ $p<0.008$), and was 93.0% ($\chi^2=13.9$ $p<0.0008$) among students of comparison group.

Students with addictive behavior more often ($\chi^2=8.5$ $p<0.004$) were late to classes than those of the comparison group (30.6%), they did not prepare to classes 63.9% ($\chi^2=14.0$ $p<0.0008$), more frequently received reprimands from the parents – 47.2% ($\chi^2=9.1$ $p<0.004$) and dedicated less time to studying – 30.6% ($\chi^2=6.1$ $p<0.01$).

Students of the main group were characterized by a high level of frustration (Table 1).

It is seen from Table 1 that students with addictive behavior were to a more extent than students of comparison group, dissatisfied with their position in the society ($p<0.02$), material status ($p<0.04$), relationships with the husband (wife) ($p<0.01$), probability of choice of place of work ($p<0.01$) and with their way of life in general ($p<0.03$).

Alcohol-dependent students more than students of the comparison group were dissatisfied with their relationships with course mates ($p<0.001$), service sphere ($p<0.0003$) and with the government ($p<0.001$).

Thus, students of the main group had higher level of social frustration than of the comparison group which could be a risk factor for starting alcohol abuse.

Results of methods «Kinds of Aggressiveness» are given in Table 2.

Table 1

Level of Social Frustration in Students of Main Group and Comparison Group

Object of Frustration	Addictive Behavior		Alcohol Dependency		Comparison Group	
	M	σ	M	σ	M	σ
Social position	2.8	1.0	2.6	1.3	3.3	0.7
Material status	2.4	1.2	2.3	1.4	2.8	1.0
Relations with course mates	3.3	0.8	1.9	0.9	3.1	0.9
Relations with husband (wife)	2.7	1.0	-	-	3.6	0.6
Government	2.1	1.1	1.1	0.7	2.4	0.9
Service sphere	2.6	0.8	1.4	0.5	2.8	0.9
Selection of place of work	1.8	1.1	2.0	1.3	2.3	1.0
Way of life	2.7	0.9	2.4	1.4	3.1	0.9

Note: only data with statistically reliable differences are given

Table 2

Level of Aggressiveness of Students of Main Group and Comparison Group

Kind of Aggression	Alcohol Addiction		Alcohol Dependency		Comparison Group	
	M	σ	M	σ	M	σ
Verbal aggression	4.2	1.9	5.0	2.2	2.9	1.8
Object aggression	3.5	1.4	4.1	1.8	2.9	1.5
Emotional aggression	4.1	1.9	4.7	1.6	2.7	1.7
Self-aggression	3.9	1.8	3.3	1.8	2.6	1.6
Total level of aggression	18.7	5.4	20.1	3.0	14.0	5.0

As seen from Table 2, students with addictive behavior were characterized by a higher level of total aggression ($p < 0.000002$) and of its components: verbal aggression ($p < 0.0003$), object aggression ($p < 0.02$), emotional aggression ($p < 0.00008$) and self-aggression ($p < 0.00001$) in comparison with the 2nd group. Similar differences were obtained both for male and for female individuals.

Students with alcohol dependency, in contrast to comparison group, were character-

ized by a higher level of total aggression ($p < 0.0008$), verbal ($p < 0.009$) and emotional ($p < 0.004$) aggression.

Thus, students of the main group were characterized by a higher level of aggression which also interfered with normal social adaptation and promoted development of addictive behavior.

Results of «Methods of diagnostic of maturity of personality» of students of the main group are given in Table 3.

Table 3

Level of Personality Maturity of Students of Main and Comparison Groups

Parameter	Alcohol Addiction		Alcohol Dependency		Comparison Group	
	M	σ	M	σ	M	σ
Responsibility	21.5	3.2	21.3	4.3	22.4	3.6
Tolerance	16.3	3.5	14.8	6.1	17.8	4.0
Self-development	17.7	4.0	18.3	3.1	18.6	4.3
Positive thinking	17.0	4.0	16.5	4.3	18.6	4.0
Personality Maturity	81.2	17.6	79.5	26.1	82.8	18.7

As seen from Table 3, students with addictive behavior were characterized by a lower level of responsibility ($p < 0.03$), tolerance ($p < 0.001$) and by less positive thinking ($p < 0.001$) in comparison with students of comparison group. Alcohol dependent students did not differ from students with addictive behavior in parameters of maturity of personality.

The given data indicate insufficient personality maturity of students of the main group which made them incapable of tackling problems on a rational basis, and promoted addictive behavior as a means of escaping and distracting from difficulties.

Results of research studied using Hospital anxiety and depression scale showed that the clinically evident level of anxiety among students with addictive behavior was more commonly seen in students with addictive behavior than in comparison group ($\chi^2 = 3.7$ $p < 0.05$): 15.7% и 6.6%, respectively, especially in females ($\chi^2 = 4.3$ $p < 0.04$): 21.2% and 8.0%, respectively.

Besides, students with addictive behavior more commonly than students of comparison group, revealed depression ($\chi^2 = 5.0$ $p < 0.03$): 13.7% and 2.8%, respectively, especially in girls ($\chi^2 = 12.3$ $p < 0.001$): 18.2% and 2.7%, respectively.

Clinico-psychopathological study revealed more common evident asthenia in the main group (52.5%) than in comparison group (16%) ($\chi^2 = 35.4$ $p < 0.0005$) which in 30.5% of cases combined with disorders of attention and in 38.9% – with emotional lability. Besides, the main group was characterized by a higher level of sleep disorders: 67.8% and 27.3% respectively ($\chi^2 = 33.9$ $p < 0.0005$), which in one third of cases were accompanied by nightmares.

Subclinically and clinically expressed obsessive syndrome was also more commonly seen in the main group: 55.9% and 37.4%, respectively ($\chi^2 = 6.2$ $p < 0.01$). In one fourth of cases obsessions in the main group combined with rituals. Besides, almost half the students of the main group (45.8%) had more specific

phobias ($\chi^2 = 22.5$ $p < 0.0005$) than those of the comparison group – 16.8% of cases.

A high rate of social phobia (62.7%) and a higher incidence of dysmorphophobia – 30.5% ($\chi^2 = 23.9$ $p < 0.0005$) in the main group, and also exaggerated suspiciousness and distrustfulness – 25.4% ($\chi^2 = 9.6$ $p < 0.003$), in comparison with the 2nd group (4.6% and 9.8%, respectively) evidence low self-esteem and lack of self-confidence. So, intake of alcohol by students of this group was a means to overcome social and communication barriers and to raise self-esteem.

Students of the main group more commonly ($\chi^2 = 13.6$ $p < 0.0009$) than those of the second group demonstrated suicidal behavior – 23.7% and 7.0%, respectively.

Clinico-psychopathological study showed predomination of stress-related neurotic and somatoform disorders in the main group – in 71.2% of cases: 63.6% of males and 75.7% of females. In 11.9% of cases obsessive-compulsive disorders were found. In 85.7% of students of the main group obsessive-compulsive disorder combined with evident social phobia.

Somatoform autonomic dysfunction was found in 11.9% of students of the main group. It was characterized by a mixture of symptoms indicating involvement of two and more organ system into the pathological process. In all cases somatoform autonomic dysfunction was accompanied by anxiety-phobic syndrome, social phobia, dysmorphophobia, excessive suspiciousness and distrust.

A panic disorder was diagnosed (3.4%) only with the existence of full sympatho-adrenal crises in the clinical presentation of the condition.

Among other disorders of F4 section there were found neurasthenia (8.5%), generalized anxiety disorder (5.1%), specific (isolated) phobias (5.1%), dysmorphobia (5.1%), disorder in adaptation (1.7%). Spectrum of affective disorders was presented by cyclothymia with anxiety-depressive syndrome (1.7%) and dysthymia (1.7%). The

diagnosis of personality disorder established in 22.0% of cases (22.7% of boys and 21.6% of girls) was characterized by polymorphism of symptoms with numerous affective and phobic disorders, phasic swings of mood with subjective impairment of the condition in the morning hours and in spring-autumn season.

In some cases referred to the diagnosis of social phobia (18.6%), a mental disorder could also be classified as a personality disorder on the basis of polymorphism of the clinical presentation. In one case of emotionally unstable personality disorder, the mental condition could be described as a pathological thirst for entertainment, which, besides various clinical symptoms was also characterized by a combination of several kinds of addictive behavior associated with deriving pleasure from alcohol, food, sex, gambling, computer games.

A study of self-estimation of their mental condition by students of the main group showed that more than half of them (59.3%) admit existence of some problems in them which interfere with normal social adaptation. In the comparison group there was a lesser amount of such students – 37.8% ($\chi^2=8.5$ $p<0.005$). Besides, in the main group there were more students who wanted to refer to specialists for help: 47.4% and 26.5%, respectively ($\chi^2=9.2$ $p<0.003$), and who sought treatment before: 11.9% and 3.1%, respectively ($\chi^2=6.5$ $p<0.01$).

Isolated alcohol addiction was seen in 25.5% of cases: 22.2% of males and 27.3% of females. Isolated alcohol dependency was found only in 1 case (25%) among girls. In all boys alcohol dependency combined with other kinds of addictions and dependencies.

Upon the personal incentive of students with addictive behavior (23 individuals) and alcohol dependency (5 individuals) a short-term psychotherapy was conducted (using modern behavioral psychotechnologies of neurolinguistic programming and Erickson hypnosis) in three directions:

1. Working out of aversion reaction to alcohol (3-5 sessions for 25-35 minutes).

2. Working out and approbation of new methods (at least three) of coping with stress (3 sessions for 35-45 minutes).

3. Reduction of anxiety and anxiety-phobic symptoms (4-5 sessions for 35-45 minutes).

Catamnesis (1 year) showed that 19 (82.6%) students with addictive behavior and all students with alcohol dependency did not use alcohol drinks.

The main causes of intake of alcohol by students are considered to be the desire to support the company and change the mood, with this, the first-year student used alcohol to eliminate stress, and students of senior years used it to support the company [12]. Students abusing alcohol are characterized by the absence of pursuit for success, for achievements in creative work and profession, by disregard of other people and of personal safety and safety of surrounding people [13]. A high level of education-related stress and low level of stress resistance in medical students of the junior courses leads to the situation when a significant number of students (34.3%) resort to alcohol for elimination of anxiety and of internal tension, for 8.4% of students it was the predominating method of fighting stress [13,14] which is confirmed in the given study.

Conclusion

Thus, individuals with addictive behavior and alcohol dependency are characterized by a high level of aggression and self-aggression, social frustration, immaturity of personality (especially with negative thinking), anxiety and comorbid neurotic disorders.

Timely application of modern methods of aversion therapy in combination with working out and reinforcement of the optimal techniques of coping with stress permits to both achieve a qualitative remission of alcoholism and prevent its formation.

In the long term it is reasonable to conduct personality-oriented therapy aimed at maturation of the personality, reduction in the level of aggression and stress.

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