

# The phenomenon of codependency: psychological and medical genetic aspects

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Addictive behavioral disorders are multifactorial diseases with clinical, neurophysiological, and genetic heterogeneity, a high comorbidity with other disorders, and a low curability. The etiopathogenetic mechanisms of non-chemical forms of addictive behavior have not been sufficiently studied, which makes it difficult to search for effective therapeutic procedures.

**Objective:** to study the psychological and genetic components of a non-chemical addictive disorder as the phenomenon of codependency.

**Patients and methods.** The investigation enrolled 256 women who were divided into three comparison groups: 1) those with the phenomenon of codependency, 2) phenotypically healthy women; 3) a population sample. Psychometric testing was carried out using the «Hand Test» by E. Wagner (adapted by A.I. Gerasimov and S.N. Enikolopov) and the clinical and genealogical characteristics of women with the phenomenon of codependency were studied.

**Results and discussion.** There was a statistically significant predominance of the level of aggressiveness as autoaggression in the structure of the personality profile of women with the phenomenon of codependency ( $t=2.924-3.015$ ;  $p=0.004-0.005$ ). The clinical and genealogical characteristics of persons with addictive behavioral disorder as the phenomenon of codependency suggest that there is a statistically significantly high frequency of secondary alcoholism among first-degree and second-degree relatives or both and first-degree male relatives ( $p<0.001$ ).

**Conclusion.** The phenomenon of codependency as a non-chemical addiction includes psychological and genetic components. Women with codependency had autoaggressive destructive behavior patterns and a family history of alcoholism. The identified psychogenic characteristics can be considered as a risk for an addictive disease and somatoform disorders.

**Keywords:** mental health; dependence; codependency; alcoholism; pedigree; hereditary load; psychogenetics; genetic determinancy; behavioral genetics; somatoform disorders.

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Mental disorders are one of the most significant public health problems in the European region of the World Health Organization (WHO), being the third leading cause of a decreased lifespan due to illness and premature death, after cardiovascular diseases and cancer, and the leading cause of disability, including disability caused by auto-aggressive behavior [1].

A characteristic feature of the nosological structure of mental health disorders of the population of the modern world is a decrease in the number of acute, severe incurable psychoses and an increase in the number of neurotic spectrum disorders combined with psychosomatic diseases. The phenomenon of codependency, as a form of behavior disorder of a dependent nature and non-chemical origin, including destructive patterns of behavior of auto-aggressive character, is at present examined mainly in terms of post-traumatic stress disorder without taking into account the personality structure and genetic characteristics of patients [2–4]. The study of this form of behavior disorder presents difficulties due to the lack of a single definition, the lack of knowledge of the phenomenon etiopathogenetic mechanisms, as well as the lack of psychometric tools for its study [5, 6]. It

should be noted that the reaction to stress-inducing situation, in accordance with the theory of Hans Selye (H. Selye), depends on the emotional stability of a person, life experience, and heredity that determines the overall stress resistance of the organism [7, 8]. The phenotypic variability in mental pathology of addictive nature, caused by a combination of psychological features of the individual, constitutes 40–50% of the total variance [9], whilst genetic factors, contribute to 50–60% [10].

**Aim** – the study of the psychological and genetic components of the addictive disorder of non-chemical genesis in the form of the phenomenon of codependency.

**Patients and methods.** The present study is part of an integral psychogenetic and psychosocial experimental analytical investigation of the «case – control» type, which included a survey of three groups of women ( $n=256$ ): the first group included women with a type of dependent personality disorder in the form of the phenomenon of codependency who did not abuse alcohol ( $n=120$ ); the second group – phenotypically healthy women without alcohol dependence and codependency ( $n=61$ ), the third group consisted of women from the population sample of

Moscow (n=75). The analysis included 3,811 people. The average age of the subjects was 46.4±11.8 years; the sample consisted of unrelated individuals.

A number of *research methods* were used in the survey:

- *clinical and psychopathological* (diagnosis of the respondents' condition was made in accordance with the 10th revision of International Classification of Diseases);

- *psychological* – psychodiagnostic typing was carried out using a set of psychological techniques: assessment of codependency by R.T. Potter-Efron and P.S. Potter-Efron [11]; codependency scale by J.L. Fisher, L. Spann, and

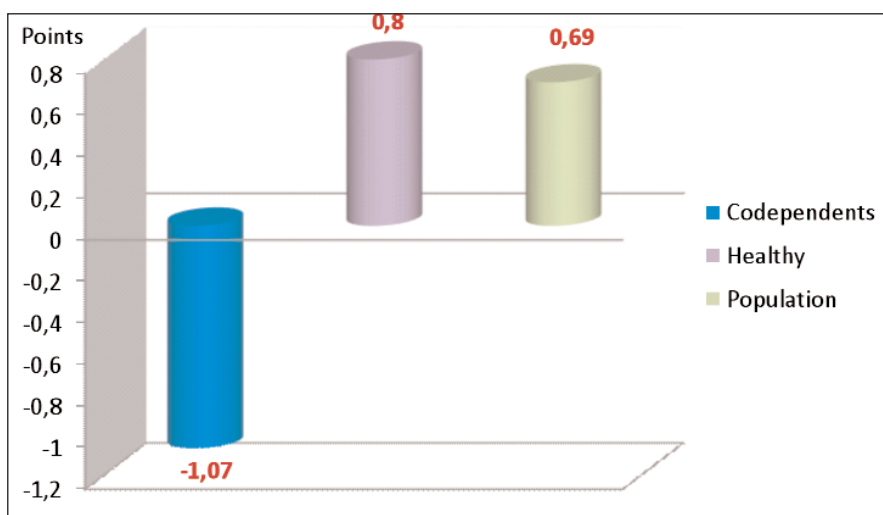
- D. Crawford [12]; questions for self-diagnosis by E.V. Bogina [13]; psychometric testing was performed using the projective method of a personality research «hand test» by E. Wagner (adaptation of A.I. Gerasimov and S.N. Enikolopov) [14]; testing protocols were processed in accordance with the required procedure, including the construction of average personal profiles of the compared groups;

- *clinical and genealogical*;
- *mathematical and statistical* (one-dimensional analysis of variance with the use of Fisher criterion, comparison of average values using Student's t-test; analysis of contingency tables using the  $\chi^2$  criterion).

Psychodiagnostic typing for the presence of a codependent behavior disorder using the above-mentioned set of tests (R.T. Potter-Efron and P.S. Potter-Efron; J.L. Fisher, L. Spann, D.Crawford; E.V. Bogina) allowed us to determine the presence of codependency phenomenon in 100% of women of the study group.

**Results.** The results of the study of aggressiveness level among individuals with codependent behavior and respondents of the normative and population samples are presented in Figure 1.

Psychometric survey data indicate a statistically reliable high level of aggression in women with codependent behavior (-1.07 points) in comparison with aggression indicators of phenotypically healthy women (+0.80 points;  $t=2.924$ ;  $p=0.005$ ). Negative values of the aggression score indicate an auto-aggressive orientation of destruction, which indicates the tendency of codependent women to harm themselves through various forms of behavior, including psychological and physical ways of self-destruction. The aggressiveness of women in the population sample (+0.69 points) takes a hetero-aggressive direction, corresponding to the aggressive profile and behavioral patterns of women in the normative sample, and significantly differs statistically from the aggressiveness of women with codependent behavior (-1.07 points;  $t=3.9015$ ;  $p=0.004$ ).



**Figure 1.** Indicators of aggressiveness of women with codependency, phenotypically healthy women, and the population sample obtained using the projective method of personality research «Hand Test» by E. Wagner (adaptation by A. I. Gerasimov and S.N. Enikolopov). \* – statistically valid at  $p<0.05$

When compiling pedigrees of women with addictive disorders in the form of codependency who did not abuse alcohol, and women of the control group phenotypically healthy in relation to the analyzed forms of behavior, we registered cases of alcohol dependence among all types of the first degree relatives, the frequency of the secondary alcoholism (several cases of alcoholism in a pedigree) among all relatives of the first and second degrees of kinship, and also the total number of alcohol-dependent relatives of both degrees of kinship.

The frequency of alcohol dependence among all types of the first degree relatives of the examined women is shown in Table 1.

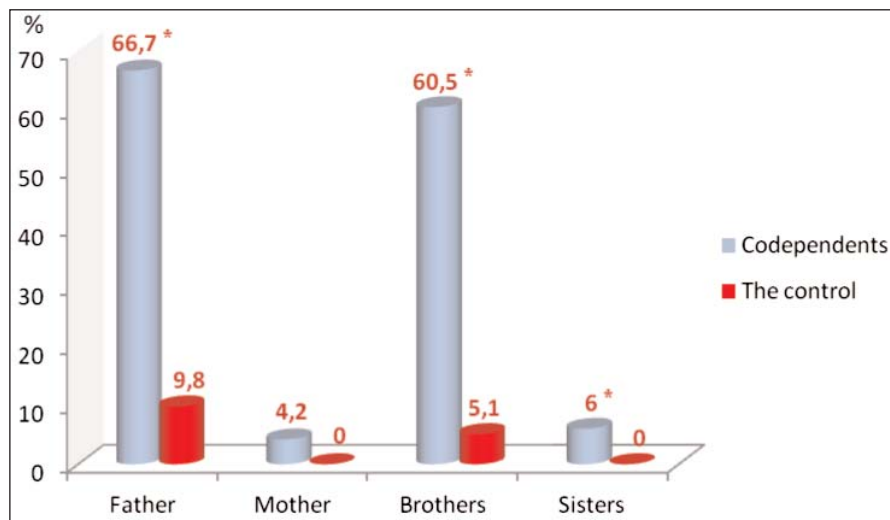
Analysis of the genealogy of women with a socially acceptable form of alcohol consumption and the presence of the phenomenon of codependency allowed us to obtain the results of the clinical genealogical study presented below.

The frequency of alcohol dependence among all types of relatives of women in the study group with the presence of codependency, and phenotypically healthy women in the control

**Table 1.** Alcohol dependence syndrome among the first-degree relatives of women with codependency and women of the control group

Type of kinship	Alcohol dependence syndrome among the first-degree relatives				p
	women with codependency (n=120), n (%)	phenotypically healthy women (n=61), n (%)	95% CI		
			codependent	healthy	
Father	80 (66.7)	6 (9.8)	58.3–7.2	4.7–18.1	<0.001
Mother	5 (4.2)	0	1.9–8.3	0–5.9	0.124
Brothers	78 (60.5)	4 (5.1)	52.3–68.2	2.1–10.8	<0.001
Sisters	8 (6.0)	0	3.1–10.5	0–6.7	0.064

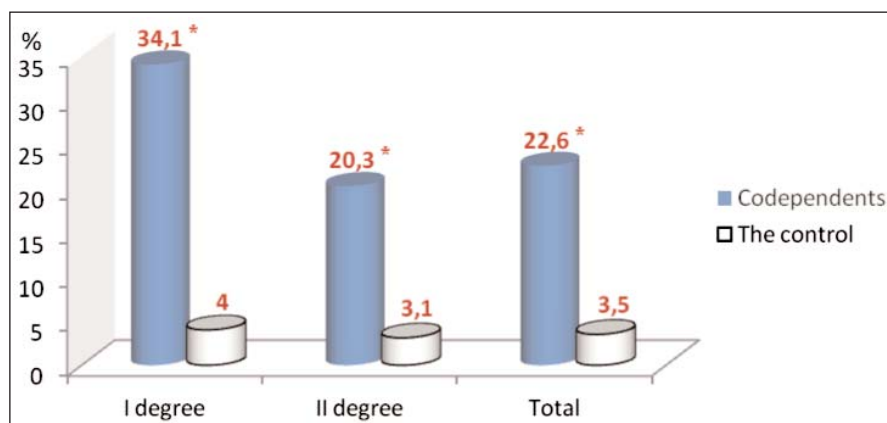
Notice. CI – confidence interval.



**Figure 2.** The frequency of alcoholism among first-degree relatives of women with codependency and women of the control group.  
\* – statistically valid at  $p < 0.05$

**Table 2. Alcohol dependence syndrome among the first and second degree relatives of women with codependency and women of the control group**

Degree of kinship	Alcohol dependence syndrome among the first- and second-degree relatives				p
	women with codependency (n=120), n (%)	phenotypically healthy women (n=61), n (%)	95% CI		
			codependent	healthy	
I	171 (34.1)	10 (4.0)	30.1–38.2	2.2–6.6	<0.001
II	519 (20.3)	10 (3.1)	18.7–21.9	1.7–5.3	<0.001
Total	690 (22.6)	20 (3.5)	21.1–24.0	2.3–5.1	<0.001



**Figure 3.** Alcohol dependence syndrome among the first and second degree relatives of women with codependency and of phenotypically healthy women.  
\* – statistically valid at  $p < 0.05$

group corresponds to the confidence interval of similar subpopulations. Mathematical analysis of the frequency of alcoholism among the first-degree relatives of women with addictive behavior in the form of the codependency, and women phenotypically healthy in relation to the analyzed features, revealed a statistically significant predominance in the frequency of alcohol abuse among fathers ( $p < 0.001$ ) and brothers ( $p < 0.001$ ) of women with conduct disorders of codependent nature.

High rates of alcohol dependence among mothers and sisters of women with codependent behavior do not reach the level of statistical significance, while the differences in the frequency of alcoholism among sisters of codependent women and women in the control group are close to reliability ( $p = 0.064$ ).

The analysis of alcohol consumption among all types of first-degree relatives of female probands indicates the accumulation of cases of secondary alcoholism in the genealogies of women with the presence of a codependent behavior disorder. The obtained data are graphically presented in Figure 2.

34.1% ( $n = 171$ ) of the total number of the first-degree relatives of codependent women suffer from alcoholism. Alcohol dependence in the control group of phenotypically healthy women was registered only among male relatives and in general amounts to 4% ( $n = 10$ ).

The data obtained in this study indicate a high frequency of secondary alcoholism among the first-degree relatives of women with codependency and the prevalence of alcohol dependence syndrome among male relatives.

Including in the analysis the second-degree relatives of women of the examined groups – with codependency and phenotypically healthy – expanded our knowledge about the genetic component of the studied non-chemical form of dependent behavior (Tab. 2).

The frequency of secondary alcoholism among the second-degree relatives of both sexes of women with a codependent behavior disorder amounts to 20.3% ( $n = 519$ ). In the control group, the frequency of alcoholism among the second-degree relatives is 3.1% ( $n = 10$ ).

The total number of patients with alcoholism among all examined relatives of both degrees of kinship in the group of women with codependency constitutes 690 (22.6%); in the sample

of women who are healthy in relation to the analyzed trait, this indicator is 20 (3.5%).

A comparative analysis of the frequency of alcohol dependence among all relatives of first, second and both degrees of kinship of women with a codependent behavior disorder and women who are phenotypically healthy in relation to the analyzed trait revealed statistically significant differences in all kinship groups ( $p < 0.001$ ). Visualization of the values of the analyzed feature is shown in Figure 3.

**Discussion.** In the presented work with the design of an interdisciplinary psychogenetic study that included psychometric testing and clinical genealogical examination, data on the presence of psychological and genetic components in the formation of dependent behavior in the form of codependency are obtained.

The results of psychodiagnostic testing using the projective method of personality research «Hand Test» by E. Wagner (adaptation of A.I. Gerasimov and S.N. Enikolopov) indicate a destructive personality profile of codependent individuals with auto-aggressive vector of behavioral patterns, which is the background for development of psychosomatic diseases. Thus, a study on the frequency and structure of clinical manifestations of mental and behavioral disorders among the spouses of HIV-infected injecting drug users revealed that the percentage of somatoform disorders in the structure of clinical and psychopathological manifestations of codependency amounts to 13.3% [15]. A number of researchers note that for codependent women a combination of mental health dysfunction and a high risk of physical disorders is characteristic [16, 17], as well as a lower quality of life in the psychological and physical aspects, compared to drug users themselves and general population [18].

It is worth mentioning that psychological stresses, which can be divided into informational and emotional, are the most destructive for the body. The fact of living together with a patient suffering from alcoholism or a person with another type of dependent behavior, mainly of chemical origin, may be considered a form of auto-aggressive behavior with self-harming through psychological intervention from the outside, not excluding physical violence. Moderate positive indicators of women's aggressiveness from the normative sample indicate a hetero-aggressive orientation of the individual, potential readiness, in case of danger or threat from the outside, to show hostility and protect their interests and rights, as well as, indirectly, recognition of other people's rights to safety and security. The results obtained in this study are in agreement with the data of a series of authors, who studied personality characteristics of women married to men that are dependent on psychoactive substances, indicating auto-aggressive forms of behavior of suicidal and non-suicidal nature in wives of chemical addicts, including involvement of the somatic sphere, risky and victimal behavior patterns [2, 19–22]. Studies performed in the field of interpersonal relationships in addictive families indicate that codependent wives suffer from emotional conflicts, psychoemotional overstrain, and erratic behavior of chemical addicts. They often consult a doctor and take medications. In general, dysfunctional behavior is typical of women with codependency [23, 24]. Unmet vital needs typical of codependent individuals due to their low self-esteem and feelings of guilt [23, 25, 26] also indicate the presence of auto-aggression in the personal profile of non-chemical addicts, identified in the presented study. Descriptive analysis of the functioning of addicts' families showed that codependent individuals may be characterized by self-sacrifice (52%), emotional overload (88%), and neg-

lect of themselves and their needs (75%), which is regarded by the authors as risk factors for mental and physical disorders [17].

M.G. McGrath and V. Oakley [6], while creating a psychological profile of codependent women, focus on those actions that are potentially or actually self-harming.

Clinical and genealogical examination of women with a behavioral disorder of a codependent nature revealed a statistically significant high frequency of secondary alcoholism with predominance in male individuals in the genealogy of individuals with a behavioral disorder of a dependent nature in the form of codependency.

The above – mentioned rates of alcohol dependence among relatives of the first, second, and both degrees of kinship of women with a codependent behavioral disorder (20.3–34.1%) exceed the frequency of this pathology in the general population, which, according to WHO, constitutes 1–10% of the adult population in economically developed countries without taking into account the gender factor [27]. The frequency of alcoholism in genealogies of women who are phenotypically healthy with respect to the analyzed types of behavioral disorders (3.1–4%) is within the population frequency. In Russia, according to 2012 data, the number of registered alcoholics amounts to 1.7% of the country's population [28]. Taking into account the possibility of differences in epidemiological data in different populations, M. Schuckit estimates the frequency of alcoholism among males at 5–10%, and among women at 1–5% [29].

The presence of a genetic factor in the development of codependent behavior is noted by a number of researchers who have identified a high risk of developing codependency among women whose fathers abused alcohol [23, 30, 31]. A study of an extended family, including parents and siblings of women married to HIV-infected drug users, conducted using the clinical and genealogical method, determined that 82.3% of parents of codependent women were diagnosed with toxicomania and 77% with other mental disorders [15].

The use of the twin method in the study of alcohol-related disorders has established that approximately 50% of the phenotypic variance of this pathology is associated with genetic factors [32, 33].

The data obtained in this survey correspond to research in the field of psychogenetics and neurophysiology of behavioral disorders of codependent nature [34, 35] and to the definition of codependency given by A. W. Schaefer: «Codependency is a disease that has many forms and expressions and originates from the main process, which I call the process of addiction development» [36] – in that part that indicates the commonality of the process of addiction formation; these data also correspond to the vector indicated in the review by M.G. McGrath and V. Oakley [6] devoted to the analysis of possible causes and mechanisms of codependent behavior, the authors of which consider the study of the phenomenon of codependency using genetic methods to be a promising approach. The results of clinical and genealogical research indicate that the codependency phenomenon is a phenotypic variance of the hereditary burden of alcoholism; in other words, it is a phenotypic variant of the manifestation of hereditary burden of alcohol dependence.

Thus, codependent behavioral disorder is a multidimensional problem, the phenotypic variant of which is influenced by various factors.

**Conclusion.** The codependency phenomenon as a non-chemical form of addiction includes psychological and genetic



components. The auto-aggressive personality vector of codependent individuals contributes to destructive forms of behavior and formation of mental and physical spectrum disorders and psychosomatic pathology. The hereditary burden of alcohol dependence

in the genealogies of codependent women indicates the presence of a genetic factor in the pathogenesis of the analyzed form of addictive disorder and indicates the feasibility of studying the genetic component using molecular and genetic technologies.

## REFERENCES

- Global health estimates 2016: disease burden by cause, age, sex, by country and by region, 2000–2016 [online database]. Geneva: World Health Organization; 2018. Available from: [http://www.who.int/healthinfo/global\\_burden\\_disease/estimates/en/index2.html](http://www.who.int/healthinfo/global_burden_disease/estimates/en/index2.html) (accessed 15.04.2020).
- Бисалиев РВ, Вешнева СА. Суицидальное поведение у аддиктов и их родственников. Астрахань: ФГБОУ ВПО АГТУ; 2013. [Bisaliyev RV, Veshneva SA. *Suitsidal'noye povedeniye u addiktov i ikh rodstvennikov* [Suicidal behavior in addicts and their relatives]. Astrahan': FGBOU VPO AGTU; 2013 (In Russ.).]
- Beattie M. Codependent no more: How to stop controlling others a. start caring for yourself. Center City (Minn.): Hazelden; 1992.
- Young E. Co-alcoholism as a Disease: Implications for Psychotherapy. *J Psychoactive Drugs*. Jul-Sep 1987;19(3):257-68. doi: 10.1080/02791072.1987.10472410
- Рожнова ТМ, Асанов АЮ. Психогенетические основы созависимости. Сообщение I. Постановка проблемы. Наркология. 2010;7(103):84-90. Доступно по ссылке: [http://www.narkotiki.ru/50\\_1182.htm](http://www.narkotiki.ru/50_1182.htm) (дата обращения 18.04.2020). [Rozhnova TM, Asanov AYU. The psychogenetics principles of co-dependence. Formulation of the problem. *Narkologiya*. 2010;7(103):84-90. Available from: [http://www.narkotiki.ru/50\\_1182.htm](http://www.narkotiki.ru/50_1182.htm) (accessed 18.04.2020) (In Russ.).]
- McGrath MG, Oakley BA. Codependency and Pathological Altruism. In: Oakley B, Knafo A, Madhavan G, Wilson DS, editors. *Pathological altruism*. New York: Oxford University Press; 2011. P. 49-74. doi: 10.1093/acprof:oso/9780199738571.003.0045
- Selye H. The General Adaptation Syndrome and the Diseases of Adaptation (two parts). *J Allergy [later and Clinical Immunology]* 1946;17(4):231-47 and 1946;17(6):358-98. doi: 10.1016/0021-8707(46)90148-7 and (conclusion). Accessed April 18, 2020. [https://www.jacionline.org/article/0021-8707\(46\)90159-1/pdf](https://www.jacionline.org/article/0021-8707(46)90159-1/pdf)
- Selye H. Stress and the General Adaptation Syndrome. *Brit Med J*. 1950 Jun 17;1(4667):1383-92. doi: 10.1136/bmj.1.4667.1383
- Schuckit MA, Smith TL. Correlates of unpredicted outcomes in sons of alcoholics and controls. *J Stud Alcohol*. 2001 Jul;62(4):477-85. doi: 10.15288/jsa.2001.62.477
- Grisel JE. Quantitative trait locus analysis. *Alcohol Res Health*. 2000;24(3):169-74. Available from: [https://www.researchgate.net/publication/12132372\\_Quantitative\\_trait\\_locus\\_analysis](https://www.researchgate.net/publication/12132372_Quantitative_trait_locus_analysis) (accessed 21.04.2020).
- Potter-Efron RT, Potter-Efron PS. Assessment of co-dependency with individuals from alcoholic and chemically dependent families. *Alcohol Treat Quart*. 1989;6(1):37-57. doi: 10.1300/J020V06N01\_04
- Fischer J, Spann L, Crawford D. Measuring codependency. *Alcohol Treat Quart*. 1991;8(1):87-99. doi: 10.1300/J020V08N01\_06
- Богина ЕВ. Вопросы для самодиагностики по созависимости. Доступно по ссылке: <http://metanoia.msdm.ru/statiy/psiholog/20-support-and-documentation.html> (дата обращения 30.07.2020). [Bogina EV. *Voprosy dly samodiagnostiki po sozavisimosti* [Questions for self-diagnosis on codependency]. Available from: <http://metanoia.msdm.ru/statiy/psiholog/20-support-and-documentation.html> (accessed July 30, 2020) (In Russ.).]
- Дворянчиков НВ, Герасимов АВ, Ениколопов СН. Возможности психологического исследования в судебной сексологии. В кн.: *Юридическая психология. Межвузовский научно-практический сборник*. Ставрополь; 2001. С. 68-78. [Dvorynchikov NV, Gerasimov AV, Enikolopov SN. Possibilities of psychological research in forensic sexology. In: *Uridicheskay psihologiya. Mezhdvuzovskiy nauchno-prakticheskij sbornik* [Legal psychology. Interuniversity scientific and practical collection]. Stavropol; 2001. P. 68-78 (In Russ.).]
- Gunko B, Viltaniuk O, Stepaniuk A. The problem of co-dependence among hiv-infected drug-addicted family members. *Georgian Med News*. 2019 Jan;1(286):87-90.
- Oxford J, Velleman R, Natera G, et al. Addiction in the family is a major but neglected contributor to the global burden of adult ill-health. *Soc Sci Med*. 2013;78:70-7. doi: 10.1016/j.socscimed.2012.11.036
- Borges Bortolon C, Signor L, de Campos Moreira T, et al. Funcionamento familiar e questoes de saude associados com dependencia em familiares de usuarios de drogas. *Cienc Saude Coletiva (Rio de Janeiro)*. Jan 2016;21:1. doi: 10.1590/1413-81232015211.20662014
- Moreira TC, Rizzieri LF, Fernandes S, et al. Qualidade de vida em usuarios de substancias psicoativas, familiares e nao usuarios por meio do WOOQOL BREF. *Cien Saude Colet*. 2013;18(7):1953-62. doi: 10.1590/S1413-81232013000700010
- Карпушина СФ. Созависимая аутоагрессивность жен мужчин, страдающих алкогольной зависимостью. Тюменский медицинский журнал. 2017;2(19):21-4. [Karpushina SF. Autoaggression codependent wives of men suffering from alcoholism. *Tyumenskiy medicinskiy journal*. 2017;2(19):21-4 (In Russ.).]
- Башманов ВВ, Калинин ОЮ. Феномен созависимости: медико-психосоциальный аспект. Вестник новых медицинских технологий. 2015;(1):36-43. Доступно по ссылке: <http://www.medtsu.tula.ru/VNMT/Bulletin/E2015-1/5093/pdf> (дата обращения 24.07.2020). [Bashmanov VV, Kalinichenko OYu. The phenomenon of co-dependency: the medico-psychosocial aspect. *Vestnik novyh medicinskih tehnologij*. 2015;(1):36-43. Available from: <http://www.medtsu.tula.ru/VNMT/Bulletin/E2015-1/5093/pdf> (accessed 24.07.2020) (In Russ.).]
- Меринов АВ, Шитов ЕА, Лукашук АВ, Сомкина ОЮ. Аутоагрессивная характеристика женщин, состоящих в браке с мужчинами, страдающими алкоголизмом. Российский медико-биологический вестник имени академика И.П. Павлова. 2015;(4):81-6. [Merinov AV, Shitov EA, Lukashuk AV, Somkina OYu. Autoaggressive characteristics of women who are married to men who suffer from alcoholism. *Rossiyskiy mediko-biologicheskij vestnik imeni I.P. Pavlova*. 2015;(4):81-6 (In Russ.).]
- Меринов АВ, Шитов ЕА, Лукашук АВ и др. Супруги мужчин, страдающих алкогольной зависимостью, имеющие в анамнезе суицидальную попытку: их расширенная клинко-суицидологическая характеристика. Суицидология. 2015;6(3):49-54. [Merinov AV, Shitov EA, Lukashuk AV, et al. Spouses of men with alcohol dependence who have a history of suicidal attempt: their advanced clinical suicidological and psychological characteristics. *Suicidology*. 2015;6(3):49-54 (In Russ.).]
- Noriega G, Ramos L, Medina-Mora ME, Villa AR. Prevalence of codependence in young women seeking primary health care and associated risk factors. *Am J Orthopsychiat*. 2008 Apr;78(2):199-210. doi: 10.1037/0002-9432.78.2.199
- Hunt G. «The too-good wife»: alcohol, codependency, and politics of nurturance in

- Postwar Japan. *Am Ethnol.* 2008;35(3):3038-41. doi: 10.1111/j.1548-1425.2008.00088.x
25. Doba K, Nandirino JL, Dodin V, Antoine P. Is there a family profile of addictive behaviors? Family functioning in anorexia nervosa and drug dependence disorder. *J Clin Psychol.* 2014 Jan;70(1):107-17. doi: 10.1002/jclp.21977. Epub 2013 Jun 21.
26. Beattie M. The new codependency: help and guidance for today's generation. New York: Simon & Schuster; 2009.
27. Контекст психического здоровья. Библиотечный каталог публикаций ВОЗ. Женева: ВОЗ; 2007. Доступно по ссылке: [https://www.who.int/mental\\_health/Mental%20Health%20Context\\_ru.pdf](https://www.who.int/mental_health/Mental%20Health%20Context_ru.pdf) (дата обращения 18.04.2020). [The mental health context. Geneva: World Health Organization; 2007. Available from: [https://www.who.int/mental\\_health/Mental%20Health%20Context\\_rus.pdf](https://www.who.int/mental_health/Mental%20Health%20Context_rus.pdf) (accessed 18.04.2020) (In Russ.)].
28. Кошкина ЕА, Киржанова ВВ, Гусева ОИ и др. Оказание наркологической помощи населению Российской Федерации в 2012 г. *Вопросы наркологии.* 2013;(4):3-18. Доступно по ссылке: <https://www.elibrary.ru/item.asp?id=20159390> (дата обращения 21.04.2020). [Koshkina EA, Kirzhanova VV, Guseva OI, et al. Delivery of drug dependency treatment to the population of the Russian Federation in 2012. *Voprosy narkologii.* 2013;(4):3-18. Available from: <https://www.elibrary.ru/item.asp?id=20159390> (accessed 21.04.2020) (In Russ.)].
29. Schuckit MA. Overview: Epidemiology of alcoholism. In: Schuckit MA, ed. *Alcohol patterns and problems* (Series in Psychosocial Epidemiology). New Brunswick: Rutgers University Press; 1985. P. 1-42. Available from: <https://www.goodreads.com/book/show/5482301-alcohol-patterns-and-problems> (accessed 21.04.2020).
30. Dear G, Roberts C. The validation of the holyoake codependency index. *J Psychol.* 2005 Jul;139(4):293-313. doi: 10.3200/JRLP.139.4.293-314
31. Bortolon CB, Ferigolo M, Grossi R, et al. Avaliacao das crencas codependentes e dos estagios de mudanca em familiares de usuarios de drogas que ligaram para um servico de teleatendimento. *Rev AMRIGS.* 2010;54(4):432-6.
32. Sanchez-Roige S, Palmer AA, Fontanillas P, et al. Genome-Wide Association Study Meta-Analysis of the Alcohol Use Disorders Identification Test (AUDIT) in Two Population-Based Cohorts. *Am J Psychiatry.* 2019 Feb 1;176(2):107-18. doi: 10.1176/appi.ajp.2018.18040369. Epub 2018 Oct 19.
33. Verhulst B, Neale MC, Kendler KS. The heritability of alcohol use disorders: a meta-analysis of twin and adoption studies. *Psychol Med.* 2015 Apr;45(5):1061-72. doi: 10.1017/S0033291714002165. Epub 2014 Aug 29.
34. Рожнова ТМ. Способ определения предрасположенности к аддиктивным расстройствам в форме алкогольной зависимости и/или созависимости. Патент РФ 2296994, 10 апреля 2007. [Rozhnova TM. *Sposob opredeleniy predraspolzhenosti k addiktivnym rasstroystvam v forme alkogolnoy zavisimosti i/ili sozavisimosti* [Method for determining predisposition to addictive disorders in the form of alcohol dependence and/or codependency]. Patent RU 2296994C1; April 10, 2007 (In Russ.)].
35. Рожнова ТМ. Способ прогнозирования индивидуального риска развития расстройств поведения аддиктивного характера. Патент РФ 2621171, 31 мая 2017. [Rozhnova TM. *Sposob prognozirovaniy riska razvitiy rasstroystv povedeniy addiktivnogo haraktera* [A method for predicting the individual risk of developing addictive behavior disorders]. Patent RU 2621171C1; May 31, 2017 (In Russ.)].
36. Schaef AW. *Co-dependence: Misunderstood – mistreated.* San-Francisco: Harper and Row; 1986.

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