UDK 616.24-002.5+616.98-036.22-036.838+159.9+304.3
DOI: 10.56871/CmN-W.2023.72.43.009

MEDICAL, SOCIAL AND PSYCHOLOGICAL FEATURES OF PATIENTS WITH PULMONARY TUBERCULOSIS AND IN ITS COMBINATION WITH HIV INFECTION

© Olga N. Brazhenko, Ksenia A. Solodilina, Anna I. Loshchakova, Daria Yu. Chukhnova, Tatiana B. Potepun, Alexander V. Nikolau, Galina V. Grigorieva

Pavlov First Saint Petersburg State Medical University. L'va Tolstogo str., 6–8, Saint Petersburg, Russian Federation, 197022

Contact information:
Ksenia A. Solodilina — an aspirant of the Department of Socially Significant Infections and Phthisiopulmonology.
E-mail: ksolodilina@bk.ru ORCID ID: 0009-0009-7551-0420

For citation: Brazhenko ON, Solodilina KA, Loshchakova AI, Chukhnova DYu, Potepun TB, Nikolau AV, Grigorieva GV. Medical, social and psychological features of patients with pulmonary tuberculosis and in its combination with HIV infection. Children's medicine of the North-West (St. Petersburg). 2023;11(4):78-82. DOI: https://doi.org/10.56871/CmN-W.2023.72.43.009

Received: 05.10.2023 **Revised: 09.11.2023** **Accepted: 11.12.2023**

Abstract. Tuberculosis remains one of the significant health problems today, and is among the leading causes of death among infectious diseases. The number of patients with HIV infection is increasing annually in the world, and the number of people with co-infection with HIV and tuberculosis is increasing accordingly. TB patients and in combination with HIV infection still face stigma from others, making their long-term treatment even more psychotrauming. Among patients with tuberculosis, men of working age, who have secondary and secondary special education, official work and family, are active smokers. They strive to maintain their professional status and actively continue to work, despite the disease, which is typical for patients with an ergopathic type of attitude to the disease. A group of patients with HIV infection is also represented by males, but younger, who do not have official work and families who actively use psychoactive substances, and who were in the past, in places of imprisonment. These patients, as a rule, are characterized by an anosognosic type of attitude to the disease with the expectation of condemnation and prejudice from others. Knowledge of the medical and psychological characteristics of patients with tuberculosis and in combination with HIV infection will allow us to expand our understanding of these groups of patients and accordingly build work with them with their further treatment.

Key words: *tuberculosis; HIV infection; EndTB; portrait of a patient with tuberculosis; medical and social features of patients; psychological features of patients with tuberculosis; copying strategy; type of attitude to the disease of patients with tuberculosis; quality of life of patients with tuberculosis.*

МЕДИКО-СОЦИАЛЬНЫЕ И ПСИХОЛОГИЧЕСКИЕ ОСОБЕННОСТИ БОЛЬНЫХ ТУБЕРКУЛЕЗОМ ЛЕГКИХ И В СОЧЕТАНИИ С ВИЧ-ИНФЕКЦИЕЙ

© Ольга Николаевна Браженко, Ксения Андреевна Солодилина, Анна Игоревна Лощакова, Дарья Юрьевна Чухнова, Татьяна Борисовна Потепун, Александр Валентинович Николау, Галина Владимировна Григорьева

Первый Санкт-Петербургский государственный медицинский университет имени академика И.П. Павлова.
197022, г. Санкт-Петербург, ул. Льва Толстого, 6–8

Контактная информация:
Ксения Андреевна Солодилина — аспирант кафедры социально значимых инфекций и фтизиопульмонологии.
E-mail: ksolodilina@bk.ru ORCID ID: 0009-0009-7551-0420

Для цитирования: Браженко О.Н., Солодилина К.А., Лощакова А.И., Чухнова Д.Ю., Потепун Т.Б., Николау А.В., Григорьева Г.В. Медико-социальные и психологические особенности больных туберкулезом легких и в сочетании с ВИЧ-инфекцией // Children's medicine of the North-West. 2023. Т. 11. № 4. С. 78–82. DOI: https://doi.org/10.56871/CmN-W.2023.72.43.009

Поступила: 05.10.2023 **Одобрена: 09.11.2023** **Принята к печати: 11.12.2023**

Резюме. Туберкулез и сегодня остается одной из значимых проблем здравоохранения и входит в число основных причин смерти среди инфекционных заболеваний. Ежегодно в мире нарастает количество

больных с ВИЧ-инфекцией, а соответственно, увеличивается число лиц с коинфекцией ВИЧ и туберкулез. Больные туберкулезом и сочетанной ВИЧ-инфекцией до сих пор сталкиваются со стигматизацией со стороны окружающих, что делает их длительное лечение еще более психотравмирующим. Среди больных туберкулезом преобладают мужчины трудоспособного возраста, имеющие среднее и среднее специальное образование, официальную работу и семью, являющиеся активными курильщиками. Они стремятся сохранить свой профессиональный статус и активно продолжают работать, несмотря на болезнь, что свойственно для больных с эргопатическим типом отношения к болезни. Группа больных с ВИЧ-инфекцией представлена так же лицами мужского пола, но более молодого возраста, которые не имеют официальной работы и семьи, активно употребляют психоактивные вещества, находились в прошлом в местах лишения свободы. Для этих больных, как правило, характерен анозогнозический тип отношения к болезни, ожидание осуждения со стороны окружающих и наличия у них определенных предубеждений. Знание медико-психологических особенностей больных туберкулезом и сочетанной ВИЧ-инфекцией позволит расширить наше представление об этих группах больных и соответствующим образом построить работу с ними при их дальнейшем лечении.

Ключевые слова: *туберкулез; ВИЧ-инфекция; EndTB; портрет больного туберкулезом; медико-социальные особенности больных; психологические особенности больных туберкулезом; копинг-стратегия; тип отношения к болезни больных туберкулезом; качество жизни больных туберкулезом.*

INTRODUCTION

Tuberculosis and HIV infection are two interrelated and complex problems that pose serious threats to public health in the modern world. The increase in HIV worldwide leads to an increase in tuberculosis associated with HIV. Despite the many global efforts of the World Health Organization (WHO) to combat tuberculosis and HIV infection, these diseases remain one of the leading causes of death worldwide [1].

In 2014, WHO developed the EndTB program, which aims to reduce global tuberculosis morbidity and mortality by 2035. It includes many measures, such as the development of new diagnostic tests and drugs, the introduction of shorter courses of treatment for patients with drug-resistant mycobacteria, and increasing the availability of public health care. The program defines benchmarks for 2020: a reduction in morbidity of 20% and a reduction in mortality of 35%. An 80% reduction in morbidity and a 90% reduction in mortality by 2035. Over time, we have seen that these targets cannot be met. In 2021, the world's morbidity rate fell by 10% and mortality decreased by only 5.9% [1–4].

In 2021, 10.6 million people in the world contracted tuberculosis, and 1.6 million died, with 187.000 of them suffering from HIV-related infections. The combination of tuberculosis and HIV infection significantly worsened the prognosis of the favorable course and outcomes of the disease and the quality of life of these patients. Both diseases are mutually burdensome. Tuberculosis is one of the leading causes of death among people living with HIV. The HIV infection increases the risk of developing tuberculosis by a factor of 20 to 30 compared to uninfected people [1, 5–7].

Tuberculosis patients, including those with HIV infection, often face not only physical but also emotional difficulties. This is related to the manifestation of these diseases and possibly the side effects of drugs. These patients also often face social exclusion and stigmatization. There are associated societal myths and prejudices about these diseases, which in turn can lead to discrimination and exclusion. All this can cause psychological trauma, lead to the development of depressive disorders and anxiety, and further complicate their treatment. It is really important to educate not only the sick but also their surroundings, including relatives, to overcome this stigmatization and raise their awareness of their diseases. Daily work with TB patients and HIV co-infection requires an integrated approach, studying the social and psychological aspects of their lives in modern conditions [8–10].

THE PURPOSE OF THE STUDY

Identification of medical, social, and psychological characteristics of patients with pulmonary tuberculosis and combined HIV infection.

MATERIAL AND METHODS

30 people participated in the pilot study. The first group (G-1) consisted of 16 patients with pulmonary tuberculosis. The second group (G-2) included 14 patients with pulmonary tuberculosis associated with HIV. The study was carried out at the Department of Socially Significant Infections and Phthisiysopulmonology PSPBGMU. I.P. Pavlov

of the Ministry of Health of Russia and its clinical bases.

The evaluation of health and social characteristics was based on such criteria as gender, age, education, working status, living conditions, marital status, the presence of related diseases and harmful habits, and also previous imprisonment.

For psychological assessment of personality, such methods as the method of diagnosis of types of attitudes toward the disease, the questionnaire of the structure of psychological protection, and the questionnaire used by R. Lazarus and S. Folkman to study Koping strategies were used. The statistical processing of the research materials was carried out using the SPSS 23 application.

RESULTS

Both tuberculosis patients and tuberculosis patients with HIV infection were predominantly male: 56.2% (n=9) and 78.6% (n=11), respectively ($p < 0.05$). Patients in the G-1 group were mostly between 21 and 50 years of age, accounting for 68.8% of all cases (n=11). Among patients in the G-2 group, 64.5% (n=9) were in the age range of 21 to 40 years ($p < 0.05$). As we can see, the patients of these two groups constitute the main labor and fertility cohort of our society.

In estimating the level of education, it was found that 68.8% (n=11) and 64.3% (n=9), respectively ($p < 0.05$), predominate in both groups of patients. Among tuberculosis patients (G-1), 62.5% (n=10) are in formal employment at the time of disease. 42.9% (n=6) of HIV-infected patients in formal employment (G-2) were not officially employed, and 21.4% (n = 4) live off relatives and friends ($p < 0.05$).

An assessment of living conditions showed that among tuberculosis patients (G-1), 62.5% (n=10) lived in a separate apartment. Among pulmonary tuberculosis patients with HIV (G-2), 42.9% (n=6) lived in a communal flat or dormitory ($p < 0.05$).

Of patients with tuberculosis (G-1), 37.2% (n=6) were married at the beginning of treatment. Among those with tuberculosis combined with HIV (G-2), 42.9% (n=6) lived with their parents or were single ($p < 0.05$).

Smoking accounted for 87.5% (n=14), and 37.5% (n=6) abused alcohol ($p < 0.05$). The harmful habits of patients in the second group differed, and in 92.9% of cases (n=13), these patients were active users of psychoactive substances ($p < 0.05$).

The associated pathology in these patients also differs. In tuberculosis patients, chronic obstructive pulmonary disease was detected in 50% of cases (n=8), usually against the background of chronic tobacco intoxication. Among patients in the second group, in addition to HIV infection, 85.7% (n=12) were also diagnosed with viral hepatitis. 71.4% (n=11) of patients suffered from behavioral disorders due to the consumption of psychoactive substances ($p < 0.05$).

In the past, 18.8% (n=3) of G-1 patients had previous imprisonment, while in G-2 patients the figure was significantly higher, at 78.6% (n=11) ($p < 0.05$).

The psychological status assessment showed that the two groups had different attitudes towards the disease. It was found that 37.5% (n=6) of patients with tuberculosis ($p < 0.05$) have an ergopathic attitude toward the disease. The psychotype of these patients was characterized by a very responsible attitude toward treatment. They sought to continue their work and maintain their professional status. Among TB patients combined with HIV (G-2), anozognosis was prevalent in 42.9% (n=6) of cases. There is a strong rejection and neglect of the disease and its consequences ($p < 0.05$). Often, these patients do not follow the advice of the attending physician and violate the treatment regime.

In conditions of illness, all people apply different types of psychological protection, both adaptive and non-adaptive. The study found that "projection" was the type most commonly identified among non-adaptive patients in both groups. It occurred in 50% (n=8) and 71.4% (n=11) of cases, respectively ($p < 0.05$). The main characteristics of patients of this type were prejudice and suspicion toward others. They exaggerated the external danger and often expected a negative attitude towards themselves. Both groups also defined psychological protection as "consumption." It is characterized by relieving stress through the abuse of alcohol, tobacco, psychoactive substances, and/or food. This protection is more pronounced in HIV-infected patients, appears to be the use of psychoactive substances, and is 57.1% (n=8). In tuberculosis patients, it was characterized by smoking and amounted to 47%. (n=7) ($p < 0.05$).

Of the adaptive psychological defenses in both groups, "affiliation" dominated: 56.3% (n=9) in the group G-1 and 42.9% (n=6) in the group G-2 ($p < 0.05$).

The tuberculosis process is a stressor for most patients. So patients from both groups apply dif-

ferent behavioral responses, or so-called coping strategies. They are designed to adapt to the situation and overcome stress. An evaluation of studies of coping strategies showed that 87.5% (n=14) of G-1 patients and 64.3% (n=9) of G-2 patients use the copying strategy "seeking information about their disease" ($p < 0.05$). This data tells us that patients are not sufficiently aware of it, its treatment, and its prognosis. They are constantly searching for information from various sources, such as the Internet, brochures, non-medical articles, or from other patients.

CONCLUSION

On the basis of the conducted research, we have found that the medical, social, and psychological characteristics of the patients in both groups are different. For example, men between the ages of 21 and 50 with specialized high school education or specialized secondary education and formal employment predominate among tuberculosis patients. They live in a separate apartment with their family. Among the associated pathologies, most are diagnosed with "chronic obstructive pulmonary disease", which is often associated with high tobacco consumption. These patients are characterized by ergopathic attitudes toward the disease using protective mechanisms such as projection and attachment.

Patients with a combined HIV infection are characterized by a predominance of men of working age and younger. They have high school education and specialized secondary education; they may be unemployed, live alone, or have parents. They suffer from viral hepatitis and behavioral disorders related to the use of psychoactive substances and have been imprisoned in the past. They tend to have anosognostic attitudes toward disease and defensive reactions such as projection and consumption.

The current medical, social, and psychological profile of tuberculosis patients and HIV infection is complex and multidimensional. They need to require an integrated approach and the active participation of both patients and health professionals, including medical psychologists, in their further treatment and management.

ADDITIONAL INFORMATION

Author contribution. Thereby, all authors made a substantial contribution to the conception of the study, acquisition, analysis, interpretation of data for the work, drafting and revising the article, final approval of the version to be published and agree to be accountable for all aspects of the study.

Competing interests. The authors declare that there have no competing interests.

Funding source. This study was not supported by any external sources of funding.

Consent for publication. Written consent was obtained from the patient for publication of relevant medical information within the manuscript.

ДОПОЛНИТЕЛЬНАЯ ИНФОРМАЦИЯ

Вклад авторов. Все авторы внесли существенный вклад в разработку концепции, проведение исследования и подготовку статьи, прочли и одобрили финальную версию перед публикацией.

Конфликт интересов. Авторы декларируют отсутствие явных и потенциальных конфликтов интересов, связанных с публикацией настоящей статьи.

Источник финансирования. Авторы заявляют об отсутствии внешнего финансирования при проведении исследования.

Информированное согласие на публикацию. Авторы получили письменное согласие пациентов на публикацию медицинских данных.

REFERENCES

1. Vsemirnaya organizaciya zdravoohraneniya. Global'nyj doklad VOZ o bor'be s tuberkulezom 2022. [WHO Global Tuberculosis Report 2022]. https://www.who.int/teams/global-tuberculosis-programme/tb-reports/global-tuberculosis-report-2022. (In Russian).
2. Kolomiec V M., Medvedeva N.N. Kliniko-psihologicheskie osobennosti u bol'nyh razlichnymi formami tuberkuleza legkih. [Clinical and psychological features in patients with various forms of pulmonary tuberculosis]. Tuberkulez i social'no-znachimye zabolevaniya. 2019; 1: 79–80. (In Russian).
3. Ivanova D.A. Rodina O.V., Borisov S.E. Faktory riska nezhelatel'nyh reakcij pri realizacii rezhimov etiotropnogo lecheniya tuberkuleza s vklyucheniem novyh preparatov. [Risk factors for adverse reactions during the implementation of etiotropic treatment regimens for tuberculosis with the inclusion of new drugs]. Tuberkulez i social'no-znachimye zabolevaniya. 2021; 1: 65–6. (In Russian).
4. Vasil'eva E.B., Lozovskaya M.E., Klochkova L.V. i dr. Epidemiologicheskie aspekty tuberkuleza u detej,

bol'nyh VICH-infekciej. [Epidemiological aspects of tuberculosis in children with HIV infection]. Tuberkulez i bolezni legkih. 2020; 98(9): 33–8. (In Russian).
5. Kazennyj B.Ya. Kiseleva Yu.Yu., Kir'yanova E.V. Neposredstvennye i otdalennye rezul'taty lecheniya bol'nyh s koinfekciej VICH/tuberkulez. [Immediate and long-term results of treatment of patients with HIV/tuberculosis co-infection] Tuberkulez i social'no-znachimye zabolevaniya. 2018; 3: 68–9. (In Russian).
6. Mordyk A.V., Udalova T.Yu., Puzyreva L.V. i dr. Sravnenie lichnostnyh osobennostej vpervye vyyavlennyh bol'nyh infil'trativnym tuberkulezom legkih i s sochetannoj infekciej VICH/tuberkulez. [Comparison of personal characteristics of newly diagnosed patients with infiltrative pulmonary tuberculosis and those with co-infection with HIV/ tuberculosis]. Sibirskoe medicinskoe obozrenie. 2015; 2(92). (In Russian).
7. Brazhenko O.N., Brazhenko N.A., CHujkova A.G. i dr. Iskhod tuberkuleza legkih u bol'nyh VICH-infekciej pri kompleksnom lechenii s aktivaciej zashchitnyh sistem organizma. [Outcome of pulmonary tuberculosis in patients with HIV infection during complex treatment with activation of the body's defense systems]. Tuberkulez i bolezni legkih. 2015; 5: 49–50. (In Russian).
8. Strel'cov V.V., Zolotova N.V., Baranova G.B. i dr. Osobennosti okazaniya psihologicheskoj pomoshchi bol'nym tuberkulezom legkih v faze intensivnoj himioterapii (v usloviyah stacionara). [Features of providing psychological assistance to patients with pulmonary tuberculosis in the phase of intensive chemotherapy (in a hospital setting)]. Tuberkulez i bolezni legkih. 2014; (2): 22–7. (In Russian).
9. Borodulina E.V. Social'nyj portret pacienta s vpervye vyyavlennym tuberkulezom. Nauka i inovaciciya v medicine. 2019; 4(2): 43–7. (In Russian).
10. Ohtyarkina V.V., Novoselov P.N. Mediko-social'naya harakteristika pacientov s sochetaniem tuberkuleza i VICH-infekcii. [Medical and social characteristics of patients with a combination of tuberculosis and HIV infection]. Problemy social'noj gigieny, zdravoohraneniya i istorii mediciny. 2012. (In Russian).

ЛИТЕРАТУРА

1. Всемирная организация здравоохранения. Глобальный доклад ВОЗ о борьбе с туберкулезом 2022. https://www.who.int/teams/global-tuberculosis-programme/tb-reports/global-tuberculosis-report-2022.
2. Коломиец В.М., Медведева Н.Н. Клинико-психологические особенности у больных различными формами туберкулеза легких. Туберкулез и социально-значимые заболевания. 2019; 1: 79–80.
3. Иванова Д.А., Родина О.В., Борисов С.Е. Факторы риска нежелательных реакций при реализации режимов этиотропного лечения туберкулеза с включением новых препаратов. Туберкулез и социально-значимые заболевания. 2021; 1: 65–6.
4. Васильева Е.Б., Лозовская М.Э., Клочкова Л.В. и др. Эпидемиологические аспекты туберкулеза у детей, больных ВИЧ-инфекцией. Туберкулез и болезни легких. 2020; 98(9): 33–8.
5. Казенный Б.Я., Киселева Ю.Ю., Кирьянова Е.В. Непосредственные и отдаленные результаты лечения больных с коинфекцией ВИЧ/туберкулез. Туберкулез и социально-значимые заболевания. 2018; 3: 68–9.
6. Мордык А.В., Удалова Т.Ю., Пузырева Л.В. и др. Сравнение личностных особенностей впервые выявленных больных инфильтративным туберкулезом легких и с сочетанной инфекцией ВИЧ/туберкулез. Сибирское медицинское обозрение. 2015; 2(92).
7. Браженко О.Н., Браженко Н.А., Чуйкова А.Г. и др. Исход туберкулеза легких у больных ВИЧ-инфекцией при комплексном лечении с активацией защитных систем организма. Туберкулез и болезни легких. 2015; 5: 49–50.
8. Стрельцов В.В., Золотова Н.В., Баранова Г.Б. и др. Особенности оказания психологической помощи больным туберкулезом легких в фазе интенсивной химиотерапии (в условиях стационара). Туберкулез и болезни легких. 2014; 2: 22–7.
9. Бородулина Э.В. Социальный портрет пациента с впервые выявленным туберкулезом. Наука и иновация в медицине. 2019; 4(2): 43–7.
10. Охтяркина В.В., Новоселов П.Н. Медико-социальная характеристика пациентов с сочетанием туберкулеза и ВИЧ-инфекции. Проблемы социальной гигиены, здравоохранения и истории медицины. 2012.