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Social features of patients with pulmonary tuberculosis in Chisinau

Objective — the research was the assessment of social features of patients with pulmonary tuberculosis for improving the policy recommendations in strengthing tuberculosis control.

Materials and methods. It was performed a retrospective, selective, descriptive study targeting social pecualiarities of 361 patients with pulmonary tuberculosis, diagnosed and hospitalized in the Muncipal Clinical Hospital of Phthysiopneumology of Chisinau in the period of 01.01.2014—01.01.2015.

Results and discussion. The predominance of men (67.8 %), the patients from the group of 18—40 years old (57.98 %) and single civil patients (57.07 %) was identified by social economical assessment. Most prevalent harmful habits were tobacco smoking (86.42 %) and alcohol abuse (25.21 %). Persons with disadvantaged financial state (60.67 %) and persons without medical insurance (43.76 %) prevailed. In a fewer proportion were labor migrants (6.37 %) and patients with imprisonment history (4.71 %).

Conclusions. Due to major disadvantaged social features of tuberculosis patients updated national social policies must be developed for improving social welfare, targeting vulnerable patients, with lack of social and health security.

Key words

Tuberculosis, risk factors, social determinants.

Tuberculosis represents a classic example of an infectious disease linked with social determinants of the health [1]. As a public health term — social determinants represents a set of factors, that constribute to the social definition of health, disease or illness in which are referred collective determinants [15]. According to the WHO estimations, diseases associated with the poverty account 45 % of the morbidity in the poor countries, in this context tuberculosis, malaria and HIV/AIDS together are responsable for 18 % of the total population morbidity [16]. So, although chronic noncommunicable diseases are rapidly emerging in the economicaly defavorised regions, the infectious diseases still represent a significant proportion of high public health burden [13, 16].

It was established that the decline of tuberculosis epidemics was attributed to the improving of social and economic conditions, rather than to the clinical advances [9]. In this context, WHO Commission on Social determinants of Health suggested to all TB burden countries, especially targeting governments, research sector and academia institutions to implement health-oriented interventions, as being the most powerful potential efforts in tuberculosis control [6]. The most TB affected groups, are defined to be hard-to-reach groups (homelesses, migrants, refugees, alcohol abusers, individuals living with HIV, children from poor families, drug injected users) [2—5]. It means that such groups are difficult to integrate in screening procedures and the comliance to expert recommendations is very low [10]. The situation is worsened by the fact that the same groups are target groups of poor treatment outcomes (lost from follow-up, failure, and death) [14]. Even there are different policies and social interventions to help high risk groups to afford specific issues, their interdisciplinarity in TB care rest to be assessed. In this paper we critically analyse the specificated social features of patients with pulmonary tuberculosis revelead at the municipal level with the aim of identifying biomedical and social interventions for improving the policy recommendations for strengthing tuberculosis control.

Table 1. **Distribution of patients according to the sex and age groups**

Sex	N (n = 361)	p
Men	222 (61.49 ± 2.56 %)	< 0.01
Women	139 (38.51 ± 2.56 %)	
< 20 years	19 (5.26 ± 1.17 %)	> 0,05
21—30 years	91 (25.21 ± 2.28 %)	
31—40 years	99 (27.42 ± 2.34 %)	
41—50 years	62 (17.17 ± 1.98 %)	
51—60 years	50 (13.85 ± 1.81 %)	
> 60 years	38 (10.52 ± 1.61 %)	

Table 2. **Distribution of patients according to the economic state**

Economical Status	N (n = 361)	p
Employed	142 (39.33 ± 2.57 %)	< 0.001
Unemployed	144 (39.88 ± 2.57 %)	
Retired	18 (4.98 ± 1.14 %)	
Student	14 (3.87 ± 1.01 %)	
Disease disability	19 (5.26 ± 1.17 %)	
Labor migrant	23 (6.37 ± 1.12 %)	
Special situation	1 (0.27 ± 0.26 %)	

Materials and methods

It was performed a retrospective, selective, descriptive study targeting social pecualiarities of 361 patients with pulmonary tuberculosis, diagnosed and hospitalized in the Muncipal Clinical Hospital of Phthysiopneumology of Chisinau in the period of 01.01.2014—01.01.2015. Chisinau represent the largest city of the Republic of Moldova, capital of the coutry, counting 700.000 population [17]. Collection of primary material involved the extraction of data from medical record forms. Investigations were performed according to the National Clinical Protocole — 123 Tuberculosis in adults [11]. Statistical analysis methods used in the study were: comparative, synthesis, discriminant analysis. Mathematic and statistical assessment was carried out by checking the qualitative features. Accumulated material was tabled in simple and complex groups. Statistical survey was performed using Microsoft Excel XP soft.

Results and discussion

General characteristics, social, economical, and health insurance-related determinants. Distributing patients by sex it was estbalished the predominance of male sex in comparision with female sex: 118 ((67.8 ± 3.54) %) males in comparision with 17 females 56 ((32.2 ± 3.54) %) with a high degree of concludence ($p < 0.001$). Gender ratio male/female was1.59/1.

Distribution of patients in age groups, identified a similar proporion of the patients in both groups. Data are shown in the table 1. Regrouping above exposed data in two types of subgroups: 18—40 years and more than 40 years old, it wasn't identified any difference between the prevalence of young patients 209 ((57.98 ± 2.59) %) comparing with older patients 152 ((42.02 ± 2.59) %). So, the young age was a neutral predictor for tuberculosis morbidity in Chisinau Municipality.

Assessing the civil status it was identified a similar proportion of married 146 ((40.44 ± 3.56) %) and unmarried 138 ((38.23 ± 2.25) %) patients, followed by the divorced 49 ((13.37 ± 1.81) %), widows 19 ((5.26 ± 1.17) %) and in concubinage 9 ((2.49 ± ± 0.82) %) patients. Redistributing patients in 2 groups according to the civil status, it was identified the prevalence of single persons 206 ((57.07 ± ± 2.61) %) compared with married&concubinage persons, without achieving the degree of concludence.

Distribution of patients according to the economic state, assessed that individuals being legaly empoyed were only one third of the research sample 142 ((39.33 ± 2.57) %). Unemployed, not being specificated if they were receiving social assistance due to unemployment were represented as well as the third part of the sample: 144 ((39.88 ± 2.57) %) patients. Age retired patients, disease-disabled and students were similary distributed. External labor migrants were a non-neglected part of TB patients (table 2).

So, economicaly disabled patients, that included all non-economicaly productive patients as: unemployed, retired and students were most prevalent: 219 ((60.67 ± 2.57) %) comparing with the individuals with a steady state 142 ((39.33 ± 2.57), with high degree of concludence ($p < 0.001$). Data are shown in table 3.

Health insurance represent the major condition for accessing the health care in Republic of Moldova. General statistics demonstrate that the uninsured part of Moldovan citizen ranges from 10 to 25 % from total population, depending by the demographical state (more frequent in rural area), by the ethnic origin (ethnic minorities are more frequently uninsured), and other social disadvantaged conditions. In 2014 in Republic of Moldova were identified 971.331 uninsured persons from a total 3.555.159 people [17, 18]. Despite of free of charge tuberculosis care, the lack of insurance in insurance-based health care systems determines the low medical coverage of high risk groups. In Republic of Moldova there are several cathegories of the population, that benefit the free insurance coverage: children till 18 years old, students from superior institutions, pregnant women, disabled persons with high and medium degree of disablement, retired persons, unemployed persons registred at the

Table 3. **Distribution of predisposing determinants**

High risk factors	N (n = 361)	Place
Male sex	222 (61.49 ± 2.56 %)	II
Young age	209 (57.98 ± 2.59 %)	IV
Disadvantaged economicaly	219 (60.67 ± 2.57 %)	III
Uninsured state	158 (43.76 ± 2.61 %)	VI
Single-civil	206 (57.07 ± 2.61 %)	V
Tobacco smoking	321 (86.42 ± 1.81 %)	I
Drug use	5 (1.38 ± 0.61 %)	X
Alcohol abuse	91 (25.21 ± 2.28 %)	VII
Labor migration	23 (6.37 ± 1.12 %)	VIII
History of emprisonment	17 (4.71 ± 1.21 %)	IX
Homelessness	2 (0.51 ± 0.39 %)	XI

local teritorial agencies, persons who care severe ill person, mother with 4 and more children, social disadvantaged families benefiting of social assistance. So, including all above mentioned individuals, the uninsured patients were less than one half of the research sample 158 ((43.76 ± 2.61) %). Exposed data are in the table 3.

Associated harmful habits and public health related issues with impact on tuberculosis epidemiology. Research review identified such harmful habits with the biggest impact on all stages of the pathogenesis of tuberculosis: tobacco smoking, alcohol abuse&heavy drinking, as well as illicit drug use. The most prevalent addiction was tobacco smoking 321 ((86.42 ± 1.81) %), les prevalent was the subgroup of alcohol abusers 91 ((25.21 ± 2.28) %) and drug users 5 ((1.38 ± 0.61) %).

Migration has the major impact on the spread of different strains of tuberculosis. In western Europe, the most of MDR-TB cases are diagnosed in immigrants from eastern Europe. Moldovan short-term travellers and short-term residents are one of the most prevalent part of the immigrational population in Community of Independant States. Most of them have an illegal state in the hosting country (more frequently being choosed Russia), that determins the lack of health and social insurance. Consequently, they cann't acces screening methods and are unable to perform an effective anti-TB treatment. So, external labor migrants were 23 ((6.37 ± 1.12) %).

Detention, as a public health issue, exposes a high threat for multidrug resistante mycobacterial infection and active tuberculosis development. Patients, who started the treatment during the detentional period and then are released from the prison have an increased risk to be lost from follow up, due to the lack of interventions to ensure the continuity of tuberculosis treatment. Although the ex-deteinees represent a big concern in the Republic of Moldova, there were a limited cases with history of detening in the research sample 23 ((6.37 ± 1.28) %). It was identified a couple of homeless individuals 2 (0.51 ± 0.39) %) patients (table 3).

According to the schematic representation, by far the most relevant social features of patients with pulmonary tuberculosis were active tobacco smoking, male sex, economical disadvantaged state, single civil state and lack of obligative healh insurance policy.

Conclusions

Tuberculosis is an infectious disease with a major social impact and represent a major barierr to achive the health related Millenium Development Goal Target 4 and Target 6 [12].

The most prevalent biological characteristics of new pulmonary tuberculosis patients from Chisinau are male sex and young age, revealed at two third of the patients.

The major disadvantaged social features of two third of tuberculosis patients in Chisinau are poor economic state, single-civil state, the lack of compulsory health insurance

The most prevalent harmful habit was identified chronic tobacco smoking, as well as alcohol abuse was identified at each fourth patient.

External labor migrants and patients with history of emprisonment are an non-neglected concern in the frame in the investigated group.

Updated national social policies must be developed for improving social welfare of TB patients, focusing vulnerable patients, with lack of social and health security, and defficitary family support.

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Соціальні особливості хворих на туберкульоз легень у Кишиневі

Мета роботи — оцінка соціальних особливостей хворих на туберкульоз легень для розробки поліпшених рекомендацій з питань політики в програмі боротьби з туберкульозом.

Матеріали та методи. Проведено ретроспективне селективне описове дослідження соціальних особливостей 361 хворого на туберкульоз легень, госпіталізованого в муніципальну клінічну фтизіопульмонологічну лікарню Кишинева в період від 01.01.2014 до 01.01.2015 р.

Результати та обговорення. Соціально-економічний аналіз виявив переважання чоловіків (67,8 %), пацієнтів з вікової групи 18—40 років (57,98 %) і соціально одиноких (57,07 %) осіб. Куріння (86,42 %) і зловживання алкоголем (25,21 %) були найбільш розповсюдженими шкідливими звичками. Переважали пацієнти матеріально незабезпечені (60,67 %) і без медичного страхування (43,76 %), в меншому співвідношенні були виявлені трудові мігранти (6,37 %), а також колишні в'язні (4,71 %).

Висновки. Національна політика повинна бути спрямована на розробку програм, орієнтованих на вразливі групи пацієнтів без соціального і медичного забезпечення, для поліпшення соціального добробуту хворих на туберкульоз.

Ключові слова: туберкульоз, чинники ризику, соціальні фактори.

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Социальные особенности больных туберкулезом легких в Кишиневе

Цель работы — оценка социальных особенностей больных туберкулезом легких для разработки улучшенных рекомендаций по вопросам политики в программе борьбы с туберкулезом.

Материалы и методы. Было проведено ретроспективное селективное описательное исследование социальных особенностей 361 больного туберкулезом легких, которые были госпитализированы в муниципальную клиническую фтизиопульмонологическую больницу г. Кишинева в период с 01.01.2014 по 01.01.2015 г.

Результаты и обсуждение. Социально-экономический анализ выявил преобладание мужчин (67,8 %), пациентов из возрастной группы 18—40 лет (57,98 %) и социально одиноких (57,07 %) лиц. Курение (86,42 %) и злоупотребление алкоголем (25,21 %) были наиболее распространенными вредными привычками. Преобладали пациенты материально необеспеченные (60,67 %) и без медицинского страхования (43,76 %), в меньшем соотношении были выявлены трудовые мигранты (6,37 %), а также бывшие заключенные (4,71 %).

Выводы. Национальная политика должна быть направлена на разработку программ, ориентированных на уязвимые группы пациентов без социального и медицинского обеспечения, для улучшения социального благосостояния больных туберкулезом.

Ключевые слова: туберкулез, факторы риска, социальные факторы.

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