

Early Detection Of Tuberculosis In Women Prisoners In Russia

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Abstract

Objective: To study the problematic issues regarding early diagnosis of tuberculosis among women in Russian prisons.

Methods: Estimation of the effectiveness of early detection of tuberculosis (TB) in women prisoners carried out in a typical penal institution of one of the regions of Russia (Udmurt Republic) between 2012 and 2014. The data of medical records, health-seeking behavior, and the results of preventive examinations, including X-ray and fluorography methods were used.

Results: Most female prisoners (76.7%) who arrived at the prison from other regions of Russia have been diagnosed with tuberculosis,. 40.0% of patients revealed no information about previous fluorography and the average period of limitation for fluorography studies in the remaining patients was 9.9 ± 1.5 months. The majority of TB patients had prescription fluorography studies performed at 4-6 (35.3%) and 7-12 months (23.5%).

Conclusions: This study highlights the high prevalence of tuberculosis among women prisoners and the presence of weakness in its early diagnosis in prisons: there is a need to better understand and then rectify this problem.

INTRODUCTION

Despite international community efforts, tuberculosis (TB) remains the most pressing health and socio-economic problem in prisons in Russia [1].

The analysis of timely diagnosis of TB in prisons is important for the protection and preservation of the health of prisoners. The risk of tuberculosis is many times greater in prisons compared to the normal population [2].

The problems of tuberculosis in the penitentiary system are well represented in the scientific literature. At the same time, not fully disclosed are the problems regarding diagnosis of tuberculosis in different gender groups in a correctional institution.

This article presents the results of the study in a prison system in one of the regions of Russia (Republic of Udmurtia), including jails and prison facilities provided for women prisoners between 2012 and 2014.

RESULTS

During the study period 35 new cases of tuberculosis

amongst women prisoners were found and the spread of tuberculosis in 2014 was 34.1 per 1,000 women in the prison system (‰). Noteworthy is the relatively high number of tuberculosis among HIV-infected women, constituting 22.9% of all new TB cases, which is 5.7% higher than in 2012.

77% of all patients were women at the age of 31-40 years, 13% were at the age of 41-45 years, another 10% were older than 46 years (7%), and finally 3% were younger than 30 years.

Among those diagnosed for the first time with tuberculosis, aboriginals of the Udmurt Republic made up only 23.3%, all others came from penal institutions from other regions of Russia.

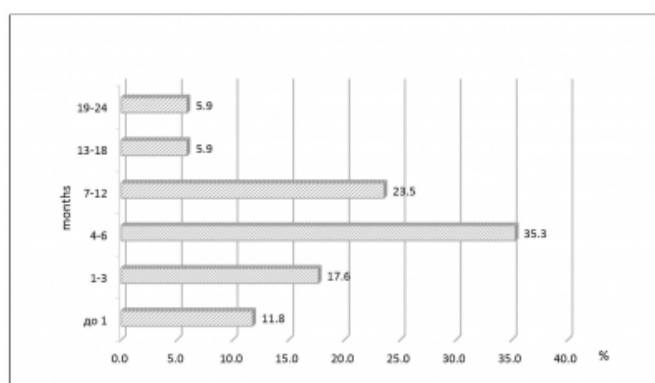
Mass fluorography still remains the traditional method of detecting TB in Russia as well as in Russian prisons which shows the importance of this technology. In accordance with existing legislation, the fluorography studies should be conducted as soon as possible (no more than 2 weeks) after prisoners arrive.

The analysis showed that in 40.0% of tuberculosis cases there was no evidence of an earlier fluorography screenings upon admission to the prison.

The average term of limitation of fluorography study was 9.9 ± 1.5 months with most of the cases having a prescription study done 4-6 months earlier (35.3%), followed by those with prescription studies done 7-12 months earlier (23.5%). 29.4% of women were diagnosed with tuberculosis in the first three months after the fluorography study while the remaining 11.8% had a fluorography examination over a year ago (fig. 1).

Figure 1

The time passed from date of the last radiological or fluorography inspection before detection of a disease (month; %).

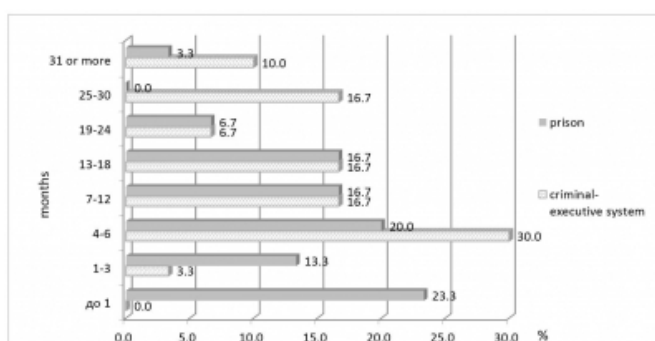


DISCUSSION

The timeliness of identification of infection was determined from the data collected in the prison as well as from the data received from the entire prison system in the region. The data obtained were characterized by their ambiguity, with identical results in the groups from 7 months to 2 years and a significant divergence in the other groups (fig. 2).

Figure 2

The time delay from the moment of arrival of women in the prisons and the detection of the disease (month; %)



The maximum number of patients with tuberculosis (30%) is diagnosed after 4-6 months of stay in their local

imprisonment places. The subsequent four places with result of 16.7% (groups 7-12), 13-18 and 25-30 of month of stay) were all from UIS institutions. Thus it should be noted that, in the first 3 months only 3.3% of the cases were found.

Most of female patients with tuberculosis (56.6%) were diagnosed in the first half of the year after arrival in the correctional facility, and of those, about half (23.3%) were diagnosed in the first month.

Better and more timely detection of this disease is warranted.

CONCLUSIONS

This analysis shows the existence of significant deficiencies in TB detection in prisons of the Russian Federation, primarily in preparation for transfer of the convicts to other regions.

There is a high risk of primary infection in penal institutions and pre-trial detention centers [3] caused by internal factors such as density in prison cells, insufficiency of airing and insolation of rooms, etc., external factors such as high migratory potential, continuous inflow of patients with tuberculosis, low level of literacy, existence of addictions, and also objective shortcomings of radiological and fluorography types of research (underdiagnoses) [4]. The delays in identification of patients with tuberculosis results in potential persistence of mycobacteria in the correctional facilities that, in turn, promotes high risk levels of infection.

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