

Prisons as a source of tuberculosis in Russia

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Abstract

Purpose – The purpose of this paper is to analyze poor management of tuberculosis (TB) prevention and treatment and explore parameters and causes of this problem drawing on qualitative interviews with former prisoners and medical specialists in Kaliningrad Oblast in Russia.

Design/methodology/approach – The authors undertook a qualitative study, to explore access to HIV and TB treatment for people who inject drugs in Kaliningrad. The authors interviewed (outside of prisons) 15 patients and eight health specialists using a semi-structured guide. The authors analyzed the accounts thematically and health consequences of imprisonment emerged as a major theme.

Findings – Prisons are overcrowded and lack basic hygiene and infection control. Demand for medical services outstrip supply, HIV and TB prevention lacking, HIV and TB treatment is patchy, with no second-line drugs available for resistant forms. The prison conditions are generally degrading and unhealthy and many respondents perceived surviving prisons as a miracle. Cooperation with medical services in the community is poor.

Research limitations/implications – The authors used qualitative research methods, which do not rely on a representative sample. However, many of the structural barriers preventing effective TB treatment and prevention highlighted in this paper have been noted elsewhere, suggesting that findings are likely to reflect conditions elsewhere in Russia. The authors tried to include all possible points of view, as of the medical staff and the patients. However, due to resistance of the officials the authors were unable to conduct interviews with employees of the FCS. Since all the interviews are recalling past experience, the situation may have changed. This does not undermine importance of the findings, as they shed light on particular treatment experiences, and development of prison health system.

Originality/value – The paper contributes to the literature on prisons as a contributor to TB epidemic, including drug resistant forms. An urgent penitentiary reform in Russia should focus on HIV and TB prevention, case detection, availability of medications and effective treatments. Key to decreasing prison population and improving health is political reform aimed at introduction of effective drug treatment, de-penalization and de-criminalization of drug users and application of alternatives to incarceration.

Keywords Tuberculosis, Qualitative research, Injecting drug use, HIV/AIDS, Correctional health care, Illicit drugs

Paper type Research paper

Introduction

Tuberculosis (TB) represents a major public health concern in Russia. According to the World Health Organization (WHO) (2013) Russia was among the countries with high TB burden, with the lowest treatment success rate globally (WHO, 2013). In the last decade, the TB epidemic intensified and saw an increase in patients with resistance to two or more TB drugs, high mortality among patients co-infected with TB and HIV, and high prevalence of TB in the penitentiary system (Frolova *et al.*, 2008). Kaliningrad region has a higher incidence of TB than the rest of Russia: in 2013 it was 64.5 per 100,000 population, compared with the national

average of 58.44 per 100,000. It has been estimated that more than 50 percent of the total population in Russia are at risk of TB (Koretskaya, 2002) and time in prison is one of the most important risk factors for contracting pulmonary TB, including in pre-trial detention (Balabanova *et al.*, 2005; Lobacheva *et al.*, 2006). Evidence from across the country suggests that the penitentiary system is one of the main sources of infection and development of TB and its resistant, multi-resistant and cross-resistant forms (Drobniewski *et al.*, 2005; Coker *et al.*, 2006).

TB in Russian penitentiary system

There is a growing literature on poor health conditions in Russian prisons, including general health, and management of infectious diseases, but research on the TB epidemic and determinants of infection in prisons is scarce. Available reports indicate that provision of TB prevention and treatment in Russian penitentiary system is extremely challenging. One of the first comprehensive descriptions is provided by Farmer (2005) who witnessed poor conditions in the Russian prisons back in 1999 and shared concerns regarding the emerging epidemic of MDR-TB due to low quality of treatment. Research systematically indicates that HIV and TB prevention are not available in Russian prisons, while factors contributing to its spread such as injecting drug use and poor living conditions are common (Bobrik *et al.*, 2005; Sarang *et al.*, 2006). Access to timely HIV antiretroviral treatment (ARV) that plays an important role in TB prevention is often inadequate and patchy due to scarcity of trained personnel and medication (Wolfe *et al.*, 2010). Studies in the north of Russia show that most prisoners with TB have developed it within the first one to two years of imprisonment and prevalence of TB among patients in general prisons hospitals is as high as 12.8 percent (Kosmak and Kopylova, 2008). In addition to scientific research, reports from the European Court of Human Rights (e.g. European Court of Human Rights (ECHR), 2007; Dute, 2009) emphasize that poor health services and failure to provide effective TB treatment within Russian prisons lead to critical deterioration of prisoners health and sometimes deaths.

Prisons medical system over-capacitated due to penalization of minor non-violent crime

Russia has the third largest prison population in the world, estimated to be 676,400 in May 2014 (Walmsley, 2014) and this large volume is often ascribed to excessive penalization of non-violent crime, such as minor economic or drug crimes. One of the most at risk groups for incarceration is people who use illegal drugs. Research shows that in different Russian cities, up to 65 percent of people who inject drugs (PWID) have experience of prison (Sarang *et al.*, 2006). While between 2005 and 2012 the overall number of prisoners has slowly decreased from 823,400 to 701,900 (Goskomstat, 2013), the number of adults imprisoned for drug crime increased by 151 percent from 49,794 to 124,955 (Federal Service of Corrections, 2013) with every third court sentence in large cities related to drug use (Ivanov, 2011). In 2010, more than 75 percent of 104,000 convictions for drug crimes were for possession for personal use and for drug trafficking in "small amounts" (Golichenko and Sarang, 2013). Drug using inmates are especially vulnerable to TB due to high prevalence of HIV among PWID, which is estimated to be 37 percent nationally but as high as 74 percent in some Russian cities (Mathers *et al.*, 2008). Some evidence shows that drug use prior imprisonment constitutes an important risk factor for TB infection in detainees of remand prisons (Lobacheva *et al.*, 2007).

Given the high population prevalence of TB in Kaliningrad, the evidence showing prison as a key risk factor for infection and the large prison population in Russia, this paper examines health management in Russian prisons with a focus on TB. Drawing on qualitative interviews with former prisoners and medical specialists in Kaliningrad Oblast in Russia, we analyze poor management of TB prevention and treatment and explore parameters and causes of this problem.

Methods

In 2010 we conducted 15 in-depth interviews with PWID living with HIV with current or past experience of TB in Kaliningrad. Participants were recruited by chain referral through social networks of PWID, facilitated by introductions from a local community organization working in HIV care, including with people who use drugs and current and former prisoners. Eligibility criteria

included experience of injecting drugs within the past six months, HIV positive status and ever being diagnosed with TB. The drug users were recruited from community settings, following release from prison. Eight health professionals were also interviewed recruited from the main community institutions dealing with HIV/TB/drug use and introduced to the researchers by the local NGO. Staff from the Federal Service of Corrections (FSC) were also approached but refused to participate in the study due to resistance of the officials in charge.

Analysis

Interviews were recorded and transcribed verbatim. They were framed by a topic guide, which also informed the thematic coding of the transcripts. The coding was done using qualitative data analysis software MaxQDA 2M. Data were coded initially for emerging core descriptive content, with coding further refined in an iterative process of data coding and interpretation (Layder, 1993).

While the general focus of the study was initially broader than prison health and looked mostly at integration of TB and HIV treatments in the community, the theme of prisons emerged in almost each account as strongly related to TB. Therefore, this analysis is focussed specifically on this issue. Thematic categories relevant to this analysis included: prison conditions; drug use and HIV prevention; TB and HIV treatment, medical counseling; and reasons for imprisonment.

Ethics

The study protocols were reviewed by the Ethics Committee of the London School of Hygiene and Tropical Medicine, University of London and further approved by the Ministry of Health of the Russian Federation and the Ministry of Health of Kaliningrad Region. All participants provided written informed consent to participate in the study on an anonymous and confidential basis. Participants who injected drugs received telephone cards worth approximately \$17, coffee and snacks, syringes and condoms, and further referral to the AIDS center and a harm reduction program.

Findings

We interviewed 15 PWID living with HIV and with past or current TB, among whom five were female. The average age of respondents was 33 years (ranging from 26 to 46 years). Most respondents (13) reported heroin as their main drug, one reported amphetamines, and one refused to answer. Four respondents were taking ARV to treat HIV and one person was also undergoing treatment for TB at the time of the interview. Six people reported previous experience of drug treatment. All but one reported spending time in prison and seven believed that they were infected with TB while in prison. Three reported having been diagnosed with MDR-TB. Most respondents reported currently being unemployed, four respondents reported having temporary or manual work and one woman reported selling sex.

Eight interviews were conducted with health professionals including specialists at the AIDS Centre, Regional Narcological Dispensary and Preventative TB services, both in and outpatient.

Prison conditions

People described prison conditions as conducive to transmitting TB due to severe overcrowding, lack of fresh air and ventilation, poor hygiene, nutrition and lack of infection control. Most respondents believed that they have contracted TB while in prison:

[How did you contract tuberculosis?] It was easy, we lived in a closed space, and there were more than 60 of us in a cell of about 10-15 square meters. It was possible to go out to smoke in the toilet, but nobody did – people just smoked inside the dormitory. 30 people at the same time! There was a window but only on one side so there was no draught. We shared 3 toilet seats between 60 people; while according to regulations there must be 1 toilet seat for 10 people (Male, 33).

Everybody sits in one cell, there is no food worth mentioning, it is continually damp, and there is no air. In each cell there were people with tuberculosis (Male, 34).

Doctors who treat people with co-infection of HIV and TB confirmed that imprisonment was an important factor for acquiring TB among their patients:

Almost all [our patients with TB and HIV] come from prisons. I made my own analysis that around 50% of them have been in penitentiary [...] There is a closed, small space in there, people have HIV, they use drugs – it all makes risk of getting tuberculosis much higher (An infectionist from the AIDS Center).

People without TB were rarely separated from people with the infection, even if they had HIV that put them at greater risk of getting TB. A woman, who believed she had contracted TB while in prison, described how that might have happened in the overcrowded prison where HIV positive women without TB shared a building with the TB hospital:

There were five cells for girls who were HIV positive in the same building with the tuberculosis hospital [where] there were two floors of men, with active form of tuberculosis. They kept us further away to minimize contact, but still it was the same building, the same crockery, the same warehouse (Female, 46).

Respondents described that it was common to allocate different patients to the same cell: patients with HIV were put together with people who had various forms of TB:

At first there were four of us in a five bed cell. Then they put a healthy person in with us. I asked why they had put a healthy person in with us when we are all ill, we are all HIV positive and one of us had tuberculosis (Male, 26).

Besides poor infection control, insufficient nutrition and poor diet contributed to transmission of TB or faster progression of the disease, where even in the special colonies for people with TB where official regulations ascribed people with TB improved diet, only poor quality food was provided. A respondent describes food at a special penal colony for TB treatment as “totally meager”:

All they feed you is cabbage and potatoes. In the evening they give you milk diluted with water. Breakfast was porridge with water. Then there would be rissoles made out of bread for lunch. And for supper there was always pickled cabbage. I only saw chicken once in three months. They also gave us cottage cheese over the New Year holidays: they gave us two tablespoons during five days (Male, 33).

Drug use, treatment and HIV prevention

Despite HIV being an important risk factor for transmission and progression of TB, there were no measures to prevent and control HIV in Kaliningrad prisons. While injecting drugs were widely available, evidenced-based HIV interventions such as needle and syringe programs, opiate substitution treatment, or any other interventions were not:

[Were lots of people using?] Yes, almost everyone. 90 percent. In prison everything is available. All kinds of drugs (Male, 34).

For some people, the level of drug use has even increased in prisons, compared with levels of use on the outside. Some respondents said that in the colony they became addicted. There was no provision for the treatment of drug addiction – no short-term detoxification, no medical assistance and no help from professional psychologists. Respondents ascribed this to denial of the problem by the prison administration:

[When you were in the prison camp, did you use?] Of course, almost every day, if you want to, you can shoot up anytime [Did lots of people shoot up?] Probably around 90 percent. Many people became addicted (Male, 34).

[What did you do when you were going cold turkey?] Nothing. I just lay around and that was it. I drank water. [There aren't any drugs specialists there?] No. In there “no one uses” (Male, 33).

In the absence of medical drug treatment, addiction is “treated” with disciplinary measures, sometimes beating, torture and solitary confinement:

There were four check ups: they line you up on the parade ground. If you [use drugs] once, they'll notice and damage your health. They would beat you, use truncheons, everything. If it happens again you'll be put into solitary confinement and they'd beat you every day (Male, 26).

Absence of HIV prevention, sterile syringes and needles leads people to risky practices. According to respondents, sterile needles in prisons were harder to come by than drugs:

If I have some [drugs] and I offer to share and you want some, but I tell you that I have only one syringe and I am HIV positive but if you want to, you can boil it and use it. If a person were addicted they would never refuse (Male, 33).

The syringes go round in circles. If someone is a bit more responsible, they might boil it, but others might not. It costs too much to pay the guard to bring a new syringe (Male, 34).

One interviewee spoke about how he contracted HIV in prison, assuming that his infection was a result of a lack of access to clean syringes:

I was infected with HIV in prison. I didn't have it when I went in, but I had it when I came out (Male, 30).

TB treatment

According to all respondents, both patients and medical staff, the quality of TB treatment in penitentiary institutions was very low. In the words of one doctor from the TB hospital:

As a rule, in the camps, tuberculosis is not treated. How do they treat it there? They turn it into a chronic form and send [the patients] to us (Specialist, Regional Tuberculosis hospital).

Respondents attributed low treatment success rates to a number of factors. The most important was poor supply of anti-TB medicines. Several respondents said that due to lack of medications in the prison hospitals, they had to buy them themselves:

The doctor said that I shouldn't be too worried but that I had tuberculosis and I should ask my Mum to come over. I spoke to her and she immediately brought me all the medicines and they started to treat me. [The tuberculosis medicines?] Yes – she bought me intobutol, tubazit and rifampicin (Male, 33).

Even in the colony that specialized on TB treatment there was a shortage of medicines and patients who could afford it had to buy their own. The second-line medications were not available at all and the first line drugs were used to treat all patients, irrespective of the TB drug resistance:

[When they moved you to [Penal Colony for TB treatment #5], did [your mother] still have to buy the medicines for you?] They had their own medicines there, but they only gave us tubazit and rifampicin. So if you needed some other medicines, they had to be brought from outside (Male, 33).

Patients and specialists reported intermittent supply of TB medications in prisons:

People would be given tablets in prison for one month, that's it, and then there were no tablets. Another month there were no tablets. Then one month later they receive tablets for a week or so. That's how people got resistant forms. And then these patients come to us and we don't know what to treat them with (TB specialist of outpatient treatment, Regional TB hospital).

Specialists emphasized that one of the main problems with ensuring quality treatment was lack of second-line medications for treatment of drug resistant forms of TB:

Very few tuberculosis medications were available [in a specialized treatment prison]. I know it for sure. Second line drugs were not available at all. [So what do they do with the patients with drug resistance?] They used to treat them with the first line drugs, that's it (TB specialist in the Regional TB hospital).

Lack of HIV medications

Timely ARV treatment is key for TB prevention and treatment success in patients with co-infection (World Health Organization, 2012). At the time of interviewing in May 2010, 109 people were receiving HIV treatment in penitentiary institutions of Kaliningrad region (personal communication, infectious disease specialist at the Regional AIDS Centre). However, since the provision of HIV treatment started only recently, most respondents, who served their term some time ago, reported serious problems with the supply of medicines back at the time when they were in the colonies. Even when treatment became available in the city in the mid-2000s, it was not available in prisons for much longer. Some prisoners were desperate to get access to ARVs:

We knew that [ARV] was available, they were talking about it everywhere, on the radio, on the television saying that there was this treatment at the AIDS Centre and that it is all free of charge. I went to the

doctor at the camp to ask if we would also have it. She just waved me away and said that I can decide where and how I'd like to be treated, but only after I'm released. I went on a hunger strike. They put me into solitary confinement. I slashed my veins. I was there for 45 days. My lungs started to collapse because my immunity was really weakened. It was cold, it was winter. But after that a doctor [from the AIDS center] came to see us. And it turned out that 6 people needed urgent treatment, because many of us had immune status of less than 200 and several had less than 100 [CD4 cells] (Female, 40).

The lack of ARVs and the untimely start of treatment exacerbated TB, leading to an increased risk of infection and progression of illness. Most patients began treatment when their condition was already critical:

[When you started taking the antiretroviral treatment, were there any side effects?] I didn't feel anything because I was already dead. My lungs had collapsed, towards evenings I was shaking with fever; they had tied me to the bed. I was permanently on a drip. When they transferred me to Ozerki [Penal colony for TB treatment situated in the village called Ozerki] they started to give me the tuberculosis treatment and at that point things got even worse. With my immune status and the state of my health at that moment, I thought that I was going to die (Female, 40).

Due to the lack of diagnostics for immune status and viral load patients were not prescribed ARV treatment and their health was quickly deteriorating. Once the health condition reached visually critical level, people were sometimes sent on compassionate release, and they often perceived their survival after release as a miracle:

They didn't test us. I didn't know my [immune] status. I didn't know my [viral] load. I began to wither away and nobody knew why. My hair fell out, my eyebrows, my nails fell out. My legs were purple. I was dehydrated, I was skeletal. They couldn't release, pardon or treat us because the tests hadn't been done. Finally they tested our status and when the results arrived, I was told that I had 40 [CD4] cells. I was not eating or drinking. That is it, they said, they would release me [on compassionate release] and I wondered if I would make it. I really didn't care, I had been so ill for so long. I was like- let me die in peace. They released me; my Mum came and took me in her arms. At the camp they told her – take her away, but it won't be for long (Female, 46).

After about six months I started to have complications. I was weak, had fever, I couldn't walk, was gasping for breath. They moved me to Ozerki [Penal colony for TB treatment] immediately. I spent a month there and then they released me, they thought that I wouldn't live any longer. My immunity was 40 cells, my lungs collapsed. That was it. They released me to die, a year and seven months early. They didn't think there was any reason to take me [to a hospital]. They just didn't want an extra death report [on the prison record]. They thought that it was OK to kick me out (Female, 40).

Accessibility of medical information and counseling

Along with the insufficient supply of medicine for the treatment of both HIV and TB as well as inadequate monitoring of the patient's condition, another important barrier to effective treatment in penitentiary institutions was the negligent attitude of the medical staff:

The doctors [...] You might go and say that you have a temperature and please could they give you a tablet and they'd just tell you to go away. If you ask why are they being rude, I really feel ill, please can you give me a tablet. They would tell you to go away before they call the shift manager and they put you in solitary confinement (Male, 33).

One re-occurring theme throughout the interviews was the lack of any kind of consultation on HIV, TB and other health related issues:

[What did they tell you when they found HIV? Did they tell you how to live with it?] They didn't tell me any of that. Because they don't give a damn, to be honest. You look at the doctors and they don't care. They don't give you anything, no tablets, no nothing (Male, 30).

Even the minimal level of information is lacking for patients in penitentiary institutions, either about the state of their health or treatment provided:

They did blood tests, like on a dog, and that was it. [Did they tell you the results?] No, it is a prison, no one tells you anything (Male, 26).

We took [tubazit] and these little coffins – the tablets were similar to little coffins. [Did they give you a description of the tablets?] No, I asked, but they said no. [So you didn't get any information on the treatment?] No (Male, 33).

Lack of information and consultations on treatment and health conditions led to some critical consequences – for example, some patients consciously sabotaged their treatment, hoping that they would be released if their health condition were critical enough to be sent on compassionate release. Those risky strategies brought many into dangerous condition and we heard many stories of people dying shortly after the release:

I didn't take the [TB] treatment. I threw the tablets away. I wanted to be released. But it is true that it doesn't work out for everyone. Some don't manage it. Some die. Or they are released and then die. I was really very ill. I was in a coma for a week. I had tuberculosis in my brains. I had tuberculosis everywhere, I couldn't get up. They released me because of the illness. But they release only those people for whom there is no hope [for survival] (Male, 30).

HIV and TB doctors outside prisons have confirmed that they receive patients in critical conditions and many of them die shortly after release:

We have a special medical colony N5 for people with TB, as well as people with HIV and TB. If they release someone due to health conditions – they come to our hospital to continue treatment. Usually they are in a very critical state. Very difficult patients. Many of them die (TB doctor, Regional TB hospital).

Reasons for imprisonment

Interviews demonstrated that for many drug users getting a term in prison was equal to death sentence as their health quickly deteriorated due to life-threatening conditions in prisons, absence of HIV prevention, TB control and intermittent low-quality treatment and counseling. What stroke our attention was that the reasons for people imprisonment were either directly connected with possessing and selling minor quantities of drugs or drug-related minor economic offenses – situations where imprisonment could be easily prevented or avoided, if drug treatment was available in the community. The following situation was most typical:

I was put in prison for theft. I needed money for drugs. I just went and stupidly stole the money (Male, 33).

The drug offenses of any scale usually entail harsh sentences. Planting of drugs and provocation by police is the norm in Russia (Sarang *et al.*, 2010), and often the reason for the imprisonment of PWID as the following story illustrates:

It's just a typical story, my friend came over and said "give me some [drugs]". I told her that I only had two shares – one for now and one for the evening. She was like, I'll go this evening – here is some money for you. That was it. The [police] rushed in and I suddenly was like some kind of important "dealer". Then they started tipping out some shares [of drugs that they planted] from books, from corners. Right from the beginning they had it set up, they said that they were going to send me down for a long time. I said that I wouldn't sign the paperwork. I thought that it was so obviously a stitch up! But it turned out very easy and simple for them to lock me up. They didn't need my signature at all (Female, 23).

Another woman said that she was sentenced for traces of heroin in her syringe, which was a common practice before the drug legislation changed in 2004:

I was in prison for a year. They caught me with empty syringes. There was a little bit left. The first time they gave me a conditional sentence, but the second time, they slammed the door shut (Female, 31).

While most of the crimes were caused by drug dependency and were typically situations of providing drugs to friends or selling in small quantities, or stealing goods or money in order to buy drugs, the sentences were usually several years in prison.

Discussion

This study contributes important new knowledge on the health management in Russian prisons with a focus on TB. Drawing on qualitative interviews with former prisoners and medical specialists in Kaliningrad Oblast in Russia, we analyze poor management of TB prevention and treatment and explore parameters and causes of this problem. We identified substandard

living conditions, lack of infection control and prevention measures as well as lack of medications, and capacities of the medical service in penitentiary as main barriers to effective management of TB. The prison system in Russia is overwhelmed and is not capable of effectively managing medical needs of a large number of prisoners. Findings show the urgent need for improved provision of TB prevention and treatment in prisons, while emphasizing that these improvements should be aligned with the strong political effort to reduce the prison population by transforming drug policy toward decriminalization of drug users and ensuring access to adequate drug treatment and rehabilitation services and alternatives to incarceration.

Prisons as a source of TB in Russia

Farmer et al. (1999), have termed prisons the “epidemiological pump” of the Russian TB epidemic. Our study shows that 11 years later, the situation remains critical. Our study confirms suggestions by Coker (2001) that the main factors contributing to this pump are the conditions under which prisoners are held, the lack of resources for effective therapy, and the poor coordination between the prison and civilian health-service systems. Our findings from Kaliningrad penitentiary also support evidence from other regions of Russia (Lafontaine et al., 2004; Spradling et al., 2002a, b; Yerokhin et al., 2001).

Russian penitentiary institutions are overcrowded with insufficient resources to keep prisoners in inhumane conditions. Elementary standards of hygiene and infection control are not observed, providing fertile conditions for the spread of TB. A study in St Petersburg found that an important factor leading to development of TB in remand prisoners is high ratio of prisoners per available bed, implying that several prisoners have to take turns to sleep on one bed, not having own bed clothes, and little time outdoor – even basic living standards and TB prevention are undermined due to overcrowding (Lobacheva et al., 2007). Other studies in Russia have also confirmed that substandard nutrition leads to decrease in natural immunity and resistance to infections (Mataev et al., 2004). Spread of other infections, such as HIV contributes to TB vulnerability and the prison epidemic. WHO guidelines suggest that preventative measures for HIV need to reflect risk behaviors occurring in prison (World Health Organization, 1999). Findings from our study and other evidence clearly show that drug injecting occurs in prison (Stern, 2001; Drobniowski et al., 2005; Bobrik et al., 2005; Sarang et al., 2006) but currently there are no HIV prevention programs such as the distribution of sterile needles. Although systematic evaluation of prison-based needle/syringe programs conducted in at least ten programs internationally have shown that such interventions can lead to a reduction in needle/syringe sharing (Kerr and Jurgens, 2008) a reduction in the number of new cases of HIV (Jacob and Stover, 2000) and in turn contribute to TB prevention. Our findings clearly illustrate, that absence of HIV prevention entails wide spread of syringe sharing among prisoners and emergence of new HIV infections in Kaliningrad penitentiary. The need for introduction of harm reduction programs such as needle and syringe programs, opioid substitution, condoms distribution and improved health counseling is urgent.

Basic improvements in prison health care are needed to reduce risks of TB transmission including: improving the ventilation of cells; regular screening for TB; separation of prisoners with and without TB; provision of hygienic beds; nutritious diet; increased quality of HIV/TB treatment, availability of all necessary diagnostics and medicines as well as quality counseling and medical support. Several participants perceived surviving the prison as a miracle and reported on many deaths due to critical medical conditions. Such reports are very worrisome and indicate the situation is truly critical and needs to be urgently tackled. Poor prison conditions has been acknowledged by government officials, as stated by the Russian Minister of Justice Alexander Kononov in September 2011, who reported that the conditions of the Russian penitentiary system are “overwhelmingly archaic,” and have not changed since the Gulag. Acknowledging the inhumane, degrading conditions in Russian penitentiaries, the minister emphasized that “the medical service at Federal Service of Corrections (FSC) today cannot cope with the flow of human material that ends up in the penitentiary facilities.” (Golichenko and Sarang, 2013) This honest statement is supported by findings of a report published by the prosecutor general’s office in 2010, that suggested more than 90 percent of the inmates were suffering health problems,

60 percent of clinics were using outdated equipment, and that the prison medical system was receiving only 24 percent of necessary funding (Parfitt, 2010).

Need for the policy reform

While it is important to focus on urgent issues of health management in prisons, the enormous scale of the problem points to the need for wider political and criminal reform to reduce the size of the prison population. The official data of the FSC, other studies and our findings prove that drug users are especially vulnerable to incarceration and represent a large proportion of prisoners. They usually serve time for minor, non-violent crime related to their drug dependency, either small-scale thefts, drug possession or sell of small doses, usually to friends. Most of these violations are direct consequences of drug dependency, and could be significantly reduced if effective drug treatment was available, especially opioid substitution therapy, which among other benefits, also lowers crime rates (WHO, UNODC and UNAIDS, 2004) but remains illegal in Russia. The lack of OST and lack of rehabilitation services make it practically impossible for drug users to break the cycle of poverty, crime and incarceration (Golichenko and Sarang, 2013). International evidence suggests that repressive drug policy focussed on penalization of drug users does not lead to reduction in drug crime, but fuels epidemics of HIV, hepatitis, overdoses, and TB (Wolfe and Malinowska-Sempruch, 2004). International experts suggest that de-penalization and de-criminalization of drug users is an urgent and feasible step worldwide in order to decrease prison population and improve public health and human rights (Global Commission on Drug Policy, 2014). Another way to decrease the prison population is wider application of alternative sentencing, such as drug treatment, parole, public service that are still very limited in Russia.

Limitations of the study

In order to obtain in-depth understanding of the barriers to TB prevention and treatment in prison settings we used qualitative research methods, which, unlike quantitative ones do not rely on a representative sample. However, many of the structural barriers preventing effective TB treatment and prevention highlighted in this paper have been noted elsewhere including: poor provision of HIV treatment among PWID (Wolfe *et al.*, 2010; Sarang *et al.*, 2013); discriminatory attitude of health care providers (Golichenko and Sarang, 2013); lack of needle/syringe programs and opiate substitution (Harm Reduction International, 2014) as well as the general poor conditions within the penitentiary system (Bobrik *et al.*, 2005), suggesting that findings are likely to reflect conditions elsewhere in the Russian federation. During the course of the interviews we tried to include all possible points of view, as of the medical staff and the patients. However, due to resistance of the officials in charge we were unable to conduct interviews with employees of the FCS, so we could not analyze their perspective. Since all the interviews are recalling past experience, the situation regarding organization of treatment in prison may have changed in the intervening time. We were also not able to analyze some important data, such as timing of infection in prison, since it was not originally included into the study design, due to broader focus of the initial design. This does not undermine importance of our findings, as they shed light on particular treatment experiences, and development of prison health system.

Conclusions

In Russia, prisons represent an important source of TB, including drug resistant forms. There is a need for an urgent reform within prison health system with genuine effort to ensure HIV and TB prevention, case detection and uninterrupted access to effective treatments. Penitentiary institutions in Russia are extremely overwhelmed and overcrowded which makes prison health reform utopian without major efforts to decrease prison population. In relation to drug users these reforms could include introduction of effective drug treatment, especially opioid substitution treatment that is currently banned in Russia and availability of rehabilitation services; de-penalization and de-criminalization of people who use drugs and wider application of alternatives to incarceration.

References

- Balabanova, Y.M., Raddi, M., Gram, K., Malomanova, N.A., Elizarova, E.D., Kuznetsov, S.I., Gusarova, G.I., Zaharova, S.M., Melentiev, A.S., Krukova, E.G., Fedorin, I.M., Golyshevskaya, V.I., Dorozhkova, I.R., Shilova, M.V., Erokhin, V.V. and Drobniowski, F.A. (2005), "Analysis of risk factors of the occurrence of drug resistance in patients with tuberculosis from civil and penitentiary sectors in the Samara region", *Probl Tuberk*, Vol. 5, pp. 25-31 (in Russian).
- Bobrik, A., Danishevski, K., Eroshina, K. and McKee, M. (2005), "Prison health in Russia: the larger picture", *Journal Public Health Policy*, Vol. 26 No. 1, pp. 30-59.
- Coker, R. (2001), "Detention and mandatory treatment for tuberculosis patients in Russia", *The Lancet*, Vol. 358 No. 9279, pp. 349-50.
- Coker, R., McKee, M., Atun, R., Dimitrova, B., Dodonova, E., Kuznetsov, S. and Drobniowski, F. (2006), "Risk factors for pulmonary tuberculosis in Russia: case-control study", *British Medical Journal*, Vol. 332 No. 7533, pp. 85-7.
- Drobniowski, F., Balabanova, Y., Ruddy, M., Graham, C., Kuznetsov, S.I., Gusarova, G.I., Zakharova, S.M., Melentyev, A.S. and Fedorin, I.M. (2005), "Tuberculosis, HIV seroprevalence and intravenous drug abuse in prisoners", *European Respiratory Journal*, Vol. 26 No. 2, pp. 298-304.
- Dute, J. (2009), "ECHR 2009/7 Case of Aleksanyan v. Russia, 22 December 2008, No. 46468/06 (First Section)", *Eur J Health Law*, Vol. 16 No. 2, pp. 190-3.
- European Court of Human Rights (ECHR) (2007), "ECHR 2007/2 case of Khudobin V. Russia, 26 October 2006, No. 59696/00 (Third Section)", *Eur J Health Law*, Vol. 14 No. 1, pp. 96-8.
- Farmer, P. (2005), *Pathologies of Power: Health, Human Rights, and the New War on the Poor*, University of California Press, Berkeley and Los Angeles, CA.
- Farmer, P., Kononets, A., Borisov, S., Goldfarb, A., Healing, T. and McKee, M. (1999), "Recrudescing tuberculosis in the Russian federation", in Farmer, P.E., Reichman, L.B. and Iseman, M.D. (Eds), *The Global Impact of Drug Resistant Tuberculosis*, Harvard Medical School/Open Society Institute, Boston, MA, pp. 39-84.
- Federal Service of Corrections (2013), "Characteristics of inmates of correctional institutions for adults", Federal Service of Corrections Statistics, available at: <http://fsin.su/structure/inspector/iao/statistika/Xar-ka%20lic%20sodergahixsya%20v%20IK/> (accessed February 9, 2016).
- Frolova, O., Belilovsky, E., Yakuboviyak, V., Shinkareva, I.G., van Gemert, V. and Yurasova, E.D. (2008), "HIV-infection in Russian Federation and its influence on the prevalence of tuberculosis", in Perlman, M.I. and Mikhailova, U.V. (Eds), *Tuberculosis in Russian Federation, 2007*, Analytical review of main statistical indicators on tuberculosis used in Russian Federation, Central Research Institute on Organization and Informatization of Health Care, Ministry of Health, Russian Federation, pp. 87-97.
- Global Commission on Drug Policy (2014), *Taking Control: Pathways to Policies that Work*, Global Commission on Drug Policy, available at: www.gcdpsummary2014.com/#foreword-from-the-chair (accessed February 9, 2016).
- Golichenko, M. and Sarang, A. (2013), "Atmospheric pressure: Russian drug policy as a driver for violations of the UN convention against torture and the international covenant on economic, social and cultural rights", *Health and Human Rights*, Vol. 15 No. 1, pp. 135-43.
- Goskomstat (2013), "A number of people in penitentiary institutions", State Committee of Statistics, available at: www.gks.ru/free_doc/new_site/population/pravo/10-11.htm (accessed February 9, 2016).
- Harm Reduction International (2014), "Global State of Harm Reduction", pp. 14-15, available at: www.ihra.net/files/2015/02/16/GSHR2014.pdf (accessed February 9, 2016).
- Ivanov, V. (2011), "Speech at the session of the Presidium of the state council dedicated to the fight against drugs among young people", session protocol, April 18, available at: <http://xn-d1abbgf6aii.xn-p1ai/news/10986> (accessed February 9, 2016).
- Jacob, J. and Stover, H. (2000), "The transfer of harm-reduction strategies into prisons: needle exchange programmes in two German prisons", *International Journal of Drug Policy*, Vol. 11 No. 5, pp. 325-35.
- Kerr, T. and Jurgens, R. (2008), "Needle/syringe programs and bleach in prisons: reviewing the evidence", Canadian HIV/AIDS Legal Network, Toronto.

- Koretskaya, N. (2002), "Risk factors for tuberculosis, specific features of its detection and course", *Probl Tuberk*, Vol. 8, pp. 7-10 (in Russian).
- Kosmak, A. and Kopylova, I. (2008), "Tuberculosis in a penitentiary somatic hospital", *Probl Tuberk Bolezn Legk*, Vol. 2, pp. 12-4, PMID: 18368772.
- Lafontaine, D., Slavuski, A., Vezhnina, N. and Sheyanenko, O. (2004), "Treatment of multidrug-resistant tuberculosis in Russian prisons", *Lancet*, Vol. 363 No. 9404, pp. 246-7.
- Layder, D. (1993), *New Strategies in Social Research*, Wiley, London.
- Lobacheva, T., Asikainen, T. and Giesecke, J. (2006), "The impact of season and time served in remand prisons on the development of tuberculosis", *EpiNorth Journal*, Vol. 10 No. 3, pp. 49-55 (in Russian).
- Lobacheva, T., Asikainen, T. and Giesecke, J. (2007), "Risk factors for developing tuberculosis in remand prisons in St Petersburg, Russia – a casecontrol study", *European Journal of Epidemiol*, Vol. 22 No. 2, pp. 121-7.
- Mataev, S., Sukhovei, I., Petrov, S., Popov, A., Unger, I., Vasilkova, T. and Argunova, G. (2004), "The peculiarities of the nutrition and immune status of people in the condition of penitentiary establishment", *Vopr Pitan*, Vol. 73 No. 3, pp. 25-30, Russian, PubMed PMID: 15335025.
- Mathers, B., Degenhardt, L., Phillips, B., Wiessing, L., Hickman, M., Strathdee, S.A., Wodak, A., Panda, S., Tyndall, M., Toufik, A. and Mattick, R.P. (2008), "2007 reference group to the UN on HIV and injecting drug use global epidemiology of injecting drug use and HIV among people who inject drugs: a systematic review", *Lancet*, Vol. 372 No. 9651, pp. 1733-45.
- Parfitt, T. (2010), "Crime and unjust punishment in Russia", *The Lancet*, Vol. 376 No. 9755, pp. 1815-6.
- Sarang, A., Rhodes, T. and Sheon, N. (2013), "Systemic barriers accessing HIV treatment among people who inject drugs in Russia: a qualitative study", *Health Policy Planning*, Vol. 28 No. 7, pp. 681-91.
- Sarang, A., Rhodes, T., Sheon, N. and Page, K. (2010), "Policing drug users in Russia: risk, fear, and structural violence", *Substance Use & Misuse*, Vol. 45 No. 6, pp. 813-64.
- Sarang, A., Rhodes, T., Platt, L., Kirzhanova, V., Shelkovnikova, O., Volnov, V., Blagovo, D. and Rylkov, A. (2006), "Drug injecting and syringe use in the HIV risk environment of Russian penitentiary institutions", *Addiction*, Vol. 101 No. 12, pp. 1787-96.
- Spradling, P., Drociuk, D., McLaughlin, S., Lee, L., Peloquin, C., Gallicano, K., Pozsik, C., Onorato, I., Castro, K. and Ridzon, R. (2002a), "Drug-drug interactions in inmates treated for human immunodeficiency virus and *Mycobacterium tuberculosis* infection or disease: an institutional tuberculosis outbreak", *Clinical Infectious Disease*, Vol. 35 No. 9, pp. 1106-12.
- Spradling, P., Nemtsova, E., Aptekar, T., Shulgina, M., Rybka, L., Wells, C., Aquino, G., Kluge, H., Jakubowiak, W., Binkin, N. and Kazeonny, B. (2002b), "Anti-tuberculosis drug resistance in community and prison patients, Orel Oblast, Russian Federation", *International Journal of Tuberculosis and Lung Disease*, Vol. 6 No. 9, pp. 757-62.
- Stern, V. (2001), "Problems in prisons worldwide, with a particular focus on Russia", *Annals of the New York Academy of Science*, Vol. b953, pp. 113-9.
- Walmsley, R. (2014), "Russian Federation", world prison brief, International Centre for Prison Studies, available at: www.prisonstudies.org/country/russian-federation (accessed February 9, 2016).
- WHO, UNODC and UNAIDS (2004), "Substitution maintenance therapy in the management of opioid dependence and HIV/AIDS prevention", available at: www.unodc.org/pdf/publications/report_2004-03-15_1_ru.pdf (accessed February 9, 2016).
- Wolfe, D. and Malinowska-Sempruch, K. (2004), "Illicit drug policies and the global HIV epidemic: effects of UN and national government approaches", Open Society Institute, report, New York, NY.
- Wolfe, D., Carrieri, P. and Shepard, D. (2010), "Treatment and care for injecting drug users with HIV infection: a review of barriers and ways forward", *The Lancet*, Vol. 376 No. 9738, pp. 355-66.
- World Health Organization (1999), "WHO guidelines on HIV infection and AIDS in prisons", *UNAIDS Best Practice Collection*, UNAIDS, Geneva, available at: www.unaids.org/sites/default/files/media_asset/jc277-who-guidel-prisons_en_3.pdf (accessed February 9, 2016).

World Health Organization (2012), *Antiretroviral Treatment as Prevention (TASP) of HIV and TB*, World Health Organization, Geneva.

World Health Organization (WHO) (2013), "Global tuberculosis report 2013", World Health Organization, available at: http://apps.who.int/iris/bitstream/10665/91355/1/9789241564656_eng.pdf (accessed February 9, 2016).

Yerokhin, V., Punga, V. and Rybka, L. (2001), "Tuberculosis in Russia and the problem of multiple drug resistance", *Annals of the New York Academy of Sciences*, Vol. 953, pp. 133-7.

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