

Case Report

Involuntary detention and compulsory treatment of non-adherent tuberculosis patients in Kenya: an ethical discourse

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ABSTRACT

Tuberculosis (TB) is a major public health problem in sub-Saharan Africa due to its highly infectious nature and co-infection with HIV/AIDS. The Kenyan government has implemented various programs and strategies to control TB including the controversial jailing of patients lost to follow-up. In 2010, a Kenya court detained, in a prison facility, two TB patients who were non-adherent to treatment. A similar incidence occurred in 2016 when another TB patient who refused to adhere to TB treatment was jailed. This article analyses the ethical implications of these interventions. It is argued that jailing of patients non-adherent to TB treatment may be in contravention to the ethical principles of autonomy, justice, and equity. A central argument of this article is that incarceration not only contravenes the internationally recognized human rights to autonomy and self-determination but also predisposes the poor population to further risks of TB infection and re-infection thus depriving them of social justice and equity. The principle of the overall benefit to the society is also explored in the context of the Kenyan cases. It is further argued that mandatory isolation strategies may not only be ineffective but also inappropriate and as such, alternative isolation strategies are suggested. The need to streamline the Kenyan health system to accommodate cases of isolation is recommended.

Keywords: Tuberculosis, Involuntary detention, Non-adherent, Treatment, Ethical issues

INTRODUCTION

Tuberculosis (TB) remains a major global health problem and a leading cause of death worldwide alongside the human immunodeficiency virus (HIV). In 2014, an estimated 9.6 million new cases of TB were reported globally and at least 1.1 million TB-associated deaths (WHO). In low-income countries, HIV and poverty have been important factors that have led to high TB transmission.¹ The World Health Organization (WHO) classifies Kenya among the 22 high-burden countries with an estimated population of TB patients at 44,864 and a mortality of 15-28 per 100,000 of population in 2014.² Since the reporting of the first case of HIV in Kenya in 1984, the number of new cases of TB has been on an upward trend. The reporting of new TB cases in Kenya

increased significantly from 1994 to 2009 primarily due to the impacts of HIV on the disease development.³ However, the Kenyan governments in collaboration with its development partners have engaged strategies that have led to reduction of the disease burden.¹ With the decline in the incidence of HIV in recent years, the mortality and incidence of TB in Kenya has also dropped substantially. For instance, the rate of notification of TB cases in Kenya dropped from 319 per 100,000 populations in 2006 to 203 per 100,000 populations in 2013.⁴ Nevertheless, Kenya remains one of the high-burden TB countries in the world with one of the highest disease prevalence.

Tuberculosis is highly contagious and is easily spread through the air when infected persons sneeze, cough, or

spit.² Therefore, treatment of infected persons is an important strategy for prevention of the disease spread. The Kenyan government has launched major treatment and control strategies to lower the TB disease burden through the Ministry of Health and the National TB, Leprosy and Lung Disease Programme (NTLP). In 2013, Kenya had 4,300 TB treatment centers and 1,900 TB diagnosis centers.⁵ However, Kenya has also implemented other controversial strategies such as jailing of non-compliant patients and compulsory treatment, which have raised serious legal, moral, and ethical issues. This article analyses the ethical implications of Kenya's controversial TB control strategies.

CASE REPORT

In August 2010, two adult males, DN and PK, were arrested by a public health officer, the Nandi Central District Tuberculosis Defaulter Tracing Coordinator and later charged before a Kapsabet court in Kenya after defaulting on drugs prescribed to them at the Kapsabet District Hospital. The Public Health Officer applied to the Principal Magistrate of Kapsabet for orders of imprisonment of the two pursuant to section 27 of Kenya's Public Health act. On August 13, 2010, the court issued an order for the confinement, in isolation, of the two TB patients at the Kapsabet GK Prison for purposes of administration of TB treatment for a period of 8 months or for a period that would have been satisfactory for the treatment. In their defense, the two TB patients argued that they lacked enough food, lacked knowledge on the importance of the treatment, and had to travel in search of employment.⁶ However, the two were later released after imprisonment for 46 days following an appeal petitioned by their advocates. In making the ruling, the Eldoret High Court judge ordered the release of the patients and continuance of treatment under supervision by the public health officer. In ordering their release, the judge observed that the incarceration was not only unconstitutional but also in contravention of the Public Health act further arguing that the prison was one of the worst choices for confining the TB patients.⁷

The arrests of the two TB patients were affected pursuant to the Public Health Act of Kenya. Chapter 242 Section 27 of the Act provides that where the local medical health officer is of the opinion that a person suffering from an infectious disease and is not being treated to prevent spread of the disease, such persons may be removed to a temporary place or a hospital and detained until the health officer is satisfied that they no longer pose danger to the public health.⁸ Although the Act does not expressly provide for the pressing of criminal charges prior to detention, the two individuals were subjected to full court proceedings and were tried, convicted and sentenced. The sentencing failed to take into consideration the fact that TB patients ceased to be infectious upon commencement of treatment. Moreover, the Kapsabet GK prison lacked isolation facilities although the court directed the jailed individuals to be held in isolation.⁶

The sentencing of DN and PK faced criticism including the failure to consider alternative methods of ensuring that the TB patients complied with treatment in less restrictive ways including the option for community-based treatment. Moreover, the court did not obtain an independent medical opinion on the evidence that the two jailed individuals were infectious and, therefore, posed a public health risk. Moreover, the Public Health Act while allowing the isolation of non-adherent patients does not expressly require that such isolation take place in a prison facility.⁶

DISCUSSION

Untreated TB patients pose great public health risks because they may infect other people. The WHO estimates that a single individual with active and untreated tuberculosis may infect other 10-15 people in a year.⁹ Therefore, public health authorities have a strong incentive to use all strategies including incarceration and compulsory administration of treatment in order to prevent spread of the disease. The World Health Organization in the Guidance on Ethics of Tuberculosis Prevention, Care and Control has outlined the ethical values and principles that should be used in assessing the appropriateness of public health interventions.¹⁰ The detention of TB patients in Kenya raises important ethical issues including those raised by the WHO.

Autonomy

The autonomy principle demands adherence to the values of privacy, liberty, and informed consent of individuals prior to being subjected to any health intervention conducted by third parties. Respect for patient autonomy has been a dominant aspect of ethical discussions on healthcare interventions.¹¹⁻¹³ According to the WHO, the autonomy principle is considered the guarantee of individual rights in making decisions regarding their lives including healthcare.¹⁰ With regard to TB treatment; respect for patient autonomy implies that the TB patients have the rights to make decisions regarding any healthcare interventions, including the right to refusal of the TB treatment. Informed consent remains a cornerstone of all modern medical procedures and investigations.¹⁴ However, protection of the right to autonomy remains a major challenge to the treatment and control of TB and other infectious diseases. Healthcare providers are faced with an ethical dilemma over whether to respect the patient autonomy or to act in the best public health interests.¹³ Ethical priorities demand that autonomy be limited for individuals with highly infectious diseases for the common good of the society.¹²

While implementing the decisions on involuntary detention of the two Kenyan TB patients, the public health officer and the court faced a dilemma over respect to the right to individual autonomy and the need to prevent public health risk. Faced with this dilemma, the court and the health officer opted for the limiting of the

patients' autonomy in order to safeguard the interests of the general public. The public health officer argued that incarceration of the two TB patients was justified under the local and international laws as it was for the purposes of averting a potential health risk.

Social justice and equity

Compulsory detention of TB patients in prisons may contravene the principle of justice from an individual and societal perspective. First, compulsory isolation curtails international human rights guaranteed to all individuals because it infringes the right to informed consent in healthcare interventions as stipulated in major international human rights instruments. For instance, Article 12 of the International Covenant on Economic, Social, and Cultural Rights (ICESCR) provides that every individual have a right to obtain the highest standards of mental and physical health including the right to be free from non-consensual medical treatment.¹⁵ According to Mburu, involuntary detention not only breaches the rights to privacy but also breaches the freedom of movement of the individuals.¹⁶

Second, detention of TB patients lost to follow-up may further reinforce existing inequalities as a result of possible socio-economic deprivation of TB patients. This increases their vulnerability on grounds of their economic and social statuses as opposed to protecting them.¹⁶ The WHO guidelines on ethical values for TB treatment and control include the value of social justice and equity. According to WHO, social justice must be part of TB control programs given that socioeconomic factors such as extreme poverty play a role in increasing the risk of TB infection.¹⁰ Isolation of TB patients could result in loss of livelihoods for the detained people and their families.¹⁷ In the case of the two non-adherent Kenyan TB patients, mandatory isolation deprived them of their livelihoods and the right to work. For much of the year 2010, the two TB patients worked on tea farms and were, therefore, required to be away from their homes for days.⁶ Detention of the two could be seen as an injustice as they were deprived the right to their livelihoods and employment as well as being subjected to the risk of extreme poverty, which is a major predictor for defaulting treatment.¹⁸

In addition, mandatory isolation of TB patients unequally affects the poor populations in Kenya thus presenting inequity in Kenya's healthcare system. Loss to follow-up in Kenya is often associated with socioeconomic factors such as lack of employment, low income, poor housing, which are all associated with poor populations.¹⁸⁻²⁰ Mburu et al argues that since TB mainly affects poor populations, there is a risk of creating a vicious cycle and social patterning of TB characterized by isolation, loss of employment and livelihoods, relocation to cheaper housing, the disease recurrence, and subsequent non-adherence to treatment and incarceration.¹⁶

Finally, the incarceration of TB patients lost to follow-up may result in psychological disturbance that may undermine their right to enjoyment of the right to the highest attainable standards of mental health as stipulated by the United Nations. When TB patients lost to follow-up are isolated in prisons, there is a tendency of treating them like criminals. This tendency to criminalize non-adherence to treatment may undermine health promotion initiatives and create stigma.¹⁶ Furthermore, the criminalization may result in stress and social exclusion leading to poor health outcomes, risk of substance abuse, and an exacerbation of health inequalities.²¹ Therefore, incarceration of non-adherent TB patients could result in psychological disturbances and subsequently entrench existing social inequalities.

Overall benefit to the society

The primary motivation behind the detention of TB patients in Kenya was the need to uphold the overall benefit to the society through avoidance of possible infection to members of the public. TB is a serious public health to the society that deserves protection of communities from exposure as well as implementation of strategies to prevent its spread.²² The use of intrusive public health interventions such as compulsory treatment and punishment of non-compliant individuals are justified due to their overall benefit to the society.¹¹ The World Health Organization recognizes that infectious diseases not only pose a threat to the infected person but also the whole population. Therefore, removal of such an individual in order to reduce the threat of infection of members of the public may benefit the entire society.¹⁰ The United Nations through the Siracusa Principles also envisages a situation where individual states may take actions that limit certain rights of individuals for the overall benefit of the society. Article 25 of the Siracusa Principles stipulates that a state may limit certain rights on public health ground issues in order to take measures to deal with serious health threats to members of the population.²³ Such measures must be aimed specifically at preventing injury or disease or providing care to the sick. The implementation of invasive healthcare interventions for the benefit of the society also has a legal basis in Kenya. While Kenya's laws guarantee individuals to individual rights including freedom of association, such rights may be forfeited for the overall benefit of the society. For instance, section 27 of the Public Health Act stipulates that individuals with communicable diseases may be put in isolation in order to prevent the spread of the disease. In recommending the incarceration of the two non-adherent TB patients, the magistrate in the Kapsabet court relied on the Section 27 of the Act, which states as follows:

"Where, in the opinion of the medical officer of health, any person has recently been exposed to the infection, and may be in the incubation stage, of any notifiable infectious disease and is not accommodated in such manner as adequately to guard against the spread of the

disease, such person may, on a certificate signed by the medical officer of health, be removed, by order of a magistrate and at the cost of the local authority of the district where such person is found, to a place of isolation and there detained until, in the opinion of the medical officer of health, he is free from infection or able to be discharged without danger to the public health, or until the magistrate cancels the order.”⁸

In addition to the Public Health Act, Article 24 (1)(d) of the 2010 Constitution of Kenya stipulates that the rights and fundamental freedoms guaranteed in the Bills of Rights could be limited if there is a need to ensure that such enjoyment of rights and freedoms by any person is not prejudice to the rights and freedoms of others. Consequently, leaving persons with active infectious TB to interact and mix freely with members of the public could result in infections thus interfering with the rights to enjoy the highest attainable health standards guaranteed by international legislation and instruments.⁷

In defending their decision in court for confinement of the two non-adherent TB patients, the Government of Kenya through the office of the Attorney General argued that detention of the two individuals was necessary as it reduced the risk of development of multi-drug resistant TB and extra multi-drug resistant TB that are not only difficult but also costly to treat. The government argued that allowing the non-adherent TB patients to mix freely with members of the public presented a huge threat to the country's health and economy.⁷ Therefore, the fundamental rights of the two TB patients including the rights to freedom of movement and association could be curtailed for the overall health and economic benefit of the society. However, the implementation of strategies meant for the overall good of the society raises ethical issues when such strategies contravene the rights of the patients.

Effectiveness and appropriateness of the prison as an isolation facility

The WHO recognizes the need to have effectiveness in TB control programs. This implies the need to avoid engaging in activities that do not work in controlling TB as well as the obligation to implement measures that have been proven to be effective and likely to succeed.¹⁰ In weighting between different strategies of TB control, public health officers must ensure that selected strategies are effective. One of the criticisms levelled against the Kenyan government in implementation of the strategy to detain non-adherent TB patients was the perceived lack of effectiveness of such a strategy. In its court submissions, the Kenya Legal and Ethical Issues Network on HIV and AIDS (KELIN) argued that the incarceration of TB patients was an ineffective disease control strategy as the prison lacked adequate isolation facilities. The two TB patients were held together with other inmates and this increased the risk of infection to fellow inmates. Therefore, by holding the TB patients with other inmates,

no effective measures were undertaken to minimize the spread of TB as was intended.⁷ Detention of people lost to follow-up in prisons may result in further spread and reinfection with TB when such individuals are held in overcrowded and poorly ventilated prisons thus denying fellow prisoners the right to health.^{24,25} Therefore, incarceration of non-adherent TB patients is an ineffective strategy in TB control as it to prevent spread of the disease to other prisoners. In their study on the factors associated with pulmonary TB in a Kenyan prison, Amwayi et al. found that the exposure and subsequent acquisition of TB by prisoners occurred inside the prison.²⁶

The appropriateness of prisons as an isolation facility has also been contested by Mburu et al. who argue that incarceration in Kenya lacks the human rights law and scientific evidence thresholds stipulated by the Siracusa Principles for involuntary detention of individuals for health concerns.¹⁶ The Siracusa Principles provides that limitation of rights for public health purposes must be substantiated through scientific evidence, which was clearly lacking in the Kenyan case.²⁷

The appropriateness of the prison for isolation of individuals lost on follow-up to TB is also criticized because other alternative isolation places may have been explored. A solution to the current ethical dilemma would have been the exploration of alternatives to the use of solutions as places of isolation. International health laws and instruments envisage the use of hospitals and healthcare facilities as places of isolation of individuals with high risk of spreading communicable diseases.¹⁶ In passing the judgment that ruled the incarceration unconstitutional at the High Court in Eldoret, Justice Mwilu held that:

“It is, in my view, that the G.K. Prison was the worst of choices to confine the petitioners and the period of eight months is unreasonably long seeing that it was not backed by any medical opinion. Why were the petitioners not confined in a medical facility? Why a prison? What is their crime?”⁷

The Kenya's ministry of health could have done better by exploring better alternatives for isolation of the TB patients. However, weaknesses in Kenya's healthcare system limit the options available for isolation. Kenya's healthcare systems are not sufficiently resourced and most hospitals lack proper isolation facilities and the necessary human resource capacity.¹⁷ This further creates an ethical dilemma over whether in exercising the strategies of TB control, the government would be right not to enforce isolation in prisons when adequate isolation facilities are lacking in the healthcare systems.

Current status

Despite the ethical issues associated with the jailing and compulsory treatment of non-adherent TB patients in

Kenya, the practice did not stop with the 2010 cases. In January 2016, a court in Meru, Kenya jailed a thirty-five year-old man for six months for failure to take TB drugs. The patient, NM, had been diagnosed with TB at the Meru Teaching and Referral Hospital in 2015 but had failed to adhere to treatment. The patient was accused of putting the public at risk of exposure to an infectious disease and subsequently the court ruled that the patient be put in detention to allow administration of the treatment.²⁹ However, the judiciary has maintained that involuntary confinement of TB patients is unconstitutional. In a petition brought before a high court judge challenging the constitutionality of involuntary confinement of patients as a public health protection measure in March 2016, Justice Mumbi Ngugi ruled that while isolation and detention of persons with a public health risk of spreading TB was justifiable, confinement in a penal institution is not justifiable.³⁰

CONCLUSION

TB is without doubt a major public health threat due to its communicable nature. Therefore, governments and healthcare authorities have a role to undertake measures meant to prevent spread of the diseases particularly when individuals are lost to follow-up or do not adhere to treatment. While the Public Health Act of Kenya and international laws under Siracusa Principles provide for the limitation of certain fundamental rights through isolation for the sake of public health, isolation in prison facilities raise serious ethical issues. Here, I have argued that the major ethical concerns with the detention of non-adherent TB patients in Kenya include loss of autonomy, justice and equity issues, overall benefit to the society, and the concerns over the effectiveness and appropriateness of such measures. It is evident that the incarceration of TB patients lost to follow-up may result in unintended challenges particularly to the poor populations who bear the greatest TB burden. Such challenges include depriving the patients of their livelihoods and therefore increasing their poverty levels, increasing the risks of psychological disturbances, and creating a vicious cycle among poor populations. While the isolation in medical facilities is a possible alternative to incarceration, weaknesses in the Kenyan healthcare system may limit the implementation of this alternative. Therefore, there is a need to strengthen the healthcare system in Kenya in order to ensure that hospitals have adequate isolation facilities and human capital to effectively handle future isolation needs.

Furthermore, it is evident that the incarceration of the two Kenyan TB patients was not backed by a medical opinion on the extent to which the two were infectious. Therefore, future decisions on isolation of non-adherent TB patients should be scientifically backed by a medical opinion. Where individuals are not found to be infectious, community-based treatment strategies should be explored in order to ensure that public health interventions have minimal interference with the lives of TB patients.

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REFERENCES

1. Sitienei J, Nyambati V, Borus P. The epidemiology of smear positive tuberculosis in three TB/HIV high burden provinces of Kenya (2003-2009). *Epidemiol Res Int*. 2013;1-8.
2. World Health Organization. Global Tuberculosis Report. Geneva: World Health Organization. 2015. ISBN 978 92 4 156505 9. http://apps.who.int/iris/bitstream/10665/191102/1/9789241565059_eng.pdf
3. World Health Organization. A brief history of tuberculosis control in Kenya. Geneva: World Health Organization. 2009. ISBN 978 92 4 159692 3. http://apps.who.int/iris/bitstream/10665/43934/1/9789241596923_eng.pdf
4. Maleche-Obimbo E, Wanjau W, Kathure I. The journey to improve the prevention and management of childhood tuberculosis: the Kenyan experience. *Int J Tuberc Lung Dis*. 2015;19:S39-42.
5. Kipruto H, Mung'atu J, Ogila K, Adem A, Mwalili S, Masini E, et al. The epidemiology of tuberculosis in Kenya, a high TB/HIV burden country (2000-2013). *Int J Pub Health Epidemiol Res*. 2015;1:002-13.
6. Todrys KW, Howe E, Amon JJ. Failing Siracusa: governments' obligations to find the least restrictive options for tuberculosis control. *Public Health Action*. 2013;3:7-10.
7. Kenya Legal and Ethical Issues Network on HIV and AIDS. Judgement for Petition No. 329 of 2014 In The High Court of Kenya at Nairobi. Milimani Law Courts, Constitutional and Human Rights Division, 2016. Available at <http://www.kelinkkenya.org/wp-content/uploads/2016/04/TB-is-not-a-Crime-Judgment-.pdf>. Accessed 10 June 2016
8. Food and Agricultural Organization. Public Health Act Chapter 242. Laws of Kenya. Available at <http://faolex.fao.org/docs/pdf/ken129231.pdf> Accessed 10 June 2016
9. World Health Organization. The Global Plan to Stop TB 2006-2015: actions for life towards a world free of tuberculosis. Geneva: WHO. 2006. http://www.who.int/tb/features_archive/global_plan_to_stop_tb/en/
10. World Health Organization. Guidance on ethics of tuberculosis prevention, care and control. Geneva: WHO. 2010. http://apps.who.int/iris/bitstream/10665/44452/1/9789241500531_eng.pdf
11. Phua K. Ethical Dilemmas in Protecting Individual Rights Versus Public Protection in the Case of Infectious Diseases. *Infect Dis (Auckl)*. 2013;6:1-5.
12. Blais CM, White JL. Bioethics in Practice - A Quarterly Column about Medical Ethics: Ebola and Medical Ethics - Ethical Challenges in the Management of Contagious Infectious Diseases. *Ochsner J*. 2015;15:5-7.

13. Lee LM, Heilig CM, White A. Ethical Justification for Conducting Public Health Surveillance without Patient Consent. *Am J Public Health*. 2012;102:38-44.
14. Selinger CP. The right to consent: Is it absolute? *BJMP*. 2009;2:50-4.
15. United Nations. International covenant on economic, social and cultural rights, international covenant on civil and political rights and optional protocol to the international covenant on civil and political rights. New York: United Nations. 1966.
16. Mburu G, Restoy E, Kibuchi E, Holland PJ, Harries A. Detention of people lost to follow-up on TB treatment in Kenya: the need for human rights-based alternatives. *Health Hum. Rights*. 2016;18:3-54.
17. Meek R. The possible selves of young fathers in prison. *J Adolesc*. 2011;34:941-9.
18. Kizito KW, Dunkely S, Kingori M, Reid T. Lost to follow up from tuberculosis treatment in an urban informal settlement (Kibera), Nairobi, Kenya: What are the rates and determinants? *Trans R Soc Trop Med Hyg*. 2011;105:52-7.
19. Wasonga J. Factors contributing to tuberculosis treatment defaulting among slum dwellers in Nairobi, Kenya. International congress on drug therapy in HIV. The Gardiner-Caldwell Group Ltd 2006;310.
20. Muture BN, Keraka MN, Kimuu PK, Kabiru EW, Ombeka VO, Oguya F. Factors associated with default from treatment among tuberculosis patients in Nairobi province, Kenya: a case control study. *BMC Public Health*. 2011;11:1.
21. Kawachi I, Subramanian SV, Almeida-Filho N. A glossary for health inequalities. *J Epidemiol Commun H*. 2002;56:647-52.
22. Verma G, Upshur RE, Rea E, Benatar SR. Critical reflections on evidence, ethics and effectiveness in the management of tuberculosis: public health and global perspectives. *BMC Medical Ethics*. 2004;5:1.
23. United Nations Economic and Social Council. Siracusa Principles on the Limitation and Derogation Provisions in the International Covenant on Civil and Political Rights. U.N. Doc. E/CN.4/1985/4, Annex.1985.
24. Johnstone-Robertson S, Lawn SD, Welte A, Bekker LG, Wood R. Tuberculosis in a South African prison: a transmission modelling analysis. *S Afr Med J*. 2011;101:809-13.
25. O'Grady J, Hoelscher M, Atun R, Bates M, Mwaba P, Kapata N, Zumla A. Tuberculosis in prisons in sub-Saharan Africa—the need for improved health services, surveillance and control. *Tuberculosis*. 2011;91:173-8.
26. Amwayi AS, Kikuvu GM, Muchiri EM. Modifiable factors associated with active pulmonary tuberculosis in a Kenyan prison. *East Afr Med J*. 2010;87:43-8.
27. United Nations. Special rapporteur on the right of everyone to the enjoyment of the highest attainable standard of physical and mental health. Report of the Special Rapporteur. New York: United Nations. 2010
28. Division of Leprosy, Tuberculosis, and Lung Disease. Annual report. Nairobi, Kenya: Ministry of Health. 2012.
29. Aboo, A. Man to serve 6 months in jail for refusing to take TB drugs 2016. Available at <http://www.nation.co.ke/counties/meru/Man-jailed-for-refusing-to-take-TB-drugs/-/1183302/3043048/-/h5w4r6/-/index.html> Accessed 9 July 2016
30. Maleche A, Were N. Petition 329: A Legal Challenge to the Involuntary Confinement of TB Patients in Kenyan Prisons. *Health Hum. Rights*. 2016;18:103-8.

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