

FEATURE

CONFLICT AND HEALTH

Experts sound alarm as Syrian crisis fuels spread of tuberculosis

Tuberculosis among Syrian refugees must be treated as a health emergency say health workers as the disease numbers rise in neighbouring countries. **Sophie Cousins** reports

Sophie Cousins *freelance journalist, Beirut, Lebanon*

Mass movement of refugees as a result of the crisis in Syria has contributed to a rise in the number of tuberculosis cases across the region. Since the beginning of the Syrian crisis in 2011, over three million refugees have fled to neighbouring countries, including Lebanon, Turkey, and Jordan; 6.5 million have been internally displaced; and more than 100 000 have lost their lives, according to the United Nations High Commissioner for Refugees (UNHCR).

As the conflict escalated doctors and healthcare workers fled Syria, health infrastructure was destroyed, and drug supply chains were interrupted. This, in addition to poor living conditions and a sharp drop in vaccination coverage, led to outbreaks of infectious diseases, including polio, measles, hepatitis, and tuberculosis, both in Syria and in the countries that border it.

Before the crisis, the World Health Organization estimated that the prevalence of tuberculosis in Syria was 23/100 000 population, a large reduction from 85/100 000 in 1990.¹ In 2013, according to the WHO's tuberculosis profile on Syria, 2816 cases of tuberculosis were identified.²

Tuberculosis care in Syria was integrated into the healthcare system with treatment facilities located in Aleppo, Homs, and other areas. However, the war has seriously affected the country's ability to diagnose, treat, and prevent the disease.

Assistant professor of global health at New York's Mount Sinai Hospital, Annie Sparrow, has launched a study on the long term effect of the Syrian war on civilian health. She says that the detention of thousands of Syrians in prisons across the country and refugee movements have created conditions conducive for tuberculosis to thrive.

An estimated 85 000 people are being detained arbitrarily in regime jails in the country, according to the Violations Documentation Centre in Syria.

As Novera Ansari, technical officer at WHO's Stop TB partnership, points out: "The difficulties in addressing tuberculosis among the Syrian refugees start when they cross

the borders to other countries and hence are lost to follow-up by the national tuberculosis programme inside Syria."

The threat of tuberculosis has been particularly felt in neighbouring Jordan and Lebanon, which have over 600 000 and 1 million registered Syrian refugees respectively, according to the UNHCR. More than one million also live in Turkey.

Tuberculosis had been falling in Lebanon until 2011, according to the WHO and Lebanese Ministry of Public Health, when the refugee influx into the country began. In 2012, there was a 27% increase in tuberculosis cases in Lebanon from the previous year. The number of cases among the non-Lebanese community rose from 200 to 300, which the National Tuberculosis Programme (NTP) attributed to the influx of Syrian refugees.³ There was also an increase in cases among Lebanese nationals, from 298 in 2011 to 330 in 2012.³

As of August 2013, 208 Syrian refugees had had tuberculosis diagnosed, Ansari says. An additional 61 cases of tuberculosis were identified in the first half of 2014, she adds. Five people with multidrug resistant (MDR) tuberculosis have also been identified.

"The problem of tuberculosis among Syrian refugees need to be addressed as a health emergency due to the increase in number of tuberculosis and MDR tuberculosis cases reported from Jordan, Lebanon, Egypt, and Iraq," Ansari says.

Conditions ideal for spread

A major factor contributing to the spread of the disease is that there are no formal refugee camps in Lebanon; rather there are hundreds of informal tented settlements dotted around the country where refugees live in crowded and unsanitary conditions.

Jennifer Furin, a US based infectious diseases physician who specialises in the management of tuberculosis across the globe, says that Syrian refugees' living conditions are ideal for the spread of tuberculosis.

"Tuberculosis is primarily spread through air. A person sick with tuberculosis coughs bacteria into the air and it hangs out

there for hours or days. Refugees live in crowded living conditions and in that setting there will be increased rates of tuberculosis transmission," she says.

"At a refugee camp or informal tented settlement, you may diagnose someone, start therapy, and then they leave the camp or go somewhere else. Essentially they fall through the cracks.

"In such a situation, tuberculosis treatment falls to the bottom of the priority list."

Interrupted treatment can lead to lower cure rates and a potential increase in MDR tuberculosis, which is expensive and difficult to treat and has a higher death rate.

"Drug resistant tuberculosis complicates everything. Treatment involves 18-24 months of 5 to 6 medications on top of a daily injection for six months. Treatment efforts have not kept pace with transmission. It is a growing global problem," she says. "A major issue is that no one has been able to do good surveys about MDR tuberculosis in the Middle East."

According to a 2011 paper in the journal *Respirology* MDR tuberculosis accounts for up to 5.4% of new tuberculosis cases in the region.⁴

The prevalence of tuberculosis has also placed a further strain on the overburdened Lebanese public health ministry, which, along with Unicef, has been vaccinating Syrian children aged 0-5 years against tuberculosis.

The department has also faced some staff problems. Photographs emerged from the Bekka Valley in east Lebanon of children with abscess-like lesions on their arms, which some international non-governmental organisation staff believe were from incorrectly administered vaccinations.

The Lebanese ministry denied the rumours but added: "We're not pretending we're perfect. We've employed some irresponsible people. Sometimes they don't comply 100% with our rules and regulations such as . . . not wearing a white gown or gloves," Randa Hamadeh, head of the ministry's public healthcare department, said. Staff who didn't adhere to the rules and regulations were pulled from the field, he said.

Meanwhile, Jordan was one of the few countries to meet the WHO's goal to reduce the global tuberculosis burden ahead of the 2015 target year. It achieved that goal in 2010, when tuberculosis prevalence was six cases per 100 000 population. However, the Ministry of Health said it wasn't going to be able to fulfil its goal of eliminating tuberculosis because of the number of cases found among Syrian refugees. Dealing with these was not only costly, diverting resources from the elimination programme, but also posed a risk to the local community. Between March 2012 and August 31 2014, 151 Syrian refugees had tuberculosis diagnosed, according to figures provided by Khaled Abu Rumman, manager of the tuberculosis programme in Jordan and director of chest diseases at Ministry of Health. Five of these people had MDR tuberculosis.

"The potential exposure to tuberculosis among Syrians is an emerging public health concern and a potential health security threat for refugees as well as Jordanian communities," the International Organisation for Migration said in a submission to the Global Fund's Emergency Fund for funding to improve diagnosis and treatment of tuberculosis among refugees. It estimated that 22% of the tuberculosis cases in Jordan in 2015 will be among Syrian refugees.

Problems with diagnosis

Although programmes exist in Jordan and Lebanon to provide screening, treatment, and support for people with tuberculosis, health experts say more focus is needed on increasing diagnosis and completion of treatment.

"Diagnosing tuberculosis continues to be the most challenging aspect of this disease," Laith Abu-Raddad, assistant professor of public health at Weill Cornell Medical College in Qatar, said.

"The refugee crisis in Syria adds more burden, since there is limited infrastructure to support diagnostic tools, specially the more complex and innovative ones. Therefore there could be serious challenges in identifying tuberculosis cases and dealing with them. Undiagnosed tuberculosis contributes to tuberculosis transmission."

The Public Health Strategy for Tuberculosis among Syrian Refugees in Jordan stresses that refugees with tuberculosis should be advised to complete their treatment in Jordan, adding that "interrupted treatment can carry worse hazards than no treatment at all."⁵

But as Furin pointed out, "Tuberculosis is one of the most stigmatised diseases in the world. People get kicked out of communities and are not allowed to work. The social consequences of the disease are quite incredible."

Competing interests: I have read and understood BMJ policy on declaration of interests and have no relevant interests to declare I have written for the Global Health Film initiative.

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- 5 Jordan Ministry of Health, UNHCR, WHO, IOM. *The public health strategy for tuberculosis among Syrian refugees in Jordan*. 2013.

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