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Background

With the global increase in the diabetic population there is a resurgence of interest in the dual epidemic of diabetes mellitus (DM) and tuberculosis (TB), which has a bidirectional detrimental relationship with negative consequences for co-infected patients. Ukraine is feared to be hit the hardest, especially with last year's difficult economic and political situation

The system for responding to the epidemic requires additional analysis, searching for "weak" places that interfere with obtaining the desired result, as well as understanding how to change the situation for the better.

Aim

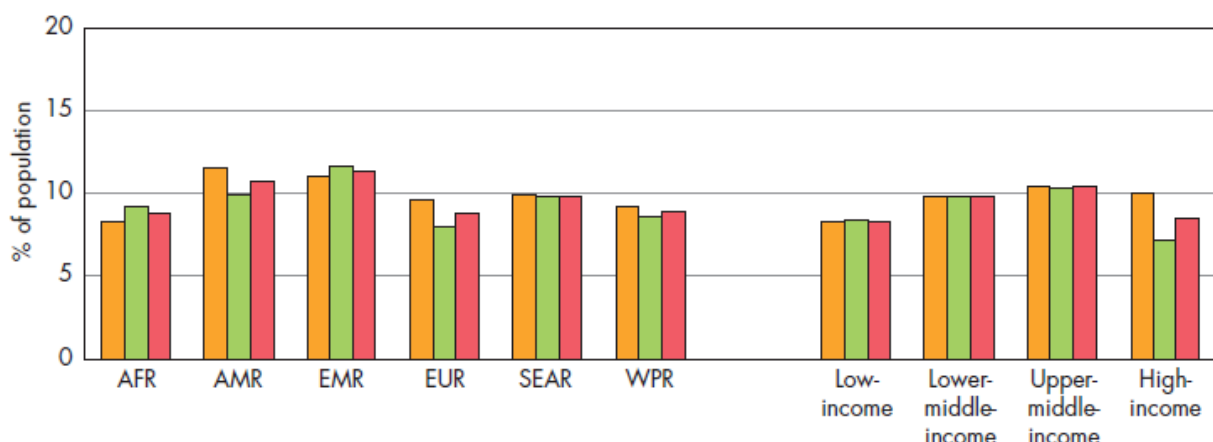
In Ukraine: to educate decision makers and the public, and call for the implementation of the Collaborative Framework "Diabetes&TB" within Ukraine.

Methodology

Operational research (OR) was conducted to select the optimal solutions for managing real processes and systems address the double burden of TB and DM in Ukraine.

Results

The WHO has identified DM as a global epidemic, mostly affecting low and middle income countries where 80% of all deaths due to DM occur and about 10% of global TB cases are linked to diabetes. The global burden of disease due to DM and TB is immense. International Diabetes Federation (IDF) estimated that a number of people worldwide which have DM is expected to grow to at least 439 million by the year 2030, with approximately 4 million death. Simultaneously, TB continues to be a major cause of death worldwide despite the fact that the epidemic appears to be on the verge of declining. Studies from different parts of the world has shown that 5-30% of patients with TB have concomitant DM. People with diabetes are around 2.5 times more likely to develop TB than those without diabetes. Diabetes is characterized by a systemic deregulation of immune-endocrine networks that lead to compromised immunity to Mycobacterium tuberculosis (Mtb). In diabetes patients, the interplay of hormones under neuroendocrine regulation, adipokines and insulin, and chronic low grade inflammation are likely to contribute to compromised immune responses to Mycobacterium tuberculosis (Mtb).



Prevalence of diabetes in adults aged 25+ by WHO region and World Bank Income Group, 2008

www.who.int/tb

1. Tuberculosis surveillance and monitoring report in Europe 2017 <http://www.euro.who.int/en/health-topics/communicable-diseases/tuberculosis/publications/2017/tuberculosis-surveillance-and-monitoring-report-in-europe-2017>

2. Fact sheet - Tuberculosis in the WHO European Region (2017) <http://www.euro.who.int/en/media-centre/sections/fact-sheets/2017/fact-sheet-tuberculosis-in-the-who-european-region-2017>

3. Joint statement by Dr Zsuzsanna Jakab, WHO Regional Director for Europe, and Dr Vytenis Andriukaitis, Commissioner for Health and Food Safety, European Commission on the occasion of European Immunization Week

4. Єдиний збірник нормативно-правових та нормативних актів у сфері протидії туберкульозу в Україні. 2012 р.

The interaction between tuberculosis (TB) and diabetes mellitus (DM) has been well documented. However, the operational guidelines on how best to implement this intervention in programme settings were lacking.

There are 1 380 000 persons with (diabetes plus 5-7% per year) and prevalence ranges 2,9% in UKRAINE (01/01/2016).

The incidence of TB in Ukraine's general population is currently estimated to be over 100 cases per 100,000 people, according to the World Health Organization. However, there is no clear statistic of prevalence TB- DM.

Ukraine is one of the 27 countries in the world with a high burden of multidrug-resistant (MDR) tuberculosis and in 2012, there were an estimated 6800 new cases in the country. In view of the large number of people displaced, the control of tuberculosis and MDR-tuberculosis in Ukraine and surrounding countries will not only depend on the provision of medicines and health-care services in the conflict zone, but also on effective measures for detection and care of internally displaced people (IDP).

As of 26 September 2014 the number of IDPs in Vinnytsia Region totals 5,343 persons. Since the beginning of 2016, the number of displaced persons in the region has risen by 447 %.

Recent evidence advocates bi-directional screening and care of TB and DM patients, since both entities adversely affect one another and there is currently no plausible evidence supporting the strong association between DM and TB. Diabetic patients have impaired cell-mediated immunity, renal failure, micronutrient deficiency and pulmonary microangiopathy, all of which increase their propensity to develop TB. Bi-directional screening demonstrated the significant proportion of undiagnosed DM among TB patients among internally displaced persons (1:1.87).

OR assisted to develop robust policies to deal with this double burden and aimed to produce region's led activities focusing on TB and DM, which provided local knowledge and evidence to shape TB and diabetes direct health policies in Ukraine.

Conclusions

Results of this OR have to led to a national policy decision to provide routinely bi-directional screening and it could make rapid translation of evidence to policy through implementing this collaborative model of OR.

The next major task is to implement the policy and operational guidance in practice.

Key words:

diabetes mellitus, tuberculosis