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**A COMPARISON OF THE EPIDEMIOLOGICAL PARAMETERS
OF HIV-INFECTION IN THE REPUBLIC OF BELARUS
AND IN THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA IN THE YEAR 2021**

Introduction

Since the beginning of the HIV epidemic estimated 84.2 million individuals have been infected with HIV and about 40.1 people have died of HIV. Globally, 38.4 people were living with HIV at the end of 2021. An estimated 0.7 % of individuals in the age range of 15–49 years worldwide are living with HIV, although the burden of the epidemic continues to vary considerably between countries and regions [1]. Despite a significant improvement of the level of understanding and awareness of the disease both among healthcare workers and the general population, HIV infection still accounts for a significant proportion of the morbidity and mortality, especially among developing and middle income countries.

Goal

This article aims to compare the epidemiological trends of HIV infection between the Republic of Belarus and the Democratic Socialist Republic Sri Lanka, two countries with considerably different demographics and to speculate the possible causes for the variation in the epidemiological trends.

Material and methods of research

Collecting statistical data regarding the morbidity, mortality, routes of transmission, distribution of HIV among the populations of the countries. Interpreting the data in an objectively quantifiable manner in order to arrive at conclusions. The relevant data were collected from resources published by the health care organisations involved with controlling and monitoring HIV infections and AIDS in the respective countries

The results of the research and their discussion

There were 411 and 1496 cases reported in Sri Lanka and Belarus respectively in 2021 [2, 3]. By the end 2021 there were 3600 individuals living with HIV in Sri Lanka whereas there were 23871 individuals living with HIV in Belarus [2, 3].

In Sri Lanka 336 of the total reported cases were among males, out of which 2 were below the age of 14 years, 52 were in the age range of 15–24 years, 282 were above 24 years. The remaining 75 cases were reported among females, out of which 7 were in the age range of 15–24 years and 68 were older than 24 years [2].

In Belarus 926 of the total reported cases were among males, out of which 4 were below the age of 14 years, 61 were in the age range of 15–24 years, 861 were above the age of 24 years. The remaining 570 cases were reported among females, out of which 2 were below the age of 14 years, 37 were in the age range of 15–24, 531 were above the age of 24 years [3].

In Sri Lanka out of the total reported cases of HIV in 2021, 49 % of the cases were transmitted by sexual contact between men who have sex with men, 36 % were transmitted via heterosexual contact, 0.5 % were transmitted from mother to child, and there are no data regarding the remaining 14.5 % of the cases. None of the patients reported a history of intravenous transmission (figure 1) [2].

Routes of transmission in Sri Lanka



Routes of transmission in Belarus



■ MSM ■ Heterosexual ■ Vertical ■ IV ■ No data ■ MSM ■ Heterosexual ■ Vertical ■ IV ■ No Data

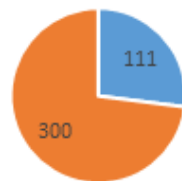
Figure 1 – The distribution of total number of reported cases among the routes of transmission in 2021 in Belarus and Sri Lanka

In Belarus out of the total reported cases of HIV in 2021, 4.7 % of the total cases were transmitted by sexual contact between men who have sex with men, 78.2 % was transmitted via heterosexual contact, 14.8 % of the cases are reported to be transmitted intravenous drug abuse. The remaining 1.9 % of the cases didn't provide a definitive history of the route of transmission [3].

HIV deaths in 2021. 49 patients with HIV died in Sri Lanka in 2021. All of them had progressed into AIDS by the time of death [2]. 882 patients with HIV died in Belarus in 2021 [3].

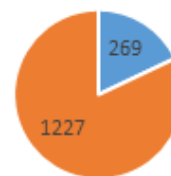
Patients with CD4 count of < 200 /mm³ at the time of diagnosis. In Sri Lanka out of the total newly reported cases of HIV in 2021, 27 % of the cases presented with a CD4 count of < 200 at the time of diagnosis, whereas in Belarus the corresponding figure is 18 % [2, 3].

Sri Lanka



■ CD4<200 ■ CD4>200

Belarus



■ CD4<200 ■ CD4>200

Figure 2 – The fraction of total reported cases in 2021 presenting with a CD4 count of < 200/mm³ in Sri Lanka and Belarus

Achievement of the 95–95–95 target. As of 2021 In Sri Lanka 82 % of the people living with HIV are aware of their HIV status, 81 % are on Anti Retroviral Therapy, 85 % are virally suppressed. Sri Lanka is expected to reach the 95–95–95 goal by 2025 [2].

As of 2021 In Belarus 83.5 % of the people living with HIV are aware of their HIV status, 82.8 % are on Anti Retroviral Therapy, 80.0 % are virally suppressed. Sri Lanka is expected to reach the 95–95–95 goal by 2025. Belarus is expected to reach the 95–95–95 target by 2026 [3, 4].

Conclusions

The incidence of HIV infection in Sri Lanka is considerably low compared to Belarus despite having a population of more than twice that of Belarus. The incidence among the male population is higher than the female population in both Belarus and Sri Lanka although the ratio of male to female incidence in Belarus is closer to compared to Sri Lanka. HIV is predominantly transmitted sexually in both Sri Lanka and Belarus The main route of transmission of HIV infection in Sri Lanka is by sexual contact between men who have sex with men whereas the main route of transmission of HIV infection in Belarus is via heterosexual contact. A lower percentage of the newly reported cases present at a later stage of the disease with CD4 cell count < 200/mm³ in Belarus compared to Sri Lanka.

LITERATURE

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CHALLENGES EXPERIENCED BY LOW AND MIDDLE-INCOME COUNTRIES (LMICS) IN MONITORING AND REDUCING METHICILLIN RESISTANT STAPHYLOCOCCUS AUREUS (MRSA) PREVALENCE AND WAYS TO OVERCOME THEM

Introduction

The emergence and worldwide spread of MRSA represent some of the most important events in the epidemiology of infectious diseases. Although MRSA was first reported in the early 1960s, whole-genome sequencing (WGS) of 209 early MRSA isolates suggests that MRSA emerged in the mid-1940s that is, much earlier than the introduction of methicillin. In fact, it has been hypothesized that it was the extensive use of penicillin rather than the introduction of methicillin that drove the emergence of MRSA [1].

Infectious disease is the second leading cause of death worldwide and the third leading cause of death in developed countries.

Antibiotic resistance is a global problem putting current and future populations at substantial risk of injury, loss, and death and has been declared a substantial threat to public health and national security. Antibiotic use is the single most important factor leading to antibiotic resistance. The problem of antibiotic resistance could be reduced if antibiotics were prescribed more appropriately [2].

Aim

To confirm the increased prevalence of MRSA infections in Low and Middle-income (LMICs) countries compared to High-income countries (HICs) and how the prevalence of MRSA can be mitigated/prevented.

Material and Methods of research

The research article is based on 7 articles, systematic reviews, meta-analysis, and other forms of primary literature that were read and analyzed sourced from Publicly available websites and scientific journals from 2016 to 2020 such as Prime view, Hawaii Journal of medicine and public health, Nature Public health emergency collection and CDC guidelines etc.

Results of the Research

Nepal is a low-income country which has a hospital-based sentinel surveillance system in 82 hospitals covering all 75 districts for reporting of selected water-borne, and food borne