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The problem of HIV infections and AIDS in the world in relation to WHO activities

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ABSTRACT

The Problem of HIV infections and AIDS has been known for years. Effective prevention and treatment is a challenge of modern medicine. Studies conducted by the WHO show that Africa, in terms of morbidity and deaths, is the first among the regions included in this study. Nowadays, diagnosis of HIV infections is highly developed. This allows for quick and easy testing to confirm the infection, even in pregnant women. Across the globe, 59% of people infected with HIV receive antiretroviral treatment that allows them to function normally in society. Early and appropriate use of antiretroviral drugs significantly reduces the transmission of infection to other people and reduces the risk of having a child with HIV. Awareness of this infection among the general public and especially among young people is limited, which is why social campaigns play an important role in prevention.

Key words: HIV; AIDS; HIV prevention

INTRODUCTION

The subject of HIV and AIDS is the main public health problem in the world. It is necessary to look for such measures to reduce the percentage of infected people at the same time increase th percentage of patients provided with the treatment. In 2017, 940,000 people died from HIV-related causes worldwide. There is no cure for HIV infection. However, effective anti-retroviral drugs (ARVs) can control the virus and prevent its transmission, so that infected people and people with significant risks can enjoy a healthy, long and productive life [1]. In 2013, United Nation's program on HIV / AIDS introduced a set of goals 90-90-90. The idea is that by 2020, 90% of people infected with HIV will be diagnosed, 90% of people who will be diagnosed will be treated with antiretroviral therapy and 90% of all people receiving antiretroviral therapy will have viral suppression [2].

AIM

The aim of the study is to analyze statistical data and review scientific publications on the prevalence, treatment and prevention of HIV infection and AIDS worldwide and to present WHO actions aimed at reducing HIV infection and AIDS in the world.

MATERIAL AND METHODS

The paper uses descriptive epidemiological analysis as the research method. Statistical data on HIV infections in the world come from WHO reports. Additionally, during the literature review on PubMed and Google Scholar platforms, keywords such as HIV, AIDS and HIV prevention were used.

RESULTS

The highest percentage of people affected by HIV is in Africa – 70% out of all infected people. 10% out of the infected population are residents of South-East Asia, 9% are Americans, and 6% are Europeans. In the Western part of the Pacific the figure reaches 4%. The smallest percentage of people infected with HIV was recorded in the Eastern Mediterranean - they constitute 1% out of all infected people. (Figure No. 1)

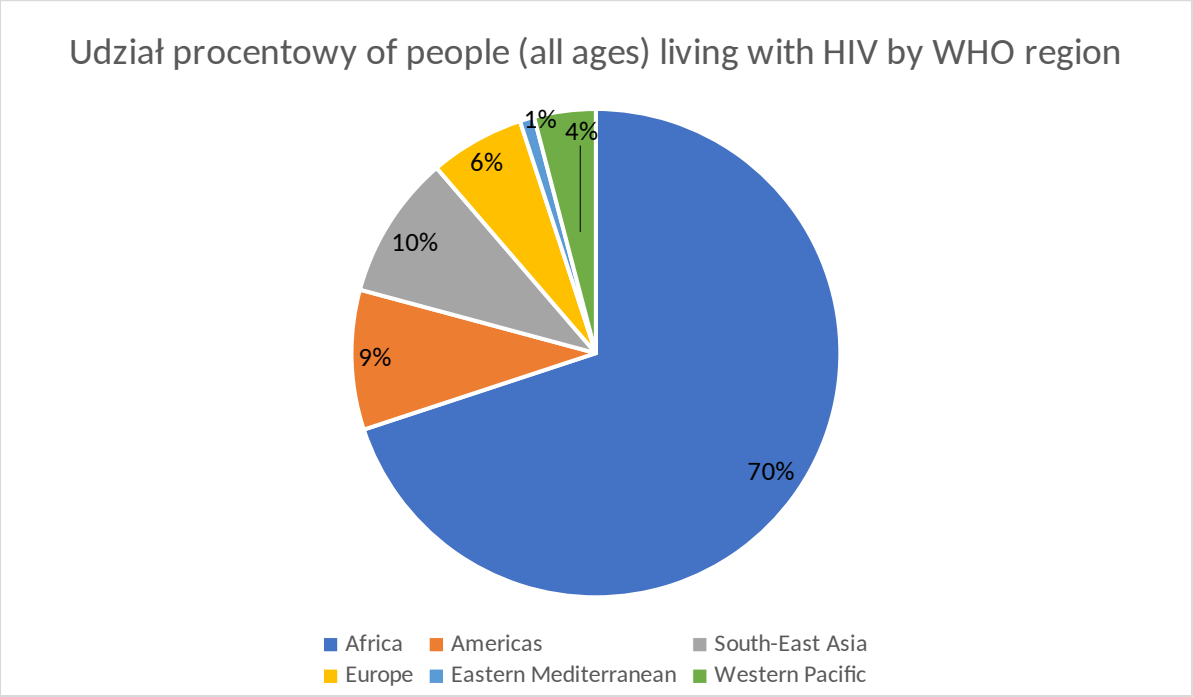

Figure No. 1 Percentage of people (all ages) living with HIV by WHO region in 2017

The HIV problem affects more than 4% of adults aged 15-49 living in Africa, In America, this percentage is 0.5%, in Europe 0.4%, and in South-East Asia 0.3%. Residents of the Eastern Mediterranean and of the Western Pacific have the smallest percentage of adults aged 15-49 years affected by HIV infections (0.1%). (Figure No. 2)

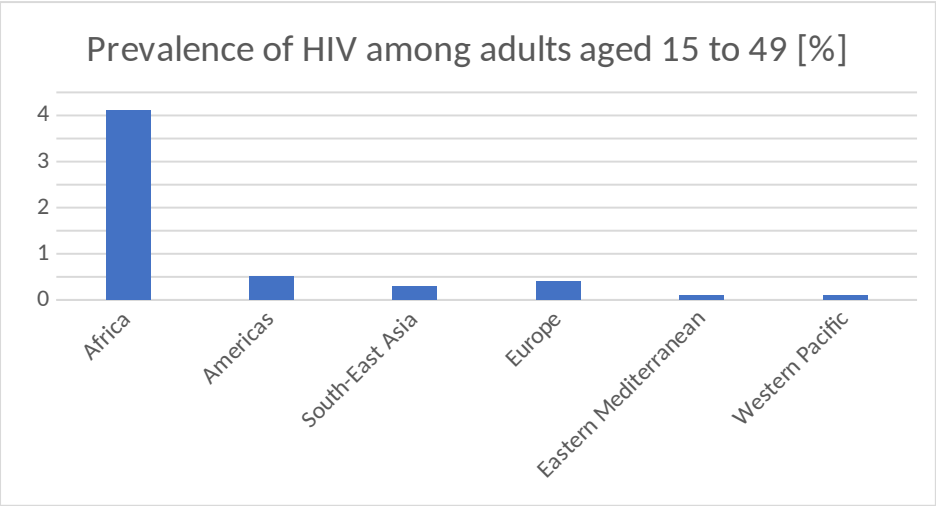

Figure No. 2 Prevalence of HIV among adults aged 15 to 49 [%] in 2017

In 2017, the indicator of new infections per 1000 uninfected people was the highest in Africa and was just over 1.2. In Europe, the number was slightly higher than in America - it was 0.18 and 0.16 consecutively. For South-East Asia, the indicator of new infections was 0.08. For both the Eastern Mediterranean and the Western Pacific, this indicator was the smallest: 0.06. (Figure No. 3)

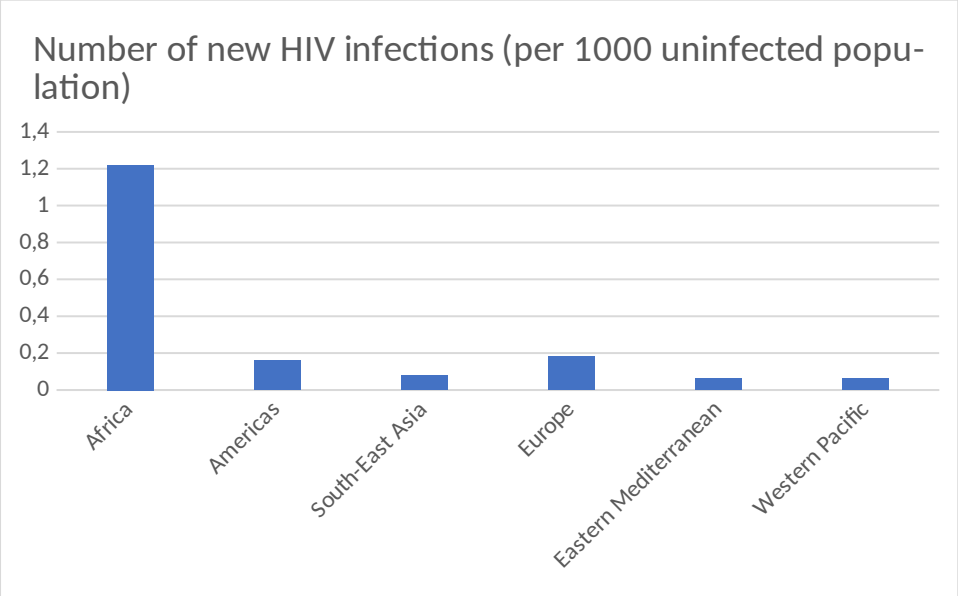

Figure No. 3 Number of new HIV infections (per 1000 uninfected population) in 2017

In 2017, 940,000 deaths related to HIV / AIDS were reported globally. Over 70% of them (nearly 670,000) were found in Africa, 130,000 in Southeast Asia, 56,000 in America, 37,000 in Europe, and 33,000 in the Western Pacific region. The smallest number of deaths - 16,000, which is 1.7%, was recorded in the Eastern Mediterranean. (Figure No. 4)

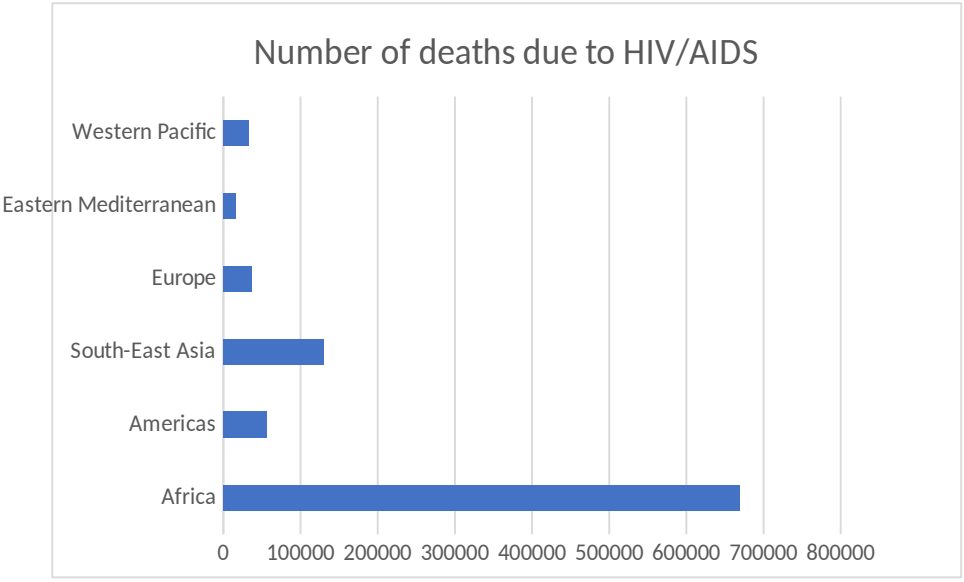

Figure No. 4 Number of deaths due to HIV/AIDS in 2017

In figure No. 5, the total number of infected individuals and of people receiving antiretroviral treatment was presented. Globally, among the 36.9 million infected, the percentage of people who are treated is close to 60%. The highest number of people receiving treatment is in America. Out of 3.4 million infected Americans, 67% receive treatment. In the West Pacific region, out of 1.9 million people infected, 62% are treated, while in Africa, with the largest number of infected people - 25.7 million, 60% receive treatment. In the case of Europe, out of 2.3 million infected, 55% are treated, in the southeastern region of Asia, out of 3.5 million infected, 51% receive treatment. The smallest number of people in treatment occurs in the Eastern Mediterranean region - 350,000 infected with only 18% of the treated people. (Figure No. 5)

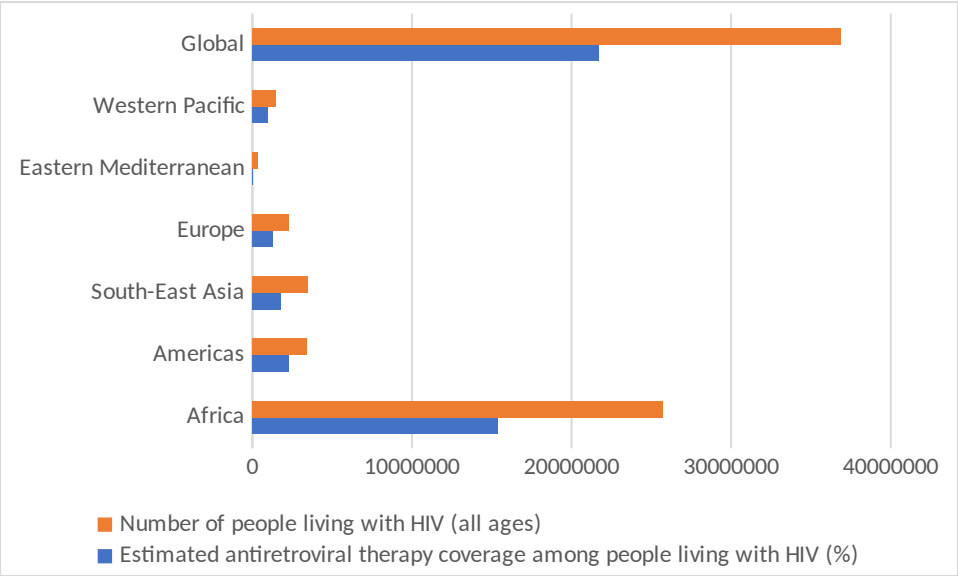

Figure No. 5 Number of people living with HIV and number of people who have antiretroviral therapy in 2017

The highest number of HIV-infected people is found in Africa, which is 70% of all people, while the smallest is less than 1% in the region of the Eastern Mediterranean. The highest number of new infections per 1000 uninfected persons occurs in Africa and amounts to 1.2, while in other regions this percentage was similar and ranged from 0.06-0.08. Out of 1.8 million new infections, 94% (1.7 million people infected) were adults, and the remaining 6% (160,000) were children under 15 years of age. Out of the 940,000 deaths associated with HIV / AIDS, 70% occurred in Africa, while the lowest number of deaths (1.7%), was recorded in the region of the Eastern Mediterranean. Out of a million patients, 890,000 deaths due to AIDS included adults, while 120,000 included children under 15 years of age. Out of 36.9 million infected with HIV, 60% of people are receiving retroviral therapy. The largest number of people treated is in America (67%), while the lowest is in the Eastern Mediterranean (18%).

DISCUSSION

No single method or preventive approach alone can stop the HIV epidemic. Several methods and interventions have become very effective in protecting against HIV and reducing the risk of HIV infection. Despite the availability of this wide range of effective tools and methods for HIV prevention and the massive increase in the scale of HIV treatment in recent years, new infections among adults around the world have not diminished sufficiently. There are currently 19.5 million people in the world treated with HIV [3].

Diagnostics involve the use of serological tests such as RDT or the EIA enzyme immunoassay (ELISA), which allows to detect the presence of antibodies against HIV-1/2 and against the

p24 antigen. These tests must be performed in combination and in a specific order that has been approved and is based on the prevalence of HIV in a given population [4]. Most people produce antibodies to HIV within 28 days of infection, which is why earlier tests, performed during the so-called A serological window, may not show the presence of these antibodies. Repetition of tests is recommended for people who were initially diagnosed with HIV infection, in order to exclude possible technical errors during the examination, before initiating the treatment [5]. For children and infants less than 18 months of age born by HIV-infected mothers, virological testing should be performed shortly after birth or at the sixth week of life. In this case, serological testing is not sufficient to identify HIV infection. The latest techniques allow to get results on the day of performing the tests, which is crucial in order for appropriate linkage and treatment initiation [4].

Most cases of children infected with HIV come from Africa. The first case was described in 1982. Several children with HIV infection are born every year in Poland. The risk of vertical transmission from an untreated mother may occur during childbirth, breastfeeding or during pregnancy. Medical examinations are obligatory for pregnant women. Nevertheless, less than 20% of pregnant women perform them. According to the Regulation of the Minister of Health from 23 September 2010 in the field of prenatal care, in Poland one of the recommended diagnostic tests refunded by the NFZ is the one to identify HIV infection. They are performed until the 10th week of pregnancy and at the end of pregnancy, between the 33th and 37th week [6,7]. The detection of HIV infection and the implementation of effective antiretroviral therapy during pregnancy reduces the risk of infecting a child from 25-40% to 1-2%. In addition, it should be noted that low HIV viral load (below 1000 copies / ml) does not pose a threat nor contraindications to natural delivery [8]. The standard practice for the children of HIV (+) mothers is to clean the newborn immediately after birth, to suck up the fetal amniotic fluid from the nostrils, to implement antiretroviral prevention within 12-24 hours of delivery and to prohibit breastfeeding. The antibodies present up to 18 months in the baby's serum are the evidence of mother's infection. Only the positive result of the HIV-RNA PCR is the basis for the confirmation test. Diagnosis should be made before the child's second month of age [9].

UNICEF's predictions indicate that by 2030, the number of teenagers infected with HIV will increase by 60 percent in the world: from 250,000 to 400,000 cases per year [10]. An important factor contributing to the infection is the earlier age of sexual initiation, which is associated with less consistent contraception. The consequence of this is the increased risk of sexually transmitted infections, premature procreation and parenthood. A connection between low religiosity, drug use, crime and the early age of sexual initiation was found [11]. Such teenage behaviors may originate in deficiencies in sexual socialization in the family, lack of sexual education at school, as well as excessive exposure to sexual content in the media. The basic condition for effective prevention and countermeasure against sexualization is the idea of sexuality as a beautiful and important aspect of a human being. Moreover, it should not be isolated and focused on the physical aspect of sexuality only [12]. The lack of public awareness about sexually transmitted diseases also plays a major role in HIV infections among adolescents. That is why it is crucial to increase this awareness [13].

On the WHO initiative, the World AIDS Day is celebrated on 1 of December,. Its purpose is to raise awareness about the need to help people infected with HIV and those with AIDS. It is one of the most recognized international days of health and a key opportunity to support people affected by this disease [14]. In Poland, the National Center for AIDS is responsible for the organization of many social campaigns. In 2018, a campaign was created under the slogan "I have time to talk." Its purpose is to inspire families to engage in intergenerational dialogue among others about the need to test for HIV. The basis for preventing new HIV infection is awareness of the public. That is why organization of campaigns that strengthen and broaden our knowledge is so important [15].

CONCLUSIONS

1. HIV infection and AIDS is a serious public health problem around the world. Nearly 37 million people are affected by this problem, and only 59% receive antiretroviral treatment.

2. The highest percentage of illnesses and deaths associated with HIV and AIDS is observed in

Africa.

3. There is a great need to educate and raise public awareness about HIV and AIDS, as well as methods and ways to treat this infection.

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