



**BENTHAM
SCIENCE**

The Management of Newly Diagnosed HIV in a Sudanese Refugee in Canada: Commentary and Review of Literature



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Abstract: Background: Human Immunodeficiency Virus (HIV) prevalence rates in refugee camps are inconclusive in current literature, with some studies highlighting the increased risk of transmission due to poor living conditions and lower levels of education. With the increasing number of refugees from HIV endemic countries, it is important to assess the programs established to support patients upon arrival. Refugees have been reported to have a lower health literacy and face disease-related stigmatization, which must be overcome for the lifelong treatment of HIV.

Case Presentation: 31-year-old female arrived in Canada as a refugee from Sudan with her 5 children in July of 2017. She was diagnosed with HIV and severe dental carries during her initial medical evaluation and referred to our centre. A lack of social support has resulted in severe psychological stress. The first being stigmatization which has led to her not disclosing the diagnosis to anyone outside her medical care team. Her level of knowledge about HIV is consistent with literature reporting that despite HIV prevention programs in refugee camps, compliance with risk reduction behaviors, especially in females, is low. Lastly, her major concern relates to the cost of living and supporting her children.

Conclusion: Assessment of current HIV programs is necessary to recognize and resolve gaps in the system. Focusing on programs which increase both risk reduction behaviors in refugee camps and integration of refugees in a new healthcare system can facilitate an easier transition for patients and aid in the quest for global 90-90-90 targets for HIV.

Keywords: AIDS, global policy, HIV Education, HIV, refugee, stigma.

1. INTRODUCTION

In 2016, UNAIDS's estimated that 36.7 million people were living with Human Immunodeficiency Virus (HIV); of which, about 30% are unaware of their status [1]. Of those 36.7 million, over 25 million are from Africa and its surrounding areas; Sudan, with Iran and Somalia, accounted for about 65% of the new HIV infections in the region in 2016 [1]. In relation to the global quest of the 90-90-90 targets, the Middle East and Northern Africa (MENA) region falls well short compared to North America and Western/Central Europe; MENA: 58-41-66, North America and Western/Central Europe: 85-89-84 [2] (Fig. 1).

Rates of HIV prevalence and increase in risky sexual activity in refugee camps are inconclusive in the present literature. Some studies suggest an increase in sexual risk among refugees while other large, multi-country studies have identified no such increase or, quite the contrary, where HIV

Region values of their 90-90-90 targets according to the UNAIDS Global Update 2017 [2]	
Region	90-90-90 Values
Eastern and Southern Africa	76-79-83
Western and Central Africa	42-83-73
Asia and the Pacific	71-66-83
Latin America	81-72-79
Caribbean	64-81-67
Middle East and North Africa	58-41-66
Eastern Europe and Central Asia	63-45-77
Western and Central Europe and North America	85->89-84

Fig. (1). Source - Ending AIDS: Progress towards the 90-90-90 targets [2].

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prevalence in refugee camps is lower than surrounding communities [3-7].

Some comparisons can, however, be made to immigrant HIV rates. The Public Health Agency of Canada reports that people from HIV and Acquired Immunodeficiency Syndrome (AIDS) endemic countries are disproportionately represented in Canada [8]. Despite only comprising 2.2% of the overall population, they make up 14% of Canadians with HIV/AIDS [8]. As such, it is necessary to assess the Canadian healthcare systems ability to adequately support the increasing number of refugees.

According to the World Health Organization, refugees and immigrants are not currently considered one of these key HIV populations [9]. Studies on this vulnerable group, however, have found that refugee living conditions leave them to be more susceptible to being infected. Human rights violations such as rape and torture lead to the breakdown of social structures and an increased risk of transmission [3, 6, 10]. This atmosphere leads to problems even after seeking refuge in a more stable environment.

After escaping these areas of conflict, refugees face new hurdles in accessing healthcare in a new country. Previous reports and studies in Canada have highlighted the hesitation of refugees and immigrants in seeking support beyond primary care and administrative barriers present in the system [11, 12]. Another major facet of HIV is the knowledge individuals have regarding HIV and how to prevent it [7]. Though knowledge of HIV is not directly correlated with more protective behaviour, it can become an important factor once a patient is diagnosed and seeks medical management [13].

The patient being presented in this case report comes as a refugee from a camp situated between Sudan and South Sudan which have an HIV prevalence rate of 0.2 and 2.7%, respectively [14]. The vulnerability of refugees to HIV is accumulated by multiple factors and significant variability is seen between camps [7]. Regardless of the situation from which they come, it is essential for refugees to become affiliated with the healthcare system in a new country. Here we assess a patient's journey through a new HIV diagnosis in Canada.

2. CASE PRESENTATION

Our patient is a 31-year-old Sudanese female from Sudan who came to Canada in July of 2017 as a refugee. She is recognized as a Government-Assisted Refugee (GAR) which is defined as "a person who is outside Canada and has been determined to be a Convention refugee and who receives financial and other support" [15].

Upon arrival in Canada with her 5 children - aged 5 to 16 years - she underwent medical evaluation and was put in contact with a "Welcome Clinic" which specializes in medical evaluation of refugees. After undergoing routine medical evaluation, she was diagnosed with HIV and severe dental caries in August 2017. When she was tested 1 year prior to arriving in Canada, she was negative for HIV.

After being diagnosed with HIV she was put into contact with an HIV specialist with whom she is currently following

up with. The patient is on government assistance and is receiving financial aid for herself and her children. The cost of living is automatically deducted from her bank account. The government assistance will expire in a year and then she must provide for herself or resettle [15, 16]. The patient does not understand how the financial aid system works and reports that she constantly worries about what will happen to her and her children after the year of assistance have expired.

She reports that she has not told anyone about her diagnosis; she has only told those that are involved in her medical care. She is embarrassed and afraid of what people will think about her after learning about her diagnosis. Her only support system is her children and she refuses to tell them about her diagnosis.

In her refugee camp in Sudan, she was given education regarding HIV including how HIV is transmitted, the risk factors associated with it, and practices regarding HIV risk reduction. When discussing her diagnosis, however, she did not know that treatment was lifelong and she was under the impression that after one course of treatment, she would be cured.

When discussing if she has any other concerns with her diagnosis or her transition to Canada, she explains that her teeth are still sore, and her dental carries have not been resolved yet (almost 5 months after visiting the dentist). According to the patient's record, the dentist was unable to provide any care due to administrative issues. She also goes on to state that transportation is a very big issue for her here as she does not understand how the transport system works here -she relies on a social worker from the Welcome Clinic to assist her in her transportation. Similarly, language has been a concern for her as her dialect of Arabic is different than those in her medical care team and therefore, she expressed that she has difficulty in speaking with medical staff.

Currently, the patient is stable on her antiretroviral's (ARVs) and is following up with her infectious diseases specialist.

3. DISCUSSION

3.1. Stigmatization

Stigmatization is a well-known concern for those diagnosed with HIV [17, 18]. Our patient explained that she didn't know how others would react to her diagnosis. Other studies have shown similar findings in which participants indicated that they felt shunned, out of place, and judged [17, 19, 20]. This leads to multiple other mental health and disease-related issues. The HIV Cost and Services Utilization Study (HCSUS) found that 22% of HIV patients were positive for major depression and 5% positive for dysthymia after full interviews [21].

Patients also experience stigmatization with healthcare professionals which leads to decreased levels of disclosure, decreased engagement in healthcare, and increased risk of mental health issues [17, 19, 20, 22, 23]. The mental health issues are magnified in refugees like our patient, who have little social support in a new environment. As HIV requires lifelong treatment and follow-up, there should be a change in the behaviour around HIV to encourage patients, especially

refugees unfamiliar with the system, to actively participate with their medical care team.

3.2. Education

A higher level of education is correlated with having more knowledge about HIV risk when compared with populations of lower education [24]. While progress has been made to increase knowledge about HIV with prevention programs, there remains a long way to go. Despite being educated on HIV risk reduction, our patient shows characteristics similar to what has been previously reported - the knowledge of HIV in refugees was high, but the practice of HIV risk reduction was low [13]. Furthermore, studies have consistently shown men to have a higher level of knowledge of HIV than females who were significantly less aware of the importance of condom use and less willing to use them than males [7, 23]. This highlights the ineffectiveness of HIV prevention programs that our patient received. She was knowledgeable about HIV transmission but not of the treatment and lifelong impact of infection. This unawareness can be a possible reason for non-compliance with risk reduction behaviour in our patient as well as refugees in general. Further research is required to determine which programs have made the greatest positive impact in terms of education and risk reduction, especially for females.

3.3. Cost

The assessment of HIV healthcare burden is complex [25]. HIV is a disease which requires lifelong treatment. The Canadian AIDS Society in 2011 estimated the cost to manage a person with HIV to be just over \$1.3 million per person; this accounts for healthcare costs, labour productivity, and quality of life [26]. This is 22% higher than the estimation in 2001 after adjusting for inflation and omitting the quality of life aspect [26]. As better drugs are brought to market and inflation continues to rise, the cost is likely to go up higher.

As HIV management involves a team of health care providers, it is important to consider indirect costs and how a potential increase in HIV cases following an influx of refugees may affect the health sector. Caring for patients with HIV/AIDS is demanding and can lead to the decreased morale of healthcare workers [27]. Healthcare workers may also have a fear of contracting the disease and the psychological stress associated with treating HIV may lead to a decrease in the quality of care [27].

3.4. Refugees and HIV

In Canada, being diagnosed with HIV is not a sufficient reason for being denied entry [28-30]. Although being considered more susceptible to HIV transmission due to their environment, according to the UNHCR refugees do not display higher rates of HIV/AIDS infection than non-refugee populations [10]. In Kenyan and Ugandan refugee camps, refugees did not express higher rates of HIV positivity when compared with non-refugees [7]. In Syrian refugee children, it was found that seropositivity for anti-HCV and anti-HIV was similar to those of children in Turkey [31].

Due to the prognosis of HIV, screening attempts of all refugees/immigrants would be futile unless the host body has

made antibodies [28]. The exclusion of immigrants with HIV as a way of protecting public health denies society's collective responsibility for HIV/AIDS "by focusing on the HIV status of immigrants rather than the population's behaviour" [28]. Singling out persons on the grounds that they are HIV positive can be seen as discriminatory which, if expanded to tourists, can deter them from visiting [28].

3.5. Review of Literature

The availability and success of HIV management have transformed significantly, making HIV into a more manageable chronic condition. According to UNAIDS, the number of new infections has decreased from 3.2 to 2.1 million in 2015 [32]. Much of this success can be attributed to the improvements made by the cornerstone of HIV treatment and prevention: Antiretroviral Therapy (ART). As such, the International Antiviral Society of USA recommends initiating ARVs as soon as possible in the setting of acute HIV infection and to start ART regardless of CD4 cell count [33]. Special consideration should be given to specific subpopulations: pregnant women, Hepatitis B (HBV) coinfection, Hepatitis C (HCV) coinfection, and patients with bone/kidney disease. The importance of ART goes beyond the scope of medicine. HIV-positive individuals with higher CD4 counts and sustained virologic suppression were associated with substantially lower costs of medical care when compared to individuals with lower CD4 counts and higher virologic load [34].

While there has been a significant improvement in the treatment of HIV, there has been less improvement in the prevention/knowledge of HIV. However, recent literature reports that certain interventions have a higher quality of evidence when compared to others.

Comprehensive risk counseling and group level health education are reported to have the highest quality of evidence to prevent HIV transmission. Other common characteristics in effective interventions include sessions that are theory-based, one-on-one interventions, case management, targeting multiple health concerns, and delivered over a longer period of time [35]. Individual-level health education and housing assistance interventions in reducing sexual risk behaviors have been reported to have the moderate level quality of evidence to prevent HIV [35].

Stigma reducing interventions have been reported to have different effects in different populations. In more professional individuals, such as healthcare professionals, the results were promising at reducing negative attitudes towards people living with HIV [36]. The number of sessions has also been found to have a role in reducing stigma; using multiple sessions have been found to be more effective than only one-off sessions [36].

The future of HIV includes providing regular large-scale interventions and improving HIV treatment with longer-acting agents that can be given to those who have difficulty in maintaining suppression through daily dosing. The large-scale interventions should aim to reduce stigma and increase education surrounding HIV.

CONCLUSION

The effectiveness of HIV prevention programs should not be overlooked. In order for the globe to reach its 90-90-90 targets, HIV prevention programs (education oriented) need to be on the forefront of our goals; when the knowledge around HIV is low, the subsequent cascades in the 90-90-90 targets to initiate and sustain treatment are affected [2]. As seen in this case and in other studies analyzing behaviors in refugees, the consequences of a lack of HIV knowledge become more apparent when initiating treatment. As Canada commits to welcoming refugees, there must be support for the healthcare system to best meet their needs. Programs and services including the Welcome Clinic for initial evaluation, finding a physician who is fluent in their language, and government financial assistance was vital in ensuring this patient could initiate treatment for HIV. The cost-effectiveness of each should be analyzed to best allocate resources and have the most impact on the initial relocation of refugees. These should not be limited to HIV, but all conditions with an increased prevalence of refugees.

CONSENT FOR PUBLICATION

Not applicable.

CONFLICT OF INTEREST

The authors declare no conflict of interest, financial or otherwise.

ACKNOWLEDGEMENTS

This work was supported by the CIHR Canadian HIV Trials Network.

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