

Introduction

HIV diagnosis is a critical public health priority and a vital step in the continuum of care. Early HIV diagnosis remains a challenge in Venezuela, where individuals unaware of their infection cannot benefit from antiretroviral therapy (ART), leading to significantly increased morbidity and mortality, as well as high viral loads that elevate the likelihood of transmission. The Centers for Disease Control and Prevention (CDC), UNAIDS, and WHO recommend routine, non-selective HIV screening in most medical settings, including emergency services, advocating for the use of rapid HIV tests in specific contexts as a useful strategy to facilitate and enhance early diagnosis of the infection. Institutional barriers can hinder efforts to increase HIV testing among the most vulnerable populations. Therefore, offering this tool for free, voluntarily, and confidentially to all individuals admitted to hospital emergency services can greatly aid in identifying new cases and linking them to the national public health system for treatment initiation.

Objectives

General Objective

Determine the seroprevalence of HIV infection in adults attended in the emergency departments of 13 hospitals.

Specific Objectives

- Establish the demographic characteristics of the study population.
- Determine the prevalence in different risk groups.
- Identify the most frequent reasons for consultation among patients with a recent HIV diagnosis.

Methods

This prospective, cross-sectional, descriptive, multicenter, non-experimental study was conducted from January 2021 to December 2023 across 13 public health centers in six regions of the country: Distrito Capital (Hospital Vargas de Caracas, Hospital Dr. Jesús Yerena, Hospital General Dr. Miguel Pérez Carreño, Maternidad Concepción Palacios), La Guaira (Hospital Rafael Medina Jiménez), Miranda (Salud Chacao), Aragua (Hospital Central de Maracay, Hospital José María Benitez, Instituto Policlínico de Turmero), Carabobo (Ciudad Hospitalaria Dr. Enrique Tejera), and Bolívar (Hospital Raúl Leoni, Hospital Uyapar).

Universal screening was conducted for all individuals aged 15 to 70 attending emergency services, without discrimination. An initial rapid HIV test was performed using Standard Diagnostics BIOLINE HIV-1/2 3.0, Abbott ABON VIH 1/2 Biopharm China, or Chembio Diagnostic HIV 1/2 STAT-PAK® Assay, all WHO-approved, by obtaining blood through finger puncture with a lancet, according to CDC guidelines, including proper technique, consent, pre- and post-test counseling.

If a positive result was obtained, a second immunochromatographic test with ABON HIV 1/2/O Tri-Line was conducted, following CDC 2018 guidelines. Patients with positive HIV results were linked to their respective HIV care centers under the national STI/AIDS program.

A data collection instrument was then filled out, indicating the following information: age, gender, pregnancy status, reason for consultation, treating service, risk groups (vulnerable population in extreme poverty, men who have sex with men [MSM], female sex workers [FSW], transgender population, prisoners, intravenous drug users [IDU], indigenous population, and/or healthcare workers), health center attended, and rapid HIV test result. Prior consent was obtained from each patient for data collection and rapid HIV testing, respecting patient confidentiality by using a unique ID comprising the first letter of the first name, first letter of the last name, and the last three digits of the national ID. This study was approved by the Bioethics Committee and the Research Commission of the involved centers.

Results

A total of 24,098 diagnostic tests were conducted between January 2021 and December 2023, with 469 tests returning positive (1.95%). The majority of these cases were men (72%), totaling 338 male cases, while women accounted for 28%, totaling 131 cases. The average age of positive cases was 36.7 years. Key populations included MSM (11.6%), FSWs (0.53%), PWID (1.6%), those in poverty (27.2%), and a significant 46.4% were not associated with any high-risk activities. Emergency department services that identified positive cases included Internal Medicine (376), Surgery (72), Traumatology (10), and Obstetrics (11).

Table: Distribution of Key Populations Among Positive HIV Cases

Key Population	Number of Individuals	Percentage
Men who have sex with men (MSM)	54	11.6%
Female Sex Workers (FSWs)	2	0.53%
People Who Inject Drugs (PWID)	7	1.6%
In Poverty	127	27.2%
No High-Risk Activities	217	46.4%
Prisoners	10	2.13%
Health worker	12	2.55%
Indigenous	40	8.52%

Conclusions


The implementation of universal HIV testing in emergency rooms revealed crucial findings: 46.4% of positive cases did not belong to any high-risk groups, and the prevalence rate found in this study (1.95%) was significantly higher than the officially reported rates (0.4% to 0.6%). This suggests that the actual prevalence of HIV in Venezuela could be considerably higher than previously thought, emphasizing the importance of universal testing strategies in HIV detection and public health policy.

One of the most striking findings is the higher number of positive cases in individuals who denied belonging to any risk group. However, poverty, MSM and FSWs remain important within the risk groups. It is worth noting the importance of IDUs as a risk group, which historically had not been considered a key population in Venezuela.

The reasons for consultation and reported diagnoses were not necessarily related to AIDS-defining illnesses.

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Table: Most Frequent Diagnoses Among Positive HIV Cases

Diagnosis	Cases
Acute medical abdomen	109
Lower respiratory infection	86
Diarrheal syndrome	62
Neurological disorders	37
Asthenia	21
Polytrauma	19
Skin and soft tissue infections	16
Acute viral syndrome	16
Headache	14
Acute surgical abdomen	6
Allergies	6
Urinary infection	6
Convulsive syndrome	6
Emetic syndrome	6
STI	4
General fractures	4
Stab wounds	2
Cerebrovascular event	2
Liver diseases	2
Labor	2
Others	43



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