In 2024 in Belarus, 1,228 cases of HIV infection were registered, a 15.7% decrease compared to the previous period in 2023, amounting to 13.4 cases per 100,000 population (compared to 15.9 cases per 100,000 population in 2023). All age groups are included in the epidemic process, but the majority of citizens were newly diagnosed with HIV infection — people over 30 years of age made up 89.1% of the total number of HIV cases registered in 2024. In the same year, the proportion of people infected sexually is 84.4%, while the proportion of parenteral transmission (through injection drug use) is 12.7%. The proportion of women involved in the HIV epidemic in 2024 was 39.0%, while men accounted for 61.0%. Among people living with HIV newly diagnosed in 2024, 47.6% were blue-collar workers and employees.

Conclusion

In conclusion, our study highlights the urgent need for more frequent HIV screening in Nigeria, particularly given the significant increases in infection rates observed over the years. In contrast, Belarus has seen a progressive decline in these rates, underscoring the importance of tailored public health strategies. It is crucial for the Nigerian government to enhance awareness campaigns regarding the dangers of drug abuse and the harmful effects of self-injection practices. Additionally, ongoing research and public education are essential to address the gaps in awareness about living with HIV. By implementing these measures, we can work towards reducing transmission rates and improving the overall health of affected populations.

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RESEARCH ABOUT ENTEROHEMORRHAGIC E. COLI

Introduction

Enterohemorrhagic Escherichia coli (EHEC) is a highly pathogenic strain of E. coli bacteria that produces Shiga toxins, causing severe gastrointestinal illness including hemorrhagic colitis (bloody diarrhea) and potentially life-threatening hemolytic uremic syndrome (HUS) characterized by anemia, thrombocytopenia, and acute kidney failure. EHEC colonizes the intestinal tract and triggers inflammation and tissue injury through its virulence factors and the

host immune response. It was recognized as a human pathogen in the early 1980s and primarily affects the large intestine with symptoms ranging from abdominal cramps and diarrhea to kidney and neurological complications in severe cases [1]E. coli has also been widely exploited as a cloning host in recombinant DNA technology. But E. coli is more than just a laboratory workhorse or harmless intestinal inhabitant; it can also be a highly versatile, and frequently deadly, pathogen. Several different E. coli strains cause diverse intestinal and extraintestinal diseases by means of virulence factors that affect a wide range of cellular processes.",”container-title”:”Nature Reviews. Microbiology”,”DOI”:”10.1038/nrmicro818”,”ISSN”:”1740-1526”, ”issue”:”2”,”journalAbbreviation”:”Nat Rev Microbiol”,”language”:”eng”,”note”:”PMID: 15040260”,”page”:”123-140”,”source”:”PubMed”,”title”:”Pathogenic Escherichia coli”,”vol ume”:”2”,”author”:[{“family”:”Kaper”,”given”:”James B.”},{“family”:”Nataro”,”given”:”Ja mes P.”},{“family”:”Mobley”,”given”:”Harry L.”}],”issued”:{“date-parts”:[[“2004”,2]]}}}], ”schema”:”https://github.com/citation-style-language/schema/raw/master/csl-citation.json”} .

Escherichia coli (E. coli) is a Gram-negative bacillus from the family Enterobacteriaceae. While most strains are harmless commensals of the intestinal tract, some possess virulence factors such as exotoxins, making them pathogenic. Pathogenic E. coli are classified into six main pathotypes: enteropathogenic (EPEC), enterotoxigenic (ETEC), enteroaggregative (EAEC), enteroinvasive (EIEC), diffusely adherent (DAEC), and enterohemorrhagic (EHEC) [2]. Some authors also include verotoxigenic E. coli (VTEC), with EHEC being a subset. EHEC and EAHEC strains can cause severe diseases like hemorrhagic colitis and hemolytic uremic syndrome (HUS) due to the production of Shiga (verotoxin) toxins, mainly Vtx1 and Vtx2 [3,4] identified within a screening program of bloody diarrhea (BD. Most virulence genes are carried on mobile genetic elements, allowing strains to share characteristics of multiple pathotypes.

Goal

The aim of this study is to investigate the incidence of enterohemorrhagic E. coli and to identify factors influencing the spread of the disease.

Material and methods of research

Data was collected from research studies in the world that report on cases of enterohemorrhagic E. coli.

The results of the research and their discussion

Enterohemorrhagic Escherichia coli (EHEC) is a significant foodborne pathogen that causes both mild and severe gastrointestinal illness, including hemorrhagic colitis and haemolytic uremic syndrome (HUS). The CDC estimates that in 2019, EHEC caused over 350,000 illnesses in the U.S., with about 25% due to the O157 strain and 75% to non-O157 strains. Children under 5 years are most at risk of infection and developing HUS. Globally, EHEC is responsible for around 2.8 million cases annually, leading to approximately 4000 HUS cases and 230 deaths, with an economic burden of about $405 million per year. Ruminants, especially cattle, serve as the primary reservoir, and infection often results from eating undercooked meat or consuming food or water contaminated with manure [5]. Seasonal variation is observed, with higher prevalence in summer, corresponding to increased bacterial shedding in cattle.

Initial evaluation of EHEC infection includes a complete blood count to detect leukocytosis, haemolysis, and thrombocytopenia, with most E. coli O157:H7 cases showing WBC counts above 10,000/μL. A metabolic profile helps assess dehydration and electrolyte imbalance. Diagnosis is confirmed by detecting Shiga toxin through stool culture on sorbitol-MacConkey or chromogenic agar, using enzyme immunoassay or PCR. In anemic patients, a haemolysis screen is needed to check for Coombs-negative microangiopathic hemolytic anemia (MAHA), and ADAMTS13 levels typically remain normal, unlike in atypical HUS [5].

Conclusion

Enterohemorrhagic Escherichia coli (EHEC) is a highly virulent strain of E. coli that causes bloody diarrhea and can lead to hemolytic-uremic syndrome (HUS), characterized by hemolytic anemia, thrombocytopenia, and acute kidney failure. The disease results from the action of Shiga toxins, which damage the lining of the intestines and small blood vessels, leading to inflammation and organ injury. Diagnosis is based on stool culture and Shiga toxin detection through enzyme immunoassay or PCR. Antibiotics are avoided, as they may increase toxin release and worsen outcomes. Treatment focuses on supportive care, including fluid and electrolyte replacement, with dialysis or plasma exchange in severe cases. Preventive measures such as avoiding undercooked beef, ensuring proper hand hygiene, and consuming safe water are essential to reduce transmission.

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PREVALENCE AND RISK FACTORS FOR PREMATURE CARDIOVASCULAR DISEASE AMONG HIV – POSITIVE ADULTS ON LONG – TERM ANTIRETROVIRAL THERAPY IN SRILANKA

Introduction

Over the years, Human Immunodeficiency Virus (HIV) infection has shifted from being a fatal disease to a manageable chronic condition, thanks to Antiretroviral Therapy (ART). The introduction of highly active ART has greatly improved the life expectancy and quality of life of people living with HIV (PLHIV), reducing HIV-related illness and deaths worldwide. As a result, HIV care now focuses less on opportunistic infections and more on long-term health issues linked to chronic infection and prolonged treatment [1].

However, with longer survival, new health challenges have emerged. Non-communicable diseases–especially cardiovascular diseases (CVDs)–are now major causes of illness and death among PLHIV. Worryingly, premature CVD (occurring before 55 in men and 65 in women) is increasingly reported, even in those without traditional risk factors [2].