Contributions to HIV Cure Research from Africa: A Systematic Review

Introduction

- A cure is desirable to end the HIV/AIDS pandemic due to non-adherence to medications, incomplete viral suppression, drug resistance, unsustainable costs and drug side effects.
- The past decade has seen intensive research into the mechanisms of HIV latency, persistence, and cure resulting in several early-phase clinical trials.
- However, although close to 70% of people living with HIV (PLWH) are in Africa, a cursory look at the literature suggests that very little HIV cure research happens on the continent.
- It is critical to undertake cure research in Africa because of the variety of subtypes, different immunologic and genetic patient characteristics, and exposure to different pathogens, which may all influence the character of the HIV reservoir.
- In addition, African people may have different attitudes and receptions to interventions such as analytical treatment interruption needed to evaluate new cures.

Materials and Methods

- As part of the HIV Cure Research Infrastructure Study (H-CRIS), located at the University of Ghana, we conducted a systematic review of the literature to determine how much African researchers and patients contribute to HIV cure research.
- The Preferred Reporting Items for Systematic Reviews and Meta-analyses protocol was used to review original HIV cure-related publications from 2010 to 2021 indexed in the PubMed database.
- Reviews, vaccine studies or other studies not related to HIV cure were excluded.
- African author proportions, study type, participant origin, and funding sources were studied.

Results

Figure 1: HIV cure research by continent

- Africa: 35%, Asia: 30%, Australia: 15%, Europe: 10%, North America: 5%

Figure 2: HIV cure research by African region

- North: 20%, Central: 30%, East: 30%, West: 10%, South: 10%

Figure 3: Authorship

- First authorship (N=518), Corresponding authorship (N=518)

Figure 4: Type of study

- Social science / Epidemiological: 10%, Primates: 20%, Non-primates: 40%, Human clinical trials: 10%, Ex-vivo (Cells from HIV patients): 20%, Basic science (No cells from HIV patients): 5%

Figure 5: Source of funding

- Basic science: 50%, Clinical trials: 20%, Animal: 15%, Other: 5%, Analytical: 10%

Figure 6: Africa's yearly contribution


Conclusion

- The study shows that African researchers and patients are contributing little to HIV cure research.
- There is an urgent need for more HIV cure research investments in Africa to ensure that emerging curative therapies are appropriate for PLWH in Africa.

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