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A REVIEW ON RECENT TREATMENT OF HIV PATIENTS

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Key Global Statistics
- PLHIV – Approx. 40.8 million.
- New HIV infections – 1.3 million(roughly a 40% reduction since 2010).

AIDS Related Deaths
Roughly 630,000 people died from HIV-related causes in 2022, down from the 2004 peak.

Total Historic Impact: The impact of Human Immunodeficiency Virus in India has been medical, social, economic, and public-health related.

From the begining of the epidemic, approximately 91.4 million people have been infected, and 41.4 million have died. India experienced one of the largest world'hiv epidamics but with successful control programmes among doveloping countries.

1. Beginning of HIV in India

- First HIV case detected in 1986 in Chennai among sex workers.
- During the late 1980s and 1990s, infection spread rapidly through: 1.Unprotected sexual contact 2. Commercial sex networks 3. Unsafe blood transfusions 5. Injecting drug use 6. Mother-to-child transmission .Initially there was fear, stigma, and poor awareness

High p **Peak epidemic period**
By the late 1990s and early 2000s:
- India had millions of people living with HIV.
- Some estimates suggested India had the second-largest HIV burden globally after South Africa.
  - High prevalence states included: Andhra Pradesh, Maharashtra, Karnataka,
  - Tamil Nadu, Manipur, and Nagaland

Regional Disparity
This burden varies dramatically by geographic location and socio-economic development.

Sub-Saharan Africa
Sub-Saharan Africa has the highest incidence(60%-70% cases) & mortality rate globally.

Introduction
Global Burden of HIV/AIDS:
The global burden of HIV/AIDS remains a significant public health challenge. Over 40.8 million people are living with HIV/AIDS today.
GOAL:There are Sustained programs have been made in reducing mortality & opportunistic and to control new infections since early 2000s.

Recent HIV Trends
While cases are falling in Africa and South Asia, new infections and mortality rates are increasing in Central Europe, Eastern Europe, central Asia, and the Middle East.

INDIA hosts the second largest population of PLHIV globally (estimated 4th PLHIV globally with 2.5 million in 2024).

Demographic Breakdown
Young Adults 25–29 yrs age group shows highest global incidence.

Women & Girls: Gen Sub-Saharan African women are disproportionately affected; they account for 50% of all PLHIV. At present the plhiv age groups are in between30yrs to 60 yrs and main bulk cases between 40yrs to 5o yrs age.

Key populations
In Africa, 44% of new infections occur among key populations (e.g., men who have sex with men (MSM), sex workers, transgender people, and inject drug users).

Treatment and Prevention Gaps
Global efforts are off-track to meet UNAIDS 2030 goals to achieve UNAIDS 2030 targets of ending AIDS as a public health threat

Treatment Cascade
As of (2024) roughly 77% of people living with HIV are receiving Antiretroviral Therapy (ART).
- About 10 million people still lack access to life-saving treatment.
- Viral suppression is at 73%, with viral loads achieved in sufficient numbers to prevent transmission.

3. Economic Burden: The global cost of HIV care exceeds affordability, and high prevention costs may be reduced through economic reforms.

3. Global HIV/AIDS Gap : The burden is increasing due to gaps between healthcare capabilities and socioeconomic inequalities. Structural barriers like poverty hinder progress.

4. Current Status
- Target 95-1: 95% diagnosed. Current status: 87% diagnosed (5.3 trillion people in need agreed to).
- Target 95 : Ensure 95% of diagnosed receive sustained ART. Current status: 71.2% on ART (31.6 million).

Target 3: 95% virally suppressed.
2. Goal: Ensure 95% of those on antiretroviral therapy achieve viral suppression, making the disease undetectable.
3. Status: 73% of all
PLHIV in countries like Switzerland, have exceeded their goals.
4. Socio-economic impact: Labor and productivity effects include economically productive group (20–49 years) morbidity & mortality reduction, with work force productivity cost reduced by 30%.
5. Household impact: Affected households face extreme poverty due to direct costs (medicines, transport) and indirect costs (lost wages), forcing families to sell assets or incur debt.

1. Rapid wound healing suppression in 8 days to Reach U.
2. High specific barrier & Remittance – muscle low resistance – compared to Efavirenz & Nevirapine.
3. Excellent durability
- Fewer renal & gynecological effects than Efarvirenz.
- Once daily single tablet – improves adherence.
4. Effective even in high viral load.
5. Works well even when WBC < 4,000.
6. Effective in TB co‑infection.
- Can be used with DOT Rifampicin.

The full effect after stopping the drug forces the virus to stay in the system for months.Start daily pill immediately to suppress the virus from developing resistance.

We use Tenofovir + Lamivudine +Dolutegravir oral regimen as First line regimen, in many global public health programs including India. It is highly effective with minimal side effects like dry mouth and nausea.

Modern Regimens
Biktary (BIC + FTC + TAF)Description: Bictegravir regimen (bictegravir + emtricitabine + tenofovir alafenamide) used in some dovelpoed countries. as Antiretroviral therapy for HIV.

Dovato (DTC/3TC) Description
Dolutegravir + lamivudine dual therapy
Can be used as anti retroviral regimen as HIV treatment for pts who are stable for 6months or 1year with 3 drug standard regimen. but with this regimen in some European countres there was rise of viral load seen after few years. so three drug regimen is far superior tan2 drugs treatment.

Triumeq (ABC/DTG/3TC)Description: Abacavir + dolutegravir + lamivudine combination is commonly used as Antiretroviral therapy for HIV management in children below 30kg wt.

Drug active injectables
Advantages:
- Pill free period,improved quality of life and adherence

Cabenuva: dose planning every 1–2 months
Sunlenca: every 6 months

Lenacapavir
Yeztugo (Lenacapavir) (PrEP) every 6 months
Apretude (PrEP) every 2 months
Dis advantages with old regimens:
1) Pill burden: There was pill burden10–20 pills daily especially when Protease inhibitors were used and there by adherence problem.It was seen in years 1990–2000
New (2020 →) regimens: very convenient,
- 1 pill daily
- Injections every 2 months.

So with this we can solve adherence problems and there by we can achieve viral suppression as expected

2) Toxicity: with Old regimen many patients suffered from- fat loss in face/limbs, organ damage and "AZT fog".
With newer drugs patients have less side effects, - higher safety,and we have to focus on bone and kidney health.

3) Design: Ther were lot of
Old:
- food requirements / strict rules every day
- risk of headache
New:
- can be taken any time of day
- modern drugs (integrase inhibitors) are easier over time

4) Timing
Old:
- only planned pills when they became very sick

New:
- treat all
- medications start immediately after diagnosis to prevent transmission

5) Goal: Survival
Old: delayed treatment until AIDS
-

New:
- U = U (Undetectable = Untransmittable)
- viral load so low that HIV cannot be transmitted to others

We are moving away from daily pills towards long-acting injectable medicines
like Cabenuva
- every 2 months
- and there are coming once weekly pills

Side effects:
1) Injection site pain / swelling
2) Weight gain
- diabetes

3) Neuropsychiatric symptoms
- anxiety
- mood changes

Recent Trends: Injectable **Ranolazine** twice a week, along with TLD regimen may be tried in those patients selectively for LFU & CD4 count < 200. It seems safe.

1. DTG Regimen → 19% reduction of CNS symptoms.
2. Job satisfaction ↑
3. Couples - family support ↑
4. Quality of life improved↑
5. ↑Adherence, ↓ Stigmatization

In Same Dose, Same Efficacy - Though CD4 ↑,OIS ↓ seen.

Liver disorder
Rash - Very few cases Stevens-Johnson syndrome.