HIV and COVID-19: Review of Clinical Course and Outcomes
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**Background**
- When COVID-19 surfaced in 2019, healthcare officials and providers assumed that individuals with HIV infection and other immunocompromising conditions would be at particularly high risk of both acquisition and severe disease.
- Without effective antiretroviral therapy (ART), HIV leads to depletion of CD4 T-lymphocytes, resulting in a weakened adaptive immune response.
- In the presence of effective ART, the cellular immune response recovers to variable degrees; however, individuals with HIV appeared to remain at greater risk for many infections.
- Researchers were uncertain about the role of HIV in contributing to COVID-19 acquisition and disease severity.

**Aims**
- To better understand what was known about the relationship between HIV and COVID-19 acquisition and disease severity.
- To summarize current research on COVID-19 among People with HIV (PWH) as published through July 2021.

**Methods**
- A literature review was conducted of all existing articles that reported data or opinions on SARS-CoV-2 and HIV coinfection.
  - 215 articles
  - PubMed, Scopus, preprint databases (medRxiv, bioRxiv), and references of existing publications
  - Key terms used: “COVID-19” OR “SARS-CoV-2” OR “coronavirus” AND “HIV” OR “Human Immunodeficiency Virus” OR “AIDS” OR “Acquired Immunodeficiency Syndrome”

**2021 Conclusions**
- Initial case series and cohort studies found no increased risk for SARS-CoV-2 infection or severe COVID-19 outcomes among PWH.
- Later studies showed an increased risk for severe COVID-19 disease progression even in the setting of well-controlled HIV.
  - (Unclear whether this was due to the increased prevalence of comorbidities in PWH or other social determinants of health.)

**2021 Review Table & Sources**

**2024 Updates**
- Results remain mixed; however, a few large-scale studies showed that there is not a correlation between HIV status and COVID-19 outcome severity.
- Studies show that with immunodeficiency who are fully vaccinated are more likely to have COVID-19 breakthrough infections.
- Comorbidities and SDofH continue to show the highest impact on COVID-19 outcomes.

**2024 Sources**
Freer J, Mudaly V. HIV and covid-19 in South Africa. BMJ. 2022;376:e068007. Published 2022 Jan 27. doi:10.1136/bmj-2021-068007