EFFECTIVENESS OF HIV PRE- AND POST- EXPOSURE PROPHYLAXIS: COMPARING CLINICAL TRIALS AND REAL-WORLD EVIDENCE

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Abstract - Despite advances in treatment, HIV continues to affect more than 40 million people globally, underscoring the urgent need for effective prevention strategies. Among these, Pre-exposure Prophylaxis (PrEP) and Post-exposure Prophylaxis (PEP) have shown remarkable efficacy in clinical trials. This study brings together insights from research published between 2015 and 2025, highlighting both the progress made and the persistent challenges in translating clinical efficacy into real-world success. PrEP can reduce HIV transmission by up to 99%, while PEP offers near-complete protection when initiated within 72 hours and continued for 28 days. However, achieving similar outcomes outside clinical settings remains difficult. Stigma, limited awareness, delayed initiation, poor adherence, and unequal healthcare infrastructure especially in low- and middle-income regions create a substantial gap between trial efficacy and real-world effectiveness. In community settings, individuals often lack the consistent counselling, monitoring, and support available to trial participants. PEP completion rates remain low, and PrEP uptake across Southeast Asia is limited, with varying adherence between daily and on-demand regimens.The emergence of long-acting injectable options such as cabotegravir offers new promise but also exposes disparities in access and affordability. Bridging these gaps requires wider accessibility, improved education, digital adherence monitoring, and pharmacist- or community-led services. Strengthening regional data and implementation strategies is crucial to ensure that the proven biomedical success of PrEP and PEP translates into meaningful, sustained real-world impact.

Keywords - Pre-exposure Prophylaxis (PrEP); Post-exposure Prophylaxis (PEP); HIV, ART