

Inferring Longitudinal antiretroviral drugs effects on mental health in people with HIV

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Abstract: The effects of antiretroviral (ART) drugs for people living with HIV (PLWH) on mental health are inconsistent. Given the heterogeneous nature of both ART drugs and the presentation of depressive symptoms, newer approaches are necessary for guiding clinical practice. Since ART-related depression would be heterogeneous among HIV patients depending on their differences in numerous factors including demographics and clinical variables, we develop a new Bayesian semiparametric graphical model with nodes representing drugs and depression items, and weighted edges representing their relationships. The weights indicate the strength of the drug-depression relationships and can vary across different visits and different patients. The effective and reliable modeling and prediction will help elucidate the treatment-depression relationship and guide the clinicians in making more informed decision for patients.