

# INPLASY

## Prevalence of mental problems among adolescents and young adults with HIV: a systematic review and meta-analysis

INPLASY202490014

doi: 10.37766/inplasy2024.9.0014

Received: 3 September 2024

Published: 3 September 2024

Tan, YT; Ma, ZY; Cao, Q; Gao, SC; Xiong, Y.

### Corresponding author:

Yong Xiong

yongxiong64@163.com

### Author Affiliation:

Zhongnan Hospital of Wuhan University, Wuhan, China.

### ADMINISTRATIVE INFORMATION

**Support** - Comprehensive reform of medical education quality, first-class undergraduate professional construction project, Wuhan University (grant number: 202102).

**Review Stage at time of this submission** - Completed but not published.

**Conflicts of interest** - None declared.

**INPLASY registration number:** INPLASY202490014

**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 3 September 2024 and was last updated on 3 September 2024.

### INTRODUCTION

**Review question / Objective** Adolescents and young adults (AYA) with HIV are high risk of population experiencing mental issues. We aim to summarize the global prevalence and risks of depression, anxiety, PTSD and sleep disorder among AYA with HIV.

**Condition being studied** Currently, more and more attention has been paid to the mental health problems among HIV-infected patients. Compared to the general population, HIV-infected patients are at a higher risk of developing mental disorders and psychological health issues. They are more prone to a variety of mental health problems such as depression, anxiety, psychological stress, and somatoform disorders. HIV itself, adverse drug reactions, social discrimination, and stigmatization may all contribute to mental health problems in individuals with HIV. Research has found that HIV

can induce depression by triggering inflammatory responses in the central nervous system; antiretroviral drugs such as efavirenz are associated with depression, anxiety, mental confusion, and suicidal behavior. At the same time, mental health problems have brought a heavy burden to the treatment of HIV, which is often related to the adverse outcomes. Currently the prevalence of mental problems among AYA with HIV varies in different studies due to the differences in socio-economic conditions, regional culture and screening tools. There is a lack of systematic reviews and meta-analyses on the epidemiological data of mental health issues including depression, anxiety, PTSD and sleep disorder among AYA with HIV. The purpose of this review and meta-analysis is to systematically analyze studies on the prevalence and risk of depression, anxiety, PTSD and sleep disorder in AYA with HIV.

## METHODS

**Search strategy** Pubmed, Web of science, Embase and PsycINFO were searched till August 3, 2024.

**Participant or population** study population included AYA (age 10-40 years old) with HIV.

**Intervention** No intervention.

**Comparator** HIV-uninfected AYA.

**Eligibility criteria** Observational studies reporting the prevalence rate of depression/anxiety/PTSD/sleep disorder among AYA with HIV were included. Review, case report, conference papers, notes, editorials notes and non-observational research were excluded.

**Information sources** Published studies till August 3, 2024 from databases including Pubmed, Web of science, Embase and PsycINFO were searched. The following data were extracted: first author surname, publication year, study location, sample size, study population (including HIV-negative participants), age, study design, type of mental issues, screening tools of depression/anxiety/PTSD/sleep disorder, prevalence estimates of depression/anxiety/PTSD/sleep disorder.

**Main outcome(s)** The pooled prevalence of depression/anxiety/PTSD/sleep disorder and risks of depression/anxiety/PTSD/sleep disorder occurrence among AYA with HIV by comparison to those without HIV were calculated.

**Quality assessment / Risk of bias analysis** A modified Newcastle-Ottawa quality assessment scale (NOS) was used to independently evaluate the quality of the included studies.

**Strategy of data synthesis** Statistical analyses was performed with Stata (Version14.0). The heterogeneity between studies were assessed by the I<sup>2</sup> statistics, and the value > 75 % indicated a high heterogeneity. Fixed effect models were performed when I<sup>2</sup> < 50%, and random effect models were performed when I<sup>2</sup> ≥ 50%. Publication bias was examined using Egger's correlation tests and funnel plot. Statistical analyses were two-sided with a significance level of 0.05.

**Subgroup analysis** The subgroup analysis of depression/anxiety/PTSD/sleep disorder prevalence were performed according to the study

design, study location and measurement tools to identify the source of heterogeneity.

**Sensitivity analysis** None.

**Country(ies) involved** China - Zhongnan Hospital of Wuhan University, Wuhan.

**Keywords** Adolescents and young adults; HIV; depressive; anxiety; PTSD; sleep disorder.

### Contributions of each author

Author 1 - Yuting Tan - Data Curation; Formal Analysis; Investigation; Methodology; Software; Writing-Original Draft.

Email: 13122191353@163.com

Author 2 - Zhiyong Ma - Data Curation; Formal Analysis; Methodology; Writing-Original Draft.

Email: mzy2001pl@163.com

Author 3 - Qian Cao - Data Curation; Formal Analysis; Methodology.

Email: qiancao2015@126.com

Author 4 - Shicheng Gao - Conceptualisation; Supervision; Writing-Review and Editing.

Email: shichengg@126.com

Author 5 - Yong Xiong - Conceptualisation; Project Administration; Supervision; Writing-Review and Editing.