High Prevalence of Depression and Anxiety in Women Without HIV and Women With HIV on DTG-ART

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BACKGROUND

Little is known about the prevalence and nature of depression and anxiety symptoms among women with HIV on long-standing dolutegravir (DTG)-based antiretroviral treatment (ART), particularly in southern Africa.

METHODS

- From March 2021-May 2023, we enrolled women with HIV and women without HIV in the "Motheo" study of child neurodevelopment and maternal mental health in 1 city and 1 village in Botswana. Women were enrolled with their 2-year-old children
  - We included women taking DTG-based ART and women without HIV in this analysis
- At enrolment, trained staff administered the Patient Health Questionnaire (PHQ-9) and Generalized Anxiety Disorder (GAD-7) in preferred language (Setswana or English)
- For 2-category ordinal endpoints:
  - Probable depression: PHQ-9 score of 9 or higher (per prior Botswana data, *Molebatsi BMC Psychiatry 2020)*
  - Probable anxiety: GAD-7 score of 8 or higher
- For 3-category ordinal endpoints:
  - Depression: PHQ-9 score 1-4 (none to minimal), 5-9 (mild), and >9 (moderate/severe)
  - Anxiety: GAD-7 score 0-4 (none to minimal), 5-9 (mild), and >9 (moderate/severe)
  - Unadjusted and adjusted analyses performed using GEE log-binomial regression to estimate relative risks; linear regression to compare mean scores

RESULTS

- We evaluated 385 women with HIV on DTG-based ART, and 160 women without HIV
- Women with HIV were older than women without HIV, more likely to enroll at the urban site, and less likely to complete senior secondary school or higher education (Table 1)
- Prevalence of probable depression, probable anxiety, and actual expression of suicidal ideation was high
  - Outcomes did not differ between women with HIV vs. women without HIV in unadjusted or adjusted analyses (despite slightly numerically higher prevalence of each outcome in women with HIV) (Table 2, Figure 1a)
- 13% of women had scores consistent with moderate/severe depression and 8% with moderate/severe anxiety
  - Severity of depression and anxiety also did not differ by HIV status (Figures 1b and 1c)

Approximately 1 in 6 women had probable depression and 1 in 6 had probable anxiety. This relatively high prevalence of depression and anxiety was similar in women with HIV (on DTG-ART) and women without HIV. More than 1 in 5 women were referred for mental health services. Additional mental health services are urgently needed to meet the high demand.

Table 1. Baseline characteristics

Characteristic	Women with HIV on DTG-ART (n=385)	Women without HIV (n=160)
Age, mean years (SD)	34.9 (6.0)	29.8 (6.0)
Enrolled in village site (n/%)	120 (31%)	70 (44%)
Senior secondary or higher education	153 (40%)	99 (62%)
Married or cohabiting (n/%)	155 (40%)	78 (49%)
Income: none or less than $40/month	180 (47%)	94 (59%)
Occupation: housewife/no income	155 (40%)	72 (45%)
Food insecurity (household skip meal in last 4 weeks)	103 (27%)	29 (18%)

Table 2. Proportions of women with mental health outcomes, by HIV status

	Women with HIV on DTG-ART (n=385) n/% with outcome	Women without HIV (n=160) n/% with outcome	Adjusted* Relative Risk	p-value
Probable depression	65 (17%)	24 (15%)	1.19 (0.70, 2.01)	0.53
Suicidal ideation	61 (16%)	23 (14%)	1.13 (0.65, 1.95)	0.66
Probable anxiety	57 (15%)	23 (14%)	1.04 (0.60, 1.79)	0.90
Referred for mental health	87 (23%)	32 (20%)	1.21 (0.77, 1.91)	0.41

* Adjusted for site of enrollment; maternal age, education, marital status, income, occupation, whether household member(s) had to skip meal in prior 4 weeks . No substantive changes in results after also adjusting for domestic violence and social support (results not shown)

Figure 1a. Total PHQ-9 and GAD-7 Scores in Women With and Without HIV

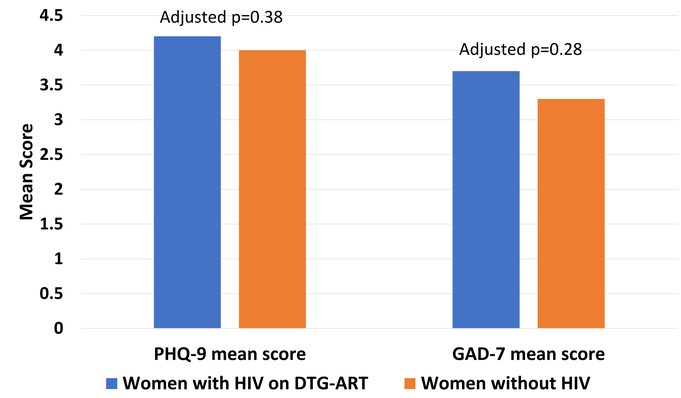


Figure 1b. Proportions of women with depression outcomes, by HIV status

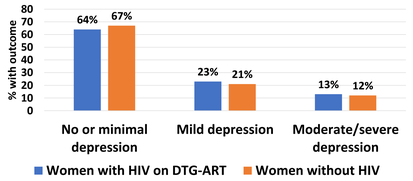
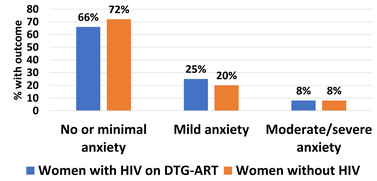


Figure 1c. Proportions of women with anxiety outcomes, by HIV status



CONCLUSIONS

- We observed relatively high (and similar) overall prevalence of probable depression, probable anxiety, and actual expression of suicidal ideation in women living with HIV on DTG-based ART and women without HIV.
- More than 20% of women were referred for mental health services. Additional mental health services are urgently needed to meet the high demand.

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