

# THE ASSOCIATION BETWEEN SEVERE MENOPAUSAL SYMPTOMS AND ADHERENCE TO ANTIRETROVIRAL THERAPY IN WOMEN LIVING WITH HIV

Danielle Solomon, Fiona Burns, Richard Gilson, Alexandra Rolland, Caroline Sabin, Lorraine Sherr, Shema Tariq (on behalf of PRIME Study Group)

Institute for Global Health, University College London, UK



## BACKGROUND

- In 2016, approximately 10,350 women of potentially menopausal age (45-56 years) attended for HIV care in the UK, a 5-fold increase over 10 years<sup>1</sup>.
- Despite this increase, there remains a paucity of data on HIV and the menopause.
- We explore the association of severe menopausal symptoms with adherence to antiretroviral therapy (ART) in women living with HIV (WLWH) in England.

## METHODS

- We analysed data on 625 women on ART recruited to the **PRIME Study** (Positive Transitions Through the Menopause), an observational study of WLWH aged 45-60 in England in 2016-17.
- We used the Menopause Rating Scale (MRS) to ascertain symptom severity (score  $\geq 17$  indicating severe menopause symptoms).
- The MRS is a validated tool for capturing psychological (e.g. depression and anxiety), somatic (e.g. vasomotor symptoms) and urogenital (e.g. vaginal dryness) symptoms of menopause<sup>2</sup>.
- ART adherence was measured using the CPCRA Antiretroviral Medication Adherence Self-Report Form<sup>3</sup>, with patients dichotomised into optimal (100% adherence in past 7 days) or suboptimal (<100% adherence in past 7 days) adherence.

TABLE: CHARACTERISTICS OF WLWH WITH OPTIMAL AND SUBOPTIMAL ADHERENCE TO ART

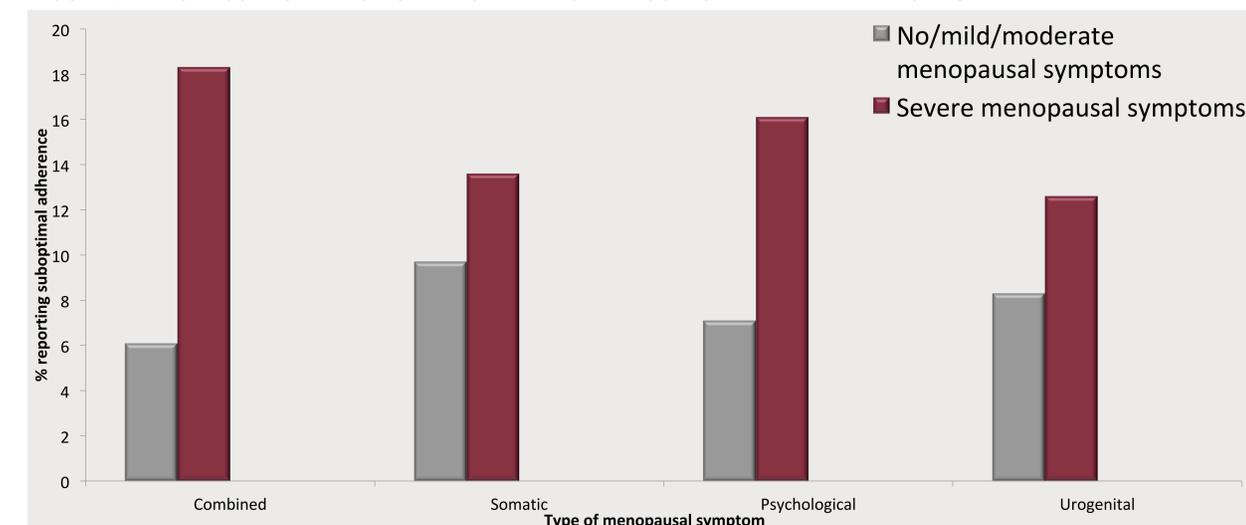
	Optimal adherence N=565 (n,%)	Suboptimal adherence N=60 (n,%)	p-value <sup>a</sup>
<b>Median age in years, (IQR)</b>	49 (45 - 59)	49 (45 - 59)	0.70
<b>Ethnicity</b>			
Black African	406 (73.3)	39 (65.0)	0.16
White UK	45 (8.1)	10 (16.7)	
Other	103 (18.6)	11 (18.3)	
<b>Employment</b>			
Employed	387 (70.9)	32 (55.2)	0.001
Unemployed	159 (29.1)	26 (44.8)	
<b>Education</b>			
Did not complete school	61 (11.3)	6 (10.5)	0.26
'O' level <sup>b</sup>	121 (22.3)	10 (17.5)	
'A' level <sup>c</sup>	102 (18.9)	17 (29.8)	
University	257 (47.5)	24 (42.1)	
<b>Enough money for basic needs</b>			
All the time	235 (41.9)	11 (18.7)	0.005
Most of the time	135 (24.2)	22 (37.3)	
Some/None of the time	191 (33.9)	26 (44.0)	
<b>Smoking</b>			
No	510 (92.6)	48 (80.0)	<0.001
Yes	41 (7.4)	12 (20.0)	
<b>High risk alcohol use<sup>d</sup></b>			
No	490 (92.3)	41 (74.6)	<0.001
Yes	41 (7.7)	14 (25.5)	
<b>Most recent CD4 count (cells/mm<sup>3</sup>)</b>			
$\geq 500$	338 (68.0)	45 (79.0)	0.22
200-500	123 (24.8)	10 (17.5)	
<200	36 (7.2)	2 (3.5)	
<b>Most recent HIV viral load</b>			
Undetectable	479 (89.3)	52 (86.7)	0.53
Detectable	57 (10.7)	8 (13.3)	
<b>Menopausal status</b>			
Pre-menopausal	123 (21.9)	14 (23.3)	0.68
Peri-menopausal	255 (45.5)	28 (46.7)	
Post-menopausal	183 (32.6)	18 (30.0)	

<sup>a</sup>  $\chi^2$  or Kruskal-Wallis test <sup>b</sup> equivalent to completing US Grade 10; <sup>c</sup> equivalent to completing US Grade 12; <sup>d</sup> using the Alcohol Use Disorders Identification Test (AUDIT-C) screening tool

## RESULTS

- The majority of women were either peri- (n=283, 45.6%) or post-(n=201, 32.4%) menopausal; nearly a third (n=180) reported severe menopausal symptoms.
- A minority had a CD4 count <200 cells/mm<sup>3</sup> (n=38, 6.9%) or detectable HIV viral load (n=65, 10.9%); 10% (n=60) reported sub-optimal adherence to ART.
- Adherence was not associated with menopausal status, however adherence was associated with severity of menopausal symptoms (increased severity of symptoms was associated with increased likelihood of suboptimal adherence), as well as employment status, whether basic needs were met, and current smoking (Table).
- Women reporting severe menopausal symptoms had over twice the odds of suboptimal adherence compared to those reporting no/mild/moderate symptoms (AOR 2.47; 95% CI 1.27,4.82,  $p=0.008$ , Figure).
- In adjusted analyses, there was no statistically significant association between adherence and severe symptoms in the psychological, somatic and urogenital menopausal domains individually (all  $p>0.1$ ).

FIGURE: MENOPAUSAL SYMPTOMS AND SELF-REPORTED SUB-OPTIMAL ADHERENCE TO ART



## CONCLUSIONS

- We present one of the largest studies to date exploring menopausal symptoms and ART adherence.
- Combined severe menopausal symptoms (rather than severe symptoms within individual domains) were significantly associated with sub-optimal adherence to ART.
- This cross-sectional analysis cannot assess the direction of causality, highlighting the need for longitudinal data.
- Holistic care that addresses the multidimensional nature of menopausal symptoms may support midlife women living with HIV in maintaining optimal ART adherence.
- We welcome the inclusion of recommendations for proactive assessment of menopausal symptoms in forthcoming UK HIV guidelines<sup>4</sup>.