

K.J. Roberts,<sup>1</sup> C. Smith<sup>1</sup>, E. Toska,<sup>2</sup> L. Cluver,<sup>2,3</sup> K.Haag,<sup>1</sup> C. Wittesaele,<sup>4</sup> N. Langwenya,<sup>3</sup> J. Jochim,<sup>3</sup> W. Saal,<sup>2</sup> Y. Shenderovich,<sup>5</sup> L. Sherr<sup>1</sup>

<sup>1</sup>Institute for Global Health, University College London, UK | <sup>2</sup>University of Cape Town, South Africa | <sup>3</sup>Department of Social Protection and Intervention, University of Oxford, UK | <sup>4</sup>London School of Hygiene & Tropical Medicine | <sup>5</sup> Cardiff University, Wales, UK | Email: k.roberts@ucl.ac.uk | Poster: 21



## BACKGROUND

- Adolescent (10-19 years) pregnancy rates within Sub-Saharan Africa are high,<sup>1</sup> as is HIV prevalence amongst adolescents
- Both Adolescent pregnancy and HIV are prominent global health issues which may – independently and combined – compound mental health difficulties for adolescents
- Poor mental health may have widespread impacts for individuals and their social network<sup>2-8</sup>
- There is an absence of literature exploring risk and protective factors for mental health difficulties among adolescent mothers within the context of HIV in sub-Saharan Africa – existing research has focused on broader populations
- This exploratory study aims to identify the prevalence of common mental disorder among adolescent mothers (both living with and not living with HIV) and explores hypothesised risk factors (utilising Bronfenbrenner’s ecological model<sup>9</sup> as a framework) for likely common mental disorder

## METHODS

### Sample

- HEY BABY is a prospective cohort study following adolescent mothers (pregnant between 10-19 years) and their children in the Eastern Cape, South Africa
- Adolescent mothers completed detailed study specific questionnaires (validated and standardised) relating to their self and child
- Analyses present data for adolescent mothers who had at least one living child (n=1002)

### Measures

- Four validated measures of **maternal mental health symptomology** were used and combined to a single measure of common mental disorder using validated cut-offs: *Child Depression Inventory (CDI; 10 item; cut-off ≥3)*; *Children’s Manifest Anxiety Scale (RCMAS; 14 item; cut-off ≥9)*; *Child PTSD checklist (12 item; cut-off ≥3 [Scoring ≥0 on mood, arousal and avoidance subscales])*; *MINI-Kid (suicidality; 5 items; cut-off ≥1)*

### Hypothesised risk factors (see Fig 1.)

- Individual level factors** – experience of any previous abuse (emotional, physical [weekly/monthly] or sexual abuse [ever]). Socioeconomic circumstances were captured utilising a series of measures relating to food security, access to necessities, government cash grant receipt and, being in paid work or education. Data were also collected on whether adolescent mothers were in age disparate relationship (partner +5 years)
- Interpersonal-level factors** focused on support - perceived social support was measured using items from the Medical Outcomes Study (MOS) Social Support Survey. Participants were classified as receiving a lack of social support if they did not score positively on all items in the survey. Support during pregnancy was measured utilising a single self-report item.
- Community-level factors** included adolescent report of exposure to community violence, assessed utilising a single item.

### Statistical Analyses

- Logistic regression analyses were used to explore associations between hypothesised risk factors and likely common mental disorder independently & within multivariate models

### Ethical approvals

- Universities of Cape Town (HREC 226/2017), Oxford (R48876/RE002) & University College London (14795/001)

**Fig 1. Hypothesised risk factors for likely common mental disorder among adolescent mothers affected by HIV clustered according to a socioecological framework**

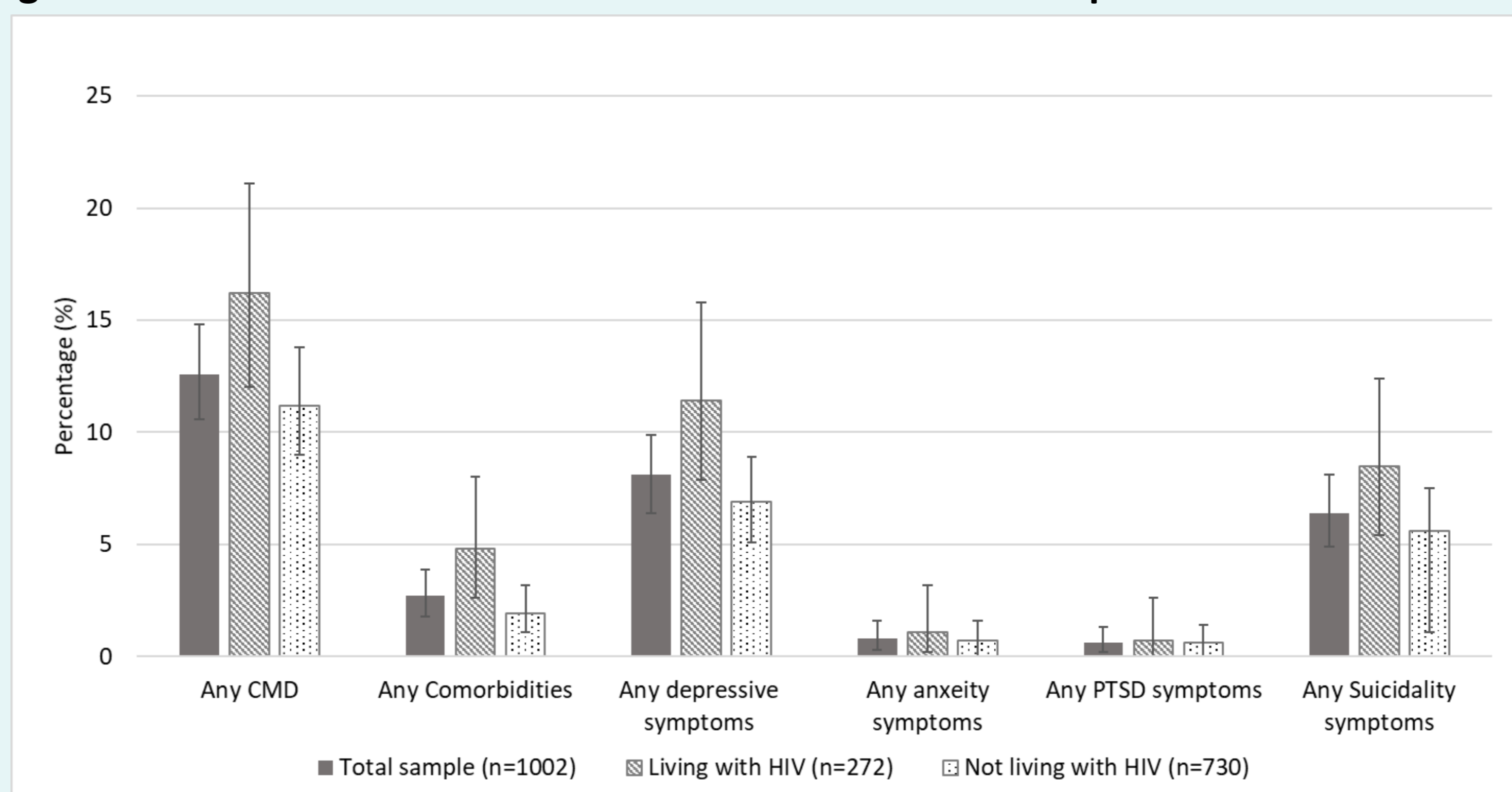
## RESULTS

### Sociodemographic characteristics

- Median age at birth of first child: 17 years (IQR: 16-18 years)
- Over a third (27.2%; 272/1002) adolescent mothers were living with HIV
- 8.8% of adolescent mothers had more than one child
- The median age of children born to adolescent mothers: 15 months (IQR: 6-29 months)

### Prevalence of common mental disorder among adolescent mothers

**Fig 2. Mental health status of adolescent mothers in the sample**



NB. CMD: Common mental disorder (scoring above the cut-off on one or more screen measure for mental health), Mental health comorbidities (experiencing two or more common mental disorders concurrently)

- 12.6%** were classified as experiencing likely **common mental disorder (CMD)** (scoring above the cut-off on at least one mental health measure)
- 2.7%** were classified as experiencing likely **mental health comorbidities** (scoring above the cut-off on two or more measures of mental health)
- Adolescent mothers living with HIV were more likely to report likely common mental disorder and mental health comorbidities compared to adolescent mothers not living with HIV (p<0.05)

### Risk factors for common mental disorder

- Within multivariate models probable risk factors for likely common mental disorder among adolescent mothers were **any experience of abuse** (OR=2.54 [1.20-5.50], p=0.01), **a lack of perceived social support** (OR=4.09 [2.48-6.74], p<0.0001), and **exposure to community violence** (OR=2.09 [1.33-3.27], p=0.001)
- Identified factors remained significant after using the Benjamini Hochberg procedure for multiple testing (utilising a false discovery rate of 10%)

## DISCUSSION

- These analyses address a critical evidence gap relating to risk and protective factors associated with the mental health of adolescent mothers in South Africa
- Identified risk and protective factors spanning individual, interpersonal and community levels have the potential to impact adolescent maternal mental health in South Africa
- Adolescent mothers living with HIV were more likely to report probable common mental disorder
- Policy & programming may benefit from understanding the clustering of challenges for adolescent mothers living with HIV

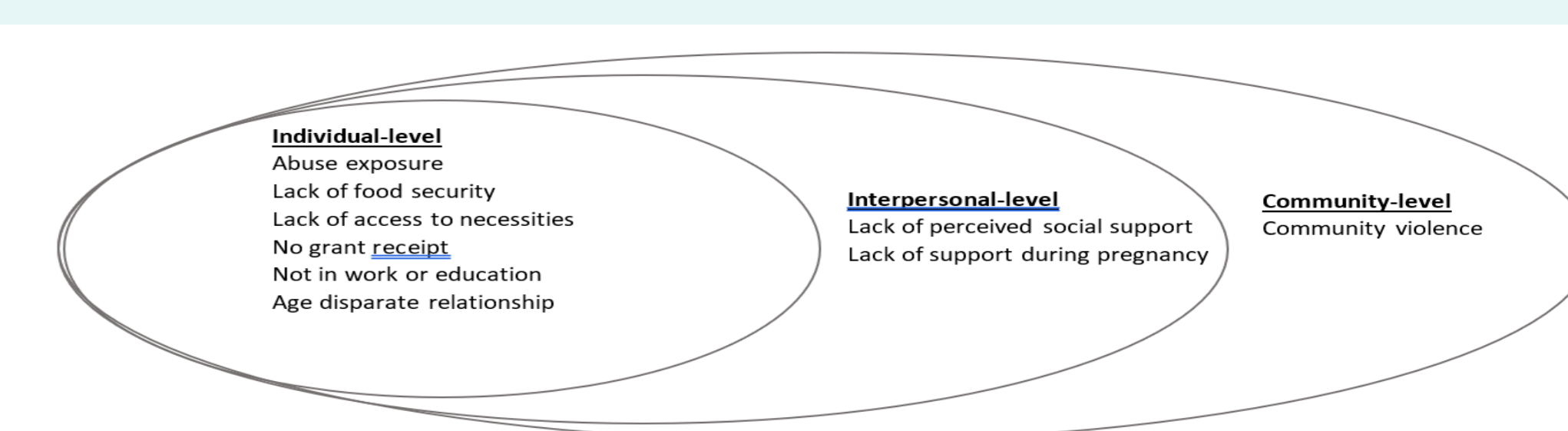
## LIMITATIONS

- Data are cross-sectional - cause and effect cannot be determined
- These analyses only include a limited number of risk factors which likely only reflect a small proportion of the factors expected to contribute to likely common mental disorder among this group
- Mental health status was obtained from self-report data and analyses and utilises cut-offs

## REFERENCES

1. UNICEF; 2014. | 2. Gupta MD. The Power of 18 Billion: Adolescents, Youth, and the Transformation of the Future. The State of World Population: UNFPA; 2014 | 3. Kessler RC, Angermeyer M, Anthony JC, et al. Lifetime prevalence and age-of-onset distributions of mental disorders in the World Health Organization’s World Mental Health Survey Initiative. *World psychiatry*. 2007;6(3):168 | 4. Copeland WE, Shanahan L, Costello EJ, Angold A. Childhood and adolescent psychiatric disorders as predictors of young adult disorders. *Archives of general psychiatry*. 2009;66(7):764-772 | 5. Eyre O, Thapar A. Common adolescent mental disorders: transition to adulthood. *The Lancet*. 2014;383(9926):1366-1368 | 6. Prince M, Patel V, Saxena S, et al. No health without mental health. *The Lancet*. 2007;370(9590):859-877 | 7. Lund C, De Silva M, Plagerson S, et al. Poverty and mental disorders: breaking the cycle in low-income and middle-income countries. *The Lancet*. 2011;378(9801):1502-1514 | 8. Das J, Do Q-T, Friedman J, McKenzie D. Mental health patterns and consequences: results from survey data in five developing countries. *The World Bank Economic Review*. 2009;23(1):31-55 | 9. Bronfenbrenner U. Ecological models of human development. *Readings on the development of children*. 1994;2(1):37-43

**Fig 1. Hypothesised risk factors for likely common mental disorder among adolescent mothers affected by HIV clustered according to a socioecological framework**



NB. Hypothesised risk factors drawn from existing literature