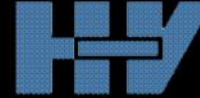




**ICAP**  
COLUMBIA UNIVERSITY  
Mailman School of Public Health



# Psychosocial factors in younger versus older HIV-infected pregnant women initiating antiretroviral therapy in Cape Town, South Africa

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**MCH-ART Study Group**

# Background

**Depression, alcohol abuse, violence are prevalent among pregnant women in South Africa**

Depression 30-40%

Risky alcohol use 20-30%

Intimate partner violence 25-50%

**In HIV-infected pregnant women, these factors have implications for ART adherence and PMTCT outcomes**

**Previous research indicates that younger pregnant women may be at higher risk for these factors**

**Limited data on the psychosocial profile of young HIV-infected pregnant women in South Africa**

# Objectives

Describe the psychosocial profile of HIV-infected pregnant women in Cape Town, South Africa

Describe the psychosocial profile of young HIV-infected pregnant women compared to older women

Identify other factors associated with depression

# Study Context

## Strategies to optimize antiretroviral therapy services for maternal and child health: the MCH-ART study

**Setting:** Large public sector primary care clinic in Cape Town, South Africa

- PMTCT is integrated into antenatal care services
- Well established with >95% antenatal care coverage, 4800 women annually, 33% HIV prevalence

**Phase 1: HIV+ women  
in Antenatal Clinic  
(n=1554)**

**April 2013 – June 2014**

**Phase 2: Initiating  
ART (n=628)**

**Phase 3:  
Breastfeeding  
women  
(n=471)**



# **Study Design**

**Cross-sectional study during Phase 2**

Pregnant women initiating ART

**Questionnaires administered by trained  
interviewers**

Used and validated in this population

# Methods: Study measures

Measure	Analysis
<b>Edinburgh Postnatal Depression Scale</b> Reported symptoms in the last week	<ul style="list-style-type: none"><li>• Depressive symptoms cut off: &gt;13</li><li>• Self-harming thoughts (yes vs. no)</li></ul>
<b>Alcohol Use Disorders Identification Test</b> Reported use in the last 12 months	<ul style="list-style-type: none"><li>• Risky alcohol use cut off &gt;6</li><li>• Experience of alcohol related harm</li></ul>
<b>HIV Social Impact Scale</b> Measure of stigma	<ul style="list-style-type: none"><li>• Higher scores indicate greater stigma</li><li>• Dichotomized to <math>\leq 20</math> and <math>&gt; 20</math></li></ul>
<b>Intimate Partner Violence</b> Experienced during current pregnancy	<ul style="list-style-type: none"><li>• Psychological, physical or sexual abuse</li></ul>
<b>Perceived Availability of Social Support</b>	<ul style="list-style-type: none"><li>• Higher scores indicate greater support</li></ul>
<b>London Measure of Unplanned Pregnancy</b>	<ul style="list-style-type: none"><li>• Higher scores indicate planned pregnancy</li></ul>

# Statistical Methods

**Described demographics and psychosocial characteristics**

**Compared younger women (18-24) to older women ( $\geq 25$ )**

## **Univariate analysis**

- Outcomes: depressive symptoms and self-harming thoughts
- Chi-squared, Fisher's exact, Wilcoxon rank-sum tests

## **Multivariable analysis**

- Age and other significant predictors in univariate analysis included in the multivariable model
- Logistic Regression

# Demographic characteristics of younger vs. older HIV-infected pregnant women

Characteristic	All (n=625)	18-24 years (n=160)	≥25 years (n=465)
Age, Median (IQR)	28 (8)	22 (2)	30 (6)
CD4 (cells/mm <sup>3</sup> ), Median *	341	372	327
Pre-ART Viral load, Median log copies/mL	4.0	4.02	3.99
HIV diagnosis during current pregnancy, % *	55	71	49
First pregnancy, % *	18	49	8
Second Trimester, %	95	93	96
Cohabiting, % *	39	26	44
Highest Level of Education, % *			
Secondary or Post-secondary	92	95	91
Employment, %	38	34	39
Employment type *			
Full time/Part time	88	62	96
School	11	37	4

\* p<0.05 18-24 vs. ≥25



# Psychosocial characteristics in HIV-infected pregnant women

One in five pregnancies was planned

High levels of social support

**Social Impact Scale (stigma)**

Median score of 16: “neutral” response

16% scored >20, indicating at least some stigma

**Intimate Partner Violence\*\***

1 in 5 women reported abuse

15% psychological abuse

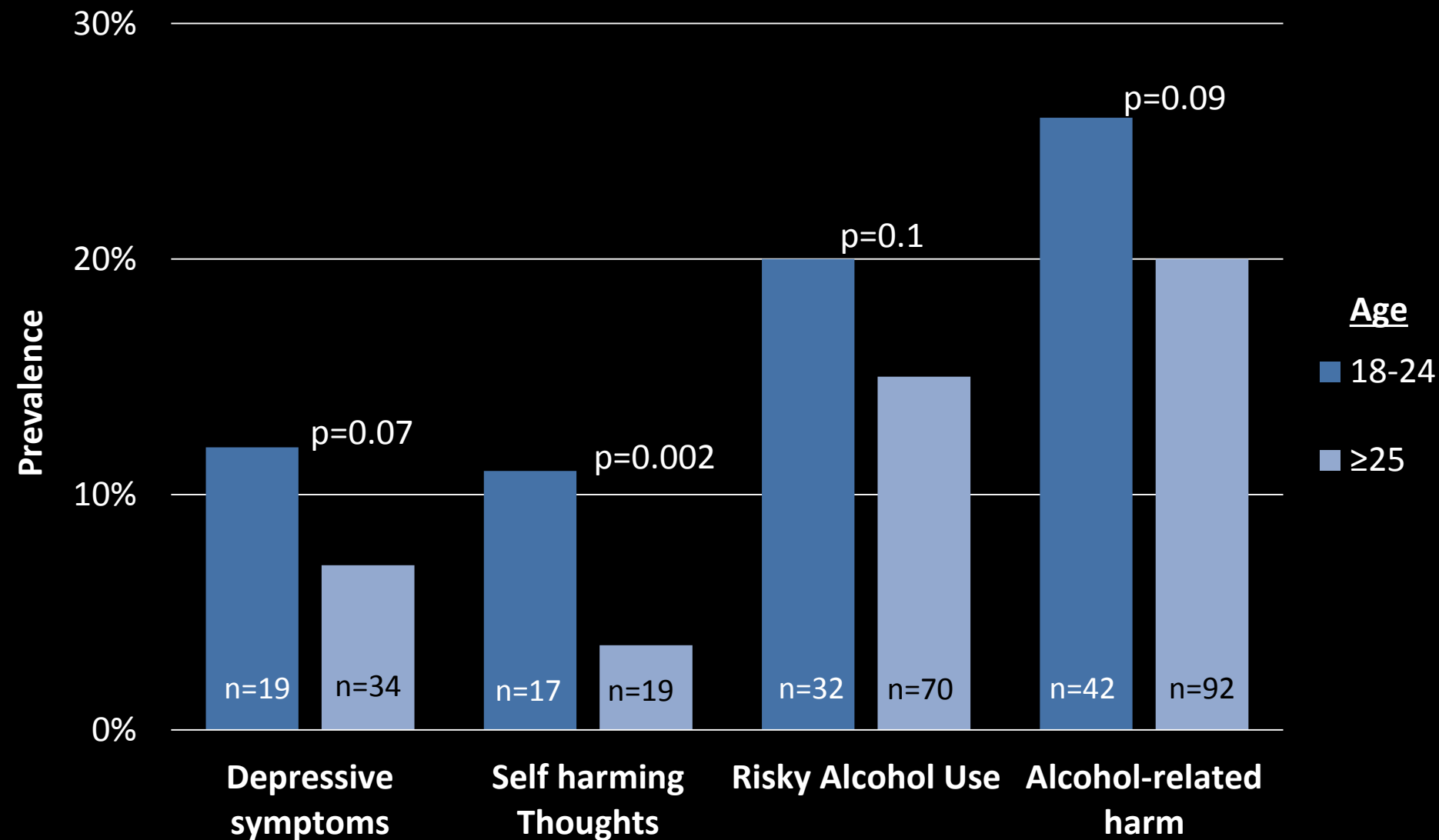
15% physical abuse

2% sexual abuse

**\*\* Bernstein & Myer  
Poster #74**

***Similar in younger and older women***

# Depressive symptoms and alcohol use by age



All, n(%)	53 (9%)	36 (6%)	102 (16%)	134 (21%)
n=625				

# Depressive symptoms and associated psychosocial factors: univariate analysis

Characteristic, n(%)	EPDS >13 (n=53)	EPDS ≤13 (n=572)	OR (95% CI)
Age			
18-24	19 (36)	141 (25)	1.7 (0.9-3.1)
≥25	34 (64)	431 (75)	1.0
Risky Alcohol Use	12 (23)	90 (16)	1.6 (0.8-3.1)
Experienced alcohol-related harm *	18 (34)	116 (20)	2.0 (1.1-3.7)
Social Support (Median, IQR) *	51 (13)	56 (16)	0.97 (0.95-0.99)
Intimate Partner Violence *	19 (36)	113 (20)	2.3 (1.2-4.1)
<b>Social Impact Scale (stigma) *</b>			
<b>Score&gt;20</b>	<b>22 (42)</b>	<b>80 (14)</b>	<b>4.4 (2.4-7.9)</b>

\* p<0.05 with vs. without depressive symptoms

# Self-harming thoughts and associated psychosocial factors: univariate analysis

Characteristic, n(%)	Self-harm (n=36)	No self-harm (n=589)	OR (95% CI)
Age *			
18-24	17 (47)	143 (24)	2.7 (1.4-5.5)
≥25	19 (53)	446 (76)	1.0
Risky Alcohol Use	4 (11)	98 (17)	0.6 (0.2-1.8)
Experienced alcohol-related harm	9 (25)	125 (21)	1.2 (0.6-2.7)
Social Support (Median, IQR)	52 (12)	56 (17)	0.99 (0.96-1.0)
Intimate Partner Violence *	14 (39)	118 (20)	2.5 (1.3-5.1)
Social Impact Scale (stigma) *			
Score>20	19 (53)	83 (14)	6.8 (3.4-13.6)

\* p<0.05 with vs. without self-harming thoughts

# **Age is associated with self-harming thoughts on multivariable analysis**

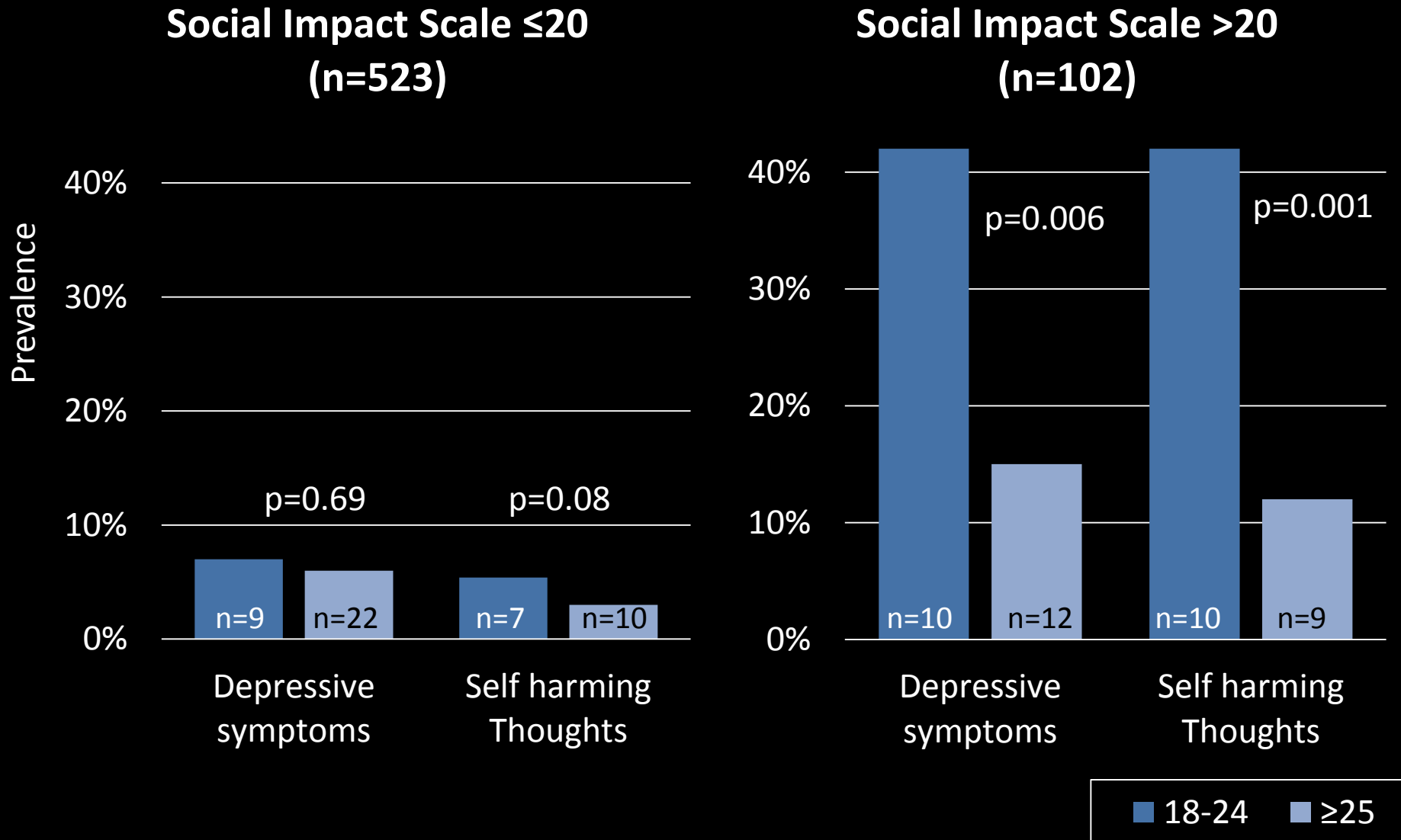
## **Association of Age and Depressive symptoms**

- Association of age and depressive symptoms did not change after adjusting for other psychosocial factors
- Age may be a risk factor for depressive symptoms, independent of other factors

## **Association of Age and Self-harming thoughts**

- Age remained significantly associated with self-harming thoughts when adjusting for intimate partner violence
- Stigma was a significant confounder

# Stronger association between age and depressive symptoms with stigma



# Strengths and Limitations

## Limitations

Cross-sectional

Women are engaged in care

Prevalence may be underestimated

## Strengths

Large sample size

Wide breadth of questionnaires utilized

Hypothesis generating for future studies

# Conclusions

## **Among HIV-infected pregnant women**

- Moderate rates of depressive symptoms
- Moderately high rates of alcohol abuse and intimate partner violence

## **Young HIV-infected pregnant women**

- May be at higher risk of depressive symptoms and self-harming thoughts

**Stigma is associated with greater depressive symptoms and self-harming thoughts in younger women**



# Implications

**Routine screening and interventions needed  
targeting stigma, depression, and alcohol use**

Especially in young women

**Important for adherence and successful PMTCT  
outcomes**

Depression and alcohol use are major risk factors for  
poor health outcomes

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Thank you!

Questions?



Measure	Reference(s)	Scoring/Analysis Guidelines
<i>Social Action Theory Constructs</i>		
Perceived Availability of Social Support	Cohen, S. Psychosocial models of the role of social support in the etiology of physical diseases. <i>Health Psychology</i> , 7(3), 269-297.	<ul style="list-style-type: none"> <li>• Can be analysed as Instrumental (items 3, 4, 5, 8, 9, 10, 11, and 12) and Emotional (items 1, 2, 6, and 7) support.</li> <li>• Mean response score calculated across items, such that higher scores indicate greater perceived availability of support.</li> </ul>
Social Impact Scale	Fife, B. L., & Wright, E. R. (2000). The dimensionality of stigma: a comparison of its impact on the self of persons with HIV/AIDS and cancer. <i>J Health Soc Behav</i> , 41(1), 50-67.	<ul style="list-style-type: none"> <li>• Can be analysed as Social Rejection (items 1 and 2) and Internalized Stigma (items 3-7).</li> <li>• Mean response score calculated across items, such that higher scores indicate greater social impact.</li> </ul>
<i>Mental Health Constructs</i>		
Edinburgh Postnatal Depression Scale (EPDS)	<p>Cox, J.L., Holden, J.M., &amp; Sagovsky, R. (1987). Detection of postnatal depression: development of the 10-item Edinburgh Postnatal Depression Scale. <i>Br J Psychotherapy</i>, 150, 782-786.</p> <p>Validation study for use during pregnancy: Murray, D., &amp; Cox, J.L. (1990). Screening for depression during pregnancy with the Edinburgh Depression Scale (EPDS). <i>J Reprod Infant Psychol</i>, 8, 99-107.</p>	<ul style="list-style-type: none"> <li>• Item 3 and items 5-10 reverse-scored.</li> <li>• Total score calculated by summing individual item responses across all 10 items.</li> <li>• Can be analysed as a continuous score (with higher scores indicating greater frequency of depressive symptoms);</li> <li>• or as a binary categorization, where a threshold of <math>\geq 13</math> is generally used to indicate probable depression, as described in the original development of the scale (Cox et al., 1987).</li> </ul>

Alcohol Use  
Disorders  
Identification Test  
(AUDIT)

Saunders, J.B., Aasland, O.G., Babor, T.F., de la Fuente, J.R., & Grant, M. (1993). Development of the Alcohol Use Disorders Identification Test (AUDIT): WHO Collaborative Project on Early Detection of Persons with Harmful Alcohol Consumption—II. *Addiction*, 88, 791-804.

South African study:

Vythilingum, B., Roos, A., Faure, S.C., Geerts, L., & Stein, D.J. (2012). Risk factors for substance use in pregnant women in South Africa. *SAMJ*, 102(11), 851-854.

- Items 9 and 10 must be re-scored such that “No”=0, “Yes, but not in the past year”=2, and “Yes, during the past year”=4.
- Total score calculated by summing individual item responses across all 10 items, such that higher scores indicate more problematic alcohol use.
- Total score can be categorized such that scores above 6 indicate risky drinking and scores above 20 indicate alcohol dependence (Vythilingum et al., 2012);
- or AUDIT-C scoring can be used, where a total score is calculated by summing individual item responses across the first 3 AUDIT items, and a score of 3 or above indicates hazardous drinking.