Prevalence and factors related to trauma symptoms among people with HIV

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Background

- Among persons living with HIV (PLWH) trauma symptoms (TS) may be more prevalent than the general population
  - General population[1]
    - Females: 5.8%
    - Males:1.2%
    - Overall lifetime risk: 6.8%
- TS may also be a barrier to HIV control

Specific Aims

- Determine prevalence of TS
- Determine risk factors related to TS
- Determine relationship between TS and other psychiatric co-morbidities (depressive symptoms, anxiety symptoms)
- Determine the association of multiple psychiatric comorbidities with viral suppression

Methods

Study population:

- 1855 PLWH enrolled in the Johns Hopkins HIV Clinical Cohort and receiving care between 2013-2018
- Computer/tablet administered repeated assessments of patient reported outcomes including the Primary Care Post Traumatic Stress Disorder Screen (PC-PTSD)
- If patients indicate prior trauma, PC-PTSD asked 4 additional yes/no questions about how that exposure effected them over the past month
- PC-PTSD was based upon DSM IV as PC-PTSD 5 has started to be collected recently

Variables assessed as being risk factors for TS:

- Indicator for trauma symptoms defined as PC-PTSD ≥3
- Anxiety, depression, cocaine use, heroin use, hazard alcohol use, being virally suppressed, race (black, white, other), age
- Indicator for anxiety symptoms defined as Generalized Anxiety Disorder 7-Item Scale ≥5
- Indicator for depressive symptoms defined as Patient Health Questionnaire (PHQ-8) ≥5

Analysis:

- Covariance/correlation matrix to determine relationship between TS, anxiety symptoms, and depressive symptoms
- Recursive partitioning accounting for correlated outcome measurement due to repeated measurement to determine prevalence and factors associated with TS

HIV viral suppression analysis:

Exposure: Number of symptoms (anxiety, depressive, trauma)
Outcome: HIV RNA suppression (HIV RNA≤ 50 copies/ml)
Covariates: anxiety, depression, cocaine use, heroin use, hazard alcohol use,, race (black, white, other), age
Analysis: Logistic model with generalized estimating equations

High prevalence of trauma symptoms among PLWH

Trauma, anxiety, and depressive symptoms are associated with lack of viral suppression

Results

Table I. Baseline Characteristics of the Study Sample by Trauma Status

	Women (cisgender)		Men (cisgender)	
	Trauma Symptoms N=70 (%)	No Trauma Symptoms N=601 (%)	Trauma Symptoms N=95 (%)	No Trauma Symptoms N=1078 (%)
Age				
<35 years	5 (7)	37 (6)	25 (26)	110 (10)
35-44 years	22 (31)	110 (18)	26 (27)	108 (10)
45-54 years	26 (37)	235 (39)	27 (28)	397 (37)
55-64 years	14 (20)	180 (30)	16 (17)	387 (36)
65+ years	3 (4)	39 (6)	1 (1)	76 (7)
Race/ethnicity				
Black	57 (81)	539 (90)	76 (80)	841 (78)
White	13 (19)	55 (9)	17 (18)	193 (18)
Hispanic/other	0 (0)	7 (1)	2 (2)	44 (4)
HIV risk				
Men who have sex with men	-	-	43 (45)	410 (38)
Injection Drug Use	23 (33)	179 (30)	28 (29)	372 (35)
Heterosexual	60 (85)	483 (80)	37 (39)	452 (42)

***Transgender women (N=11) is not shown due to small sample**

Table II. Overall prevalence of trauma symptoms and by characteristics using multiple observations per individual

	Women (cisgender) Estimate (95% CI)	Men (cisgender) Estimate (95% CI)
Total prevalence	9.8% (8.5%; 11.2%)	7.6% (6.7%; 8.6%)
Age		
<35 years	14.1 (7.7; 24.2)	13.4 (9.4; 18.6)
35-44 years	18.8 (14.4; 24.0)	18.4% (14.2%; 23.5%)
45-54 years	10.6 (8.5; 13.1)	7.7 (6.2; 9.6)
55-64 years	5.9 (4.3; 8.1)	4.9 (3.8; 6.3)
65+ years	4.1 (1.9; 8.9)	3.7 (2.1; 6.6)
Race/ethnicity		
Black	9.2 (7.9; 10.7)	6.7 (5.8; 7.8)
White	17.6 (12.2; 24.8)	11.5 (8.9; 14.7)
Hispanic/Other	-	9.6 (4.9; 18.1)
Men who have sex with men	-	9.0 (7.4; 10.9)
Injection drug use	9.4 (7.2; 12.1)	6.4 (5.1; 8.0)
Heterosexual	10.5 (9.0; 12.2)	7.0 (5.7; 8.6)
Anxiety Symptoms	32.2 (28.1; 36.7)	31.3 (27.6; 35.3)
Depressive Symptoms	24.0 (20.6; 27.6)	24.0 (21.1; 27.2)

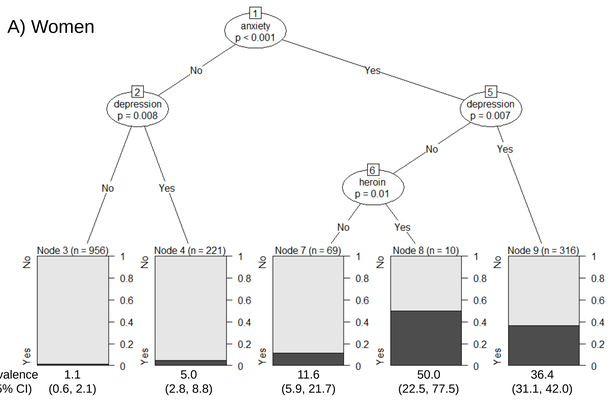
Results

Table III. Correlation Between Trauma, Anxiety, and Depressive Symptoms

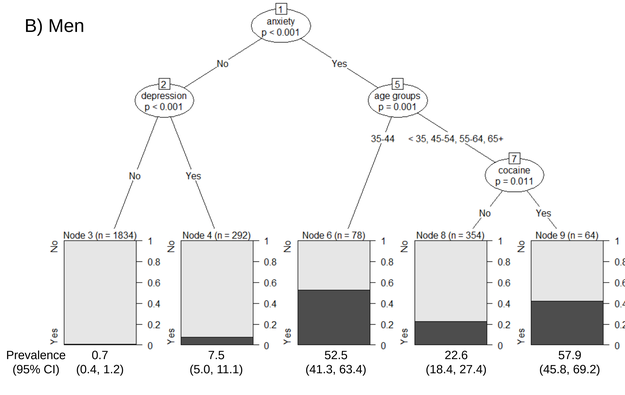
	Trauma Symptoms	Anxiety Symptoms	Depressive Symptoms
Trauma Symptoms	1.0	0.45	0.30
Anxiety Symptoms		1.0	0.45
Depressive			1.0

2%

A) Women



B) Men



Results

Table IV. Association of the number of psychiatric comorbidities with being virally suppressed among women

	OR	(95% CI)
Number of Psychiatric Comorbidities		
No symptoms	1	(Ref)
One	0.80	(0.55; 1.16)
Two	0.87	(0.57; 1.31)
Three	0.64	(0.39; 1.04)

***Adjusted for hazardous alcohol use, cocaine, heroin, race (black, white, other), and age**

Table V. Association of the number of psychiatric comorbidities with being virally suppressed among men

	OR	(95% CI)
Number of Psychiatric Comorbidities		
No symptoms	1	(Ref)
One	1.02	(0.73; 1.43)
Two	1.15	(0.81; 1.66)
Three	0.61	(0.40; 0.92)

***Adjusted for hazardous alcohol use, cocaine, heroin, race (black, white, other), and age**

Conclusions

- Prevalence of trauma symptoms are much more prevalent in PLWH compared to general population estimates
  - General population 5.8% in women 1.2% in men
- Among those with trauma symptoms both anxiety (82%) and depressive (85%) symptoms are likely to be present
- Having all three psychiatric comorbidities (anxiety, depressive, and trauma symptoms) is associated with almost a 40% reduction in odds of being virally suppressed
- Screening for trauma symptoms is likely to reveal individuals who have either or both anxiety and depressive symptoms and are likely at risk for not being virally suppressed

Acknowledgements

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References

1. Harvard Medical School, 2007. National Comorbidity Survey (NCS). (2017, August 21). Retrieved from https://www.hcp.med.harvard.edu/ncs/index.php. Data Table 2: 12-month prevalence DSM-IV/WMH-CIDI disorders by sex and cohort.