MONASH University

Department of Infectious Diseases

The impact of stigma, social support and self-efficacy on depressive, anxiety and stress symptoms among people with HIV in Australia.

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On behalf of the HealthMap research team

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Mental Health and HIV

- Depression
  - 40% over life time (Cysique LA, et al. 2016).
  - Higher rates than general population (Heywood W, Lyons A. 2016).
- Anxiety
  - 36% of gay-identified men with HIV in Australia (Heywood W, Lyons A. 2016).
  - Higher rates than the general population (Brandt C, et al. 2017).
- Stress
  - Up to 31% of PWHIV fit criteria for acute stress disorder (Koopman C, et al. 2002).
  - Australian study - 21% had moderate, severe or extremely severe stress scores (Heywood W, Lyons A. 2016).
- Comorbid mental health may result in negative health outcomes:
  - Lower adherence, greater disease progression, increased hospitalisations, lower quality of life, greater substance use and high risk sexual behaviour.

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Mental Health and HIV

- Social support
  - lack of social support contributes to mental health disorders which may negatively impact on physical health
  - higher levels of social support have been associated with better health outcomes:
- Self-efficacy
  - protective factor against mental health disorders
  - coping with HIV infection [34], improving psychological well-being [35 36], risk reduction [37 38], medication adherence [39] and psychosocial issues [40 41]

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Research Aims

- Primary aim
  - To examine the impact of stigma, social support and self-efficacy on depressive, anxiety and stress symptoms among people living with HIV.
- Secondary aim
  - To examine whether social support or self-efficacy moderated the effect of stigma on depressive, anxiety and stress symptoms.
- It was proposed that higher levels of social support and higher self-efficacy would offer a protective buffer against the effects of stigma on depressive and anxiety symptoms.

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Method

- HealthMap baseline data: 63 HIV doctors from Victoria, New South Wales, South Australia and Queensland were randomised to the HealthMap model (intervention arm) or usual care (control arm).
- 631 people with HIV aged 30 years or older were recruited by their HIV providers.
- Ethics approval: Alfred Health Human Ethics Committee (520/13); Royal Australian College of General Practitioners (NREEC 13–015), Monash University Human Research Ethics Committee (CF14/925–2014000367) & the Australian Department of Health Ethics Committee (SF4060527).
- HealthMap was a joint project of Monash University and the Alfred Hospital and was funded by an NHMRC Project Grant.

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Method continued

- Measures
  - DASS21: Depressive, Anxious and Stress Symptoms (Cronbach's alpha 0.94, 0.86, 0.91 respectively).
  - HeiQ:*Sub Scales: Social Integration and Support* and *Constructive Attitudes* (Cronbach's alpha 0.89 and 0.91 respectively)
  - Herek Stigma Scale: *Sub Scale: Avoidance of Social Situations* (Cronbach's alpha = 0.61)
- Hypothesised that perceived social support and self-efficacy would moderate the relationship between stigma and DASS scores.
- Hierarchical regression analyses used to explore whether social support would predict DASS scores over and above being in a relationship or living with others.
- Linear regression, multiple regression test of moderation and hierarchical regression (assumptions of multiple regression were met).
- Analysis limited to a retrospective analysis of baseline data.

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Results: *Patient demographics at baseline (n=631)*

Participants	%	*M, SD*
Age range (30-79)		49.97, 9.53
Year of diagnosis (1981-2015)		2002, 8.64
CD4 T-cell counts (41-1905)		680.54, 273.41
Viral load (undetectable -72,319)		368.55, 4008.36
cART	898.4	
Psychiatric diagnosis	37.7	
Sex (male)	97.9	
Long-term relationship	47.0	
Sexuality – Gay/homosexual	88.8	
Heterosexual	7.3	
Bisexual	3.4	
Other	0.5	
Living arrangements – Alone	36.6	
Partner	36.5	
Others	26.9	

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Results

- H1: Higher stigma scores would result in higher depression, anxiety and stress scores.

Linear regression of Stigma (Avoidance) predicting DASS Scores

Variable	B	*SE*	95% CI for B	R^2	Adj R^2	β	*t*	*p*	F (df), p
DASS-D	8.06	1.07	5.97 to 10.15	.09	.09	.30	7.57	<.001	57.30, <.001
DASS-A	3.72	.77	2.21 to 5.23	.04	.04	.20	4.84	<.001	23.40, <.001
DASS-S	6.55	.93	4.71 to 8.38	.08	.08	.28	7.02	<.001	49.27, <.001

Note: 95% CI for B = 95% confidence interval for regression coefficient B; Ns for Social Avoid (DASS-D=562, DASS-A=565, DASS-S=564)

Results

- H2: Higher social support scores would result in lower depression, anxiety and stress scores.
- *Linear regression of Social Support predicting DASS Scores*

Variable	B	*SE*	95% CI for B	R^2	Adj R^2	β	*t*	*p*	*F* (df), *p*
DASS-D	-7.24	.53	-8.29 to -6.19	.25	.25	-.50	-13.58	<.001	184.44, <.001
DASS-A	-3.45	.41	-4.25 to -2.65	.11	.11	-.34	-8.49	<.001	72.07, <.001
DASS-S	-4.96	.49	-5.92 to -3.99	.15	.15	-.39	-10.07	<.001	101.44, <.001

Note: 95% CI for B = 95% confidence interval for regression coefficient B. Ns (DASS-D=565, DASS-A=568, DASS-S=567)

Results

- H3: Higher self-efficacy scores would result in lower depression, anxiety and stress scores.
- *Linear regression of Self-efficacy predicting DASS Scores*

Variable	B	*SE*	95% CI for B	R^2	Adj R^2	β	*t*	*p*	*F* (df), *p*
DASS-D	-8.91	.51	-9.91 to -7.91	.35	.35	-.59	-17.53	<.001	307.53, <.001
DASS-A	-4.79	.40	-5.57 to -4.02	.21	.21	-.45	-12.13	<.001	147.05, <.001
DASS-S	-6.30	.48	-7.24 to -5.35	.23	.23	-.48	-13.08	<.001	170.98, <.001

Note: 95% CI for B = 95% confidence interval for regression coefficient B. Ns (DASS-D=566, DASS-A=569, DASS-S=568)

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H4: Higher social support scores would moderate the effect of stigma on depression, anxiety and stress scores.

	Stage 1		Stage 2	
Variable	B	SE	B	SE
Depression				
Social support	-6.66***	.54	-6.67 ***	.54
Stigma	5.44***	.97	4.40*	1.20
Social support x stigma			-2.09	1.42
Anxiety				
Social support	-3.14***	.41	-3.14 ***	.41
Stigma	2.45***	.74	2.49***	.91
Social support x stigma			.08	1.09
Stress				
Stress				
Social support	-4.32***	.49	-4.33***	.49
Stigma	4.93***	.92	3.95***	1.10
Social support x stigma			-2.14	1.32

Note: Depression: $N = 563$, *Anxiety:* $N = 566$, Stress: $N = 565$, * = $p < .05$ ** = $p < .01$, *** = $p < .001$

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H5: Higher self-efficacy scores would moderate the effect of stigma on depression, anxiety and stress scores.

	Stage 1		Stage 2	
Variable	B	SE	B	SE
Depression				
Social support	-8.36***	.52	-8.36 ***	.52
Stigma	4.38***	.91	2.96**	1.17
Social support x stigma			-2.39	1.24
Anxiety				
Social support	-4.55***	.41	-4.55***	.41
Stigma	1.64***	.71	1.45***	.92
Social support x stigma			-.33	.98
Stress				
Stress				
Social support	-5.72***	.49	-5.72 ***	.49
Stigma	4.07***	.74	3.66***	1.12
Social support x stigma			-.74	1.20

Note: Depression: $N = 563$, *Anxiety:* $N = 566$, Stress: $N = 565$, * = $p < .05$ ** = $p < .01$, *** = $p < .001$

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Conclusions

- Higher levels of stigma (avoidance) significantly increased depression, anxiety and stress scores
- Higher levels of perceived social support and self-efficacy resulted in lower depression, anxiety and stress scores.
- Perceived social support did not moderate the effect of stigma
  - pervasive nature of stigma is not ameliorated even when people feel well-supported.

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Conclusions

- Higher self-efficacy scores did not moderate the impact of stigma on anxiety or stress levels,
- Higher self-efficacy scores did moderate the impact stigma had on depression scores.
  - positive affect experienced if an individual has a sense of self-control over their disease?
  - higher self-efficacy scores may also reflect higher self-esteem and psychological well-being

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