The Positive Outlook Study: A Randomised Controlled Trial Evaluating Online Self-Management for HIV Positive Gay Men

Tanya Millard^{1 §}, Paul A Agius^{2, 3}, Karalyn McDonald^{1, 4, 5}, Sean Slavin⁶, Sonya Girdler⁷ & Julian H Elliott^{1,2,8}.

¹Department of Infectious Diseases, Monash University, Melbourne, Australia; ²Centre for Population Health, Burnet Institute, Melbourne, Australia; ³Udith Lumley Centre, La Trobe University, Melbourne, Australia; ⁴Jean Halles Research Unit, Monash University; ⁵Australian Research Centre in Sex, Health and Society, La Trobe University, Melbourne, Australia; ⁵Centre for Social Research in Health, University of New South Wales, Sydney, Australia; ⁵School of Occupational Therapy and Social Work, Curtin University, Perth, Australia; ⁸Infectious Diseases Unit, Alfred Hospital, Melbourne, Australia;

Background

- HIV now a chronic condition
- Psychosocial issues prominent
- Self-management
 - Client central in managing physical, social, emotional aspects
 - Widely used in chronic disease management
 - Effective at improving health outcomes
 - **₹** Effectiveness for PWHIV has not been well established
- Barriers to existing programs for PWHIV: time; location; transport; stigma; desire for anonymity; lack of association with community organisations

Background

- Online intervention delivery improved access and reduced associated costs
- Beneficial for populations who are diverse and difficult to engage in existing services
- Increased number of HIV-specific websites; online delivery increasingly employed in HIV programming
- Lack of empirical evidence regarding efficacy

The Positive Outlook Program

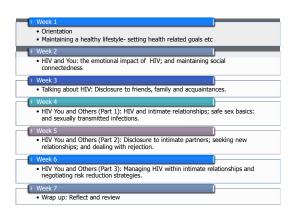
- Based on self-efficacy theory; utilised a self-management approach
- The intervention encouraged participants to take responsibility for the self-management of their condition including managing physical, social and emotional aspects of health and making behavioural changes
- Full intervention description in protocol paper*



*Millard T, Elliott J, Slavin S, McDonald K, Rowell S, Girdler S: The positive outlook study- a randomised controlled trial evaluating the effectiveness of an online self-management program targeting psychosocial issues for men living with HIV: a study protocol. BMC Public Health 2014, 14:106.

The Positive Outlook Program

- Enhance participants' (MSM) skills, confidence and abilities to manage the psychosocial aspects of HIV in their daily lives.
- Closed group
- 7 week program, ~90 minutes per week
- Information modules (10-15 web pages); goal setting and action planning activities; discussion boards; weekly live chat
- Peer-facilitated
- Participants used pseudonyms



Methods

- Randomised Controlled Trial
- Research Question: What is the effectiveness of the Positive Outlook program on improving general health and HIV-specific outcomes compared with usual care only?

Methods

Inclusion Criteria

- 7 HIV positive men over 18 years living in Australia
- Self-identified as gay or MSM
- Ability to read and write in English
- **➣** Self-reported access to a computer and the Internet for >90 minutes per week for seven weeks
- **Ϡ** Adequate computer skills
- National recruitment

Outcome Measures

- Three time-points: (1) after randomisation, (2) at conclusion of intervention and (3) at 12 week follow-up.
- Primary Outcomes:
 - 1. HIV-related quality of life (PROQOL-HIV)
 - 2. Outcomes of health education (heiQ)
 - 3. Positive Outlook Self-Efficacy Scale (POSE)

Secondary Outcomes:

- Quality of life (SF12)
- **刀** Duke Social Support Index (DSSI)
- Depression, Anxiety and Stress Scale (DASS21)
 Mental Adjustment to HIV Scale (MAH)
- General Self Efficacy Scale (GSE)

Flow of Participants Registered interest (n= 227) Completed baseline questionnaire & randomized (n= 132) Allocated to intervention (n= 68) Allocated to control (n= 64) Returned follow-up 1 survey (n=51) Returned follow-up 1 survey (n= 49) Returned follow-up 2 survey (n=35)

Statistical Analysis

- Contingency table analyses comparing baseline characteristics
- Maximum likelihood marginal-linear modelling on repeated measures data

Results

Participant characteristics

- **₹** Median age 43
- 72% born in Australia
- **7** 67% single; 72% tertiary qualification; 40% live alone
- 7 60% full-time employment; 15% part-time; 25% unemployed
- Median length of diagnosis 6 years
- 7 80% on ART

PROQOL-HIV

Table 2: Primary outcomes at baseline, 8 week and 12 week follow-up by study group: marginal means, standard error (SE) and group by time interactions from linear

	Intervention Group:			Control Group:			Partial group by time contrasts: p-value^				
	Group by time interaction: pyalue†	Marginal mean (SE)†			Marginal mean (SE)			p-vanie-			
		Baseline	8 weeks	12 weeks	Baseline	8 weeks	12 weeks	Baseline vs 8 weeks	8 weeks vs 12 weeks	Baseline vs 12 weeks	
PROQOL-HIV (0-100)											
PHS	0.062	62.5(2.70)	66.2(3.26)	58.6(3.26)	67.5(3.00)	65.6(3.72)	67.5(3.26)	0.238	0.037	0.230	
BC	0.836	61.8(3.43)	68.9(3.16)	70.8(3.20)	69.3(3.77)	67.5(4.34)	68.2(3.59)	0.089	1.000	0.020	
SR	0.035	69.3(3.70)	73.4(4.00)	78.2(3.41)	74.4(3.51)	69.1(4.25)	73.7(3.77)	0.051	1.000	0.047	
IR	0.154	47.5(3.67)	53.9(4.14)	57.3(4.14)	48.9(4.33)	48.2(4.66)	50.5(4.45)	0.243	1.000	0.097	
ST	0.327	48.4(4.19)	55.8(4.13)	57.5(4.55)	55.2(4.32)	563(432)	58.4(4.25)	0.301	1.000	0.264	
ED		,			,						
	0.031	61.0[3.91]	67.0(3.75)	64.5(4.03)	66.0[3.21)	61.9(3.93)	63.8(3.50)	(0.017)	0.607	0.269	
HC	0.084	55.7(3.31)	64.4(3.31)	64.5(3.23)	55.6(3.58)	56.2(3.69)	61.4(3.37)	0.052	0.468	0.431	
П	0.159	80.9(2.19)	76.7(2.01)	76.94(2.37)	79.2(2.61)	72.2(2.69)	69.3(3.25)	0.351	0.737	0.085	

Ap-values are Bonferonni adjusted

PHS = Physical health and symptoms: BC = Body change: SR = Social relationships: IR = Intimate relationships: ST = Stigma: ED = Emotional distress: H

HeiQ

Table 2: Primary outcomes at baseline, 8 week and 12 week follow-up by study group: marginal means, standard error (SE) and group by time interactions from line

Group by time interaction: pvalue†	Baseline	rginal mean (? 8 weeks	12 weeks	Baseline	8 weeks	12 weeks	Baseline vs 8 weeks	8 weeks vs 12 weeks	Baseline vs 12 weeks
interaction: pvalue†	Baseline	8 weeks	12 weeks	Baseline	8 weeks	12 weeks			
0.048									TE WOOD
0.048									
	2.9[0.09]	2.9(0.08)	3.000.093	3.0(0.08)	2.9(0.10)	2.8(0.10)	0.289	0.222	0.014
\sim		2.0(0.00)	200000	2.160.020	200000	2.0(0.00)	0.774	1 000	0.232
0.103	3.5(0.10)	3.8(0.09)	3.8(0.10)	3.6(0.09)	3.7(0.10)	3.7(0.09)	0.148	1.000	0.063
0.556	3.1(0.05)	3.1(0.04)	3.1(0.05)	3.2(0.05)	3.1(0.05)	3.1(0.05)	0.591	1.000	0.406
(0.015)	2.9(0.07)	3.0(0.06)	3.000.08)	3.1(0.07)	2.9(0.07)	3.0(0.08)	(0.026)	0.057	0.757
0.046	7.0(0.06)	2.000.00	2.000.073	2.0(0.05)	3.9(0.063	2.000.063	0044	0.161	0.834
\sim							\sim		
0.246	2.5(0.09)	2.6(0.07)	2.6(0.10)	2.5(0.07)	2.6(0.08)	2.6(0.08)	0.300	1.000	0.194
(0.008)	3.1(0.07)	3.26(0.07)	3.2(0.08)	3.2(0.06)	3.1(0.05)	3.2(0.06)	(0.018)	(0.040)	0.915
	0.015 0.046 0.246 0.008	0.103 3.5(0.10) 0.556 3.1(0.05) 0.015 2.9(0.07) 0.046 2.8(0.06) 0.246 2.5(0.09)	0.183 3.5(0.19) 3.8(0.09) 0.556 3.1(0.05) 3.1(0.04) 0.015 2.9(0.07) 3.8(0.06) 0.015 2.9(0.06) 2.9(0.08) 0.5266 2.5(0.09) 2.6(0.07) 0.000 3.1(0.07) 3.24(0.07)	0.103	0.183 3.5(0.19) 3.8(0.09) 3.8(0.19) 3.6(0.09) 0.056 3.1(0.04) 3.1(0.04) 3.1(0.05) 1.2(0.05) (.0815) 2.9(0.07) 3.6(0.06) 3.6(0.00) 3.1(0.05) 2.8(0.08) 2.9(0.04) 2.9(0.07) 2.8(0.05) 0.356 2.9(0.09) 2.6(0.07) 2.8(0.07) 2.8(0.05) 0.356 2.9(0.09) 2.6(0.07) 2.8(0.07) 2.8(0.07) 0.000) 3.1(0.07) 3.26(0.07) 3.2(0.07) 3.2(0.07) 0.000) 3.1(0.07) 3.2(0.07) 3.2(0.07) 3.2(0.07) 3.2(0.07) 0.000) 3.1(0.07) 3.2(0.	0.187 3.5(0.19) 3.8(0.09) 3.8(0.10) 3.4(0.09) 3.7(0.17)		0.185 3.5(0.19) 3.4(0.19) 3.4(0.19) 3.7(0.19) 3.7(0.19) 3.7(0.19) 0.148 0.556 3.1(0.66) 3.1(0.66) 3.1(0.65) 3.1(0.65) 3.1(0.65) 3.1(0.65) 3.1(0.65) 3.1(0.65) 3.1(0.65) 3.1(0.65) 3.1(0.65) 0.015 2.4(0.79) 3.4(0.60) 3.4(0.60) 3.1(0.65) 2.4(0.67) 3.4(0.60) 3.1(0.65) 0.015 2.4(0.80) 2.4(0.10) 2.4(0.10) 2.4(0.10) 2.4(0.10) 0.016 2.4(0.10) 2.4(0.10) 2.4(0.10) 2.4(0.10) 2.4(0.10) 0.016 3.1(0.10) 3.1(0.10) 3.1(0.10) 3.1(0.10) 3.1(0.10) 0.017 3.1(0.10) 3.2(0.80) 3.2(0.80) 3.1(0.85) 3.1(0.85) 3.1(0.85) 0.017 3.1(0.10) 3.2(0.80) 3.2(0.80) 3.1(0.85) 3.1(0.85) 0.017 3.1(0.10) 3.2(0.80) 3.2(0.80) 3.1(0.85) 3.1(0.85) 0.017 3.1(0.10) 3.2(0.80) 3.2(0.80) 3.1(0.85) 3.1(0.85) 0.017 3.1(0.10) 3.2(0.80) 3.2(0.80) 3.1(0.85) 3.1(0.85) 0.017 3.1(0.10) 3.2(0.80) 3.2(0.80) 3.1(0.85) 3.1(0.85) 0.017 3.1(0.10) 3.2(0.80) 3.2(0.80) 3.1(0.85) 3.1(0.85) 0.017 3.1(0.10) 3.2(0.80) 3.2(0.80) 3.1(0.85) 3.1(0.85) 0.017 3.1(0.10) 3.2(0.80) 3.2(0.80) 0.017 3.1(0.10) 3.1(0.80) 3.1(0.85) 3.1(0.85) 0.017 3.1(0.10) 3.1(0.80) 3.1(0.85) 3.1(0.85) 0.017 3.1(0.10) 3.1(0.10) 3.1(0.85) 3.1(0.10) 0.017 3.1(0.10) 3.1(0.10) 3.1(0.10) 3.1(0.10) 0.017 3.1(0.10) 3.1(0.10) 3.1(0.10) 0.017 3.1(0.10) 3.1(0.10) 3.1(0.10) 3.1(0.10) 0.017 3.1(0.10) 3.1(0.10) 3.1(0.10) 0.017 3.1(0.10) 3.1(0.10) 3.1(0.10) 0.017 3.1(0.10) 3.1(0.10) 3.1(0.10) 3.1(0.10) 0.017 3.1(0.10) 3.1(0.10) 3.1(0.10) 3.1(0.10) 0.017 3.1(0.10) 3.1(0.10) 3.1(0.10) 3.1(0.10) 3.1(0.10) 0.017 3.1(0.10) 3.1(0.10) 3.1(0.10) 3.1(0.10) 3.1(0.10) 0.017 3.1(0.10) 3.1(0.10) 3.1(0.10) 3.1(0.10) 3.1(0.10) 3.1(0.10) 0.017 3.1(0.10) 3.1(0.10) 3.1(0.10) 3.1(0.10) 3.1(0.10) 3.1(0.10) 3.1(0.10) 3.1(0.10) 3.1(0.10) 3.1(0.10	

p-values are Bonneronni adjusted

HDA – Health directed activity; PAE – Positive and active engagement in life; ED – Emotional distress; SM – Self monitoring and insight; CAA – Constructive CAA – CONSTRU

Positive Outlook Self-Efficacy Scale (POSE)

	Group by time interaction: p-value†	Intervention Group: Marginal mean (SE)†			Control Group: Marginal mean (SE)			Partial group by time contrasts: p-value ⁷			
		Baseline	8 weeks	12 week	Baseline	8 weeks	12 week	Baseline vs 8 weeks	8 weeks vs 12 week	Baseline v 12 week	
OSE (0-10)											
Knowledge	0.898	8.0(0.25)	8.2(0.25)	8.1(0.27)	7.9(0.33)	8.1(0.30)	8.0(0.30)	>0.999	>0.999	0.694	
Communication	0.064	5.2(0.34)	6.0(0.32)	5.9(0.40)	5.1(0.29)	5.3(0.34)	5.6(0.33)	0.047	0.345	0.566	
Relationships	0.019	5.0(0.25)	6.0(0.29)	5.8(0.29)	5.2(0.30)	5.4(0.30)	5.5(0.30)	0.010	0.467	0.126	
Social Participation	0.006	4.9(0.29)	5.7(0.26)	5.3(0.33)	5.3(0.32)	5.0(0.32)	5.4(0.37)	0.004	0.119	0.432	
Emotions	0.041	5.2(0.25)	5.9(0.25)	5.7(0.33)	5.6(0.32)	5.5(0.32)	5.8(0.32)	0.049	0.180	0.731	

† robust standard errors specified in modelling

Discussion/Conclusions

- Significant improvements in quality of life, self-management skills and domain specific self-efficacy for gay men with HIV
- Consistent improvements in emotional distress and social relationships/participation
- Pattern of diminishing effect
 - Participant engagement
 - Duration
- Further research needed to explore long-term effectiveness

Discussion/Conclusions

- Limitations: sample size; high loss to follow-up; short follow-up
- Innovative programs are required to address pervasive issues
- Online delivery: feasible, effective, well-accepted and anonymous

Acknowledgements

- Sexual Health and Blood Borne Virus Program; Australian Postgraduate Award
- Watson Browne Bequest; NAPWHA
- NAPWHA; VAC; Living Positive Victoria; ACON; WAAC
- Recruiting partners
- Participants
- **Ϡ** Facilitators

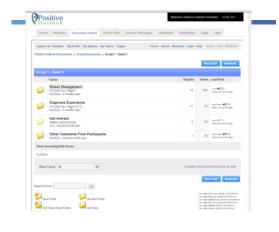






While using condoms may be the ideal way to have safe sex in most circumstances, in some circumstances it might be possible to reduce risks in a number of ways. By providing information on how to reduce risks, we are hoping to reduce some of the harms that can potentially occur including the transmission of HIV and STIS and we are acknowledging that sometimes unprotected sex happens for various reasons.

This week we will talk about negotiating risk within casual and long term relationships with both HIV+ and HIV- partners.







- **■** Questions?
- **オ** tanya.millard@monash.edu

Thank you!