A Proposed Biopsychosocial Model on the Correlation of Physical Activity of People Living with HIV

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Background

- Human immunodeficiency virus (HIV) is a virus that prominently attacks the immune system of the body. It continuously destroy cells that fight against disease and infection in the body. It is transmitted through the exchange of bodily fluids with people of the virus. It can be exchanged via blood, breast milk, semen and vaginal fluids.
- There are a vast number of groups that are are at high risk of HIV infection. In this study, we examined the most affected group of the virus, which is men who have sex with men (MSM).
- Researchers were able to develop a biopsychosocial model to examine the correlates of physical activity with those living with HIV.
- Through our research, we've developed fundamental date that are associated with the protective and risk factors of HIV. Risk factors are ways that allows an individual to have a high potential of having HIV. Protective factors focuses on the methods and characteristics of lowering the risk or likelihood of having HIV. Therefore, in our study, physical activity is determined to be one of the protective factors of HIV.

Abstract

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Table 1. *Effect of each predictor on physical activity adjusting for demographics.*

	ββ	SE	*p*-value	ΔΔ %
Pain	-.051	.018	.005*	-5.0%
Sleep	-.031	.017	.063	-3.1%
Heart, yes	-.242	.352	.493	-24.2%
Arthritis, yes	.062	.375	.869	6.2%
Asthma, yes	.089	.368	.809	8.9%
BMI	-.012	.035	.735	-1.2%
Depression	-.068	.028	.003*	-6.6%
Anxiety	-.072	.031	.021*	-7.0%
Stress	-.044	.019	.026*	-4.3 %
Homophobia	.483	.454	.288	62.1%
Discrimination	.026	.017	.128	2.7%
Resilience	.185	.048	<.001*	20.4%
Support	-.005	.126	.971	-.5%

Note. Regression coefficients β's are obtained after performing log transformation on the response variable physical activity.
Δ% indicates the percentage of change in physical activity.
** $p < .05$.*

Table 2. *Final regression of effects on physical activity.*

	ββ	SE	*p*-value	ΔΔ %
Pain	-.046	.018	.010*	-4.5%
Resilience	.155	.051	.003*	16.8%
Age	.011	.012	.339	1.1%
Race				
White	Ref	Ref	Ref	Ref
Black	-.787	.422	.063	-78.7%
NHPI & Asian	-.223	.453	.623	-22.3%
Others	-.978	.564	.084	-97.8%
Income	.000	.000	.579	.0%

Note. Regression coefficients β's are obtained after performing log transformation on the response variable physical activity. Δ% indicates the percentage of change in physical activity.
** $p < .05$.*

Conclusion

Throughout the study, we found valuable information and results regarding physical activity among individuals living with HIV, specifically men who have sex with men. It is illustrated throughout the study that physical activity is continuously declining among various populations. Results show that pain in individuals have the potential to decrease physical activity. Overall, data supports the idea that there is several correlation between the protective and risk factors of the levels of physical activity among people living with HIV.

Methods

The methods of this study involves a number of various tests in different aspects of society. Participants of this research study involved men who have sex with men (MSM). An ANOVA test, chi-squared test, and t-test were used to examine correlations between the demographic predictors of the study. Tests for depression (CESDR), resilient coping (BRCS), and anxiety (OASIS) were used to evaluate the mental aspect of these individuals. The social capital (MSPSS), discrimination (EOD), and internalized homophobia (IHS) were used to analyze the social component of individuals in society.

Results

The results of this study consisted of a final biopsychosocial model where resilience and pain were some of the strongest predictors of the monthly physical activity hours (MET-Scores) of MSM. With all fixed variables, an increase for one day in the amount of pain have the potential to reduce one's daily physical activity in MET-mins by 4.5% (β = -.046, SE = .018, p = .010); an increase of one-point in resilience coping could lead to a 16.8% (β = -.155, SE = .051, p = .003) increase in daily MET-mins.

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