The Impact of Mental Wellness on HIV Self-Management

Allison R. Webel, RN, PhD[1]; Abdus Sattar, PhD[1,2]; Nate Schreiner, BSN, MBA[1]; Bruce Kinley RN, MN[3]; Robert A. Salata, MD[2,3]; and Shirley M. Moore RN, PhD, FAAN[1]

[1] Frances Payne Bolton School of Nursing Case Western Reserve University; [2] Case Western Reserve University School of Medicine; [3] University Hospitals Case Medical Center

Allison R. Webel, RN, PhD
Bolton School of Nursing
10900 Euclid Avenue
Cleveland, OH 44106
Phone: (216) 368-3939
Allison.Webel@case.edu

Introduction

- HIV is a chronic, manageable disease due to increased access to HIV antiretroviral medication

- As people living with HIV age, they face increasing self-management work related to the daily management of HIV and the prevention or mitigation of multiple chronic health conditions

- These tasks include daily health practices such as physical activity and eating a healthy diet, engaging in a supportive community, and accepting the chronicity of HIV

- Yet little is known about the relationships among HIV self-management and mental wellness

- **Our purpose** was to describe relationship between HIV self-management and mental wellness (depressive symptoms and perceived stress). And to examine this this relationship separately in men and women and then in those who reported optimal and suboptimal HIV medication adherence

Methods

Design: Cross sectional single-site cohort study in the United States

Sample: Ninety-three HIV+ adults, taking HIV antiretroviral therapy without diabetes were enrolled between December 2012 and May 2013

Measures:

HIV Self-Management was assessed with using the HIV Self-Management Scale. This 20-item scale measures three specific domain HIV self-management: 1) Daily Self-Management Health Practices (e.g. physical activity, diet), 2) Social Support and HIV Self-Management, and 3) Chronic Nature of HIV Self-Management. Items are scored 0-3 with higher scores indicating more self-management.

Depressive Symptoms were assessed using the *Center for Epidemiologic Studies Depression Scale (CESD). The* CESD is a 20-item self-report measure. Each item is scored 0-3 which are summed to create a total score (ranging from 0-60). Total scores were analyzed and higher scores indicate greater levels of depression*.

Stress was assessed using the Perceived Stress Scale. This 10-item self-report scale measures the extent to which situations in life are perceived as stressful and has repeatedly undergone psychometric testing and found to be valid and reliable (Cronbach's α = 0.78-0.91). Total scores were analyzed with higher scores indicating more perceived stress.

Medication Adherence was assessed using a single item from the participant's medical record (0-100%) with higher scores indicating better HIV medication adherence.

Analysis:

- Spearman's rank order correlations were used to examine bivariate associations

- Quintile regression was used to study the associations between HIV self-management and, mental wellness

Results

Table 1: Sample Characteristics (*n*=93)

Demographic Characteristics	
	Mean (± SD)
Age	48.6 (9.4)
Gender	
Male (%)	52 (56)
Race	
African American (%)	81 (85)
Caucasian/White (%)	11 (12)
Education Level	
11th grade or less	20 (21)
High school or GED	24 (26)
Two years of college or technical training	23 (25)
College degree (e.g. BA, BS) or higher	13 (11)
Currently Employed (%)	13 (14)
Permanent Housing (%)	82 (88)
HIV Characteristics	
Number of Years Since HIV Diagnosis	14.1 (7.3)
CD4+ T cell count	589 (344)
Number of Subjects with Viral Suppression (<75) (%)	63 (67)
Number of Subjects with Additional Chronic Illnesses (%)	85 (91)
Overall Level of Self-Management (Range 0-3)	
Self-Management: Daily Health Tasks Scale	2.22 (0.42)
Self-Management: Social Support Scale	1.98 (0.96)
Self-Management: Chronic Nature of HIV Scale	2.77 (0.37)
Mental Wellness	
Depressive Symptoms (Range: 0-60)	16.4 (11.6)
Perceived Stress Scale (Range 0-40)	16.6 (4.9)

Figure 1: Self-Management Scale Scores by Group[1]

Legend: Everyone, Women, Men, Adherent[2], Non-Adherent

[1] Data are presented as mean self-management scale score with error bars indicating standard deviations. 2 indicates people who reported taking at least 90% of their HIV medication in the last 7 days
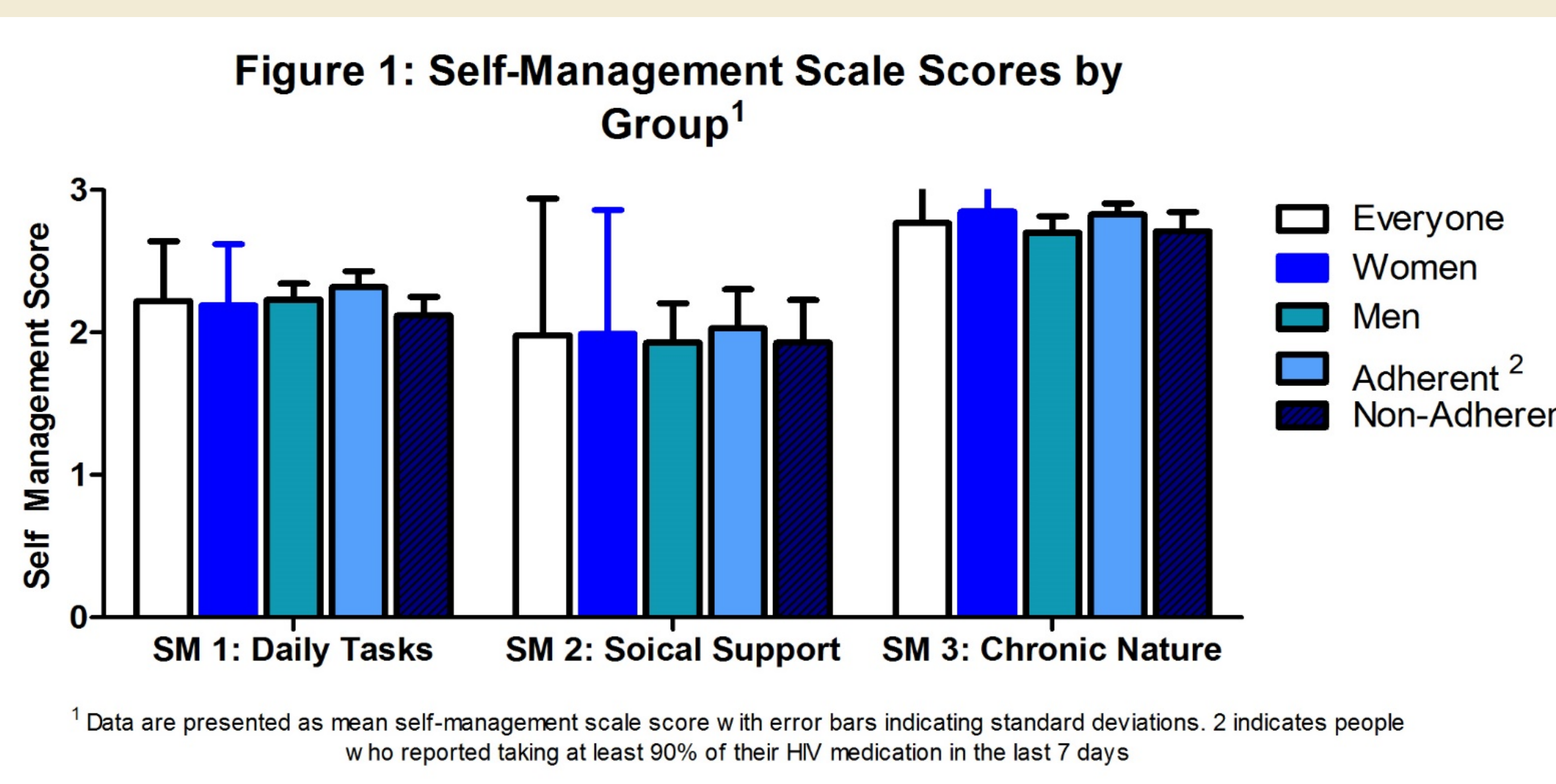
Table 2: Associations between HIV Self-Management and Mental Wellness

Variable	Self-Management 1: Daily Health Tasks (SM1)	Self-Management 2: Social Support (SM2)	Self-Management 3: Chronic Nature of HIV (SM3)	Depressive Symptoms
SM1				
SM2	0.27[2]			
SM3	0.29[2]	.18[3]		
Depressive Symptoms	-0.19[3]	.04	-0.05	
Perceived Stress	-0.14[4]	0.07	-0.04	0.54[2]

Correlations were assessed using Kendall's Tau b Correlational Analyses, due to small sample size; [2] indicates a p-value <0.01; [3] indicates a p-value <0.05; [4] p-value indicates a p-value ≤ 0.1

Table 3: Median Regression of HIV Self-Management Daily Tasks by Mental Wellness

Variable	Beta Coefficient	T	p-value	95% Confidence Interval	
Entire Sample (n=91)					
Stress	-0.27	-2.28	0.03	-0.05	-0.00
Decade of Age	-0.04	-0.65	0.52	-0.16	0.08
Gender	0.03	0.23	0.82	-0.20	0.26
Constant	2.83	7.16	0.00	2.04	3.62
Depressive Symptoms	-0.17	-3.50	<0.01	-0.27	-0.01
Decade of Age	-0.12	-1.89	0.06	-0.24	0.01
Gender	-0.81	-0.72	0.48	-0.31	0.14
Constant	3.12	9.34	0.00	2.45	3.79
Women (n=39)					
Stress	-0.04	-1.67	0.10	-0.08	.1
Decade of Age	0.98	1.00	0.32	-0.10	0.30
Constant	2.38	3.89	0.00	1.13	3.63
Depressive Symptoms	-0.02	-2.71	0.01	-0.33	-0.01
Decade of Age	0.04	0.49	0.63	-1.34	0.22
Constant	2.31	4.99	0.00	1.38	3.26
Subjects Reporting Less than 90% Medication Adherence (n=45)					
Stress	-0.02	-0.94	0.35	-0.06	0.02
Decade of Age	-0.05	-0.47	.64	-0.25	0.16
Constant	2.62	3.91	0.00	1.27	3.97
Depressive Symptoms	-0.03	-4.88	<0.00	-0.34	-0.16
Decade of Age	-0.19	-2.55	0.02	-0.33	-0.04
Constant	3.56	8.94	0.00	2.76	4.367

Conclusions & Limitations

- We found consistent evidence that mental wellness is associated successful HIV self-management.

- As hypothesized, this relationship was negative with women and those non-adherent to HIV demonstrating stronger effects.

- We did not observe a relationship between the social support aspects of HIV self-management and mental wellness.

- Additional longitudinal research with more frequent assessments and in multiple geographic sites will aid in understanding these relationships.

- A better understanding of this relationship may lead to personalized self-management interventions, targeted to the needs of individual PLHIV.

Disclosures & Acknowledgements

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