STRESS & RELIGIOUS COPING AMONG PEOPLE LIVING WITH HIV

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OBJECTIVES

- Stress and Coping within PNI Framework
- Spirituality/religion as coping mechanisms
- Discuss research on Stress and Religious Coping in persons with HIV
Introduction: Stress

- Common human experience
- Negative implications for healthy and chronically ill

Stress and HIV

- HIV is viewed as a major life stressor
  - Psychosocial issues
    - loss, bereavement, financial hardship, family or interpersonal discord, & social isolation
  - Physiological stressors
    - pain, infection, fever, hypoxia, sleep deprivation, & dehydration
Stress and Coping: Guiding Frameworks

- Lazaras & Folkman
  - Stress and Coping
  - Theory of psychological stress, building on the concepts of cognitive appraisal and coping

- Pargament
  - Psychology of Religion & Coping
  - Intersection of psychology and religion
  - Role of religion in coping
  - Positive and negative religious coping

- Psychoneuroimmunology (PNI)
  - Stress and Psychoneuro-endocrine-immune processes

PsychoNeuroImmunology (PNI)

- Mind-Body connection
- Relationships between neuroendocrine and immune systems
- Examines influence of psychosocial factors on health
- Stress, depression, social support & coping style can influence systems
Spirit-Mind-Body & Coping Mechanisms

- Spirituality/spiritual beliefs may function as a coping resource & buffer between stress & the immune system.
- Relaxation of an activated SNS may foster enhancement of immune function.
- Enhanced ability to cope with stress, better health practices, social support, & greater satisfaction with life. (Rabin, 1999)
- Buffer between uncertainty & psychological well-being. (Landis, 1996)

Spirituality and Coping: Mechanisms

- Provides feelings of happiness, greater satisfaction with life, & fewer negative psychosocial consequences related to traumatic life events.
- Belief in God provides emotional assurance that results in favorable autonomic responses:
  - Relaxation and reduction of SNS activity. (Rabin, 1999)
  - Less response to stressor-induced catecholamines.
Spirituality and Coping in HIV

- HIV disease may require coping beyond what individuals have used in the past
- Spirituality provides practical, supportive resources that facilitate psychological adaptation (Simoni et al., 2002; Somlai et al., 1996)
- Many HIV+ women use spirituality to cope with stress of HIV, mostly when usual coping resources are ineffective (McCormick et al., 2001; Powell et al., 2003; Sowell et al., 2000; Tuck et al., 2000)

Religious Coping and HIV: Women

- Weaver et al. (2004)
  - 90 HIV+ (minority) women on HAART
  - HIV-specific coping strategies (cognitive coping strategies, denial, and religious coping) and quality of life (QoL)
- Prado and colleagues (2004)
  - HIV+ mothers
  - Greater religious involvement, inversely associated with psychological distress
  - Social support and coping
Religious Coping and HIV: Men

- Sample of gay HIV+ men used spirituality to help them cope with HIV  
  Schwartzberg (1993)
  - 106 HIV+ gay men
  - Religious coping (e.g., placing trust in God, seeking comfort in religion) was significantly associated with lower scores on the Beck Depression Inventory
  - Religious behavior was significantly associated with higher CD4+ counts & higher CD4+ percentages
  - R/t not mediated by self-efficacy or symptom severity

Spirituality, Stress, & Social Factors (SSS) Study: AIMS

- Cross-sectional study designed to:
  - Aim 1: To examine the relationships between religious coping (RC), depression, perceived stress, immune status, and CD4 count in HIV-positive outpatients
  - Aim 2: To test the idea that religious coping (RC) explains a significant amount of the variance in HRQOL and examine mediator relationships
METHODOLOGY

- Data were collected via an audio-computer assisted interview (ACASI)
- Measures used:
  - Religious coping
  - Depression
  - Health-related quality of life
  - HIV medication adherence measure (AGAS)
- Chart Data
  - CD4 count
  - HIV Viral Load
- Demographic data were also used

MEASURES

- Demographic questionnaire
- Center for Epidemiological Studies Depression scale (CES-D)
- Modified version Religious Coping Index (Koenig, 1994)
- Adapted General Adherence Survey (Holstad et al., 2006)
- A Modified version of the Brief Multidimensional Measure of Religiousness/Spirituality (BMMRS; Fetzer, 1999)
- Social Support Questionnaire short form (Sarason et al., 1987)
- Perceived Stress Scale (Cohen & Williamson, 1988)
- Short version of the Religious Coping Scale (RCOPE)
- Immune status measures: CD4 Cell Count, HIV Viral load
HYPOTHESES

- H1a. There will be an inverse relationship between Positive RCOPE & stress
- H1b. There will be a positive relationship between Negative RCOPE & stress
- H2a. There will be an inverse relationship between Positive RCOPE & depression
- H2b. There will be a positive relationship between Negative RCOPE & depression
- H3. There will be a positive relationship between RCOPE, and CD4 cell counts
- H4. There will be an inverse relationship between depression (CES-D) and immune status (CD4 counts)
- H5. Religious coping will contribute a significant amount of variance to physical HRQOL, beyond what is explained by depression (CES-D), and immune status, controlling for med adherence, age and gender
- H6. Religious coping will contribute a significant amount of the variance to mental health-related QOL, beyond what is explained by depression (CES-D), and immune status, controlling for medication adherence, age and gender
- H7. Social support mediates the relationship between RCOPE and HRQOL
SAMPLE

- N= 292
- HIV+ men and women at outpatient ID clinics and AIDS Service organizations in Durham, North Carolina

Eligibility criteria
- HIV+
- 18 years of age or older
- able to speak and understand English
- Mentally competent as determined by a health care provider and screening assessment (MMSE)
Recruitment

- Study flyers
- Clinic nurses
- Phlebotomist
- Front Desk Clerks
- Clinic Providers
- Word-of-mouth

Data Analysis Plan

- Descriptive statistics
- Correlations
- T-tests/ Multivariate ANOVA test mean differences on select measures between men and women & racial/ethnic groups
- Multiple Regression
DATA ANALYSIS: Regression

- Step 1: Control variables:
  - Age, gender, Medication adherence, social support
- Step 2: CD4 count and depression
- Step 3: Religious Coping was entered to evaluate a change in R2
- Outcome variable: physical & mental HRQOL
- A significant R2 at p<0.05 would support this research hypothesis

Regression Model

Religious Coping

Medication Adherence
Age, Gender
Depression
CD4 Cell Count

HRQOL
- Physical HRQOL
- Mental HRQOL

(Controlled)
STUDY FINDINGS:
Demographics

- **Gender**
  - Males: 55.8% (163)
  - Females: 43.5% (127)

- **Race/Ethnicity**
  - Black/African-American: 90.1% (263)
  - White: 6.2% (18)
  - Asian/Pacific Islander/Indian: 1.0% (3)
  - Hispanic/Latino or Latina: 1.0% (3)
  - Other: 1.4% (4)

STUDY FINDINGS:
Demographics

- **Education**
  - None, I have not had any formal schooling: 0.3% (1)
  - Primary or Elementary school: 1.4% (4)
  - Junior High or Middle school: 12.0% (35)
  - High school or G.E.D.: 52.7% (154)
  - College/Technical School: 21.9% (85)
  - Graduate or Professional School: 3.8% (11)
STUDY FINDINGS: Demographics

- Marital Status
  - Married: 12.0% (35)
  - Separated/Divorced/Widowed: 36.3% (106)
  - Single: 51.4% (150)
  - Committed relationship: 15.1% (44)

- Employment
  - Unemployed/ On disability: 90.8% (265)
  - Employed part-time: 7.9% (23)
  - Employed full-time: 0.3% (1)

- Annual Income
  - Under $11,000: 68.5% (200)
  - $11,000-20,999: 17.8% (52)
  - ≥$21,000: 7.6% (22)
STUDY FINDINGS: Demographics

- Mean age 45.11 (SD) years
- Mean (subjective) CD4 count 467.24 (SD 222.03) cells/μL
- Mean (subjective) HIV viral load was 1.55 (SD) x 1000 copies/ml (copies/ml)

STUDY FINDINGS: Spiritual/Religious Practices

- Religious Affiliation/Denomination: % (n)
  - Baptist: 47.6 (139)
  - Christian (non-specific): 13.4 (39)
  - Non-denominational: 6.2 (18)
  - Belief in God, but no affiliation: 8.2 (24)
  - Muslim: 2.4 (7)
  - Buddhist: 1.4 (4)
  - Jewish: .7 (2)
  - No Belief in God: 1.4 (4)
  - Other: 9.6 (28)
    - Jehovah’s Witness (7), Paganism (1), Pantheism (1)

- Religious Service Attendance: % (n)
  - Never or rarely: 8.6 (25)
  - Once or twice a year: 15.4 (48)
  - Once or twice a month/every month or so: 32.8 (96)
  - Once a week or more: 42.5 (124)
STUDY FINDINGS: Spiritual/Religious Practices

- **Prayer or Meditation**
  - Once a day or more: 44.1% (129)
  - Once a week/a few times a week: 17.1% (50)
  - A few times a month: 6.8% (20)
  - Once a month: 4.5% (13)
  - Less than once a month: 6.8% (20)
  - Never: 19.5% (57)

- **Reading Religious/Spiritual Materials**
  - Once a day or more: 32.5% (95)
  - A few times a week: 21.2% (62)
  - Once a month: 6.5% (19)
  - Less than once a month: 14.4% (42)
  - Never: 9.2% (27)

STUDY FINDINGS: Coping Practices

- “How do you manage to cope with your situation?” How do you keep yourself from getting depressed, sad, or discouraged, despite your current situation, health or stressors?
- **Religious Coping (RCI)**
  - Religious ways of coping: 43.8% (128)
  - Non-religious coping: 55.1% (161)
- **Extent Religious ways of coping used (1-10)**
  - Mean= 8.1; Median= 9.0
- **Proportion of coping time on religious coping**
  - Mean=66.6%; Median = 80%
STUDY FINDINGS: Spiritual/Religious Experiences

- Spiritual/Religious Life-Changing Experience
  - 76% (222)
  - Average age= 29 yrs, Median age= 28 yrs

- Gain in Faith
  - 81.8 % (239)
  - Average Age= 30.25 yrs, Median= 30 yrs

- Loss in Faith
  - 36% (105)
  - Average Age= 29.3 yrs, Median= 30 yrs

STUDY FINDINGS: Mean Scores

- CES-D score 19.3 (12.8)
- Religious coping
  - Negative RCOPE 4.86 (5.34)
  - Positive RCOPE 16.6 (5.06)
- AGAS 24.3 (5.87)
Mean Group Differences

- One-Way ANOVA
- Gender
  - No significant group mean differences in CES-D, CD4, AGAS, RCOPE, PSS, SSQ
  - Women had significantly lower mean Mental & Physical HRQOL scores
    - Physical HRQOL: $\sigma^2 = 168.56$ vs. $\varphi = 141.93$ (p=.003)
    - Mental HRQOL: $\sigma^2 = 235.45$ vs. $\varphi = 213.64$ (p=.041)

Mean Group Differences

- Race/Ethnicity
  - No significant group mean differences in CES-D, CD4, AGAS, Negative RCOPE, PSS, SSQ number
  - Blacks had significantly higher Positive RCOPE
    - Blacks= 16.81 vs. Whites= 12.78 (p=.037)
  - Blacks had significantly higher Social Support Satisfaction
    - Blacks= 5.15 vs. Whites= 3.81 (p=.002)
Correlations: Stress and Coping

- H1 Supported: Religious coping scores were correlated with stress
  - More positive forms of religious coping associated with lower perceived stress
    - Positive RCOPE & Perceived stress ($- .16$) $p = .005$
  - More negative forms of religious coping associated with higher perceived stress scores
    - Negative RCOPE & Perceived stress ($+.45$) $p = .000$

STUDY FINDINGS: Correlations

- 2nd Hypotheses supported: Religious coping scores were correlated with depression scores
- H2a. Inverse relationship
  - Positive RCOPE and depression ($-.20$) $p < .01$
- H2b. Positive relationship
  - Negative RCOPE and depression ($+.54$) $p < .01$
STUDY FINDINGS: Correlations

- H3 Not supported
- Religious coping scores not correlated with CD4 count
  - (+) religious coping & CD4 count (.04)  p=.64
  - (-) religious coping & CD4 count (-.09) p=.36
- CD4 count only correlated with:
  - Depression (.25) p=.016
  - Mental HRQOL (.23) p=.027
  - Physical HRQOL (.25) p=.015

STUDY FINDINGS: Correlations

- H4 supported
  - CES-D scores were significantly inversely correlated with CD4 count
    - CES-D and CD4 count (-.25) p=.016
STUDY FINDINGS: Regression

- H5 Supported
- The full model \((F=6.15, \ p=.000)\) explained 37\% of the variance \((Adjusted \ R-square=.373)\) in physical HRQOL
- Positive RCOPE explained 2.3\% significant additional variance in the physical HRQOL \((Adjusted \ R-square=.373 \rightarrow .350)\)

Predictors of Physical HRQOL

- Positive RCOPE \((B= 3.09) \ p=.036\)
- Age \((B=-3.175) \ p=.004\)
- Gender \((B=-42.77) \ p=.016\)
- Depression \((B=-2.35) \ p=.002\)
STUDY FINDINGS: Regression

- H6 Supported
- The full model \((F=13.47; \ p=.000)\) explained 59\% of the variance (Adjusted \(R^2 = .590\)) in the mental health composite score of RAND-36 HRQOL
- Positive RCOPE explained 2.7\% significant additional variance (in the mental health composite score of RAND-36 (Adjusted \(R^2 = .563\))

STUDY FINDINGS: Predictors of Mental HRQOL

- Positive RCOPE (\(B = 2.836\) \(p = .030\))
- Depression (\(B = -5.143\) \(p = .0001\))
Mediation Effects: RCOPE & HRQOL

- Mediation tested using Baron & Kenny's (1986) guidelines
  - Predictor variable (RCOPE) correlated with both outcome (HRQOL) and mediator (social support)
  - Mediator (social support) correlated with outcome (HRQOL)
  - Presence of mediator reduced strength of direct effect (partial mediation) or negated significance of the direct effect (complete mediation)

H7. Social support satisfaction not a significant mediator of relationship between:

- Positive RCOPE & Mental HRQOL \( (B=3.85) \ p=.032 \)
  - Social Support Satisfaction \( (B=13.15) \ p=.088 \)

- Positive RCOPE & Physical HRQOL \( (B=3.65) \ p=.020 \)
  - Social Support Satisfaction \( (B=11.53) \ p=.088 \)
STUDY LIMITATIONS

- Inability to identify causal relationships or make causal inferences with cross-sectional study design.
- Limited generalizability of the study findings to clients other than low to moderate income HIV-infected men and women.
- Self-reported CD4 count used in current analysis

SUMMARY

- Spirituality is an important factor in health & well-being among people with HIV
- Religious coping is associated with stress, depression, and HRQOL components
- Depression is inversely associated with immune status (CD4 count)
- Positive RCOPE explains a significant amount of the variance in physical & mental HRQOL
Implications for Practice

- Acknowledging and supporting patient spirituality may enhance overall patient care (Mueller, Plevak & Rummans, 2001)
- Routine assessment of patients’ spiritual needs
- Assess if HIV-positive people rely on spiritual resources or coping to adjust to having a life-threatening illness.
- Help HIV+ people find meaning and purpose to facilitate improvements in HRQOL.

QUESTIONS?

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