

## Stress and Transtheoretical Model indicators of stress management behaviors in HIV-positive women

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### Abstract

**Objective:** Women are particularly prone to stress with respect to living with HIV. Stress management behaviors can mediate the stress response and improve health outcomes in HIV-positive individuals. The purpose of this descriptive cross-sectional study was to examine stress and Transtheoretical Model (TTM) indicators of stress management behaviors in HIV-positive women. **Methods:** 126 HIV-positive women recruited from diverse HIV-care clinics in northeast Ohio completed standardized self-report research instruments to measure stress, stress management behaviors, stage of change, self-efficacy, and decisional balance (pros and cons). **Results:** Women reported higher levels of stress in the later phase of HIV infection ( $P < .05$ ). Highly stressed women in this study reported infrequently using stress

management behaviors and a low level of perceived efficacy to manage stress although they perceived the pros of managing stress to be high ( $P < .01$ ). Stress management behaviors were significantly related to stage of change ( $P < .01$ ), self-efficacy ( $P < .01$ ), and the cons of managing stress ( $P < .05$ ). Graphed patterns of decisional balance examined by stage of change and stress management behavior were atypical in this sample. **Conclusions:** Clinicians and researchers can use the TTM to describe behavioral indicators of stress management in HIV+ women. However, further research is needed to more fully understand behavioral processes HIV+ women can use to adopt and maintain stress management behaviors. © 2003 Elsevier Science Inc. All rights reserved.

**Keywords:** Stress; Stress management; Self-care; Health promotion; Secondary HIV prevention; Women

### Introduction

Women comprise a rapidly expanding segment of the population infected with HIV [1] and HIV+ women have reported high levels of stress [2–4]. In general, women have been culturally and socially reared to be caregivers to their partners and their children without respect to their own health needs and HIV+ women are no exception in this matter [5–8]. Many HIV+ women have HIV-infected partners and children; some of these children are also HIV+ [6,7,9–11]. Some HIV+ women yearn for an intimate relationship with an understanding partner and put themselves at severe health risks in order to establish that relationship [5,12–14]. Additionally, many women

living with HIV have limited financial resources [5,7,8,15–17] and personal histories of abuse [3,5,7,18–21] further challenging their abilities to live well with HIV infection. Women and minorities have also reported feelings of helplessness and frustration with respect to getting adequate care for and managing their HIV infection within the context of their complex lives [3,6,7,10,11,13,14,16,20–22].

HIV-positive women can use health-promoting stress management behaviors to enhance their physical and emotional well-being [23–30]; however, adopting and maintaining a new behavior is challenging. Adopting and maintaining a health-promoting behavior can be even more daunting within the context of HIV infection [31–33]. While the Transtheoretical Model (TTM) of Behavior Change has been used extensively to describe and facilitate behavior change in other populations [34–39], it has been understudied in describing and enhancing health-promoting behaviors in women already infected with HIV.

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The TTM of Behavior Change [40] provides an integrative framework for understanding how individuals adopt and maintain target behaviors. Constructs in the model include stage of change, self-efficacy, decisional balance, and the processes of change. The key construct unique to the TTM is the *Stage of change* referring to a person's readiness to engage in a behavior. The stages of change are identified as *Precontemplation* (not intending to make a change in the near future), *Contemplation* (considering a change within the next 6 months), *Preparation* (currently making small steps toward a new behavior), *Action* (engaging in a new behavior for a period less than 6 months), and *Maintenance* (engaging in the behavior for more than 6 months) [40]. *Self-efficacy* refers to the belief that one can carry out the target behavior and is based on the work of Bandura [41]. *Decisional balance* [40,42] is composed of two separate constructs, the *pros* and *cons* of a target behavior, that can be measured independently and used to determine a 'balance sheet' of comparative gains and/or losses associated with engaging in a target behavior. Additionally, the model purports that the balance sheet comparing pros and cons is variable over time depending on an individual's stage of change. Lastly, the *Processes of change* refer to cognitive (or experiential) and behavioral strategies an individual or interventionist can use to facilitate the adoption or maintenance of a behavior across the five stages of change [40].

Despite the plethora of published research concerning the TTM, research to support the utility of this behavioral model to enhance the adoption and maintenance of health-promoting behaviors for persons already infected with HIV is limited. The majority of TTM research has been conducted with relatively well-educated, HIV-negative, and predominantly Caucasian samples. In the area of HIV, the TTM literature has focused on *primary HIV prevention* by examining the use of safer sexual practices. These primary prevention studies have used samples of uninfected women at high risk for HIV [43–45], of HIV-positive women (to prevent the spread of infection) [45], of uninfected male and female college students [46], and of high-risk drug users [47,48] and their sexual partners [48]. However, *secondary HIV prevention*, that is helping HIV-positive people to stay as healthy as possible, is also a critical area of concern for clinicians and researchers. Our previously published pilot study [49] examined the relationship between the health-promoting behavior of stress management with TTM constructs (i.e. stage of change, self-efficacy, decisional balance) in women at risk for or infected with HIV; however, the sample size used for that study was heterogeneous and extremely small. Though stress management can be a critical health-promoting behavior for HIV-positive women, data to support the utility of the TTM to enhance stress management behaviors for HIV-positive women were lacking. Further examination was needed to evaluate the utility of this model to enhance

secondary prevention behaviors for HIV-positive women. Therefore, the purpose of this descriptive cross-sectional study was to examine stress and TTM indicators of stress management in HIV-positive women.

## Method

### Sample and procedure

Following institutional review board approval, the sample of 126 HIV-positive women was recruited as part of a larger study from three HIV primary care clinics in north-east Ohio. Subjects included English-speaking women aged 18 years or more known to be HIV-positive for at least 6 months and able to engage in self-care practices as evidenced by a minimum Karnofsky Performance Status [50] score of 60. Subjects recruited for this study were between the ages of 22 and 57 years of age (mean  $34.72 \pm 7.09$ ). The majority of these women (77%,  $n=97$ ) indicated they contracted HIV primarily via sexual contact. Twenty-four women (19%) identified injection drug use as their primary exposure category while five women (4%) indicated they contracted HIV via a blood transfusion. Other sociodemographic characteristics for the sample are listed in Table 1.

### Measures

Standardized research instruments were used to measure stress, stress management practices, self-efficacy, and decisional balance. Table 2 lists the psychometric findings for standardized measures used in this study.

*Stress* was measured by the Global Severity Index (GSI) score on the Symptom Checklist 90—Revised (SCL-90R) [51]. The SCL-90R is a 90-item self-report Likert scale of psychological distress originally developed to measure psychological symptomatology in psychiatric and medical patients; scale psychometrics have been reported [51]. The GSI is calculated as a mean score and provides information on the amount and intensity of symptoms or stress experienced by the participant [51].

*Stress management behaviors* were measured with the eight-item stress management subscale on the *Health-Promoting Lifestyle Profile II* (HPLP-II) [52]. The HPLP-II is a self-report measure that assesses self-initiated actions and perceptions serving to maintain or enhance a person's level of wellness. Sample items from the stress management subscale used in this study include "get enough sleep," "take some time for relaxation each day," and "use specific methods to control my stress." Health-promoting behaviors are marked in one of four categories ranging from 1 (*never*) to 4 (*routinely*). The mean score for the stress management subscale was used for this study with higher scores reflecting a higher amount of stress management practices used.

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