Attitudes Toward HIV Health Care Providers Scale: Development and Validation

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ABSTRACT

Patient attitudes toward their health care providers can play an important role in determining health behavior change. The frequency of contact with health care professionals and disease stigma makes assessing patients' perception of this relationship of particular interest in an HIV medical population. While past general satisfaction and attitude tools have been used to assess this construct, there is a need for an assessment tool specific to patient attitudes in an HIV setting. This study was designed to validate the Attitudes toward HIV Health Care Provider scale (AHHCP) in an HIV medical population. Principal components analysis of the AHHCP yielded a two-factor structure accounting for 53.3% of the total variance in attitudes toward health care providers. The two factors represented items concerning Professionalism and Emotional Support. The AHHCP was found to have good internal consistency (0.92) and convergent validity with a measure of patient satisfaction ($r = 0.59$). The results of the present study suggest that the AHHCP is a reliable and valid instrument for use in assessing patient attitudes toward their health care providers.

INTRODUCTION

According to the most recent statistics, more than 40 million people in the world are living with HIV/AIDS. Approximately 37.5 million of these individuals are adults and 2.5 million are children. It was estimated that 5 million people were infected with the HIV virus in 2003. Despite worldwide HIV prevention efforts, there are higher numbers of individuals living with HIV today than there have been in the last 5 years.¹

Individuals living with HIV/AIDS require increased levels of health care services. According to the HIV Research Network,² the average number of outpatient visits for HIV patients is 10.7 per person in a year. These health care appointments may entail interactions with various health care staff (i.e., physicians, nurses, psychologists, dieticians) and are critical periods of time where a patient can discuss concerns and seek information about their disease. For the health care provider (HCP), this is a time during which the patient can be educated on appropriate health behaviors, including adherence to antiretroviral medications. These interactions can affect a patient’s attitudes and subsequently have a major impact on health behaviors.

Several studies have suggested that patients’ attitudes toward their HCP affect certain health behaviors. Research has demonstrated an as-

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sociation between a patient’s relationship with his or her HCP and adherence to antiretroviral medications, appointment attendance, following medical advice regarding exercise, diet and smoking cessation, and communication with medical staff. Therefore, it is in the patient’s best interest for more positive attitudes to be elicited during patient/physician interactions. Because HCPs often have only limited time with patients, it is necessary to utilize the best methods to elicit positive interactions in hopes of enhancing attitudes toward HCPs in an effort to promote health behavior change.

The first crucial step in this process is establishing a valid, reliable measure of patients’ attitudes toward the HCP. While several scales have been developed to assess the patient–provider relationship in a general sense, these scales fail to account for disease specific factors that may influence a patient’s attitude toward HCP, such as illness-related stigma. In addition, they often do not account for the effects of the entire health care team, which may have a greater impact on attitudes in an HIV population.

Patients who are HIV positive deal with disease-related stigma in almost all aspects of their lives including in employment, health care, insurance, and education. Thus, there are multiple considerations that one must make when assessing the attitudes of patients in an HIV health care setting. Patients may be assessing and/or interpreting their environment and interactions with their HCP differently based on past experiences or expectations associated with this stigma.

In addition to assessing stigma, a measure designed specifically to assess HIV-positive patient’s attitudes toward HCPs must also be sensitive to the broader effect of the health care team on attitudes. Chenoweth and Piterman designed a measure to assess HIV-positive patients’ attitudes toward general practitioners. However, they failed to account for the effects of the other medical staff that influence patient attitude. Because an HIV patient usually interacts with many different medical staff during an office visit (i.e., physician, nurse, health educator, dietician, psychologist, etc.) it is imperative for the measure to define HCP broadly rather than focusing solely on the physician.

The purpose of the present study was to develop and validate an appropriate instrument to measure patient attitudes toward HCP in the HIV population. Few measures have been developed to assess the patient-HCP relationship in this population and none, to our knowledge, have been developed specifically to assess attitudes toward the HCP and account for the impact of the entire medical team on attitudes.

**METHOD**

**Participants**

Participants were recruited from an HIV clinic within a teaching hospital in a southeastern city. The individuals had to be a minimum of 18 years old, HIV positive, and demonstrate at least a fifth-grade oral comprehension ability. Of the 160 patients approached, 129 patients (74 males and 55 females) were eligible, 29 patients refused, and 2 patients were ineligible (failed the oral comprehension test). Participants attending medical appointments were approached in the clinic waiting area where informed consent was obtained. The median age was 38 years (range, 18–61); 83% were African American, 16% Caucasian, and 1% Hispanic. Sixty-three percent of the patients were unemployed, 30% were employed full-time, and 7% employed part-time. The average years of education was 12.32 years (standard deviation [SD] = 2.10), with a range of 7 to 18 years. Sixty-four percent of the patients were single, 17% were married, 14% divorced, and 5% separated. The majority of patients (70%) were taking HIV antiretroviral medications. The average length of HIV diagnosis was 72.49 months (SD = 50.81), with a range from 1 to 252 months. The average number of months attending the HIV clinic was 45 months (SD = 33.2), with a range from 1 to 144 months. The majority of participants (57%) had HIV viral loads under 5000 copies while 21% had counts between 5001 and 50,000, and 22% had counts above 50,000. Sixteen percent of patients had less than 100 T cells, 19% had 101–250, 34% had 251–500, and 31% had 501 or more T cells.
MEASURES

Demographic Questionnaire

The Demographic Questionnaire assessed participant characteristics including age, gender, race, years of education, length of HIV diagnosis, months since intake at HIV clinic, HIV medication status, CD4 count, viral load, stage of HIV, gender and race of physician.

Patient Satisfaction Questionnaire (PSQ-III)

The PSQ-III is a 50-item scale\textsuperscript{13,20,21} that measures 6 aspects of patients’ satisfaction with medical care: interpersonal manner, communication, technical competence, time spent with doctor, financial aspects, and access to care.\textsuperscript{22} The instrument contains both positively and negatively worded items and responses to each item are given on a 5-point Likert scale ranging from strongly agree to strongly disagree. The participants are instructed to indicate how they feel about the medical care they receive in general, with no reference to a specific time frame or visit. Internal consistency has been reported to range from $r = 0.82$–0.89.\textsuperscript{22} In addition, a summary index of general satisfaction with care is provided. Because this scale is a widely used measure of patient satisfaction and has good psychometric properties, it was utilized as evidence for convergent validity.

Woodcock Johnson-Oral Comprehension

Because of low literacy rates in our sample, most questionnaires were read to the participants and the Woodcock Johnson Oral Comprehension\textsuperscript{23} was utilized to ensure that patients could understand items presented to them. The Oral Comprehension section of the Woodcock-Johnson III Test of Achievement is a measure of participants’ comprehension and oral language. Oral language is measured by the ability to comprehend a short passage and subsequently supply the missing word using syntactic and semantic cues. Oral comprehension has median reliability of 0.89 in adults aged 19 and older. For the purposes of the present study, the cutoff score was a fifth grade oral comprehension level because this was the comprehension level of the material presented to patients. Patients needed to answer 1–13 items correctly on the comprehension test to demonstrate a fifth grade level. Patients who did not pass the comprehension test were not included in the study.

Attitudes toward HIV Health Care Providers Scale (AHHCP)

An initial set of 19 items was generated from topics discussed in review articles examining patients’ relationships with HCPs.\textsuperscript{9,24} Items were constructed by two researchers based on these reviews and anecdotal information from interactions with HIV-positive patients. Item sets were independently generated and then reviewed by various staff at the HIV clinic for feedback and suggestions. Discussions were held about the items and redundant or ambiguous items were eliminated. The initial item pool consisted of 19 items, which assess the extent of agreement with different attitudes toward the medical team. Individual items from the AHHCP were scored using a 6-point Likert-style rating system (ranging from strongly agree to strongly disagree). To control for acquiescence, items were both positively and negatively worded. Higher scores indicated a more positive attitude toward HIV health care providers.

PROCEDURE

Participants were recruited from the waiting room at an HIV clinic prior to their medical appointment. In an effort to determine overall HCP attitudes unaffected by current visit, patients were only eligible to participate prior to interaction with HCP on the day of data collection. Informed consent was obtained and patients were assured that participation in the current study would be confidential, in an attempt to obtain accurate information regarding attitudes. The oral comprehension measure was then administered. Patients who were unable to demonstrate at least a fifth grade comprehension level were excluded from the study.

The participants completed the demographics questionnaire with the researcher and then proceeded to complete the other questionnaires measuring patient satisfaction and attitudes to-
ward health care providers. The questionnaires were counterbalanced to control for order effects. Participants were provided a small snack for their time.

**RESULTS**

The average AHHCP score was 99.51 (SD = 15.8). The range of AHHCP scores was 48–114. There was a significant relationship between AHHCP and age ($r = 0.213, p < .05$), with older age being associated with a more positive attitude toward HCP. No significant relationships were found between AHHCP and gender, race, time since diagnosis, medication status, education, and employment.

**Principal components analysis**

A principal components analysis (PCA) with varimax orthogonal rotation was conducted on the 19-item AHHCP. Two factors emerged with eigenvalues greater than unity. The scree plot confirmed that these two factors accounted for a large percentage of the variability in the scores. Thus, a two-factor solution was examined (see Table 1 for items and factor loadings). The results indicated that a two-factor solution most parsimoniously summarized the data, accounting for 53.3% of the variance in attitude toward HCP.

Factor 1, Professionalism (eigenvalue = 8.41), explained 44.3% of the variance and included 8 items related the expected professional behavior and nature of the HCPs. Factor 2, Emotional Support Scale (eigenvalue = 1.72), explained 9% of the variance and included 11 items related to perceived supportive behaviors of the HCPs.

**Reliability**

Internal consistency was evaluated for the total scale and each of the two factors of the AHHCP by computing Cronbach $\alpha$ for the sample. Coefficient $\alpha$ for the total scale was 0.92, Professionalism scale was 0.87, and Emotional Support scale was 0.89. Table 2 shows the $\alpha$ coefficients for each scale.

**Validity**

Intercorrelations between the AHHCP factors and the AHHCP Total Scale were calculated using Pearson Product-moment correlations. Values ranged from 0.72–0.95 and were all significant (all $p < 0.01$). Because the AHHCP demonstrated good interitem reliability and initial psychometric findings, preliminary conver-

<table>
<thead>
<tr>
<th>Table 1. AHHCP Factor Loadings</th>
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<tbody>
<tr>
<td><strong>Items</strong></td>
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<tr>
<td>Factor 1 (professionalism)</td>
</tr>
<tr>
<td>I believe that my medical team is knowledgeable about HIV/AIDS.</td>
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<tr>
<td>My medical team puts an effort into my treatment.</td>
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<tr>
<td>I believe my medical team is motivated to help me.</td>
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<tr>
<td>My medical team cares about my health.</td>
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<tr>
<td>I believe that my medical team knows a lot about HIV drugs.</td>
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<tr>
<td>I believe I receive the best available health care.</td>
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<tr>
<td>My medical team is lazy.</td>
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<tr>
<td>My medical team is knowledgeable about new HIV treatments.</td>
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<tr>
<td>Factor 2 (emotional support)</td>
</tr>
<tr>
<td>I believe that my medical team cares about me.</td>
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<tr>
<td>My medical team supports me.</td>
</tr>
<tr>
<td>My medical team encourages me.</td>
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<tr>
<td>My medical team is helpful.</td>
</tr>
<tr>
<td>My medical team makes me feel comfortable.</td>
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<tr>
<td>My medical team spends enough time with me.</td>
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<tr>
<td>My medical team is sensitive to how I feel.</td>
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<tr>
<td>My medical team thinks I am a bad person because I have HIV.</td>
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<tr>
<td>My medical team cares about my opinion.</td>
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<tr>
<td>I believe that my medical team sees me as stupid.</td>
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<td>My medical team judges me.</td>
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gent validity was examined through comparison with a similar instrument.

**Convergent validity**

The 19-item AHHCP was compared with a measure of patient satisfaction (PSQ III), a related construct that represents the outcome of the patient-HCP relationship. Because no scale currently exists in the literature that measures the construct being examined, a similar construct (patient satisfaction) was used in validating the instrument. The PSQ-III has been shown to be a valid and reliable measure of the patient–HCP relationship and has been previously used in assessing satisfaction in an HIV population. The correlations between the subscales of the PSQ, the total score for the PSQ, and the AHHCP total score are listed in Table 3. Results suggest a positive relationship between total satisfaction and AHHCP (r = 0.59, p < 0.01). Shared variance was 34.8%, providing support for the notion that people with a more positive attitude toward their health care providers are also more satisfied with the health care they are receiving.

In addition, the two factors of the AHHCP were highly correlated with the PSQ and its factors (Table 4). This suggests that factors measuring attitudes toward HCP may be more related to specific factors of patient satisfaction including communication and interpersonal skills.

**DISCUSSION**

The present study was designed to develop and validate a scale that would appropriately examine HIV-positive patients’ attitudes toward their HCP. Our results provide initial support for the psychometric properties of the AHHCP and suggest that it is a valuable instrument for use in an HIV health care setting. Two factors emerged from the primary analyses of the AHHCP: Professionalism and Emotional Support. Each of the two factors was correlated with the AHHCP total score and the AHHCP instrument proved to be positively related to patient satisfaction as measured by the PSQ. These findings were theoretically consistent and suggest preliminary evidence of adequate convergent validity for the AHHCP. The AHHCP total scale and two factors demonstrated good internal consistency.

This tool is potentially a valuable asset to the HIV literature. With a large amount of research focusing on the predictors of adherence in HIV patients, the AHHCP can provide a valid and reliable way to explore the relationship between attitudes towards HCP and adherence. Research has found that the patient-provider relationship does have an impact on adherence, however, the measures used in the literature do not directly assess attitudes specific to an HIV health care setting. In addition, because of the numerous health care staff that an HIV patient interacts with, an assessment tool must capture the influence of many HCPs. The AHHCP provides means of assessing this relationship and determining the impact that it may have on adherence, as well as other outcomes (e.g., viral load, CD4 count, associated symptoms).

This study lays the foundation for further investigation into the relationship between HCPs and patients and the effects of this relationship on adherence. Attitudes have vast effects on

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**Table 3. Correlations Among AHHCP Total Scale and Validity Instrument and Factors**

<table>
<thead>
<tr>
<th>Scale</th>
<th>1</th>
<th>2</th>
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<tbody>
<tr>
<td>1. AHHCP Total</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>2. PSQ Total</td>
<td>0.591(^{a})</td>
<td></td>
<td></td>
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<tr>
<td>3. PSQ SAT</td>
<td>0.595(^{a})</td>
<td>0.804(^{a})</td>
<td></td>
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<tr>
<td>4. PSQ INTER</td>
<td>0.390(^{a})</td>
<td>0.662(^{a})</td>
<td>0.466(^{a})</td>
<td></td>
<td></td>
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<tr>
<td>5. PSQ COMM</td>
<td>0.549(^{a})</td>
<td>0.763(^{a})</td>
<td>0.633(^{a})</td>
<td>0.464(^{a})</td>
<td></td>
</tr>
</tbody>
</table>

\(^{a}\)p < 0.01.

PSQ total, Patient Satisfaction Scale Total score; PSQ SAT, Patient Satisfaction Questionnaire Satisfaction Scale; PSQ INTER, Patient Satisfaction Questionnaire Interpersonal Scale; PSQ COMM, Patient Satisfaction Questionnaire Communication Scale.
behavior; therefore, we must not overlook the profound influence that attitudes have in a population such as HIV patients. The devastating physical, emotional, and financial effects of HIV associated with the stigma and continued myths about the disease suggest that patient attitudes should be carefully and frequently assessed. This is especially true with regard to interactions with health care providers, as inaccurate interpretations of interactions with staff could have a negative impact on health care behaviors. Assessment of attitudes is the first step in this process.

**Clinical implications**

The AHHCP is a functional tool that can be utilized in a clinical setting. Although there are other tools that have been developed to assess the relationship between patient and HCP,11–15 no scales exist that measure attitudes toward HIV health care providers that consider the impact of the entire medical team. Because of the stigma, chronicity, and severity associated with HIV,17 it is likely that these patients’ attitudes toward HCPs are determined by variables that are disease-specific. Therefore, it is necessary to have tools designed distinctively with these factors in mind.

Nonadherence to medications and appointment attendance are common problems confronted in HIV health care.26,27 Adherence is essential with this disease, because of the vast consequences that can result from nonadherence (medication intolerance, progression of disease, further transmission of treatment-resistant HIV strain, etc.).28,29 Therefore, it is necessary to have reliable and valid tools that can be used to identify factors that may be contributing to these problems. The AHHCP is a brief self-report scale requiring 5 minutes to administer that can be easily used in health care settings. This tool can be used to facilitate communication between the patient and medical staff regarding issues that may have been avoided (i.e., stigma) and to dispel myths or clear up any misinterpretations of the patient’s or staff’s behaviors. The development of this scale is a much needed addition to the HCP repertoire of tools in helping patients obtain the most from their health care. It is a necessary instrument that can be easily administered by any staff member that assists in the identification of barriers to a good relationship between HCP and patient.

**Limitations**

The population used in this current study was predominantly African American and patients of a low-income charity hospital; therefore, these results must be cautiously generalized to different populations of HIV patients. In addition, there was a restricted range of participants who completed the study, including only those patients who attend their medical appointments. We cannot make assumptions regarding attitudes about patients who do not attend appointments, and it is possible that these individuals have different attitudes then those who do attend. Further research is necessary to replicate the current findings and to determine the psychometric properties of the AHHCP in diverse HIV populations.

**CONCLUSIONS**

Despite the limitations, this scale has the potential to be a valid screening tool to be used in a clinical setting. The assessment of patient’s attitudes toward HCP may be a crucial step in addressing adherent health behaviors early in the progression of the HIV disease. A significant amount of empirical evidence exists supporting the effects of patient attitudes toward HCPs on health behaviors and more assessment is necessary in health care settings in order to intervene where necessary.
REFERENCES


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