Article

Resilience of People with HIV/AIDS: Influence of Religious Coping

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Abstract

Authors have highlighted resilience as one of the factors that allows people living with HIV/AIDS (PLHA) to persist or adapt to the medical, psychological, and social implications related to seropositivity. The process by which people, through religion, try to deal with personal or situational requirements in their lives is called religious coping. This study aimed to investigate predictors of resilience among sociodemographic, medical-clinical and religious coping strategies (positive and negative). Participants of the study were 200 seropositive people (52.5% men) monitored in an HIV/AIDS outpatient clinic, who responded to the instruments: General sociodemographic and clinical-medical questionnaire; the Brief Religious Coping Scale and the Resilience Assessment Scale. Resilience was not associated with any of the sociodemographic and medical-clinical variables, however, it was significantly and positively correlated with positive religious coping and negatively correlated with negative religious coping. In the multiple regression analysis, both negative and positive religious coping were significant predictors of resilience, with higher scores in this variable resulting from more use of positive religious coping and less use of negative religious coping in the PLH sample of this study. The results indicate important effects that religious coping can have on the process of overcoming adversities related to the experience of seropositivity.

Keywords: HIV/AIDS, resilience, religious coping.

Resiliência de Pessoas com HIV/Aids: Influência do *Coping* Religioso

Resumo

Autores têm apontado a resiliência como um dos fatores que permite a pessoas vivendo com HIV/ aids (PVHA) persistirem ou se adaptarem às implicações médicas, psicológicas e sociais relacionadas

à soropositividade. O processo pelo qual as pessoas, por meio da religião, tentam lidar com exigências pessoais ou situacionais em suas vidas é denominado *coping* religioso (CR). Este estudo objetivou investigar preditores da resiliência entre variáveis sociodemográficas, médico-clínicas e estratégias de *coping* religioso (positivo e negativo). Participaram 200 pessoas soropositivas (52,5% homens) acompanhadas em ambulatório especializado em HIV/Aids que responderam aos instrumentos: questionário sociodemográfico e médico-clínico; Escala breve de enfrentamento religioso e Escala de avaliação da resiliência. Resiliência não se associou a nenhuma das variáveis sociodemográficas e médico-clínicas, mas se correlacionou significativa e positivamente ao CR positivo e negativamente ao CR negativo. Na análise de regressão múltipla, tanto o CR negativo quanto o positivo foram preditores significativos da resiliência, de modo que escores mais altos nessa variável resultaram de maior utilização de CR positivo e menor utilização de CR negativo na amostra de PVH desse estudo. Os resultados apontam para efeitos importantes que o CR pode desempenhar no processo de superação de adversidades relacionadas à vivência da soropositividade.

Palavras-chave: HIV/aids, resiliência, *coping* religioso.

Resiliencia de Personas con HIV/Aids:
Influencia del *Coping* Religioso

Resumen

Autores han señalado la resiliencia como uno de los factores que permiten las personas que viven con VIH adaptarse a las implicaciones médicas, psicológicas y sociales relacionadas con la seropositividad. El proceso por el cual las personas, por medio de la religión, intentan lidiar con exigencias personales o situacionales en sus vidas es denominado *coping* religioso (CR). Este estudio objetivó investigar predictores de la resiliencia entre variables sociodemográficas, médico-clínicas y estrategias de *coping* religioso (positivo y negativo). Participaron 200 personas (52,5% hombres) acompañadas en ambulatorio especializado en SIDA que respondieron a: Cuestionario sociodemográfico y médico-clínico; Escala breve de enfrentamiento religioso y Escala de evaluación de la resiliencia. Resiliencia no se asoció a ninguna de las variables sociodemográficas y médico-clínicas, pero se correlacionó significativa y positivamente al CR positivo y negativamente al CR negativo. En el análisis de regresión múltiple, tanto el CR negativo como el positivo fueron predictores significativos de la resiliencia, de modo que los puntajes más altos en esa variable resultaron de mayor utilización de CR positivo y menor utilización de CR negativo. Los resultados apuntan a efectos importantes que el CR puede desempeñar en el proceso de superación de adversidades relacionadas con la vivencia de la seropositividad.

Palabras clave: VIH / sida, resiliência, *coping* religioso.

The clinical manifestations resulting from an immunodeficiency condition due to HIV infection are associated with complex medical, psychological and social implications that arise at different times, from diagnosis to treatment, and require relevant adaptive efforts from people living with HIV - PLH (Dalmida, Koenig, Holstad, & Thomas, 2015; Jayasvasti et al., 2011; Seidl & Faustino, 2014; Yu, Lau, Mak, Cheng, & Zhang, 2014). Despite the biopsychosocial damage associated with HIV/

AIDS infection, many PLHA can avoid and overcome the impacts living with HIV/AIDS has on them and rebuild their lives (Wiegers, 2008). Studies have shown that many of these people preserve their quality of life, their psychological well-being and the belief that they will have better days, making a positive self-assessment of their seropositivity status (Calvetti, Muller, & Nunes, 2008). Furthermore, there may be months or years from the time of infection to the appearance of any symptom, with some infected

people never having had health complications due to the infection (Carvalho, Morais, Koller, & Piccinini, 2007; Vance, Brennan, Enah, Smith, & Kaur, 2011). These changes stem largely from the advent of antiretroviral therapy (ART) that has transformed AIDS into a chronic condition, bringing real prospects for a long and healthy life for HIV-positive people (*Ministério da Saúde*, 2015). Authors have highlighted resilience (the ability to go through difficulties and adverse conditions and to recover a satisfactory quality of life while maintaining good health) as one of the constructs that clarify why some individuals survive and achieve well-being in their lives even when faced with adverse conditions (Angst, 2009; Calvetti et al., 2008; Lopes & Martins, 2011; Tian et al., 2016). Resilience has been recognized as an important factor in the promotion and maintenance of mental health, well-being, and the perception of quality of life (QoL), being related to the reduction of the intensity of stress and of the negative emotional signs such as anxiety, depression or anger (Kocalevent et al., 2015; Yu et al., 2014).

In the context of the health-disease process, resilience is related to the ability of people to cope with the disease, accepting their limitations, adhering to treatment, re-adapting and living in a positive way, and can be developed and extended throughout the life (Cal, Sá, Glustak, & Santiago, 2015). In the context of HIV/AIDS, it refers to the ability to accept one's condition, maintain a positive perception of the disease, to prevent its impacts and recover a level of well-being and QoL, as well as to rebuild life despite the chronic condition (Farber, Schwartz, Schaper, Moonen, & Mcdaniel, 2000; Nombo & Niehof, 2008).

One of the protective factors mentioned in the literature, which may contribute to the promotion of resilience in PLHA is religiosity, being one of the aspects that can influence learning and growth from adversity (Vance et al., 2011). Studies have emphasized the importance of religious beliefs and practices as a strategy to cope with stressors in the life context of PLHA. Many of these people deal with the difficulties caused by the chronic condition from the

religious dimension, with this constituting one of the formative aspects present in the process of resilience (Cotton et al., 2006; Dalmida et al., 2015; Joshi & Kumari, 2009; Pargament et al., 2004; Trevino et al., 2010; Tsevat, 2006).

Religious/spiritual coping refers to how people make use of their religion, spirituality or faith to understand or adapt to critical and adverse situations through a set of religious and/or spiritual strategies used to manage daily stress and/or stress arising from existential or circumstantial crises that occur throughout life (Pargament, 1997). Religious coping strategies can be classified as positive and negative depending on the effects on the people that use them. According to Pargament, Smith, Koenig, and Perez (1998), positive religious coping (PRC) includes strategies that provide a beneficial effect for the individual. Negative religious coping (NRC), in turn, involves strategies that generate harmful consequences and suggest the presence of emotional stress. These coping strategies have been associated with different implications for the adjustment to critical life events. While the positive strategies correlate with better physical and mental health, better QoL, psychological and spiritual growth, and lower levels of stress and psychiatric symptoms as a result of stress management, negative strategies are positively associated with depression, a perception of lower QoL and worse psychological and/or physical health, in addition to a higher level of stress (Pargament et al., 1998).

Previous studies have found that people with HIV/AIDS turn to religion/spirituality, using a variety of religious coping strategies to manage their condition (Charzyn´ska, 2015; Faria & Seidl, 2006; Henry, 2013; Pargament et al., 2004; Trevino et al., 2010; Vance et al., 2011). The need for studies that better elucidate the role and influence of religiosity in the adjustment to seropositivity is emphasized, since relatively little attention has been given to the role of religious coping in the multiple aspects of health and, more specifically, in the resilience of PLHA (Cotton et al., 2006; Dalmida et al., 2015; Joshi & Kumari, 2009; Trevino et al., 2010), especially in Brazilian samples, considering

the complexity and comprehensiveness of the religious expression present in this society. In addition, few studies have investigated the relationship between religious coping strategies and resilience in PLHA (Trevino et al., 2010), although several have investigated resilience processes in the context of seropositivity (De Santis, Florom-Smith, Vermeesch, Barroso, & DeLeon, 2013; Farber et al., 2000).

Accordingly, the aim of the present study was to investigate predictors of resilience among sociodemographic and medical-clinic variables and positive and negative religious coping strategies.

Method

Design

This was a quantitative, cross-sectional, correlational and predictive study using descriptive and inferential data analysis techniques.

Participants

The sample was composed of 200 adult patients diagnosed with HIV, of both sexes, accompanied in a specialized public service of the municipality of Goiânia, Goiás. The criteria for inclusion of the participants were: (a) voluntary participation with signing of the consent form; (b) a confirmed diagnosis of HIV infection; (c) between 18 and 65 years of age (due to comorbidities that may exist in the older age phase, in addition to the low prevalence of HIV positive people over 65 years); and (d) able to respond to self-report instruments alone or with the assistance of a trained researcher. Factors to exclude participants from the study were: (a) patients illiterate or unable to understand and respond to instruments alone or with the researcher's help; (b) having a psychiatric diagnosis. The selection of the participants was by convenience.

Instruments

The following instruments were used for the data collection:

- General questionnaire that was previously tested in a pilot study for adequacy regarding the language, sequence and clarity of the questions, covering the following aspects: (1) sociodemographic variables: sex, age, education, marital status, employment status, family income, number of children; (2) clinical-medical condition, including: time of diagnosis, use of antiretroviral therapy (ART), self-assessment of adherence to antiretroviral treatment, perception of current health status, $CD4^+$ T lymphocyte levels (number of body defense cells per cubic millimeter of blood), plasma viral load (number of viral copies per milliliter of peripheral blood). These last two data were obtained from the patient's medical records considering the most recent exams.

- Brief Religious Coping Scale. Based on the BriefRCOPE originally developed by Pargament, Koenig, and Perez (2000), translated into Portuguese and factorially analyzed by Faria and Seidl (2006) with a sample of seropositive patients, with the aim of evaluating the use of religiosity in the coping process. The Brazilian version, like the American one, is composed of two factors, with seven items each, evaluated on a 4-point Likert-type response scale (1 = never; 4 = almost always): (1) positive religious coping (alpha=0.87): religiosity as a source of love, care, strength, help, purification and positive resignification of the stressor; (2) negative religious coping (alpha = 0.71): religiosity as source of intra and/or interpersonal conflict, feelings of guilt and punishment, insecurity and negative resignification of the stressor. The participant was instructed to respond to the instrument regarding the status of seropositivity at the present time. Cronbach's alpha for the positive religious coping (PRC) scale was 0.83 and 0.74 for the negative coping scale in the sample of the present study, indicating good levels of reliability of the instrument.

- Resilience Assessment Scale (RAS). Resilience evaluation instrument developed

and validated in the Brazilian context by Martins, Siqueira, and Emilio (2011), with 32 items that define resilience as the person's ability to succeed in the face of life's adversities, overcome them and be strengthened or transformed by them. The resilience dimensions in the RAS are: (a) F1 – positive acceptance of changes, 10 items (alpha=0.84), adaptation or positive acceptance of changes, defined as the recognition that changes and difficult situations may offer opportunities for growth; (b) F2 – spirituality, 6 items (alpha=0.90), defined as the belief or feeling of dependence on something metaphysical or transcendental that provides meaning to life, that something supernatural exercises control over life and its events; (c) F3 - resignation, 7 items (alpha=0.73), conceptualized as the passive subjection faced with the negative events of life, higher indices in this factor would imply a decrease in the human capacity to overcome; (d) F4 - personal competence, 5 items (alpha=0.72), considered the knowledge of one's own abilities and potentialities and their limits; (e) F5 - persistence in the face of difficulties, 5 items (alpha=0.78), which relate to withstanding adverse events and/or difficult situations, with confidence and perseverance (Emílio & Martins, 2012). The responses are given on a 5-point Likert-type scale (0 = never true, 4 = always true). Cronbach's alpha for the total original scale was 0.83 and 0.77; in the sample of the present study the alphas of the five factors ranged from 0.48 to 0.74. As the best alpha observed was the full scale (0.77), it was chosen to work the construct in a unifactorial way.

Data Collection Procedures

The research project was submitted to the Research Ethics Committee of the Institute of Human Sciences of the University of Brasília (UnB) and the Research Ethics Committee of the hospital where the data were collected. After approval by the two committees, in order to test the suitability of the instruments, a pilot application was carried out with five HIV+ patients, accompanied at a health unit located in the city of Brasília. Considering the need to adapt the sequence of the instruments and the items of the general questionnaire, and since there was a need for adjustments in the data collection procedures, these alterations were carried out in order to proceed with the final collection.

The sample was selected by convenience and the individuals that attended the outpatient clinic of a hospital located in the city of Goiânia were invited to participate, while waiting for a procedure (laboratory tests, medical consultation and/or psychological care) or when they were in the service seeking ARV medications in the pharmacy. Upon contact, the patients were informed about the nature and aims of the study, the voluntary nature of their participation, the lack of financial incentive and the confidentiality of their identity. Upon agreement, prior to the application of the instruments, they were asked to sign the consent form which formalized the agreement to voluntarily participate. The patients were assured of the maintenance of the services and/or other services performed in the hospital, even if they refused to participate in the study and the possibility of withdrawing their consent at any time during the process, without any personal obligation or prejudice in their relationship with the institution where they were attended and monitored.

The application of the instruments was individual and was performed in the outpatient clinic during a single meeting of approximately 60 minutes. Ensuring that the instructions were properly understood, the instrument was self-administered and the participants responded by means of assisted application. The medical records of the patients were accessed for the collection of data on biological markers, such as more recent viral load tests and CD4+ T lymphocyte counts. Although the instruments did not pose an immediate risk to the study subjects, the possibility of a subjective risk was considered, since some questions referred to the self-assessment of behavior, life history and HIV infection, as well as investigating diverse aspects such as religious coping and resilience.

Patients who were psychologically vulnerable not only because of their clinical condition but also because of other factors such as socioeconomic status and lack of social support were to be referred to a hospital psychological support service. However, this requirement was not identified and no patients were referred.

Data Analysis

The data were computed and analyzed using the SPSS (Statistical Package for the Social Sciences) for Windows, version 20, software, through the use of descriptive and inferential techniques pertinent to the study aims. The level of statistical significance considered was 5%. It should be noted that prior to the statistical analysis, a few omissions were identified and completed in the scales used, corresponding to less than 1% of the answers, which were replaced by the mean values of the respective items. In addition, analyses of internal consistency of the standardized instruments showed their adequacy for the subsequent statistical analyses.

Descriptive analyses were initially performed, including: mean, median, standard deviation, asymmetry, kurtosis, and maximum and minimum values for the continuous variables; and frequency and proportion for the categorical variables. The normality of the distribution of the criterion (resilience) and predictor variables (religious coping modalities) was investigated using histograms, with scatter data, skewness and kurtosis values, as well as through the Kolmogorov-Smirnov test. The assumption of normality was violated for the positive religious coping (KS=2.51; p<.001) and negative religious coping (KS=2.08; p<.001) variables. Resilience (KS=0.66; p<.77) did not present violations of normality. No transformations (logarithm, square root and inverse) of the variables that violated the normality assumption were made, choosing to maintain the original database. Scatter plots between pairs of variables did not reveal an absence of linearity. Next, analyses of Pearson's and Spearman's correlations were computed to access possible bivariate relationships between the variables of interest. After examining the normal distribution of the subgroups of the sample, Student's t-tests for independent samples (and their non-parametric equivalent) were performed, in order to compare the means of the variables among different groups (sex, education, marital status and age) in relation to resilience. To assess the duration of time since diagnosis and length of ART medication use, the participants were divided into three groups, as well as in relation to the CD4$^+$ and viral load data. Analyses of variance (ANOVA with Tukey's post hoc test) were used to compare the means of the scores of three levels of time since diagnosis (up to one year, two to five years and more than 6 years), as well as the length of use of ART medication (up to one year, from two to six years and more than six years), viral load and CD4$^+$ count with the outcome variables.

A multiple linear regression model was tested with the aim of verifying which variables would better explain resilience for the present sample, from a set of clinical and psychosocial variables. Multivariate analyses were conducted from the results of the bivariate analyses, so that variables with p values less than .05 entered into the regression analyses. The variables that were significantly related to resilience in the bivariate tests were selected for the multivariate analysis. One participant (case 9) did not complete the resilience scale, and was excluded from the bivariate and multivariate analyses that included this variable. The existence of three non-extreme univariate discrepant cases (65, 112 and 148) was identified in the religious coping variable. It was chosen to readjust the scores of these three cases, in order for them not to be considered outliers. Alterations were made in the values of the scores of these cases, adjusting them to the values of the non-outliers that were at the extremes of the distribution, thus maintaining the distribution profile of the sample, as recommended by Tabachnick and Fidel (2001). Based on the Mahalanobis distance criterion (χ^2=16.81; p=.01), a multivariate outlier case was identified, number 65, which had already been considered a univariate outlier and had had its score adjusted. We chose to exclude this case from the sample in the multivariate analyses, so that the subsequent analyses had 198 participants.

The adequacy of the variables in relation to the assumptions required for multivariate analysis was confirmed by the exploratory analysis of the data and assumptions. Regarding the adequacy of the sample size for performing the multiple regression analysis, calculations were made according to the number of antecedent variables (five), according to Tabachnick and Fidel (2001). Therefore, the sample needed to include at least 92 participants, with 198 cases being satisfactory. The assumptions analysis indicated that regression analysis was feasible.

Results

Sociodemographic and Medical-Clinical Characterization of the Participants

A total of 200 people with HIV participated in the study, with 105 (52.5%) being male. The participants were between 19 and 65 years of age, mean age of 39 years (SD=10.9; median=38). Regarding marital status, 77 (38.7%) lived with a spouse or partner, 94 (47.2%) were single and 28 (14.1%) were separated, divorced or widowed. Education ranged from incomplete elementary education (n=60; 30.0%) to complete higher education (n=15; 7.5%); with 8.0% (n=16) having completed elementary education and 31.0% (n=62) having completed high school. In addition, 14.0% (n=28) had not completed high school and 9.5% (n=19) had not completed higher education.

Regarding the professional situation, 33.0% (n=66) reported having fixed work with and without labor rights, and 19.5% (n=39) worked in regular and/or casual self-employment. Almost half of the sample was not working: 28.0% (n=56) were unemployed, 12.5% (n=25) retired and 7.0% (n=14) received social security benefits. Low levels of family income were predominant, based on the sum of wages of people living in the same household: half of the sample (n=99; 50.3%) lived with up to one minimum wage; 37.1% (n=73) with two to three minimum wages; 7.1% (n=14) with five to ten minimum wages and 2.0% (n=4) with more than 11 minimum wages.

Considering the clinical data, the patients had a mean time since diagnosis of 7 years (SD=6.3), with 27 years (n=1; 0.5%) being the longest diagnosis, and less than 12 months the shortest length of time, reported by 29 (14.5%) participants. The mean length of ARV use was 6 years (SD=6.0) ranging from less than one year to 25 years. A total of 194 participants (97.0%) reported using ARVs, which was expected considering national public policies for the use of ART independent of CD4$^+$ T lymphocyte and viral load count, and because the data collection was carried out with people who attended the hospital that is a referral unit for HIV/AIDS treatment.

Of those taking antiretroviral medication, 173 people (86.5%) perceived their adherence as good or very good, which is consistent with the fact that the majority (n=123; 61.5%) had an undetectable viral load (50 copies/ml or less), an indicator of the effectiveness of the antiretroviral treatment. Also regarding the characterization of the clinical condition, both the viral load and the number of CD4$^+$ cells presented high variability among the participants. Plasma viral load measured by the number of viral copies per milliliter (ml) of peripheral blood (copies/ml) ranged from 50 to 589,481 copies (M=17,426.98; SD=62,555.027). The CD4$^+$ T lymphocyte count (number of cells per cubic millimeter of blood) ranged from 5 to 1,848 cells/mm^3 (M=587.48; SD=338.837).

Analysis and Description of Religious Coping and Resilience

The descriptive statistics revealed that religious coping was a coping modality used by the patients living with HIV to cope with their seropositivity. The mean PRC score was higher than that of the NRC, with 3.52 (SD=0.52, Mdn=3.71, maximum value=4.0, minimum value=1.7) and 1.71 (SD=0.68; Mdn=1.60), respectively. This suggests predominance in the use of the positive religious coping pattern in this population, an indicator of more adaptive modes of religious coping to deal with stressors related to the seropositivity.

The participants, in general, presented good levels of resilience (*M*=3.06; *SD*=0.41) and were therefore able to adapt positively to the difficulties associated with seropositivity and to learn from them (Table 1). However, there was variability in the sample, indicating the diversity of levels of resilience among the participants. As can be observed, the factors that compose the resilience variable presented means ranging from 2.39 in the resignation factor (*SD*=0.91) to 3.51 in the spirituality factor (*SD*=0.65). The personal competence factor presented a mean of 2.55 (*SD*=0.81), followed by the positive acceptance factor (*M*=3.40; *SD*=0.53) and persistence in the face of difficulties (*M*=3.44; *SD*=0.62). Therefore, the majority of the factors were scored around point three on the resilience response scale (often true), indicating that the participants perceived themselves able to cope with life's adversities because of their high perception of persistence, ability to adapt to changes and spirituality. In addition, by checking the option "sometimes" (point two of the scale) they revealed that they were able to assess their capabilities and limits in some situations.

Table 1
Means, Standard deviations, Medians, Maximum and Minimum Values of the Resilience Assessment Scale (*n*=199)

Factors	Mean	Standard deviation	Median	Minimum	Maximum
Spirituality	3.51	0.65	3.83	0.0	4.3
Persistence in the face of difficulties	3.44	0.62	3.50	0.0	4.0
Acceptance of or adaptation to changes	3.40	0.53	3.50	1.4	4.0
Personal competence	2.55	0.81	2.60	0.0	4.0
Resignation	2.39	0.91	2.57	0.0	4.0
Resilience (total score)	3.06	0.41	3.08	1.75	3.9

The correlation coefficients indicated that resilience, as a global score, was significantly and positively associated with PRC (r_s=0.37; *p*=.01) indicating that all of the participants who made greater use of the positive aspects of religious coping and religious coping strategies presented higher level of resilience. With NRC this association was weaker and negative, however, was still statistically significant (r_s=-0.1; *p*=.04). Analyses of Student's t-test with independent samples identified that the males and females did not differ significantly from each other in terms of the resilience variable (*t*=1.33; *p*=.18) or the mean scores according to the marital situation (*t*=0.12; *p*=.90), education (*t*=-1.41; *p*=.15) and age (*t*=-12.7; *p*=.19), as presented in Table 1. In the bivariate analyses between the medical-clinical situation and resilience, a one-way ANOVA for the three diagnostic time groups (*F*=0.42; *p*=.66) and length of ART medication use (*F*=1.03; *p*=.35), levels of CD4+ (*F*=0.37; *p*=.68) and viral load (*F*=1.26; *p*=.30) also did not indicate differences between the mean scores of these variables and resilience.

Investigating Predictors of Resilience

For the investigation of predictors of resilience with the criterion variable, another standard multiple regression analysis was performed, considering PRC and NRC as the antecedent variables. These variables were selected considering the results of bivariate analyses, in which statistically significant associations were only observed with these two variables. Table 2 presents the results of the regression analysis, including the values of the

Resilience of People with HIV/AIDS: Influence of Religious Coping.

655

Table 2
Multiple Standard Regression of the Positive Religious Coping and Negative Religious Coping Variables in relation to Resilience (*n*=198)

Variables	1	2	3	*B*	β	*sr²*
1. Resilience	-	-	-	-	-	-
2. Positive coping	0.38	-		0.32***	0.41	0.16
3. Negative coping	-0.15	0.13	-	-0.12**	-0.20	0.03
Means	3.06	3.53	1.69	Intercept = 2.11		
SD	0.41	0.51	1.67	*R²*=0.19		
				adjusted *R²*=0.18		
				R=0.43		

***$p \geq .001$; **$p \geq .01$; single variability=19.0%.

non-standardized regression coefficients (*B*), the standardized regression coefficients (β), the squared semi-partial correlations (*sr²*), the coefficient of determination (*R²*) and *R²* adjusted for the resilience variable.

The results indicated that both negative religious coping and positive religious coping contributed significantly to the prediction of resilience. Positive coping was the strongest predictor with 16.0% contribution (*sr²*=0.16), followed by negative religious coping with 3.0% (*sr²*=0.03). The two variables reached 19.0% of single variability. Thus, 19.0% (18.0% adjusted) of the resilience variance can be predicted based on the scores of these two antecedent variables (Table 2). In conclusion, higher scores in resilience resulted from more use of positive religious coping and less use of negative religious coping in the sample of seropositive people that participated in this study.

Discussion

The sociodemographic and clinical profile of the sample studied was not different from other studies in similar situations or from the epidemiological trends of AIDS in Brazil since the advent of ART: prevalence of pauperization of the epidemic (given by indicators of education and/or family income), age group with predominance of adults of around 35 years of age and homogeneous distribution between the sexes (Medeiros, Silva, & Saldanha, 2013; *Ministério da Saúde*, 2015). It should be noted that Brazil is now one of the ten countries worldwide, and the only one in Latin America, to adopt the new HIV/AIDS intervention technologies called treatment as prevention (TasP). This includes the recent expansion of treatment to adults with positive HIV tests, however, without compromised immune systems – noting that ART was previously recommended for PLH with CD4^{+} count lower than 500 cells per mm³ (Hull, Lange, & Montaner, 2014; Montaner, 2013; Seidl, 2015). Consequently, in Brazil there is a significant increase in the proportion of PLHA in ART every year, the ultimate goal of which is to suppress the viral load of HIV-infected people, considered as a marker for the reduction of the probability of PLHA not presenting AIDS-related opportunistic infections, as well as the reduction of HIV transmission. Therefore, the fact that the majority of the sample had an undetectable viral load (below 50 cells/ml) was expected. Consistently and as a consequence, they had good levels of mean values of CD4^{+} T lymphocytes in the peripheral blood (*Ministério da Saúde*, 2015).

The results of the participants regarding the resilience scale allow the conclusion that, despite

the variability, a large portion presented high resilience scores and a good capacity to have adaptive responses and to react positively to adverse situations related to the chronic condition of seropositivity. Although few researchers have documented the resilience process in PLHA, Calvetti et al. (2008), De Santis et al. (2013) and Wiegers (2008) concluded in their studies that many PLH experience resilience processes, despite the physical, psychological and social challenges of this chronic condition. In the present study, resilience was not associated with any of the sociodemographic variables analyzed, such as gender, age, marital status or education. The medical-clinical variables also did not differentiate the participants regarding the levels of resilience. This fact may indicate that resilience is a complex phenomenon that is constituted in the interactive and dynamic process that is constructed from the interrelationship between the individual and his/her family and social environment.

The associations between religious coping and resilience endorse findings regarding the implications of this construct for health behaviors and outcomes. However, the effect size was statistically small: religious coping appears to be just one of many factors that affect people's ability to overcome the adversities arising from HIV infection. In the regression analyses of the present study, both negative and positive RC were significant predictors of resilience: PRC was positively associated with resilience and, in contrast, NRC was significantly associated with lower scores in this variable. The bivariate and multivariate analyses between religious coping and resilience corroborate findings of other authors who concluded that religiosity may contribute to the development and promotion of resilience in individuals with HIV/AIDS and is a relevant variable to predict the likelihood of positive adaptation in PLH (Calvetti et al., 2008; De Santis et al., 2013; Farber et al., 2000; Gall & Guirguis-Younger, 2013; Wiegers, 2008).

The literature indicates that there is a predominance of the use of the positive pattern of religious coping in this population, an indicator of more adaptive ways to deal with stressors. Studies have identified that PRC in this population is correlated with lower rates of depression, anxiety and psychological stress, higher levels of QoL, positive affect, life satisfaction, perceived social support, self-esteem and optimism, as well as a positive self-assessment of health and growth related to stress (Cotton et al., 2006; Faria & Seidl, 2006; Joshi & Kumari, 2009; Trevino et al., 2010). However, NRC strategies, although less frequent, are also used, these being an expression of a distrustful and less secure relationship with God, often leading to religious/spiritual conflicts. In contrast to positive strategies, NRC strategies were significantly associated with resilience, although negatively. The chronic use of NRC can be problematic as it indicates that the person is facing a process of spiritual struggle that can harm his/her health, with it tending to manifest as anger and disappointment in the relationship with God, with possible implications for adaptation in the context of HIV/AIDS (Pargament et al., 2004). Negative religious coping in this population has been related to poorer subjective well-being (Faria & Seidl, 2006), disease progression (Ironson, Stuetzle, & Fietcher, 2006; Trevino et al., 2010), depressive symptoms and lower self-esteem and optimism (Charzyn´ska, 2015; Yi et al., 2006) and detectable viral rates (Cotton et al., 2006).

The results should be interpreted with caution since limitations can be identified in the present study. The data were collected with PLH that were attended at a hospital located in Goiânia, state of Goiás and constituted a convenience sample. In addition, the vast majority of the participants had a Christian religious affiliation, so that the generalization of the results to individuals of other religious denominations should be made with caution. In addition, patients with good access to HIV/AIDS care and treatment were studied: more than 95% were taking antiretrovirals (ARVs) and the majority presented viral load rates below the detectable limit and with good CD4$^+$ T cell levels. The results, therefore, cannot be extended

Resilience of People with HIV/AIDS: Influence of Religious Coping.

657

to patients who do not have access to ARVs, such as patients from other countries where ART is not universally available.

The cross-sectional design, although with multivariate statistical analysis, limits the inference of causal relations between the variables studied. A comprehensive understanding of causal relationships requires longitudinal study designs with randomized samples, which are scarce and are needed to determine and clarify changes in the variables and long-term effects (Pargament et al., 2004; Pargament, Tarakeshwar, Ellison, & Wulff, 2001).

Finally, the lack of literature on resilience in contexts of chronic diseases, especially in relation to HIV/AIDS, made it difficult to discuss the findings of the present study. The relationships between resilience and health have not been sufficiently explored in HIV/AIDS patients, not only in relation to psychological and QoL aspects but also in terms of the impact on physical health and disease progression. The various potential factors that may be related to the resilience capacity of the individuals and propitiating factors of this capacity were also unexplored in this study. Future studies should conduct qualitative research using interviews, surveys with open questions, case studies and narrative processes to understand the resilience process and its relationship with RC, as well as its implications on the health-disease process of PLH.

No instrument was located in the scientific literature that was designed to evaluate resilience specifically in seropositive patients and had been validated in Brazil, with the scale used in the present study not having been used in other groups of patients with chronic diseases. The other instruments, validated for the Brazilian population, were satisfactory and adequate for the study objectives.

Final Considerations

The relationships identified in the present study suggest that religious coping can influence the process of overcoming adversities related to living with HIV and should therefore be routinely evaluated by healthcare providers. Findings from this study and others may be used to develop interventions that take into account psychosocial factors that have been neglected in the care in the context of seropositivity (Kisenyi, Muliira, & Ayebare, 2013).

It is important that healthcare providers, especially psychologists, recognize the importance of religiosity/spirituality in the care of HIV-positive people, since this can play a critical role in the prognosis of HIV/AIDS, constituting a possible factor of protection or of risk. Certainly this is an attitude that requires ethics, considering that it is a question of accepting religiosity as a value of the patients, with this often being the only coping resource that they have at a given moment. More studies need to be carried out to investigate how healthcare providers can develop interventions that promote resilience. Due to the associations between religious coping and resilience, with RC even being a significant predictor of it, it is important to know how to access religiosity as a coping resource with implications for the psychosocial variables. Interventions to promote resilience among users should be directed toward identifying motivational factors and disease management strategies that can influence the health outcomes of people living with HIV. The healthcare providers and health team can use the comprehension of factors that hinder and facilitate the process of resilience and coping with seropositivity, by describing the patient's own experiences, attitudes and beliefs in relation to the disease and the treatment.

It can be concluded that the relevance of the concept of resilience to the health area is due to it reaffirming the human capacity to overcome adverse and potentially traumatic situations. Studying it means a major shift in perspective, as it focuses on the positive aspects of adaptation in the face of adverse circumstances, among which chronic illnesses are included. Thus, psychological intervention programs aimed at the development of resilience may contribute to chronic patients adapting better to their condition (Cal et al., 2015; Castro & Moreno-Jimenez, 2007). Among the implications for the

clinical practice, the consideration of resilience factors may be useful in predicting the likelihood of positive adjustment or psychological distress in a particular person (Kocalevent et al., 2015). Psychological, psychosocial and psychoeducational interventions that focus on the identification and development of resilience factors could favor the development of coping and adaptation strategies related to seropositivity (Farber et al., 2000).

The majority of the HIV/AIDS research has investigated the negative impact of infection on the compromise of the psychosocial aspects of people's lives. However, equal attention has not been given to the investigation of the factors that may contribute to the development of responses that are positive for health and the quality of life. Thus, the importance of the participation of healthcare providers and researchers, especially psychologists, is evidenced not only in the evaluation of the psychosocial damage associated with AIDS, but also in the positive aspects of the human experience and health protectors, which include, for example, resilience, coping and religiosity/spirituality, which, in turn, may favor the development of skills and competencies to overcome adversity.

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