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Association between illness perception, treatment adherence, and emotional state in HIV/AIDS

Associação entre percepção de doença, adesão ao tratamento e estado emocional em HIV/AIDS

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Abstract

Objective

This study sought to investigate associations between illness perception, adherence to antiretroviral medication, and levels of anxiety and depression in individuals diagnosed with HIV/AIDS.

Method

One hundred and one patients receiving outpatient care at a university hospital completed the Brief Illness Perception Questionnaire, the Questionnaire for the Assessment of Adherence to Antiretroviral Therapy, and the Hospital Anxiety and Depression Scale.

Results

Through statistical analyses, using Fisher’s exact and Chi-square tests, a statistically significant positive association ($p < 0.001$) was found between scores of illness perception and anxiety and depression, suggesting that the greater the perception of threat imposed by the disease, the greater the frequency of symptoms of anxiety and depression. Negative and significant associations were also found between adherence to medical prescriptions and perceived threat of living with HIV/AIDS ($p < 0.001$) and levels of anxiety ($p < 0.043$).

Conclusion

Research on psychological variables in chronically ill individuals is necessary to support assessments and interventions in the field.

Keywords: Acquired immunodeficiency syndrome; Chronic disease; HIV; Hospital Psychology Service; Treatment adherence.

Resumo

Objetivo

Este estudo objetivou investigar associações entre percepção de doença, adesão à medicação antirretroviral e níveis de ansiedade e depressão em pessoas diagnosticadas com HIV/Aids

Método

Cento e um usuários em acompanhamento ambulatorial em um hospital universitário responderam ao Questionário de Percepção de Doenças (versão breve), ao Questionário para Avaliação da Adesão ao Tratamento Antirretroviral e à Escala Hospitalar de Ansiedade e Depressão.

Resultados

Mediante análises estatísticas, com uso do teste exato de Fisher e Qui-Quadrado, constatou-se associação positiva estatisticamente significativa ($p < 0,001$) entre escores de percepção de doença e de ansiedade e depressão, sugerindo que quanto maior a percepção de ameaça imposta pela doença, maior a frequência de sintomatologia ansiosa e depressiva. Verificou-se ainda associações negativas e significativas da adesão às prescrições médicas com percepção de ameaça decorrente do viver com HIV/AIDS ($p < 0,001$) e com níveis de ansiedade ($p < 0,043$).

Conclusão

Pesquisas sobre variáveis psicológicas em pessoas cronicamente doentes são necessárias para embasar avaliações e intervenções na área.

Palavras-chave: Adesão à medicação; Doença crônica; HIV; Serviço Hospitalar de Psicologia; Síndrome da Imunodeficiência Adquirida.

The Human Immunodeficiency Virus (HIV) is responsible for the development of Acquired Immune Deficiency Syndrome (AIDS), a disease that affects the cells of the immune system and prevents it from protecting the body against other diseases. The process of falling ill from HIV/AIDS encompasses four clinical stages: (1) acute infection, when the virus is contracted and goes through an incubation period that lasts from two to four weeks, during which flu-like symptoms may occur; (2) asymptomatic phase, characterized by a strong interaction between the defense cells and constant rapid proliferation of HIV without clinical manifestations; (3) symptomatic phase, marked by the onset of various symptoms such as fever and diarrhea, with a decrease in CD4+ T lymphocytes count, which can drop below 200 cells per cubic millimeter of blood, a value that commonly ranges from 800 to 1,200 cells in healthy adults; and (4) AIDS itself, which at a later stage makes HIV-positive individuals more susceptible to opportunistic infections (Ministério da Saúde, 2008; 2013; 2018).

From 1980 to June 2020, 1,011,617 HIV-infected individuals were reported nationwide. However, in recent decades, the annual number of AIDS cases in Brazil has been decreasing, and in 2019, there was a 29.3% drop in the death rate where AIDS was the underlying cause (Ministério da Saúde, 2020). This new scenario reflects the progress made in addressing HIV/AIDS in the country. Among these achievements, the public health measures implemented to control the spread of the virus and the free distribution of antiretroviral drugs since 1996 stand out (Ministério da Saúde, 2018).

Advancements in antiretroviral therapy have led to a reduction in morbidity and mortality rates associated with the disease, as well as an improvement in the quality of life of individuals infected by the virus. As a result, this illness has transformed from a fatal disease to a chronic condition. However, to achieve therapeutic success, adherence levels equal to or higher than 80% of prescribed doses must be maintained (Seidl & Remor, 2020). Therefore, low levels of adherence to Antiretroviral Therapy (ART) have become a significant challenge for healthcare professionals and managers in Brazil (Carvalho et al., 2019).

Adherence to treatments constitutes a comprehensive and multidimensional process that requires the timely or definitive incorporation of habits – simple or complex – into the patient's

daily life, aiming to obtain the necessary conditions for the maintenance or recovery of their health (Ramos-Cerqueira et al., 2018; World Health Organization [WHO], 2003). In the case of ART, its effectiveness demands the ingestion of multiple medications in strict regimens, as well as modifications in lifestyle habits.

Mismanagement or abandonment of this medication therapy can lead HIV-positive individuals to develop AIDS, making them more susceptible to opportunistic infections and consequent health complications (Polejack & Seidl, 2010). In this condition, the introduction of new combinations of medications becomes necessary to control the virus replication in the body. When these combinations are exhausted due to virus resistance to previously used medications, available therapeutic measures come to an end, which tends to worsen the clinical condition and increase the risk of death (Rachid & Schechter, 2008).

Non-adherence to treatments is one of the main reasons for mortality rates, in addition to being associated with psychosocial impairments and increased healthcare costs. However, it is worth noting that adherence is not limited to the proper use of medication in the correct dosage and schedule; it should also encompass the individual's acceptance and choice to follow medication prescriptions and other therapeutic recommendations, not simply complying with medical instructions (WHO, 2003). From this perspective, individuals are granted autonomy and co-responsibility in the success of the treatment, with active participation throughout the process.

Nevertheless, numerous factors can hinder adherence, such as low level of education, use of psychoactive substances, pill size, unfavorable socioeconomic conditions, stigma associated with living with HIV/AIDS, and unsatisfactory relationships with doctors and other healthcare professionals (Loiola et al., 2019; Seidl & Remor, 2020; Silva et al., 2019). Furthermore, adherence to ART can be accompanied by adverse reactions, including changes in physical appearance, such as lipodystrophy (Ministério da Saúde, 2018), which increase the likelihood of experiencing psychological distress, such as anxiety and depression, further complicating the achievement of satisfactory levels of adherence to treatment regimens (McIntosh & Rosselli, 2012; Pence et al., 2012; Silva et al., 2015).

Indeed, associations between AIDS and depressive and anxious symptoms have been observed, impacting treatment adherence. Bellenzani et al. (2013) detected a strong association between having a desire for death and low medication procurement from public pharmacies. Furthermore, in this study, adherence to therapeutic recommendations was found to be three times lower in patients with depressive symptoms and there were indications that the prescription of antidepressants improves the degree of treatment adherence. In another study conducted by Betancur et al. (2017), it was identified that 59.5% of the 47 participants presented depressive symptoms, and 44.7% experienced moderate to severe anxiety. Anxiety and depression levels were found to be related to the success or failure of ART, with depressive symptoms mentioned as one of the main reasons for non-adherence to medication (46.8%). In Kampala, the capital of Uganda, Mutumba et al. (2017) identified that high levels of emotional distress and a lack of psychosocial support were associated with a higher occurrence of irregular pill usage in a sample of 464 individuals diagnosed with HIV/AIDS.

The perception of AIDS and its respective treatments has also been identified as a factor related to adherence behaviors. Seidl and Remor (2020) found that the perception of illness was a negative predictor of adherence to antiretroviral treatment in a study involving 155 people living with HIV under medical and psychosocial monitoring in a university hospital in Brasília-DF, Brazil. In this regard, it is considered that the decision to follow therapeutic recommendations is influenced by the perceptions or beliefs that individuals develop about the severity of the disease and their

susceptibility to it, as shown by the Common-Sense Model, also known as the Self-Regulation model of health behavior. It is assumed that each individual responds uniquely and dynamically to illness, based on their previous experiences and their interpretation of the threat posed by the situation. Therefore, it is understood that the representation that the individual has about the illness tends to influence the type of strategy they will adopt to manage their symptoms (Leventhal et al., 2003; Leventhal et al., 2016; Nogueira & Seidl, 2016a).

This theoretical model has grounded studies related to various chronic diseases, such as asthma (Smits et al., 2020), rheumatoid arthritis (Gwinnutt et al., 2021), and systemic arterial hypertension (Klein et al., 2020). There is also a search for better understanding the influence of illness perception in patients with HIV/AIDS. Nogueira and Seidl (2016a), in a study with 28 seropositive individuals treated at a university hospital in the Federal District of Brazil, found a positive and statistically significant correlation between illness perception and anxiety and depression. Reynolds et al. (2009) highlighted the role of illness perception in self-care, health, and quality of life of HIV-positive individuals in a multicenter study conducted in Norway, Taiwan, Puerto Rico, Colombia, and the United States. They found that participants who had a lower perception of control over HIV had higher levels of fear, poorer self-care practices, and worse health-related quality of life. Norcini Pala and Steca (2015), on the other hand, found an association between higher perception of illness threat, detectable viral load, and maladaptive coping strategies such as passive coping and alcohol use.

However, the influence of psychological variables on antiretroviral treatment, such as health beliefs and psychological distress, is still poorly understood and requires further investigation. Therefore, the aim of this study was to examine the associations between the variables perceived illness, emotional state, and treatment adherence levels in people living with HIV/AIDS. To this end, a quantitative research approach was used, involving descriptive, cross-sectional, and correlational analyses.

Method

Participants

The sample consisted of 101 individuals living with HIV/AIDS, receiving antiretroviral treatment in an outpatient clinic specialized in the treatment of infectious and parasitic diseases, affiliated with a university hospital part of the *Sistema Único de Saúde* (SUS, Brazilian Unified Health System) network in the municipality of Rio de Janeiro. As shown in Table 1, the participants were aged 18 years or older, with a predominance of the age group between 50 and 59 years (34.65%). Most were male (65.35%), single (55.45%), and had complete high school education (40.59%).

Regarding medical-clinical data, 42.58% of the patients in the studied sample had only a diagnosis of HIV/AIDS. The remaining participants had some chronic comorbidity, especially hepatitis (25.74%), systemic arterial hypertension (24.75%), and diabetes mellitus (11.88%). They had been living with the diagnosis of HIV/AIDS for an average of 12.97 years and were receiving outpatient treatment from the hospital team for an average of 13.23 years.

It is worth noting that 137 patients initially agreed to participate in the research. However, some participants chose to withdraw their participation ($n = 36$), citing the significant number of questions to be answered in the questionnaires as the main justification.

Table 1
Sociodemographic data of research participants (N = 101)

Variables	Frequency	%
Gender		
Male	66	65.35
Female	31	30.69
Others	4	3.96
Age		
< 30	3	2.97
30-39	19	18.81
40-49	26	27.72
50-59	35	34.65
60-69	11	10.89
> 70	5	4.95
Marital status		
Single	56	55.45
Married	18	17.82
Common-law marriage	10	9.90
Separated	7	6.93
Divorced	6	5.94
Widowed	4	3.96
Level of Education		
Incomplete Primary	6	5.94
Complete Primary	14	13.86
Incomplete Secondary	2	1.98
Complete Secondary	41	40.59
Incomplete Higher	11	10.89
Complete Higher	18	17.82
Graduate Certificate	7	6.93
Masters	2	1.98
Work activity		
Yes	51	50.50
No	50	49.50

Table 2
Association between illness perception, adherence to treatment, and symptoms of anxiety and depression

Variables	Perception of Health Threat			
	Low (< = 32) N = 84		High (> = 33) N = 17	
	n	%	n	%
Adherence 1				
Low/insufficient (< 74)	11	52.38	10	47.62
Good/adequate (75-79)	28	87.50	4	12.50
Strict (≥ 80)	45	93.75	3	6.25
Emotional state 2				
Low frequency of anxiety (< = 8)	69	82.14	15	17.86
High frequency de anxiety (> = 9)	5	29.41	12	70.59
Low frequency of depression (< = 8)	77	91.67	7	41.18
High frequency of depression (> = 9)	7	8.33	10	58.82

Note: Chi-Square Test: $\chi^2 = 18.49$; $df = 2$; $p < 0.001$. Fisher's Exact test: $p < 0.001$.

Instruments

Brief Illness Perception Questionnaire (Brief IPQ), adapted and validated for the Brazilian culture by Nogueira and Seidl (2016b). It consists of nine questions divided into seven dimensions. Among the items, three aim to analyze the cognitive representation of the illness: personal control,

treatment control, and understanding; four investigate the emotional representation (consequences, identity, concern, and emotional response); and two assess the perception of illness through open-ended questions, with items pertaining to the temporal dimension, where individuals express their perception of the duration of the illness, and the causal dimension, where respondents are prompted to mention the main causal factors linked to the disease according to their representations. The responses to these last two items are qualitatively evaluated through narrative categorization. The responses to the other seven items are obtained using a Likert scale, with the instrument's score ranging from a minimum of 0 to a maximum of 70 points. The cutoff point used is 33 points. This means that individuals with a score equal to or higher than 33 have a higher perception of the threat posed by the disease, while those with scores lower than 33 show a lower perception of threat posed by the disease.

Questionnaire for Assessment of Adherence to Antiretroviral Treatment (CEAT-HIV), translated and adapted for the Brazilian population by Remor et al. (2007). It is a multidimensional, self-administered instrument aimed at adults infected with the HIV virus. It consists of 20 questions that assess, for example, whether the respondent missed taking medication in the last week and related reasons, strategies used for remembering to take the medication, quality of the relationship with the physician, perception of treatment outcomes and side effects, as well as efforts and difficulties in following treatment. The score is obtained by summing all the items, ranging from a minimum of 17 to a maximum of 89 points, divided into three levels of adherence: low/insufficient (≤ 74), good/adequate (75-79), and strict (≥ 80). The higher the score, the higher the degree of adherence to ART.

Hospital Anxiety and Depression Scale (HADS), validated for use in the hospital setting by Gomes and Bezerra (2018). Its initial purpose was to identify symptoms of anxiety and depression among non-psychiatric patients in clinical hospitals, and it has since been used with inpatients or individuals receiving outpatient care. It consists of 14 questions that assess two subscales, measuring anxiety (HADS-A) and depression (HADS-D). Each subscale contains seven items, which are scored from zero to three.

Procedures

Participants were selected through convenience sampling, invited while waiting in the infectious and parasitic diseases outpatient clinic of the hospital. Initially, an electronic medical record check was performed for each patient to gather information related to the inclusion criteria, namely: being aged 18 years or older; having a diagnosis of HIV or AIDS; being aware of their seropositive condition; receiving treatment for infection control for at least three months at the hospital outpatient clinic; and being literate. Those who met the criteria were invited to participate in the study, where they received explanations about the research objectives and procedures, as well as information regarding their rights. Only patients who agreed and signed an Informed Consent Form were included.

Subsequently, patients who agreed to participate in data collection were asked for their WhatsApp contact number or email address in order to send them a link for accessing the online questionnaires and scales. The instruments were individually self-administered, with an estimated average response time of 30 to 35 minutes. In case of any doubts regarding how to mark the questions, the researcher made herself available for clarifications and guidance, both in person and by telephone.

Data Analysis

For data analysis, version 24 of the IBM®SPSS® software was used. Descriptive statistics were conducted for the continuous variables (age, time of diagnosis and treatment, treatment adherence, perception of illness, anxiety, and depression), including mean, standard deviation, minimum and maximum, median, and quartile values. Furthermore, the responses regarding the temporal dimension and causes of illness in the Brief IPQ were categorized and quantified. To investigate the existence of associations between treatment adherence and perception of illness, as well as levels of anxiety and depression, the Chi-Square test was used. To explore associations between perception of illness and anxiety and depression, the Fisher's Exact Test was employed.

This research project was duly approved by the Research Ethics Committee of the *Hospital Universitário Pedro Ernesto – HUPE/UERJ*, under opinion number 3.963.110, in accordance with the recommendations and requirements of Resolution 466/12 of the National Health Council (CNS), which underlies the commitment to the integrity and dignity of the subjects involved in research with human beings.

Results

Regarding the degree of adherence to ART, a high percentage (47.52%) of participants presented scores of 80 or higher on the CEAT, indicative of strict adherence, which corresponds to an excellent level of therapeutic compliance. Also observed in the sample: good/adequate adherence (31.68%), corresponding to a regular level of medication intake and compliance with received instructions (scores ranging from 75 to 79); low/insufficient adherence (20.79%), suggestive of difficulties in following medical recommendations for disease control (scores below 74). Among the 68 patients who mentioned having forgotten to take medication at some point since the virus infection, 45.59% reported not using antiretrovirals for one to two days maximum, while the rest experienced interruptions in the treatment regimen ranging from three to 20 days (16.17%) or even suspended medication intake for a period of one to more than three months (11.76%).

When asked about the strategies used for medication adherence, it was observed that out of the 101 participants, only 38 mentioned using some measure to assist them in taking antiretrovirals. Among these measures, the use of a cellphone alarm (34.21%) and establishing fixed schedules for medication intake (31.57%) stood out. In addition to these, other support tools were also mentioned, such as keeping the medication in visible locations to avoid forgetfulness (13.15%), organizing a box with a weekly division of the treatment regimen (7.89%), and taking the medications before main meals (7.89%).

According to most participants (83.17%), as assessed by the Brief IPQ, the illness resulting from HIV infection did not represent a significant threat to their health (scores of 32 or lower), while for the remaining participants (16.83%), the disease was perceived as an imminent threat to their overall well-being (scores of 33 or higher). Regarding responses related to the temporal dimension of the Brief IPQ, a higher frequency of beliefs that the disease would last a lifetime (30.69%) was identified, followed by responses indicating uncertainty about how long the illness would persist, suggesting that its duration would depend on divine entities (15.84%), or that the disease would last until a cure is found due to expected medical advancements (15.84%).

Regarding the causes attributed to HIV infection, the written accounts of the participants generated categories that were developed based on the work of Nogueira and Seidl (2016a). According to these categories, 42.57% of the participants attributed the main cause of the disease

to unprotected sexual intercourse, followed by self-blame (37.62%), with frequent reports of irresponsibility, carelessness, and lack of self-care. There was also blame placed on others, where partners were held responsible for the patient's current health condition due to engaging in extramarital relationships (7.92%). Other participants mentioned possible causes such as engaging in sexual practices with multiple partners (8.91%), the use of illicit drugs, especially injectable drugs (2.97%), blood transfusion (3.96%), and the will of God (2.97%). In the latter case, a belief was observed that they were being punished for not adhering to a certain religious doctrine, believing that illness was a predetermined condition in their life (karma), or considering the disease as a purpose of destiny and supernatural forces.

Association between adherence to treatment, perception of illness, and emotional state

By using the Chi-square test, a negative and significant association was found between adherence to treatment and perception of illness ($p < 0.001$). Thus, the lower the perceived threat of the disease, the greater was the adherence to ART. Furthermore, through Fisher's exact test, a positive and statistically significant association was observed between perception of illness and anxiety ($p < 0.001$) and depression ($p < 0.001$). Therefore, the higher the perceived threat of the illness, the more frequent the alterations in the participants' emotional state (Table 3).

A negative association, determined by the Chi-square test, was also identified between adherence to treatment and anxiety ($p < 0.043$), indicating that higher adherence to healthcare professionals' recommendations was associated with a lower frequency of anxiety symptoms experienced by patients (Table 2). However, it is important to note that among the research subjects, there was a predominance of those who reported not experiencing anxiety symptoms with higher frequency (73.27%). Only 26.73% of them presented scores indicative of an anxiety condition. Furthermore, most participants exhibited a low perception of depressive symptoms (83.17%), with only 16.83% of them showing a moderate to high frequency of such symptoms.

Table 3
Association between adherence to treatment and anxiety

Level of Anxiety	Adherence to treatment						Total (N)
	Low/insufficient (< 74)		Good/adequate (75-79)		Strict (≥ 80)		
	n	%	n	%	n	%	
Low Frequency of Symptoms (< = 8)	11	52.38	24	75.00	39	81.25	74
High frequency of symptoms (> = 9)	10	47.62	8	25.00	9	18.75	27
Total (N)	21		32		48		101

Note: Chi-Square Test: $\chi^2 = 6.29$; $df = 2$; $p < 0.043$.

Discussion

A significant proportion of the participants in this research stated that they adhere to ART appropriately, which can be understood as taking the medications at the prescribed times and in the quantity or dosage prescribed by their doctors. However, among the 68 patients who mentioned forgetting to take their medication at some point during treatment, most reported interrupting the therapeutic regimen for a period of three to 20 days or even suspending the intake of the drugs for a period ranging from 1-3 three months. Such behaviors can result in virologic failure, leaving

the individual open to opportunistic infections (Rachid & Schechter, 2008). It is important to remember that adherence is a complex and nonlinear phenomenon, and therefore its assessment and management should consider possible discontinuities and take into account the interaction of multiple factors, such as physical, emotional, behavioral, social, and cultural factors (Loiola et al., 2019; Seidl & Remor, 2020; Silva et al., 2019).

It is necessary to consider that the initiation of ART, changes in therapeutic regimens, and the occurrence of side effects are important occasions to be observed by the healthcare team to achieve and maintain adherence. Thus, the support directed at this population needs to begin prior to the introduction of medication and continue throughout the treatment, according to the needs and particularities of each case, which also includes individuals who exhibit high levels of adherence (Ministério da Saúde, 2014).

Regarding the perception of illness, it was evident that for most participants the illness resulting from HIV infection did not represent a significant threat to their health, which is consistent with the findings of Nogueira and Seidl (2016a). This data is presumed to be a result of the advances made in recent decades in the fight against HIV/AIDS, such as the increased efficacy of new medications and the free and universal access to them, resulting in a transformation of the perception of AIDS from a fatal condition to a chronic yet manageable one (Alencar et al., 2008; Joint United Nations Programme on HIV/Aids [UNAIDS], 2017). Although there is still no cure for the disease, many understand that it is possible to live well with HIV/AIDS as long as there is satisfactory adherence to ART (Seidl & Faustino, 2014).

Regarding the temporal dimension, a higher frequency of beliefs that AIDS lasts a lifetime (30.69%) was identified, as observed in other studies (Catunda et al., 2016; Kempainen et al., 2008; Nogueira & Seidl, 2016a; Seidl & Remor, 2020). There were also individuals who expressed hopes for a cure based on religious beliefs or advancements in science, similar to what was observed by Kempainen et al. (2008). Regarding the causality of the disease, participants more frequently mentioned unprotected sexual practices, the use of injectable drugs, and blood transfusions, which aligns with information described in the literature (Rachid & Schechter, 2008; UNAIDS, 2017). Although less common, there were also reports indicating self-blame and blaming others. However, unlike in past decades, it was observed that only a negligible number of patients held views about AIDS that were rooted in dysfunctional beliefs of a religious or cultural nature, as observed in the study by Muoghalu and Jegede (2013), in Nigeria. This likely reflects the increased awareness of this condition in Brazil and, consequently, the reduction of stigma associated with the disease.

In the analyses of associations between variables, adherence to treatment was negatively associated with the perception of illness, as observed by Seidl and Remor (2020), whose research indicated that satisfactory levels of adherence among people with HIV/AIDS in Brasília-DF were related to a lower perceived threat of having this diagnosis. Furthermore, like the mentioned study, negative associations were also found between adherence and anxiety, suggesting that the lower the frequency of anxious symptoms experienced by participants, the greater the compliance with the recommendations made by health professionals. However, no significant associations were identified between degrees of adherence and levels of depression, contrary to previous studies (Ehlers & Tshisuyi, 2015; Mao et al., 2019). This result may have been influenced by the fact that only a minority (16.83%) of the patients included in the research exhibited moderate to high frequency of depressive symptoms.

Significant associations were found between perceived illness and anxiety and depression. Nogueira and Seidl (2016a) also found evidence of a positive and statistically significant correlation

between perceived illness and emotional state in a sample of 28 HIV-positive individuals. In their study, the higher the perception of severity and negative consequences of symptoms, and the more concerns related to the illness an individual had, the greater the emotional impact of the disease on their life, with more frequent reports of symptoms of anxiety and depression. In the same vein, Catunda et al. (2016) found that the higher the perceived threat imposed by the disease, the worse the quality of life perceived by people diagnosed with HIV/AIDS. The higher threat perception against the disease among the 59 patients evaluated in Robbins et al.'s study (2016) was also associated with significant levels of depressive symptoms, non-adherence to drug treatment, and consequently, increased viral load.

It is advocated, therefore, that investigating beliefs about the disease and levels of depressive symptoms can assist in identifying patients at high risk of virological failure after initiating a new ART regimen (Robbins et al., 2016). In this regard, Reynolds et al. (2009) argue that the illness perception model provides useful resources for a better understanding and management of HIV-related symptoms and can help in planning effective interventions for this population.

Conclusion

The investigation reported here gathered data using instruments that were standardized and duly validated in Brazil on the variables under study, which allowed, as proposed, the analysis of associations between constructs of great value and interest in health psychology. Statistically significant correlations were found, with the data showing an association between illness perception and adherence to treatment, as well as between these variables and anxiety and/or depression in individuals living with HIV/AIDS.

According to the results, the manner by which people affected by this condition perceive their illness is a relevant predictor of treatment adherence. Satisfactory levels of adherence to medication regimen also emerged as an important predictor of low levels of anxiety and depression. To improve adherence among HIV-positive individuals, one possible avenue would be to invest in modifying dysfunctional cognitions about the health/illness process, particularly through cognitive-behavioral interventions, which have shown to be effective.

It is expected that the scientific knowledge produced by studies like the one described here will contribute to a better understanding of psychosocial variables associated with living with HIV/AIDS, which is of great relevance to foster actions that contribute to the provision of more comprehensive and effective care to people receiving this diagnosis, thereby increasing adherence to ART.

However, it is necessary to consider some limitations of the research, especially regarding the limited number of participants and the convenience sampling from a single health service, which calls for caution in generalizing the results. Initially, there was a plan to involve a larger number of patients, including those treated in another sector of the same institution, to expand and diversify the sample. However, due to data collection occurring during a critical phase of the COVID-19 pandemic, many patients started receiving care through telemedicine, and others had their follow-up appointments spaced out due to being considered at higher risk for severe infection by the novel coronavirus, which hindered access to more individuals with the desired profile.

Therefore, it is suggested that similar research be conducted in the future in other healthcare services in the country focused on HIV/AIDS control, particularly qualitative studies that can contribute to a deeper understanding of the associations found herein.

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