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Spiritual Needs Questionnaire (SpNQ): Validity Evidence among HIV+ Patients in Northeast Brazil

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Abstract: The Spiritual Needs Questionnaire (SpNQ) measures psychosocial, existential, and spiritual needs in clinical contexts. The objective was to confirm its factor structure in Brazil, comparing the results of its validation for Portuguese in Rio de Janeiro, under similar sampling conditions, in João Pessoa (Paraíba-Brazil), among 157 HIV(Human Immunodeficiency Virus)+ patients, most of them men (49%) (women = 35%; other = 16%), aged between 30 and 49 years (53.5%). From exploratory factor analysis and internal consistency analysis a structure of five factors (or components) was obtained: Religious Needs ($\alpha = 0.73$), Inner Peace and Family Support Needs, gathered ($\alpha = 0.64$), Existential Needs ($\alpha = 0.49$) and two new factors instead of "Giving/Generativity Needs", being Social Recognition Needs ($\alpha = 0.54$), referring explicitly to religious practices, with items formerly found in the Religious Needs factor, and Time Domain: Reflection and Clarification Needs ($\alpha = 0.57$), which group only two items (item 4, "reflection on the past" (formerly in the Inner Peace component) and item 5, "resolution of outstanding problems"). The institutional religiosity perceived in the composition of the Social Recognition Needs component shows that these patients differentiate "religiosity" from "spirituality". The Religious Needs component was formed with items from the "spirituality" construct definition. The most important component was Inner Peace and Family Support Needs, a relevant coping strategy in this disease. The results met proper validity criteria, and SpNQ proved to be sensitive and appropriate to situations of cultural and clinical diversity between samplings.

Keywords: spirituality; religiosity; HIV; SpNQ

1. Introduction

AIDS (Acquired Immunodeficiency Syndrome) is a chronic disease, like cardiovascular disease, cancer, and diabetes. However, AIDS is one that is most able to mobilize human beings from a biopsychosocial point of view (Valente et al. 2018). Living with HIV (the infected persons are called 'people living with HIV' (PLHIV) (BRAZIL, 2015)) means that this infection is a permanent state; it

implies changing habits and behaviors, coexisting with social and emotional impacts of the disease and its symptoms, the uninterrupted use of antiretroviral medications, and frequent interaction with health professionals (De Alencar et al. 2008).

The HIV/AIDS epidemic has changed not only in its epidemiological profile but also in its prognosis. From a fatal disease, considered restricted to homosexual individuals, it is now a chronic one, contracted by anyone who gets exposed to the virus, whether by lack of information or precaution, or simply by accident. Nevertheless, the strength of the psychosocial aspects of HIV+ have not changed as fast. Even if contaminated with the virus by accident, a patient will face the former, old social stigma, discrimination will arise from the same moral statements and old beliefs, and negative judgments and feelings will have to be dealt with in addition to the stronger fear of death. This situation requires coping strategies to keep on living despite these consequences, which can affect the adherence to the treatment (Brito 2016). One of the positive strategies is to turn to religion/spirituality as a source of inner strength and resilience. The review of Doolittle et al. (2018), identified that 10 out of the 14 selected studies reported a positive association between religion/spirituality as a coping strategy and therapy adherence.

Recent work on spiritual needs in patients with chronic diseases, such as Büssing et al. (2018), Valente et al. (2018) and Pinho et al. (2017), verified the same positive correlation, where spiritual/religious coping played an important role in facing consequences and daily life of various chronic diseases. According to Büssing et al. (2018), among German patients with diseases associated with chronic pain, 23% of them talked with a chaplain/priest about their spiritual needs, 20% had no one to talk about it and 37% felt it was necessary to talk to their doctor about these needs.

Valente et al. (2018) observed the importance of religiosity/spirituality among Brazilian PLHIV by validating the Portuguese version of the Spiritual Needs Questionnaire (SpNQ). They showed that Inner Peace needs in particular were of relevance to them. Internationally, other studies have already realized the importance of religiosity and spirituality for PLHIV: Miller Jr. (2020); D'Mello et al. (2017); Charest (2016); and Angelim et al. (2016). Research on the general influence of spirituality on health continues to grow worldwide (Riklikienė et al. 2019).

From a clinical point of view, it is essential to evaluate the impact that religion, religiosity and spirituality can have on the physical and mental health of a person or a community (Moreira-Almeida et al. 2006). It is known that even when religious activities do not change the course of physical diseases or prolong life, they can improve the quality of life and the purpose of living (Koenig et al. 2001), or that persons find new meaning in life and perceived awe and gratefulness (Büssing et al. 2013). The verification of unmet spiritual needs can be operationalized and measured by psychometric instruments, facilitating and allowing decision-making by the hospital and outpatient clinic team who seek to improve care.

2. Spiritual Needs Questionnaire

The Spiritual Needs Questionnaire (SpNQ), developed by Büssing (Büssing et al. 2010), was developed to evaluate the intensity of the individuals' spiritual, existential and psychosocial needs; its items avoid exclusive religious terminology. The respondents indicate whether or not there is a specific need within four dimensions (social, emotional, existential and religious) and how strong it is, using a 4-step scaling.

The SpNQ differentiates four main dimensions, specifically, Religious Needs, Existential Needs, Inner Peace Needs, and Giving/Generativity Needs (Büssing et al. 2010, 2018). It has been translated and validated in 12 countries, in multiple contexts, including China (Büssing et al. 2013), Croatia (Glavas et al. 2017), Poland (Büssing et al. 2015), Indonesia (Nuraeni et al. 2015), Iran (Nejat et al. 2016), Brazil (Valente et al. 2018) and Lithuania (Riklikienė et al. 2019). Its internal consistency has varied from 0.82 to 0.90 in German, 0.74 to 0.92 in Polish, 0.51 to 0.81 in Chinese, 0.79 to 0.92 in English and Persian (Nejat et al. 2016) and 0.94 in Lithuanian. The Portuguese language validation occurred in an exclusive sampling of 200 HIV+ patients who attended a public hospital in Rio de Janeiro (Valente et al. 2018), with internal consistency between 0.51 and 0.83, composed by 20 items and four factors: Religious Needs, Giving/Generativity Needs, Family Support Needs, and Inner Peace. This

validated version was reapplied in a different region of Brazil: João Pessoa, with a similar sample of PLHIV, to verify in a confirmatory factor analysis the composition of these dimensions.

3. Materials and Methods

3.1. Procedures for Data Collection

This research was approved by the Research Ethics Committee (CEP) of the Federal University of Paraíba (UFPB) under number 2.564.096, observing Resolution 466 of 12 December 2012 of the National Health Council; CNS regulates research involving human beings in Brazil. Also, it was approved by the general management of the Clementino Fraga Hospital Complex, specialized and a local reference in infectology, with a term of consent for data collection in its facilities.

The sample was randomly selected in the outpatient clinic of the hospital complex, among HIV+ patients waiting for a nursing and medical appointment, or in the queue to receive the specific medication, in 2018. Individually addressed and faced with their acceptance to participate in the research, under anonymity, they filled out the questionnaire practically without the need for the assistance of the researcher, who stayed away, avoiding the phenomenon of social desirability.

3.2. Participants

A total of 157 HIV+ patients were randomly selected from the AIDS Clinic of Clementino Fraga Hospital Complex, João Pessoa (Paraíba, Brazil). The majority were male (49%), aged between 30 and 49 years (53.5%), and completed high school (26.1%). Only 10.2% of the sample (N = 16) claimed to participate in some religious activity, quoting going to church, cults, choirs, praise, pray and indoctrinate. The most prevalent religions were Catholic (15.2%) and Evangelical (8.9%). Those without religion cited were the majority: 68.8%, as detailed in Table 1.

Table 1. Sociodemographic characteristics.

Variables	f	%
Gender		
Male	77	49.0
Female	55	35.0
Other	25	16.0
Age		
Less than 30 years	19	12.1
Between 30 and 49 years	84	53.5
Between 50 and 70 years	44	28.0
Absent	10	6.4
Education		
Incomplete elementary school education	23	14.6
Full basic education	37	23.6
Incomplete high school	14	8.9
Full high school	41	26.1
Incomplete higher education	10	6.4
Full education of higher education	31	19.7
Absent	1	0.6
Religious activity two times a week		
No	109	69.4
Yes	16	10.2
Absent	32	20.4
Religion		
Catholic	24	15.2
Catholic with other religions	2	1.3

Evangelical	14	8.9
Spiritist	5	3.2
Afro-Brazilian	2	1.3
Other	2	1.3
Absent	108	68.8

Note: f—Absolute frequency; %—percentage; Absent—did not respond.

3.3. Questionnaire

The same SpNQ was used in the validation study for Brazilian Portuguese (Valente et al. 2018), containing the 27 items of the original version, in English. However, the current version of the SpNQ uses 20 items only (Büssing et al. 2018), and thus the Brazilian version has a variant factorial structure.

All items were scored concerning self-reported importance on a scale of 4 points, from disagreement to agreement (0—nothing; 1—a little bit of it; 2—very much; 3—extremely).

3.4. Statistical Analysis

Data were tabulated and analyzed in *IBM SPSS* statistical software (Statistical Package for Social Sciences for Windows) version 21 and R Studio 3.4.1; from the following techniques: descriptive statistics and confidence interval; exploratory factor analysis; and internal consistency analysis. Kaiser's criterion (eigenvalue > 1) and parallel analysis (Horn's criterion) were used to decide the number of dimensions. The factor loads passed through varimax rotation, being considered satisfactory loads those with values above 0.40 (Pasquali 2009). In addition, we performed comparisons of the scores of religious versus non-religious patients using the t-test for independent samples.

4. Results

Initially, a factor analysis of the main axes was performed without fixing the number of factors. The KMO equal to 0.67 and Bartlett's test of sphericity was significant [X^2 (351) = 934.86; $p < 0.001$] indicating that the items were adequate. The communalities ranged from 0.18 (item 2) to 0.71 (item 6).

Kaiser's criterion (eigenvalue > 1) indicated the extraction of 10 factors with eigenvalues between 1.01 and 4.10 that explained jointly 64.61% of the total variance. However, this criterion tends to overestimate the number of existing factors. Therefore, the Horn's criterion (parallel analysis) was performed with 1000 simulations. The result indicated evidence of five factors since factor 6 of the parallel analysis (1.38) presented its value higher than factor 6 of the Kaiser's criterion (1.33).

Thus, a new factor analysis with varimax rotation was performed by fixing the structure in five factors that explained 47.6% of the total variance. In this rather small and less religious sample, four items (16: To forgive someone from a distinct period of your life; 17: To be forgiven; 24 and 27: To feel safe and complete; to be assured that your life was meaningful and of value) presented factorial loads below 0.40, and were eliminated from subsequent analyses. The final structure resulted in five factors and 23 items, according to Table 2. However, the factorial structure and factor loading of several items were not optimal.

Table 2. Spiritual needs questionnaire (SpNQ) dimensions (factorial structure).

	M	DP	Item-Total Correlation	α If the Item Is Deleted	Components I	II	III	IV	V	h^2
Religious Needs (Eigenvalue = 3.67; α = 0.73)										
19. Someone to pray for you (RN)	1.63	1.10	0.59	0.67	**0.73**					0.66
18. Pray with someone (RN)	1.44	1.08	0.52	0.69	**0.65**			0.37		0.64
14. Give up, give something of yours	1.29	1.06	0.49	0.69	**0.62**					0.56
20. Praying for yourself (RN)	1.82	0.90	0.37	0.72	**0.56**				−0.37	0.60
23. Turning to a greater presence (ex: God, Allah) (RN)	2.00	0.95	0.37	0.72	**0.54**					0.39
13. Turning to someone in an attitude of love	1.77	1.08	0.35	0.72	**0.52**			−0.33		0.54
15. Console someone else	1.70	1.06	0.40	0.71	**0.49**					0.41
26. Transmit your own life experience to other people (RN)	1.75	1.03	0.32	0.73	**0.46**					0.48
Inner Peace and Family Support Needs (Eigenvalue = 2.20; α = 0.64)										
7. Remain in a place of stillness and peace (IP)	2.60	0.77	0.45	0.58		**0.72**				0.62
8. Finding inner peace (IP)	2.58	0.83	0.40	0.59		**0.66**				0.58
6. Having more contact with the beauty of nature (IP)	2.58	0.76	0.31	0.62		**0.65**	0.43			0.72
30. Receiving more support from your family (NFS)	1.86	1.11	0.48	0.56		**0.61**				0.56
28. Be inserted again in the concerns of your family (NFS)	1.87	1.08	0.38	0.60		**0.44**				0.63
25. Feeling connected with your family (NFS)	1.90	1.03	0.26	0.65		**0.41**				0.70
Existential Needs (Eigenvalue = 1.92; α = 0.49)										
12. Talking to someone about the possibility of life after death (EN)	0.86	1.14	0.39	0.31			**0.79**			0.69
11. Talking to someone about the meaning of life (EN)	1.21	1.01	0.30	0.40			**0.55**			0.67
2. Speaking to others about your fears and concerns	2.05	0.68	0.26	0.45			**0.43**			0.31
10. Finding meaning in disease and/or suffering (EN)	1.28	1.10	0.21	0.49			**0.36**			0.32
Social Recognition Needs (Eigenvalue = 1.70 α = 0.54)										
21. Participate in a religious ceremony (ex: mass, worship) (RN)	1.52	1.20	0.38	0.40	0.07			**0.73**		0.58
3. That someone from your religious community (ex: pastor, priest) take care of you (RN)	0.88	1.06	0.40	0.38	0.00			**0.70**		0.70
22. Reading religious/spiritual books (RN)	1.19	1.16	0.29	0.54	0.10		0.33	**0.48**		0.47
Time Domain: Reflection and Clarification Needs (Eigenvalue = 1.39 α = 0.57)										
4. Reflecting on your past (IP)	1.31	1.09	0.40	-					**0.73**	0.61
5. Solving "open" aspects, outstanding problems in your life	1.14	1.10	0.40	-					**0.72**	0.69

Note: M—Mean; DP—Standard Deviation; h^2—Commonality.

In the first factor (or component), called Religious Needs, four items saturated correctly. It was observed that items 13, 15, and 26 were not originally of the Religious Needs factor. The internal consistency was strong ($\alpha = 0.73$). The second factor grouped the Inner Peace (items 6, 7, and 8) and Family Support Needs (items 25, 28 and 30). The internal consistency was satisfactory ($\alpha = 0.64$); with the elimination of item 25, the consistency increased to 0.65. In the third factor, Existential Needs, the composition remained the same; only item 2 migrated, with a weak ($\alpha = 0.49$) internal consistency.

The fourth and fifth factors were presented differently from the previous study (Valente et al. 2018). The fourth factor, because it referred explicitly to religious practices, has been added to Social Recognition Needs; its items in the previous version were found in the Religious Needs factor; item 3 (that someone from your religious community (ex: pastor, priest) take care of you) primarily was not in the factorial item pool, but was relevant to this sample. The internal consistency was weak ($\alpha = 0.54$). The fifth factor, Time Domain: Reflection and Clarification Needs, grouped only two items: item 4, "reflection on the past" (formerly in the Inner Peace component) and item 5, "resolution of outstanding problems". The internal consistency was poor ($\alpha = 0.57$).

The final structure in this study among PLHIV presented a new composition, with five factors (or components): Religious Needs (items 13, 14, 15, 18, 19, 20, 23 and 26); Inner Peace and Family Support Needs (items 6, 7, 8, 25, 28 and 30); Existential Needs (items 2, 10, 11 and 12); Social Recognition Needs (items 3, 21 and 22), and Time Domain: Reflection and Clarification Needs (items 4 and 5).

Table 3. Scores of SpNQ dimensions from religious versus non-religious patients.

	Religious (N = 48)		**Non-Religious (N = 109)**		***t* Test**	
	M	**SD**	**M**	**SD**	***t***	***p***
Religious Needs	1.45	0.647	1.79	0.578	3.27	0.001
Inner Peace and Family Support Needs	1.98	0.596	2.35	0.518	3.92	0.000
Existential Needs	1.64	0.668	1.22	0.577	−3.95	0.000
Social Recognition Needs	1.34	0.832	1.14	0.823	−1.37	0.172
Time Domain: Reflection and Clarification Needs	1.14	0.949	1.27	0.907	0.82	0.414

Note: M—Mean; DP—Standard Deviation.

Comparing the sample considering the religious versus non-religious status, the scores are shown Table 3. We observed that non-religious patients had higher scores on Religious Needs ($p = 0.001$) and Inner Peace and Family Support Needs ($p < 0.001$) compared to religious patients. On the other hand, religious patients had a significantly higher average in Existential Needs ($p < 0.001$) than non-religious patients (but this factor presented a low internal consistency, as explained before). Patients did not differ significantly in other factors.

5. Discussion

The present study reapplied the SpNQ among PLHIV in João Pessoa, Paraíba, in a confirmatory factor analysis of its validation in Portuguese. The version validated in Rio de Janeiro (Valente et al. 2018) was used, containing the 27 items of the original SpNQ form, showing a variant factorial structure compared to the current version of this questionnaire, which only uses 20 items (Büssing et al. 2018).

Unlike the former Brazilian study Valente et al. (2018), a five factors composition was found: Religious Needs ($\alpha = 0.73$), Inner Peace and Family Support Needs t ($\alpha = 0.64$), Existential Needs ($\alpha = 0.49$) and two new factors in place of "Giving/Generativity Needs", being Social Recognition Needs ($\alpha = 0.54$) and Time Domain: Reflection and Clarification Needs ($\alpha = 0.57$). This different structure can be explained by the fact that this sample showed up less religious than the Rio de Janeiro sample, and further by the fact that some items which were important for the primary structure were removed. Moreover, this version uses items which were primarily used only as informative items,

not as items used for the final research instrument, considering it was applied in Brazil with the 27 original items form.

As the sampling in these two Brazilian studies consisted exclusively of PLHIV, the social, psychic and cultural characteristics of this disease could explain these differences. SpNQ was initially validated in Portuguese (Valente et al. 2018) with 20 items and four factors: Religious Needs (7 items, 0.52–0.83), Giving/Generativity Needs (6 items, 0.51–0.69), Inner Peace (3 items, 0.79–0.83) and Family Support Needs (3 items, 0.64–0.72). This new factor was one of the targets of the present study. However, this version used 27 and 23 items respectively, and three relevant items were deleted; this obviously changed the structure of the questionnaire.

"Family Support Needs" was combined with the "Inner Peace" component in João Pessoa. This was the most essential factor for this sampling; "Family Support Needs"—alone—was on the original version of SpNQ (Büssing et al. 2010) but disappeared into several validations in other countries. In the Lithuanian version (Riklikienė et al. 2019) it was displayed again. This suggests the role of a coping strategy, certainly because of the social judgment of HIV/AIDS.

The two new factors found in João Pessoa—"Social Recognition Needs" (participate in a religious ceremony, read religious/spiritual books, have someone from your religious community take care of you) and "Time Domain: Reflection and Clarification Needs" (to reflect on your past, to resolve open aspects in your past outstanding problems in your life)—may reflect the low frequency of these patients in religious activities (10.2%), an aspect that was also cited in the former study in Portuguese (Valente et al. 2018); besides, the institutional religiosity perceived in the items of Social Recognition Needs—that is according to the concept of "Extrinsic Religiosity" (Allport and Ross 1967), when compared with the items of "Religious Needs" factor—shows that PLHIV differentiate religiosity from spirituality. "Religious Needs" presented $\alpha = 0.73$, and brought together items proper to the definition of the construct "spirituality "(Koenig et al. 2001), and also "Intrinsic Religiosity" (Allport and Ross 1967), used in most research in spirituality and health by health professionals: this construct is characterized as the individual search for the transcendent aspect of existence, the meaning of life, whether or not it includes a religious activity and institutional religious affiliation.

Besides, when the sample was subsequently divided between religious and non-religious respondents, the comparisons again testified this interpretation: non-religious ones scored higher on Religious Needs items. Therefore, there is early evidence that in less religious HIV+ patients, there is a separation of items from the Religious Needs factor into "spiritual needs" and Social Recognition Needs; it seems, from this study, that the weight of psychosocial norms make them create this distinction to leave it clear—at least to themselves—that they do cherish their spirits, and do believe in a divine source of power, despite the reprobation of many religions to PLHIV. The inclusion of item 22 (Reading religious/spiritual books) in the Social Recognition Needs factor is noticeable. Taking into account Brazilian Pentecostalism influence on religious aspects of social life nowadays, reading and accepting what is in the Bible may be seen as different from caring for one's soul through spirituality. Future studies would be wise to examine the causes of the structural difference in scale between religious versus non-religious patients.

The Chinese composition (Büssing et al. 2013) of the "Religious Needs" factor is very similar to that of João Pessoa, although it separates in subscales the construct "prayer "($\alpha = 0.81$) and "source" ($\alpha = 0.72$). Likewise, the "Time Domain: Reflection and Clarification Needs" ($\alpha = 0.51$) was close to the composition of the "Reflective Needs" of the Chinese ($\alpha = 0.51$), which was composed with three items: "reflect on their past," "outstanding problems in your life" and "talk about the possibility of life after death." China and Brazil are socio-culturally and spiritually very different.

Changes in the composition of the items of Existential Needs and Religious Needs also emerged in the validation made in Lithuania (Riklikienė et al. 2019), a country where the differentiation between religiosity and spirituality is relevant (although for reasons different from those of these Brazilian samples).

The Giving/Generativity Needs factor, present in Rio de Janeiro with values close to those found in Germany, was not found in João Pessoa, because of the elimination of an essential item. Its items spread among the other five factors, or were eliminated for statistical reasons.

Existential Needs were not so relevant here; in Rio de Janeiro, this factor showed no statistical significance, as well. More Brazilian studies are necessary, with chronic illnesses samples, to compare results about this dimension of SpNQ and therefore comprehend why PLHIV differ institutional religiosity (Social Recognition Needs) from spirituality (Religious Needs), but do not consider "Talking to someone about the meaning of life" (Item 11, Existential Needs), for example, as particularly relevant to them. It is worthy of consideration that the menace of death may have taken the place of importance of the so-called Existential Needs, in the form of a particular dimension named here "Time Domain: Reflection and Clarification Needs", which reflects precisely this kind of concern about the little time left to live, perceived by those who were infected.

6. Conclusions

The Brazilian Portuguese version of SpNQ was validated among PLHIV and showed sufficient psychometric adequacy. These patients consider the dimension of Inner Peace and Family Support Needs an essential coping strategy, which is perhaps due to the weight of negative social judgment against the carriers of the virus and maybe a more specific need for this type of disease. As a suggestion for future design, such a mechanism can be investigated in later researches with this target population.

In João Pessoa, PLHIV differentiated spirituality from religiosity through two new factors: Social Recognition Needs and Time Domain: Reflection and Clarification Needs. However, it would be worth combining both data sets and analyzing the factorial structure. The Religious Needs factor, in João Pessoa, was conformed with items of the construct "spirituality" as defined by Koenig et al. (2001) and used in most research work on spirituality and health. The difference in the importance attributed to the Religious Needs factor between religious and non-religious PLHIV testified it, as well.

The pain of social reprobation and the inexorability of the end of life are aspects to be considered as associated with these peculiarities in the SpNQ factorial composition in northeastern Brazil**,** showing its sensitivity to cultural and clinical differences among samples even in the same country. This version surely is not the final for Brazil; among its limitations is the fact that the sample was rather small for exploratory factor analysis (only six respondents per item), and focused exclusively on PLHIV (what is not a facilitator to get larger samples), while persons with other chronic diseases and other ages have not yet been analyzed. It is necessary to stress that the samples here had distinct religiosity levels and showed significantly different spiritual needs in some domains. Future confirmatory studies may analyze the variance in the factor composition of the questionnaire. As an example, to test SpNQ factorial invariancy through the item response theory, or latent trace theory, would discriminate between respondents as to the probability of marking one answer and not another, in the same item, showing whether or not the questionnaire is biased towards a pattern of response desired by the researcher.

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