

# Psychometric Properties of Tools for Assessing Spirituality: A Scoping Review

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## ABSTRACT

**Background** The study of spirituality has gained importance, as it correlates with mental health and coping strategies, particularly at times of vulnerability. Spirituality could therefore contribute to the development of interventions to improve people's quality of life. Experts often base the development of interventions and treatments on instruments measuring constructs such as spiritual well-being, which requires validated, reliable instruments. **Objective.** This scoping review sought to summarize the evidence in the literature on the instruments available to assess spirituality in different groups and evaluate the content and psychometric properties of these instruments. **Method.** A search was conducted on PubMed, Virtual Health Library (VHL), Elsevier, Springer, Scopus, and Google Scholar databases, using a combination of keywords such as "spirituality," "validation study," and "psychometrics." The search was restricted to studies published in English and Spanish from January 2013 to March 2023. **Results.** Sixty-four studies were included in this review. Two categories of analysis were established, the first being constructs related to spirituality and instruments for their measurement, in which a total of 22 conceptual constructs were found. The second was the validity and reliability of the instruments, in which it was found that most studies only assessed construct validity. **Discussion and conclusion.** Given the complexity of the phenomenon, many instruments lack conceptual boundaries, resulting in similarities between items in instruments measuring different constructs. Determining the attributes and dimensions for the accurate measurement of spirituality is essential.

**Keywords:** Spirituality, health surveys, psychometrics, review.

## RESUMEN

**Antecedentes.** Actualmente, el estudio de la espiritualidad ha cobrado relevancia ya que se correlaciona con la salud mental y estrategias de afrontamiento, especialmente en situaciones vulnerables de la vida. Comprender este fenómeno podría ayudar al desarrollo de intervenciones para mejorar la calidad de vida de las personas y, por ende, se requiere de instrumentos validados y confiables para la medición de la espiritualidad. **Objetivo.** Se realizó una revisión de alcance para sintetizar la evidencia sobre los instrumentos disponibles para valorar la espiritualidad en diferentes grupos de personas y evaluar el contenido y propiedades psicométricas de estos instrumentos. **Método.** Se condujo una búsqueda en las bases de datos PubMed, Biblioteca Virtual en Salud, Elsevier, Springer, Scopus y Google Scholar, utilizando los términos "espiritualidad", "estudio de validación" y "psicometría". La búsqueda se limitó a estudios publicados en inglés y español desde enero de 2013 hasta marzo de 2023. **Resultados.** Se incluyeron 64 estudios. Se establecieron dos categorías de análisis: la primera categoría son los constructos relacionados con la espiritualidad y sus instrumentos de medición, donde se encontraron un total de 22 constructos conceptuales, y la segunda categoría es la validez y confiabilidad de los instrumentos en la que se encontró que la mayoría de los estudios únicamente evaluaron validez de constructo. **Discusión y conclusión.** Dada la complejidad del fenómeno, muchos instrumentos carecen de una delimitación conceptual, lo que propicia similitudes entre los ítems de instrumentos que miden diferentes constructos. Es necesario delimitar los atributos y dimensiones para una adecuada medición de la espiritualidad.

**Palabras clave:** Espiritualidad, encuestas de salud, psicometría, revisión.

## BACKGROUND

As holistic beings, humans have multiple dimensions, including the physical, mental, social, and spiritual, the last of which develops differently in each individual (Morales Contreras & Palencia Sierra, 2021). Spirituality as a dimension allows one to not only connect with a belief system, a higher self, or whatever we consider divine but also with those around us and the environment (Fuentes et al., 2018). Spirituality transcends the intra-, inter-, and transpersonal dimensions of human beings. Despite being abstract, it is essential. Cultivating spirituality is important for people to achieve health and well-being (de Diego-Cordero et al., 2022). Individuals who fail to develop their spirituality fully or comprehensively may struggle to find life satisfaction (Caccia & Elgier, 2020).

Spirituality is a factor in achieving transcendence, which in turn leads to states of mental well-being in the individual (Reed, 2018, 2021) expressed through feelings of wholeness, meaning, fulfillment, and mental health (Reed & Haugan, 2021). Incorporating spiritual care into practice is therefore part of comprehensive, holistic care (Morales Contreras & Palencia Sierra, 2021).

In this respect, it is essential to have valid, reliable measurement instruments with scientific, methodological rigor to enhance the practice of health professionals and research in this area. These instruments should be able to assess subjective attributes with complex dimensions for the health-disease process of the population and concepts as significant as spirituality (Muñiz & Fonseca-Pedrero, 2019).

Measurement instruments delimit the definition of the concepts to distinguish them from others (Epstein et al., 2015). This facilitates the operationalization of variables and promotes coherence between concepts, constructs, dimensions, and items or empirical indicators (Herdman et al., 1998). Moreover, the design and validation of instruments for abstract phenomena unifies definitions according to a theoretical or conceptual point of reference, thereby avoiding using, misusing, or confusing similar terms and providing guidelines for developing new research (Sánchez-Villena et al., 2021).

Spirituality is increasingly being incorporated into clinical practice at various levels of care (Pagán-Torres, 2022). There are several measurement instruments assessing spirituality from different theoretical and philosophical perspectives. One example is Reed's Self-Transcendence Scale, adapted to Spanish (Pena-Gayo et al., 2018) and based on the middle-range theory of self-transcendence. Another example is Piedmont's Assessment of Spirituality and Religious Sentiments (ASPIRES) scale, which assesses spirituality through two dimensions: religious sentiments and spiritual transcendence. This scale is based on a psychological theory incorporating spirituality as a sixth factor within the five-factor model of personality (Simkin, 2017).

Spirituality has also been used as a dimension for assessing other phenomena essential to people's well-being. For example, spiritual well-being is a factor in the Meaning in Life Questionnaire (Steger et al., 2006) used in clinical practice and research in palliative care (Schlappacasse Cocio & González Soto, 2016). Due to its abstract, multifaceted nature, spirituality poses challenges for its accurate, reliable measurement, making it essential to know the psychometric properties of the instruments designed and validated in the past ten years to measure this phenomenon. This review will enable us to identify the emerging concepts and definitions, the number of scales developed, the language, populations and cultures in which they have been validated, as well as the level of validity and reliability they present. It is therefore crucial to know what types of validation are most commonly used with these measurement instruments.

This scoping review seeks to contribute to clinical practice and health research by providing an exhaustive matrix that incorporates key elements for selecting the instruments to measure spirituality. This matrix would provide useful evidence for the decision-making of those who wish to use these instruments in both research and clinical practice in this field. Our objective was therefore to summarize the evidence in the literature on the instruments available to assess spirituality in various patient groups and to evaluate the contents and psychometric properties of these instruments.

## METHOD

### Study design

The following research is a scoping literature review, based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR; Tricco et al., 2018). This review was conducted in five stages: 1) problem identification, based on a research question or guiding search question; 2) literature search in databases; 3) data evaluation; 4) data analysis, and 5) presentation of results.

### Problem identification

According to the stated objective, the following guiding question was suggested: What scales or instruments for assessing spirituality have been published in the literature in the past ten years with validity and reliability testing?

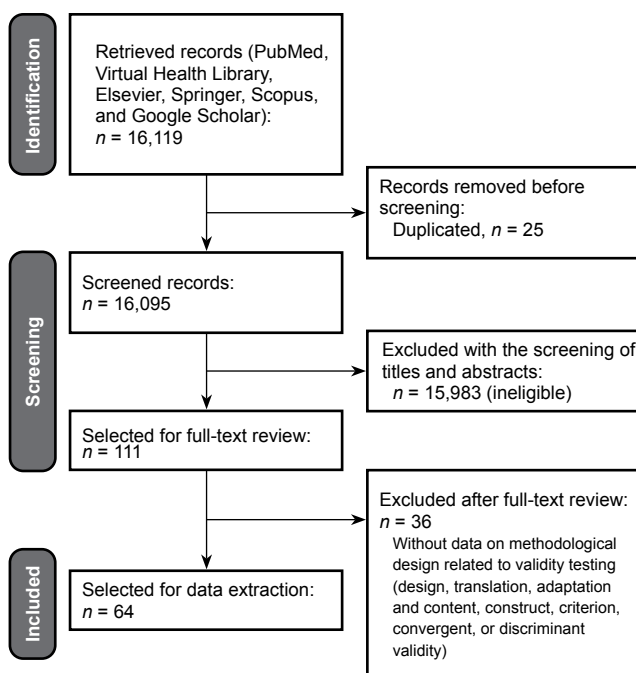
### Literature search

A search of PubMed, Virtual Health Library (VHL), Elsevier, Springer, Scopus, and Google Scholar databases was

conducted between January and March 2023. The DeCS/MeSH Health Science Descriptors “*espiritualidad*” AND (“*estudios de validación*” OR “*psicometría*”) were used in Spanish and “spirituality” AND (“validation study” OR “psychometrics”) in English.

Original research articles exploring the design, translation, adaptation and/or validation of instruments related to spirituality, published in Spanish or English between January 2013 and March 2023, and responding to the guiding question were included in the review process. Published articles that did not provide a detailed description of the methodological process of designing, translating, adapting, and/or validating the instruments or the different types of validity (content, construct, criterion, convergent, discriminant) were excluded, as well as letters to the editor, conference abstracts, book chapters, and literature reviews.

Searching the databases using the descriptors yielded 16,119 studies. A total of 15,983 of these were then excluded after reading the title and abstract because they failed to meet the selection criteria, and 25 because they were duplicates. Afterwards, the full texts of 111 articles were read, and 36 studies were excluded because they failed to specify the methodological design related to validity testing (design, translation, adaptation and content, construct, criterion, convergent, or discriminant validity). Lastly, 64 studies were included in the scoping review, and eight were excluded for containing incomplete information on validity and reliability statistics. The entire selection process is presented in Figure 1.



**Figure 1.** Flow Chart of the Selection Process of the Studies.

## Data evaluation

Methodological quality was first assessed separately by the researchers and then by consensus. We began by reading the full text of the studies and then proceeded to rate the methodological quality individually using the COSMIN Risk of Bias checklist (Mokkink et al., 2018). The COSMIN checklist assesses methodological rigor and risk of bias according to the type of validity tested by the survey researchers. The appropriate boxes are filled in by study type to determine the overall quality of the study. The lowest score of each evaluated standard is used, using the “worst score counts” principle.

Data were summarized in a database created by the researchers, detailing the characteristics of the studies: database, authors, name of scale, country of validation, language of validation, language of publication, country of study, population, main concept of instrument, theoretical basis of concept, dimensions of concept or subscales, and validity and reliability. Results were analyzed, evaluated, and interpreted based on the planned objective and guiding search question. The researchers worked together to complete this process. Duplicates were discarded using Mendeley software (Elsevier © 2018).

## Data analysis

After the reviewers’ quality assessment and selection of studies, the recommendations of PRISMA-ScR (2018) were followed. The first phase in data analysis was data reduction, which involved synthesizing the information found through an overall classification system. To this end, a matrix was created with the characteristics of the studies: database, authors, name of scale, country of validation, language of validation, language of publication, country of study, population, main concept of instrument, theoretical basis of concept, dimensions of concept or subscales, and validity and reliability.

The next phase of the data analysis was data display, which involved examining the display of the primary information sources to identify patterns, themes, and relationships. This enabled all the derived, defined, and validated constructs assessing spirituality in people to be identified. During the third phase, involving data comparison, the instruments were grouped according to the construct assessed, and some of the results found were compared, as well as the types of validity testing among the instruments. As a result of these two phases, two essential contents or categories were identified that will be presented in the following section: constructs related to spirituality and their measurement scales and the validity and reliability of the instruments or scales for assessing spirituality. During the final phase, we drew and verified conclusions. We then condensed the main elements and arrived at overall conclusions that are useful for both practice and research.

## RESULTS

### General Description of Studies

Table 1 describes the characteristics of the measurement instruments or scales reviewed. Validated measurement instruments were mostly found in Asian and Middle Eastern countries (31%,  $n = 20$ ), such as China, Iran, India, Taiwan, Turkey, Israel, Jordan, and South Korea, and European ones (28%,  $n = 18$ ), such as Poland, Italy, Portugal, Germany, Slovakia, Spain, France, Ireland, the United Kingdom, and Sweden. Twenty percent of the instruments ( $n = 13$ ) were validated in South and Central American countries such as Brazil, Argentina, Chile, Colombia, Peru, and Puerto Rico, and 17% ( $n = 11$ ) in North American countries, mainly the United States and Mexico. Only two multicenter studies were identified (4%). Regarding the language of publication, 83% ( $n = 53$ ) of the articles reviewed were published in English and 17% ( $n = 11$ ) in Spanish.

### Constructs Related to Spirituality and its Measurement Scales

In the present review, 22 conceptual constructs were identified that assess spirituality or some aspect of the latter. These constructs are shown in Table 2. The construct related to spirituality with the largest number of instruments is spiritual care or spiritual care competence, with a total of ten instruments. In general, these scales assess the level of spiritual care or the ability of nurses or other healthcare professionals to provide spiritual care (Adib-Hajbaghery & Zehtabchi, 2016; Benito et al., 2014; Daaleman et al., 2014; Guilherme et al., 2020; Hu et al., 2019; İpek Çoban et al., 2017; Kabakci et al., 2022; Pais et al., 2022; Pastrana et al., 2021; Xie et al., 2019). According to the operational definitions and constructs of these instruments, spiritual care competence is defined as the ability of nurses or health professionals to identify spiritual needs and to plan and implement care plans, activities or interventions that enhance the spiritual dimension of the subject of care (Adib-Hajbaghery & Zehtabchi, 2016; Benito et al., 2014; Daaleman et al., 2014; Guilherme et al., 2020; Hu et al., 2019; İpek Çoban et al., 2017; Kabakci et al., 2022; Pais et al., 2022; Pastrana et al., 2021; Wang et al., 2022; Xie et al., 2019).

Another construct with the largest number of instruments found was spirituality from a theocentric perspective (spirituality/religiosity), with eight instruments (Berger et al., 2016; Erci & Aktürk, 2018; Gallardo-Peralta et al., 2018; Gonçalves et al., 2016; Oñate et al., 2015; Simkin, 2017; Vespa et al., 2017). These scales are striking because they include dimensions such as the connection to God or a higher power and transcendental phenomena such as death (Berger et al., 2016; Díaz-Castillo et al., 2021; Gallardo-Peralta et al., 2018; Gonçalves et al., 2016; Vespa et al.,

2017). Items in these dimensions address the most common religious practices, such as prayer, meditation, fasting, and the reading of sacred books, and would be the empirical indicators of the connection with God.

Some instruments assess spirituality as a broad, holistic, multi-dimensional concept. Seven measurement instruments were found that assess spirituality from multiple perspectives and had been validated in different populations. One of the most outstanding features of these instruments is that they have subscales assessing three or more dimensions of spirituality, such as intrapersonal, extrapersonal, and transpersonal connections (González-Rivera & Pagán-Torres, 2018; González-Rivera, Quintero-Jiménez et al., 2017; González-Rivera, Veray-Alicea, et al., 2017; Makkar & Singh, 2021; Nawafleh et al., 2018; Schiappacasse Cocio & González Soto, 2016; Weathers et al., 2020; González-Rivera, et al., 2018).

Spirituality as a holistic dimension has conceptually abstract dimensions, such as meaning (Deluga et al., 2020; González-Rivera & Pagán-Torres, 2018) and self-awareness (Weathers et al., 2020), in some of the instruments reviewed. Spiritual needs are another construct identified (Lin et al., 2015; Moeini et al., 2018; Wu et al., 2016; Zhao et al., 2019). These instruments are designed for people who require spiritual care. Although identifying spiritual needs can be extremely useful, this review did not identify any scales available in Spanish or validated in Spanish-speaking countries that addressed spiritual needs.

The definitions provided in the instruments (Lin et al., 2015; Moeini et al., 2018; Wu et al., 2016; Zhao et al., 2019) suggest that spiritual needs are what people must satisfy to fully develop spirituality or any of its dimensions.

The spiritual and religious experiences construct (Lo et al., 2016; Saffari et al., 2017; Soósová & Mauer, 2021; Wang et al., 2022; Yepes Martínez et al., 2023) assesses spirituality and religiosity from multiple perspectives, including intrapersonal aspects such as meaning, peace, and faith (Saffari et al., 2017), religiosity (Lo et al., 2016; Soósová & Mauer, 2021; Yepes Martínez et al., 2023) and attention to spiritual needs (Wang et al., 2022; Yepes Martínez et al., 2023).

Other constructs assessing spirituality found were religious and spiritual coping (Feng et al., 2019; González-Rivera & Pagán-Torres, 2018; Tomás & Rosa, 2021), spiritual and religious attitudes (Büssing et al., 2016; Deluga et al., 2020), self-transcendence (Lundman et al., 2015; Pena-Gayo et al., 2018), spiritual distress (Simão et al., 2016), spiritual self-care (White & Schim, 2013), spiritual support (Fopka-Kowalczyk et al., 2023; Levine et al., 2015), spiritual well-being (Agli et al., 2017; Ahmad et al., 2022; Deng et al., 2021; Nooripour et al., 2023; Rabitti et al., 2020), spiritual and/or religious engagement (Martins et al., 2021; Roof et al., 2017), connectedness (Watts et al., 2022), spiritual comfort (Pinto et al., 2016), religious beliefs (Gallegos et

Table 1  
 Characteristics of the Measurement Instruments or Scales Found in the Integrative Review

Authors/year	Scale title	Country of validation	Language of validation	Language of publication	Population
Adib & Zeitabchi, 2016	Instrument to assess nurses' professional competence in spiritual care	Iran	Farsi	English	Nurses
Agli et al., 2017	Functional Assessment of Chronic Illness Therapy—Spiritual Well-being short version (FACIT-Sp12)	France	French	English	Older adults in nursing homes
Ahmad et al., 2022	Functional Assessment of Chronic Illness Therapy—Spiritual Well-Being Scale (FACIT-Sp)	USA	English	English	Adults with life-limiting medical illnesses
Becerra Canales & Becerra Huaman, 2020	<i>Escala de inteligencia espiritual en la práctica sanitaria (EIEps)</i>	Peru	Spanish	Spanish	Healthcare workers
Benito et al., 2014	<i>Cuestionario GES (Grupo Espiritualidad SECPAL)</i>	Spain	Spanish	English	Palliative care patients
Berger et al., 2016	Multidimensional Inventory for Religious/Spiritual Well-Being (MIRS-WB)	Mexico	Spanish	English	Nursing students
Burke et al., 2013	Inventory of Complicated Spiritual Grief (ICSG)	USA	English	English	Christian adults and college students
Burke et al., 2021	Inventory of Complicated Spiritual Grief 2.0 (ICSG 2.0)	USA	English	English	Adults
Büssing et al., 2016	Polish version of Spiritual and Religious Attitudes in Dealing with Illness 8(SpREUK)	Poland	Polish	English	Adults with chronic diseases
Schiappacasse Cocio & González Soto, 2016	Meaning in Life Scale (MILS)	Latin-American	Spanish	English	Cancer patients receiving palliative care
Daaleman et al., 2014	Quality of Spiritual Care (QSC) scale	USA	English	English	Family caregivers
Deluga et al., 2020	Spiritual Attitude and Involvement List (SAIL)	Poland	Polish	English	Nurses
Deng et al., 2021	Functional Assessment of Chronic Illness Therapy—Spiritual Well-Being Scale (FACIT-Sp)	USA	English	English	Heart failure patients
Díaz-Castillo et al., 2021	Escala Trifactorial de Espiritualidad	Mexico	Spanish	Spanish	Older adults
Elhai et al., 2018	SHALOM Spiritual Questionnaire	Israel	Hebrew	Spanish	Adults
Erci & Aktürk, 2018	System of Belief Inventory	Turkey	Turkish	English	Cancer patients
Feng et al., 2019	Spiritual Intelligence Scale-Chinese Form	China	Mandarin	English	Students and adults

**Table 1**  
**Characteristics of the Measurement Instruments or Scales Found in the Integrative Review (Continued)**

Authors/year	Scale title	Country of validation	Language of validation	Language of publication	Population
Feng et al., 2021	Chinese Spiritual Coping Scale (CSCS)	China	Mandarin	English	Adults
Fopka-Kowalczyk et al., 2023	Spiritual Supporter (SpSup) Scale	Poland	Polish	English	Medical students
Gallardo-Peralta et al., 2018	Índice Breve de Religiosidad y Espiritualidad	Chile	Spanish	Spanish	Older adults
Gallegos et al., 2021	System of Beliefs Inventory (SBI-15R)	Peru	Spanish	English	Adults
Glaz, 2021	Scale of Abandonment by God (SAG)	Poland	Polish	English	University students
Gonçalves et al., 2016	Treatment Spirituality / Religiosity Scale (TSRS)	Brazil	Portuguese	English	Nursing students
González-Rivera & Pagan-Torres, (2018)	Inventario de Estrategias de Afrontamiento Religioso (IEAR)	Puerto Rico	Spanish	Spanish	Adults
González-Rivera, Veray-Alicea, et al., 2017	<i>Escala de Espiritualidad Personal (EPP)</i>	Puerto Rico	Spanish	Spanish	Adults
González-Rivera, et al., 2018	<i>Escala de espiritualidad de Delaney</i>	Puerto Rico	Spanish	Spanish	Adults
Guilherme et al., 2020	Spiritual Care Competence Scale (SCCS)	Brazil	Portuguese	English	Nursing students
Hu et al., 2019	Chinese version of the Spiritual Care Competence Scale (C-SCCS)	China	Mandarin	English	Nurses
İpek et al., 2017	Spiritual Care-Giving Scale	Turkey	Turkish	English	Nursing students
Kabakci et al., 2022	Spiritual Care Competence Scale (SCCS)	Turkey	Turkish	English	Midwives
Kang et al., 2022	Korean version of the Nurse Spiritual Care Therapeutics Scale (NSCTS-K)	South Korea	Korean	English	Nurses
Levine et al., 2015	Spiritual support subscale for the Medical Outcomes Study Social Support Scale (MOS-SSS)	USA	English	English	Cancer survivors
Lin et al., 2015	Chinese version of the Spiritual Interests Related Illness Tool (C-SpIRIT)	Taiwan	Mandarin	English	Adults
Lo et al., 2016	Daily Spiritual Experiences Scale—Chinese (DSES-C)	USA	English	English	Cancer patient
Lundman et al., 2015	Swedish version of Self-Transcendence Scale	Sweden	Swedish	English	Older adults

Table 1  
 Characteristics of the Measurement Instruments or Scales Found in the Integrative Review (Continued)

Authors/year	Scale title	Country of validation	Language of validation	Language of publication	Population
Makkar & Singh, 2021	Spirituality Measurement Scale (SMS)	India	Hindi	English	University students
Martins et al., 2021	Validation of Duke University Religion Index (P-DUREL)	Portugal	Portuguese	English	Cancer patients receiving chemotherapy
Moeini et al., 2018	Spiritual Needs Questionnaire (SpNQ).	Iran	Farsi	English	Elders with chronic diseases
Nawafleh et al., 2018	Spiritual Questionnaire	Jordan	Arabic	English	University students
Nooripour et al., 2023	Spiritual Well-being Scale (SWBS)	Iran	Farsi	English	Older adults
Oñate et al., 2015	<i>Breve evaluación multidimensional de la religiosidad y la espiritualidad</i>	Argentina	Spanish	Spanish	Young adults
Pais et al., 2022	Spirituality and Spiritual Care Rating Scale (SSCRS)	India	Hindi	English	Nurses
Pastrana et al., 2021	Spiritual Care Competence Questionnaire (SCCQ)	Argentina, Colombia, Mexico, and Spain	Spanish	English	Healthcare professionals
Pena-Gayo et al., 2018	<i>Escala de autotranscendencia</i>	Spain	Spanish	Spanish	Adults
Pinto et al., 2016	Portuguese End of Life Spiritual Comfort Questionnaire	Portugal	Portuguese	English	Palliative care patients
Proyer & Laub, 2017	Expressions of Spirituality Inventory-Revised (ESI-R)	Germany	German	English	Adults
Rabitti et al., 2020	Functional Assessment of Chronic Illness Therapy-Spiritual (FACIT-Sp)	Italy	Italian	English	Cancer patients
Riveros et al., 2018	<i>Inventario de Sistema de Creencias (SBI-15 R)</i>	Colombia	Spanish	Spanish	University student and chronic disease patients
Roof et al., 2017	Spiritual Engagement Instrument (SpEI)	USA	English	English	Adults
Saffari et al., 2017	Daily Spiritual Experiences Scale (DSES)	Iran	Farsi	English	Pregnant women
Simão et al., 2016	Spiritual Distress Scale	Brazil	Portuguese	English	Cancer patients
Simkin, 2017	Escala de evaluación de espiritualidad y sentimientos religiosos (ASPIRES)	Argentina	Spanish	Spanish	University students

**Table 1**  
**Characteristics of the Measurement Instruments or Scales Found in the Integrative Review (Continued)**

Authors/year	Scale title	Country of validation	Language of validation	Language of publication	Population
Soósová & Mauer, 2021	Daily Spiritual Experience Scale (DSES)	Slovakia	Slovak	English	Older adults
Tomás & Rosa, 2021	Scale of Religious and Spiritual Coping (RCOPE)	Portugal	Portuguese	English	Adults
Vespa et al., 2017	Brief Multidimensional Measure of Religiousness/Spirituality (BMMRS)	Italy	Italian	English	Older adults
Wang et al., 2022	Spiritual Enlightenment Experience Scale (SEES)	China	Mandarin	English	Adults
Watts et al., 2022	Watts Connectedness Scale (WCS)	UK	English	English	Adults
Weathers et al., 2020	Spirituality Instrument 27 (Spl-27©)	Ireland	Irish	English	Chronic disease patients
White & Schim, 2013	Spiritual Self-Care Practices Scale (SSCPS)	USA	English	English	Patients with heart failure
Wu et al., 2016	Spiritual Care Needs Inventory (SCNI)	Taiwan	Mandarin	English	Hospitalized adults
Xie et al., 2019	Nurse Spiritual Therapeutics Scale (NSTS)	China	Mandarin	English	Cancer patients
Yepes Martinez et al., 2023	The Italian version of the Daily Spiritual Experience Scale (DSES-IT)	Italy	Italian	English	Patients with psychiatric disorders
Zhao et al., 2019	Chinese version of the Spiritual Needs Questionnaire with 27 items (SpNQ-Ch-27)	China	Mandarin	English	Cancer patients



Table 2  
Constructs related to spirituality and its validated scales

Constructs related to spirituality	Definition	Validated scales
Religious and spiritual coping	Religious coping refers to cognitive, behavioral, and interpersonal responses using religious/spiritual beliefs and practices to facilitate problem-solving and prevent or alleviate the negative emotional consequences of stressful life situations. Coping can occur positively or negatively (Tomás & Rosa, 2021). Spiritual coping involves using practices related to spirituality (the inner power of the human body, which promotes the growth of the human mind and helps people understand the meaning of life) to overcome problems or stressors (Feng et al., 2021). Use of internal and external strategies based on religion to manage stressful situations. Internal strategies are associated with personal faith and internal reflection, whereas external strategies involve participation in religious activities and support from the faith community (González-Rivera & Pagán-Torres, 2018).	Scale of Religious and Spiritual Coping (RCOPE) (Tomás & Rosa, 2021); Chinese Spiritual Coping Scale (CSCS) (Feng et al., 2021); <i>Inventario de Estrategias de Afrontamiento Religioso</i> (IEAR) (González-Rivera & Pagán-Torres, 2018)
Spiritual and Religious Attitudes	Operational definition not reported.	Spiritual and Religious Attitudes in Dealing with Illness (SpREUK) (Büssing et al., 2016); Spiritual Attitude and Involvement List (SAIL) (Deluga et al., 2020)
Self-transcendence	Human skill to expand one's limits in the interpersonal (with others), intrapersonal (to one's person), transpersonal (with a spiritual dimension), and temporal dimensions (integrating the past and the future to lend meaning to the present). This evolutionary capacity provides purpose and meaning for human existence in the face of individual and environmental limits and can be evaluated at a specific point in the life cycle (Pena-Gayo et al., 2018).	Reed's Self-Transcendence Scale (Pena-Gayo et al., 2018; Lundman et al., 2015)
Spiritual distress	A time in life when a person experiences profound discord or disharmony with their faith, spirituality, belief system, or values, which threatens their perception of the meaning of life (Simão et al., 2016).	Spiritual Distress Scale (Simão et al., 2016)
Spiritual self-care	Spiritual self-care refers to the way people relate to their subjectivity, including the belief in relationships with others, the existential connection established with a higher entity, and the feeling of being connected to the world. Spiritual self-care is influenced by dispositions toward spirituality and encourages people to establish positive, reciprocal relationships with others, rebuild relationships, and volunteer in mutual aid groups. In addition, it involves practices such as prayer, meditation, mindfulness, yoga and Tai Chi, contact with nature, and participation in religious or self-help groups (White & Schim, 2013).	Spiritual Self-Care Practices Scale (SSCPS) (White & Schim, 2013)
Spiritual support	The operational definition was not reported in the included manuscripts.	Spiritual support subscale for the Medical Outcomes Study Social Support Scale (MOS-SSS) (Levine et al., 2015); Spiritual Supporter (SpSup) Scale (Fopka et al., 2023)
Spiritual well-being	A comprehensive sense of meaning and purpose in life, harmony and peace, together with a source of strength and comfort derived from one's faith and spiritual beliefs. This state includes a deep sense of understanding and purpose in life, a reconciliation with adverse circumstances, and the strength and comfort that comes from personal faith and spiritual beliefs (Rabitt et al., 2020).	Functional Assessment of Chronic Illness Therapy—Spiritual Well-being short version (FACIT-Sp12) (Agli et al., 2017; Rabitt et al., 2020; Ahmad et al., 2022; Deng et al., 2021); Spiritual Well-being Scale (SWBS) (Nooripour et al., 2023)

Table 2  
 Constructs related to spirituality and its validated scales (continued)

Constructs related to spirituality	Definition	Validated scales
Spiritual care competence / Spiritual care	<p>Spiritual care competence is the systematic care nurses provide to address patients' spiritual needs. This includes specific attributes and competencies to effectively provide spiritual care (Guilherme et al., 2020).</p> <p>Spiritual care refers to activities and procedures intended to improve people's spiritual well-being and performance, as well as the quality of spiritual life. Spiritual care has positive effects on stress, the balance between physical, psychosocial, and spiritual aspects, the sense of integrity and excellence, and interpersonal relationships. Although spiritual care is not synonymous with religious or psychosocial care, it is related to providing comprehensive care that fosters vitality and meaning in life (Adib-Hajbaghery &amp; Zehtabchi, 2016).</p>	<p>Spiritual Care Competence Scale (SCCS) (Guilherme et al., 2020). Instrument to assess the nurses' professional competence in spiritual care (Adib-Hajbaghery &amp; Zehtabchi, 2016); Spiritual Care Competence Questionnaire (SCCQ) (Pastrana et al., 2021); Spiritual Care Competence Scale (SCCS) (Kabakci &amp; Çelik, 2022); Nurse Spiritual Therapeutics Scale (NSTS) (Xie et al., 2019); Spiritual Care-Giving Scale (Ipek et al., 2017); Quality of Spiritual Care (QSC) scale (Daeleman et al., 2014); the Chinese version of the Spiritual Care Competency Scale (C-SCCS) (Hu et al., 2019); Spirituality and Spiritual Care Rating Scale (SSCRS) (Pais et al., 2022); <i>Cuestionario GES</i> (Grupo Espiritualidad SECPAL) (Benito et al., 2014)</p>
Spiritual/religious engagement	<p>Participation and practices in religious or spiritual activities with the motivation to grow and transform spiritually. Spiritual/religious engagement involves not only external behaviors, such as prayer and attendance at religious services, but also the internal beliefs, attitudes, intentions, and expectations that motivate these practices. Spiritual commitment seeks a deeper relationship with God and leads to the affective, cognitive transformation of individuals, impacting their ethics, values, identity, and organizational relationships (Roof et al., 2017)</p>	<p>Validation of the Duke University Religion Index (P-DUREL) (Martins et al., 2021); Spiritual Engagement Instrument (SpEI) (Roof et al., 2017)</p>
Connectedness	<p>Connectedness is a state characterized by the presence of feelings of connection with oneself, others, and the world in general (Watts et al., 2022).</p>	<p>Watts Connectedness Scale (WCS) (Watts et al., 2022)</p>
Spiritual comfort	<p>The operational definition was not reported in the included manuscripts.</p>	<p>Portuguese End-of-Life Spiritual Comfort Questionnaire (Pinto et al., 2016)</p>
Religious beliefs	<p>The concept was not clearly defined in the studies. Several definitions of religiosity were found, but no definition of religious beliefs</p>	<p>System of Beliefs Inventory (SBI-15R) (Gallegos et al., 2021; Riveros et al., 2018)</p>
Spiritual grief	<p>Spiritual grief is a spiritual crisis during grief that includes the collapse or loss of the relationship with God, a higher power, and/or the community of faith, such that he or she struggles to restore spiritual balance after the loss (Burke et al., 2014; 2021).</p>	<p>Inventory of Complicated Spiritual Grief (ICSG) (Burke et al., 2014); Inventory of Complicated Spiritual Grief 2.0 (ICSG 2.0) (Burke et al., 2021)</p>

Table 2  
 Constructs related to spirituality and its validated scales (continued)

Constructs related to spirituality	Definition	Validated scales
Spirituality	<p>Subjective, mystical, and holistic interpretation of personal beliefs and behaviors. This internal interpretation of reality influences how individuals perceive their environment and how they react and interact with the elements of this environment (Nawafieh et al., 2018).</p> <p>Spirituality is a multidimensional phenomenon that is experienced universally, partially socially constructed, and individually developed throughout life through the search for meaning, transcendence, and connection in relationships with oneself, with other people, with nature, or with the sacred. It can include non-theistic and non-religious approaches, as well as theistic and religious approaches (González-Rivera, Veray-Alicea, et al., 2017; González-Rivera et al., 2018). Spirituality is a human ability that encompasses experiential aspects related to both religious practices and the recognition of a generalized feeling of peace and union. This concept is part of all cultures and constitutes the framework in which a fundamental or transcendent purpose is sought, whether through religion or other means. Spirituality includes accessible feelings such as inner peace, the meaning of existence, and the purpose of life, without necessarily being associated with religion (Schiappacasse Cocio &amp; González Soto, 2016).</p>	<p>Spirituality Measurement Scale (SMS) (Makkar et al., 2021); Spirituality Instrument 27 (Spl-27©) (Weathers et al., 2020); Spiritual Questionnaire (Nawafieh et al., 2018); <i>Escala de espiritualidad personal</i> (EPP) (González-Rivera, Veray-Alicea, et al., 2017; González-Rivera et al., 2018); <i>Escala de espiritualidad de Delaney</i> (González-Rivera, Quintero-Jiménez, et al., 2017); Meaning in Life Scale (MILS) (Schiappacasse Cocio &amp; González Soto, 2016)</p>
Spirituality / Religiosity	<p>According to Vespa et al. (2017), spirituality is the personal and introspective search through various cultural, religious, or secular routes, which must be carefully considered in the management of patients affected by diseases. Spirituality is one of the main factors allowing people to face and manage suffering due to illness with confidence and dignity.</p> <p>According to Oñate et al. (2015), spirituality is an individual experience of connection with a higher being or with the purpose and meaning of life. It is an internal, subjective search that transcends biological, psychological, and social dimensions and is characterized by a profound integration with life and the world, regardless of membership in a specific religious organization.</p> <p>Religiosity refers to the participation and practice of rituals, beliefs, and values within a religious organization or community. It includes the adherence to doctrines and the performance of external and objective social practices connecting the individual to a higher being, through the structure and norms of a specific religious group (Oñate et al., 2015).</p>	<p>Treatment Spirituality / Religiosity Scale (TSRS) (Gonçalves et al., 2016); Multidimensional Inventory for Religious/Spiritual Well-Being (MI-RSWB) (Berger et al., 2016); Brief Multidimensional Measure of Religiosity/Spirituality (BMMRS) (Vespa et al., 2017; Oñate et al., 2015); <i>Índice Breve de Religiosidad y Espiritualidad</i> (Gallardo-Peralta et al., 2018) from the Multidimensional Brief Measure of Religiosity/Spirituality (BMMRS); <i>Escala Trifactorial de Espiritualidad</i> (Díaz-Castillo et al., 2021); System of Belief Inventory (Erci, &amp; Aktürk, 2018)</p>
Spiritual or religious experiences	<p>Specific feelings, transcendental growth processes, and effects that occur in individuals at times. These may reflect individual beliefs and attitudes related to transcendence, and cultural, ethnic, and/or religious influences (Soósová &amp; Mauer, 2021). It also includes states and conditions of consciousness that imply the liberation of suffering, according to various cultural and religious traditions. These experiences, especially when focused on spiritual enlightenment, are characterized by a conscious recognition of the ultimate truth, the reality that all is empty and requires no attachment, and the realization of the absence of a true self. These experiences include elements such as the renunciation of desires and attachments through the cultivation of spiritual wisdom and introspection (Wang et al., 2022).</p>	<p>Daily Spiritual Experiences Scale (DSES) (Saifari et al., 2017; Soósová &amp; Mauer, 2021); Chinese DSES-C (Lo et al., 2016); Italian DSES-IT (Yepes Martínez et al., 2023); Spiritual Enlightenment Experience Scale (SEES) (Wang et al., 2022)</p>

Table 2  
 Constructs related to spirituality and its validated scales (continued)

Constructs related to spirituality	Definition	Validated scales
Expressions of spirituality	Expressions of spirituality refer to the manifestations and ways in which spirituality is expressed and can be evaluated in individuals, being a multidimensional approach (Proyer & Laub, 2017).	Expressions of Spirituality Inventory-Revised (ESI-R) (Proyer & Laub, 2017)
Spiritual intelligence	Mental skills that address existential, transcendental, and conscious questions of the human condition and its connection with the universe. Spiritual intelligence leads to awareness, integration, and adaptation of immaterial and transcendent aspects of human existence. It focuses on reflection on the meaning and purpose of life, as well as the search for answers to great existential questions (Becerra Canales & Becerra Huaman, 2020).	<i>Escala de inteligencia espiritual en la práctica sanitaria (E/IEPs)</i> (Becerra Canales & Becerra Huaman, 2020) <i>Spiritual Intelligence Scale-Chinese Form</i> (Feng et al., 19)-
Spiritual needs	Requirements related to the spirituality of patients, particularly in the context of older people with chronic diseases. Spiritual needs include aspects such as the search for meaning, reflection on the meaning of life and death, the need for inner peace, forgiveness, and generativity (Moeini et al., 2018).  Needs and expectations of a person to find goals, commitment, and values in life, regardless of whether the person has religious beliefs. These include the search for love, hope/power, and the meaning or purpose of life (Zhao et al., 2019).	Spiritual Needs Questionnaire (SpNQ) (Moeini et al., 2018); Chinese version SpNQ-Ch-27 (Zhao et al., 2019); Spiritual Care Needs Inventory (SCNI) (Wu et al., 2016); Chinese Version of Spiritual Interests Related Illness Tool (C-SpIRIT) (Lin et al., 2015)
Spiritual health	Spiritual health refers to the dynamic state of being, which reflects the quality of relationships in the personal, community, environmental, and transcendental spheres people maintain when they have spiritual well-being (Elhai et al., 2018) will to live, and participant's health perception and by negative association with depressive symptoms and fear of dying. CONCLUSION: These findings suggest that responses to the Hebrew version of the SHALOM questionnaire are valid and reliable, and can be used as an efficient tool for evaluation of spiritual well-being (Elhai et al., 2018)	SHALOM Spiritual Questionnaire (Elhai et al., 2018)
Feelings of abandonment by God	A common subjective experience among religious people in that, despite believing in the presence of God, individuals feel that God has temporarily abandoned them. This feeling is not necessarily linked to personal sins or negligence and could arise without clear reasons. It is often associated with the normal process of spiritual and religious development and could represent one of the greatest tests of faith (Glaz, 2021).	Scale of Abandonment by God (SAG) (Glaz, 2021)
Spirituality- Spiritual transcendence	Innate motivation to guide behavior in the effort to build a deeper meaning for life from an eschatological perspective. Spiritual transcendence focuses on the individual and their connection to a larger reality (Simkin, 2017).	<i>Escala de evaluación de espiritualidad y sentimientos religiosos (ASPIRES)</i> (Simkin, 2017)

al., 2021; Riveros et al., 2018), spiritual grief (Burke et al., 2013, 2021), spiritual and/or religious expressions (Proyer & Laub, 2017), spiritual intelligence (Becerra Canales & Becerra Huaman, 2020; Feng et al., 2019), feelings of abandonment by God (Głaz, 2021), and spiritual transcendence (Simkin, 2017).

Of the 22 concepts related to spirituality, four were found to lack clear operational definitions in the psychometric studies reviewed. Most of these studies presented multiple theoretical definitions of spirituality and religiosity, highlighting both the differences between constructs and their shared defining characteristics. However, many of these studies lacked a precise definition of the phenomenon they aimed to measure using a solid theoretical or empirical reference, revealing a possible conceptual confusion between the construct of spirituality and emerging concepts such as spiritual and religious attitudes, spiritual support, spiritual comfort and religious beliefs.

We identified three concepts that might seem similar: spiritual distress, spiritual pain, and feelings of abandonment by God. While the definition of these concepts suggests that people may experience a loss in their relationship with God or a transpersonal disconnection at some point, they are distinguished by their conceptual boundaries. Spiritual pain is linked to grief, whereas spiritual distress focuses on an internal conflict related to beliefs and values. Conversely, feelings of abandonment by God refer to the perception of a temporary separation from God for no clear reason. However, this feeling is part of the process of spiritual growth.

Although most of the concepts are understandable, most of the definitions found in psychometric studies are not consistent with the dimensions of the instruments used. Moreover, in many studies involving the translation and cultural adaptation of instruments to measure spirituality, the researcher's original definition of the instrument was not clarified, making it difficult to conduct an exhaustive analysis of the validity of the construct in these contexts.

### **Validity and Reliability of the Instruments or scales for the Assessment of Spirituality**

The populations in which the instruments were validated were primarily adults of all ages (Burke et al., 2021; El-hai et al., 2018; Feng et al., 2019; Gallegos et al., 2021; González-Rivera & Pagán-Torres, 2018; González-Rivera, Quintero-Jiménez, et al., 2017; González-Rivera, Veray-Alicea, et al., 2017; Lin et al., 2015; Lundman et al., 2015; Oñate et al., 2015; Pena-Gayo et al., 2018; Proyer & Laub, 2017; Roof et al., 2017; Tomás & Rosa, 2021; Wang et al., 2022; Watts et al., 2022; Wu et al., 2016), healthcare professionals (Becerra-Partida et al., 2019; Pastrana et al., 2021) such as nurses (Adib-Hajbaghery & Zehtabchi, 2016; Deluga et al., 2020; Hu et al., 2019; Kang et al., 2022; Pais

et al., 2022), university students (Berger et al., 2016; Głaz, 2021; González-Rivera & Pagán-Torres, 2018; Guilherme et al., 2020; Makkar & Singh, 2021; Nawafleh et al., 2018; Riveros et al., 2018; Simkin et al., 2017), nursing students (Fopka-Kowalczyk et al., 2023; Gonçalves et al., 2016; Guilherme et al., 2020; İpek Çoban et al., 2017), and people diagnosed with cancer (Erci & Aktürk, 2018; Lo et al., 2016; Martins et al., 2021; Pinto et al., 2016; Schiappacasse Cocio & González Soto, 2016; Simão et al., 2016; Xie et al., 2019; Zhao et al., 2021).

Of all the studies reviewed, only 11% ( $n = 7$ ) measured content validity with a panel of experts (Adib-Hajbaghery & Zehtabchi, 2016; Gallegos et al., 2021; Guilherme et al., 2020; Hu et al., 2019; Wu et al., 2013; Xie et al., 2019), usually comprising nurses, theologians, psychologists, and priests. The number of experts ranged from five to 20.

Ninety-seven per cent of the studies reviewed ( $n = 61$ ) measured construct validity using exploratory factor analysis, confirmatory factor analysis, or model fit indices, as shown in Table 3. Convergent construct validity was only measured in one instrument (Schiappacasse Cocio & González Soto, 2016).

Among the instruments with construct validity testing, we found an average of three factors, ranging from one to six, with an average of 61% of total explained variance, ranging from 42.3% to 95.9%. Of the instruments, 84.3% ( $n = 54$ ) reported overall reliability using Cronbach's alpha, with a range of 0.71 to 0.98.

## **DISCUSSION AND CONCLUSION**

### **Main results**

This review identified 64 research studies assessing spirituality from different theoretical and philosophical points of view and perspectives, including those specific to a particular population. The various constructs that can arise from spirituality or deal with the spiritual dimension of a human being are usually extremely abstract and often difficult to understand due to the nature of the phenomenon (Fuentes, 2018). Some characteristics theorists have identified about spirituality should be highlighted, such as the fact that it is subjective and individual and develops differently in each person (Sarrazin Martínez, 2021).

This level of abstraction of the phenomenon gives it interpretive richness, enabling it to be evaluated from multiple theoretical perspectives. Among the psychometric studies, three approaches were identified in the definitions of spirituality or an emerging concept of this phenomenon. The first is a homocentric approach, where humans connect and relate to their environment, finding purpose or meaning in their lives through these connections. The second is a theocentric approach, in which humans establish a relationship

Table 3  
Validity and reliability of measurement instruments

Authors/year	Content validity	Construct validity	Factors	Variance explained	Criterion validity	Overall reliability
Adib-Hajbaghery & Zehtabchi, 2016	X	-	-	-	-	$\alpha$ : 0.91
Agli et al., 2017	-	X	3	-	-	$\alpha$ : 0.84
Ahmad et al., 2022	-	X	3	74.2%	-	$\alpha$ : 0.78
Becerra Canales & Becerra Huaman, 2020	-	X	3	54%	-	$\alpha$ : 0.9
Benito et al., 2014	-	X	3	-	X	$\alpha$ : 0.72
Berger et al., 2016	-	X	6	58.9%	-	$\alpha$ : 0.91
Burke et al., 2014	-	X	2	-	-	-
Burke et al., 2021	-	X	3	-	-	$\alpha$ : 0.96
Büssing et al., 2016	-	X	3	-	-	-
Schiappacasse Cocio & González Soto, 2016	-	X	-	-	-	$\alpha$ : 0.91
Daaleman et al., 2014	-	X	2	61%	-	$\alpha$ : 0.87
Deluga et al., 2020	-	X	6	67.9%	-	$\alpha$ : 0.7
Deng et al., 2021	-	X	2 - 3	-	-	$\alpha$ : 0.91
Pais et al., 2022	-	X	3	-	-	$\alpha$ : 0.9
Díaz-Castillo et al., 2021	-	X	3	59.2%	-	$\alpha$ : 0.93
Elhai et al., 2018	-	X	4	69%	-	-
Erci & Aktürk, 2018	-	X	2	60.8%	-	$\alpha$ : 0.98
Feng et al., 2019	-	X	3	52.1%	-	$\alpha$ : 0.85
Feng et al., 2021	-	X	4	55%	-	$\alpha$ : 0.93
Fopka et al., 2023	-	X	5	48%	-	$\alpha$ : 0.88
Gallardo-Peralta et al., 2018	-	X	2	-	-	$\alpha$ : 0.92
Gallegos et al., 2021	X	X	2	-	-	-
Glaz, 2021	-	X	1	47.8%	-	$\alpha$ : 0.89
Gonçalves et al., 2016	-	X	2	-	-	$\alpha$ : 0.85
González-Rivera, Veray-Alicea, et al., 2017	-	X	3	67.%	-	$\alpha$ : 0.84
González-Rivera, Quintero-Jiménez et al., 2017	-	X	3	72.8%	-	$\alpha$ : 0.92
González-Rivera et al., 2018	-	X	3	-	-	$\alpha$ : 0.88
González-Rivera & Pagán-Torres, 2018	-	X	2	-	-	$\alpha$ : 0.95
Guilherme et al., 2020	X	X	6	61.2%	-	$\alpha$ : 0.89
İpek Çoban et al., 2017	-	X	5	63.6%	-	$\alpha$ : 0.96
Hu et al., 2019	X	X	4	53.1%	X	$\alpha$ : > 0.7
Kabakci et al., 2022	-	X	5	69%	-	$\alpha$ : 0.92

**Table 3**  
**Validity and reliability of measurement instruments (continued)**

<i>Authors/year</i>	<i>Content validity</i>	<i>Construct validity</i>	<i>Factors</i>	<i>Variance explained</i>	<i>Criterion validity</i>	<i>Overall reliability</i>
Kang et al., 2022	-	X	3	69.4%	-	$\alpha$ : 0.95
Levine et al., 2015	-	X	4	-	-	-
Ling et al., 2015	-	X	5	50.4%	X	$\alpha$ : 0.88
Lo et al., 2016	-	X	2	57%	-	$\alpha$ : 0.94
Lundman et al., 2015	-	X	2	-	X	$\alpha$ : 0.83
Makkar & Singh, 2021	-	X	5	66.4%	-	$\alpha$ : 0.94
Martins et al., 2021	-	X	1	74.3%	-	$\alpha$ : 0.89
Moeini et al., 2018	-	X	5	60%	-	$\alpha$ : 0.82
Nawafleh et al., 2018	-	X	4	95.9%	-	$\alpha$ : 0.92
Nooripour et al., 2023	-	X	4	61%	-	$\alpha$ : 0.71
Pinto et al., 2016	-	X	5	57.3%	-	$\alpha$ : 0.84
Oñate et al., 2015	-	X	1	61%	-	$\alpha$ : 0.92
Pastrana et al., 2021	-	X	6	67%	-	$\alpha$ : 0.92
Pena-Gayo et al., 2018	X	X	3	42.3%	-	$\alpha$ : 0.89
Proyer & Laub, 2017	-	X	5	65.6%	-	-
Rabitti et al., 2020	-	X	3	55%	-	$\alpha$ : 0.79
Riveros et al., 2018	-	X	2	59.7%	-	$\alpha$ : 0.92
Roof et al., 2017	-	X	4	85.2%	-	$\alpha$ : 0.94
Saffari et al., 2017	-	X	3	59%	X	$\alpha$ : 0.9
Simão et al., 2016	-	X	3	-	-	$\alpha$ : 0.73
Simkin, 2017	-	X	2 – 3 c/ subscale	-	-	-
Soósová et al., 2021	-	X	1	75.8%	X	$\alpha$ : 0.98
Tomás & Rosa, 2021	-	X	2	69%	-	-
Vespa et al., 2017	-	X	2	72%	-	-
Wan et al., 2022	-	X	3	63%	-	$\alpha$ : 0.93
Watts et al., 2022	-	X	3	50%	X	$\alpha$ : 0.86
Weathers et al., 2020	-	X	5	56.3%	-	$\alpha$ : 0.9
White & Schim, 2013	-	X	4	47%	X	$\alpha$ : 0.91
Wu et al., 2016	X	X	2	66.2%	-	-
Xie et al., 2019	X	X	3	65.2%	-	$\alpha$ : 0.88
Yepes et al., 2023	-	X	2	60.3%	-	$\alpha$ : 0.93
Zhao et al., 2019	-	X	6	63%	-	$\alpha$ : 0.9

Symbols: X indicates the type of validity testing used for each instrument;  $\alpha$ , Cronbach's alpha.

with God, a higher power, or a mystical element, finding fulfillment and their life's purpose in it. The third is a mixed vision, which does not separate the different connections humans establish. All these approaches enable humans to transcend their lives. These findings were expected given the nature of the phenomenon, since spirituality favors a connection with the variables of the being at an intrapersonal, interpersonal, and transpersonal level (Fuentes, 2018; López-Tarrida et al., 2020), which in turn leads the person to transcend (Reed, 2018, 2021).

Spiritual needs are one of the constructs enabling us to assess spirituality in people who are ill. Identifying spiritual needs can be helpful in healthcare practice. It is because it facilitates the identification of challenges in religious or intra- and intrapersonal practices that it can be useful for hospitalized people or those with health problems (Morales-Ramón & Ojeda-Vargas, 2014; Pérez-García, 2016). However, nursing practice would be limited if only spiritual needs of a religious nature were addressed (Morales-Ramón & Ojeda-Vargas, 2014; Muñoz Devesa et al., 2014).

Among the multiple constructs of spirituality, religious practices or rituals and theocentric belief systems are part of the transpersonal dimension of spirituality in believers. Although these two constructs closely related in some ways, they are theoretically quite different (Sarrazin Martínez, 2021). Instruments assessing religiosity as part of spirituality are therefore useful for religious populations.

A total of 54 different instruments assessed spirituality from multiple components, theories, and philosophical perspectives. This could be because spiritual care is becoming increasingly requested at institutions due to the implementation of human caring models in clinical practice (Soto-Rubio et al., 2020). Nurses and other health professionals are therefore becoming more aware and knowledgeable about this phenomenon, as reported by (Sarrazin Martínez, 2021).

However, in several of the instruments found, there is evidence of a lack of conceptual clarity in the constructs assessed, making it difficult to understand the empirical indicators. This can also be observed in the similarity of items found in instruments assessing spirituality from different constructs.

Given the nature of the phenomenon, a lack of conceptual clarity is common in studies conducted since the 1990s. A previous review on spirituality questionnaires, conducted by de Jager Meezenbroek et al. (2012), reported that the items in the questionnaires analyzed were not as clear or appropriate for practice. Therefore, although numerous scales, inventories, and instruments exist to measure spirituality, exploring, assessing, and approaching spirituality in clinical practice is complex (López-Tarrida et al., 2020), especially when the constructs in the instruments are unclear.

Waltz et al. (2017) suggest that the first step a researcher should take when designing instruments, is conceptual operationalization, in which attributes, characteristics and dimensions are defined to distinguish the concept being

assessed from others that could be considered synonyms. Conceptual inaccuracy has been one of the most common flaws in instruments assessing attributes of spirituality. This could be due to the lack of fit between the dimensions of the instruments and the conceptual definition of the phenomenon that is to be measured. It was clear from most psychometric studies that the conceptual definition was not consistent with the instrument or its dimensions. Although a conceptual definition of spirituality was given in the introduction section of many of the studies included in this review, the dimensions of the validated instrument were not known until the material and methods section. The defining characteristics enable concepts to be differentiated, thereby establishing a conceptual delimitation. These elements are known as dimensions or factors, and items are grouped according to these defining characteristics, dimensions, or factors, thereby measuring the concept intended to be evaluated (Waltz et al., 2017). The lack of a clear link between the conceptual definition and the dimensions of the instrument can therefore limit accuracy in measuring the phenomenon.

In this review, three types of validity (content, construct, and criterion) were measured for the Spiritual Caregiving Scale (Hu et al., 2019), and only seven studies measured content validity. Content validity is a logical judgment attempting to determine whether items reflect the content domain being measured by assessing clarity, coherence, relevance, and (Urrutia Egaña et al., 2014).

Construct validity was the most frequently reported aspect in the measurement instruments reviewed. A total of 73% of the studies used Bartlett's test of sphericity and the Kaiser-Meyer-Olkin (KMO) measure to verify sampling adequacy for factor analysis. The KMO test shows the degree to which each variable can be predicted by the other variables. This statistic must be calculated before running the correlation matrices for factor analysis, and the criterion that KMO must be equal to or greater than 0.8 must be met (Pizarro Romero & Martínez Mora, 2020).

Bartlett's test of sphericity indicates whether a correlation matrix is suitable for factor analysis, for which it must be  $<0.5$  (López-Aguado & Gutiérrez-Provecho, 2019). Factor analysis can then be performed. The grouping of items into factors in the pilot test confirms the concept or construct being measured by empirically dividing these groupings into dimensions (Lloret-Segura et al., 2014). To ensure accurate assessment, it is essential to clearly define the unique qualities and characteristics that differentiate the concept from others.

Certain aspects must be considered for an adequate interpretation of our results. Although our systematic search to identify the articles included in this review was not restricted by geographic region or language of publication, we cannot guarantee that we have managed to retrieve all the manuscripts on the psychometric properties of instruments evaluated spirituality, which is a limitation of this type of studies.



Despite this limitation, advantages of the present review include the fact that we searched for studies in six different electronic databases, enabling us to summarize the available evidence on the topic of interest from a larger number of studies than previous reviews. Moreover, unlike other reviews, we included information on instruments to assess spirituality among different population groups. Furthermore, researchers read and evaluated the articles to ensure an appropriate and scientifically rigorous selection, and the evaluation was conducted in phases.

In conclusion, since spirituality can be measured from multiple perspectives, concepts, and theoretical points of reference, numerous constructs have been created. Although the level of conceptual abstraction of this phenomenon provides a richness of interpretation, in practice this can cause confusion.

The need for greater clarity in certain constructs in spirituality scales is evinced by the similarity of items across instruments. There is often a lack of clarity between the conceptual operationalization and wording of the categories and empirical indicators.

Most of the studies included in this review only measured the construct validity of instruments to assess spirituality, ignoring content and criterion validity. The absence of holistic validation could restrict the precision and applicability of the measurements made, thus limiting their usefulness in various research contexts or practical applications.

The reliability of the measurement instruments analyzed in this review ranged from 0.7 to 0.98. This wide range of reliability indicates sharp differences in the consistency and stability of the measurements obtained through these instruments. Despite the variability, it is important to note that most instruments demonstrate levels of reliability that can be considered acceptable in terms of internal consistency and reproducibility of results. However, it should be noted that reliability alone does not guarantee the validity of measurements, as precision and consistency may not necessarily determine the accuracy of what is being measured.

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### Conflict of interest

The authors declare they have no conflicts of interest.

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