



Effects of the association between spirituality, religiosity and physical activity on health/mental health: a systematic review

Efeitos da associação entre espiritualidade, religiosidade e atividade física na saúde/saúde mental: revisão sistemática

Efectos de la asociación entre espiritualidad, religiosidad y actividad física en la salud/salud mental: una revisión sistemática

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ABSTRACT

Objective: To identify evidence in the literature about the effects of the association between spirituality, religiosity and physical activity on physical and mental health. **Method:** A systematic review conducted in January 2019 in the MEDLINE/PubMed, SCOPUS, Web Of Science, CINAHL, PsycINFO, LILACS and SciELO databases with the descriptors: “spirituality”, “religion”, “physical activity” and “physical exercise”. Primary studies carried out with adults published until 2018 in Portuguese, English or Spanish were included. **Results:** Nine international studies were selected which had been published between 2011 and 2017, with cross-sectional design (55%) and an evidence level of four (78%). Eight studies addressed effects on physical health and one addressed effects on mental health. **Conclusion:** The association between spirituality, religiosity and physical activity promotes effects on physical and mental health, however the available evidence is not sufficient for this association to be applied in clinical practice.

DESCRIPTORS

Spirituality; Religion; Motor Activity; Exercise; Mental Health; Systematic Review.

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INTRODUCTION

According to the World Health Organization, regular physical activity is an effective way to prevent and treat chronic non-communicable diseases⁽¹⁾, promote mental health/health⁽²⁻³⁾ and well-being⁽⁴⁻⁵⁾. Spirituality and religiosity also influence an individual's health⁽⁶⁾.

Although spirituality and religiosity are related and complement each other, they have different concepts. Spirituality is relevant in attributing meanings to life⁽⁷⁾, it is not synonymous with religious doctrine, it can be considered as a philosophy of the individual and a resource for hope⁽⁸⁻⁹⁾. Religiosity is configured as "a set of beliefs and practices linked to a doctrine shared and followed by a group of people, through cults or rituals which necessarily involve the notion of faith"⁽¹⁰⁾.

Studies on spirituality, religiosity and health have grown in scientific literature, revealing that higher levels of spiritual and religious involvement are positively associated with indicators which contribute to physical and mental health^(7,11-15). However, the literature on the impact of the association between spirituality, religiosity and physical activity as a therapeutic resource in healthcare is scarce⁽¹⁶⁾ and no review studies on this topic were identified, therefore justifying the development of the present study.

Thus, in order to synthesize evidence to prove the effects of this association on health and to subsidize non-pharmacological treatments to be used in the context of clinical nursing practice and that of other health professionals, the objective of this study was to identify evidence in the literature about the effects of the association between spirituality, religiosity and physical activity on physical and mental health.

METHOD

STUDY DESIGN

This is a systematic review which analyzed the effects on physical and mental health of adult patients exposed to an association between spirituality, religiosity and physical activity. Systematic reviews are very useful to identify the best scientific evidence and to incorporate it into the clinical

practice of professionals in health services, in teaching, in management and in formulating health policies⁽¹⁷⁾.

The PEO strategy (acronym for P: Patient = adults (age 18 years or older); E: Exposure = association between spirituality, religiosity and physical activity; and O: Outcome = physical and mental health) was used to elaborate the guiding question of the study, which consisted of: What knowledge is available in the literature about the effects of the association between spirituality, religiosity and physical activity on the physical and mental health of adults?

SELECTION CRITERIA

The following inclusion criteria were defined: primary studies which included adults aged 18 years or over in the sample, published by the deadline of December 31, 2018, in Portuguese, English and Spanish. One opted for the aforementioned age range because the general recommendations on physical activity differ for individuals under the age of 18 years⁽¹⁸⁾. Book chapters, doctoral theses, master's dissertations, technical reports and articles which did not address the association between spirituality, religiosity and physical activity were excluded.

DATA COLLECTION

The search and selection of the studies were carried out by two researchers, independently, in January 2019, in the following databases: Medical Literature Analysis and Retrieval System Online via Public/Publisher (MEDLINE/PubMed), SCOPUS (Elsevier), Web of Science (WOS), Cumulative Index to Nursing and Allied Health Literature (CINAHL) American Psychological Association (PsycINFO), *Literatura Latino-Americana e do Caribe em Ciências da Saúde* (LILACS) and in the *Scientific Electronic Library Online* (SciELO) virtual library, using the combination of controlled and uncontrolled descriptors "Spirituality", "Religion", "Atividade física" and "Exercício físico" with variations in Portuguese, English and Spanish, plus the Boolean operators "OR" and "AND", obtained from Medical Subject Headings (MeSH), CINAHL Headings, APA Thesaurus and Health Sciences Descriptors (DeCS) from the Virtual Health Library. The search strategies used are described in Chart 1.

Chart 1 – Search strategies used in the databases.

Database	Search Strategy
MEDLINE/PubMed Web of Science CINAHL PsycINFO	((("Spirituality" OR "Spiritualities" OR "Religion" OR "Religions") AND ("Exercises" OR "Physical Activity" OR "Activities, Physical" OR "Activity, Physical" OR "Physical Activities" OR "Exercise, Physical" OR "Exercises, Physical" OR "Physical Exercise" OR "Physical Exercises")))
SCOPUS	TITLE-ABS-KEY(((("Spirituality" OR "Spiritualities" OR "Religion" OR "Religions") AND ("Physical Activity" OR "Exercise, Physical"))))
LILACS SciELO	((("Spirituality" OR "Espiritualidade" OR "Espiritualidad" OR "Religion" OR "Religião" OR "Religión") AND ("Physical Activity" OR "Atividade física" OR "Actividad física" OR "Physical Exercise" OR "Exercício físico" OR "Ejercicio físico")))

After the articles were identified, they were exported to the EndNote reference management software, seeking to identify duplicate articles and gather all the publications found.

The selection of studies followed the recommendations of the Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) method⁽¹⁹⁾, represented in Figure 1.

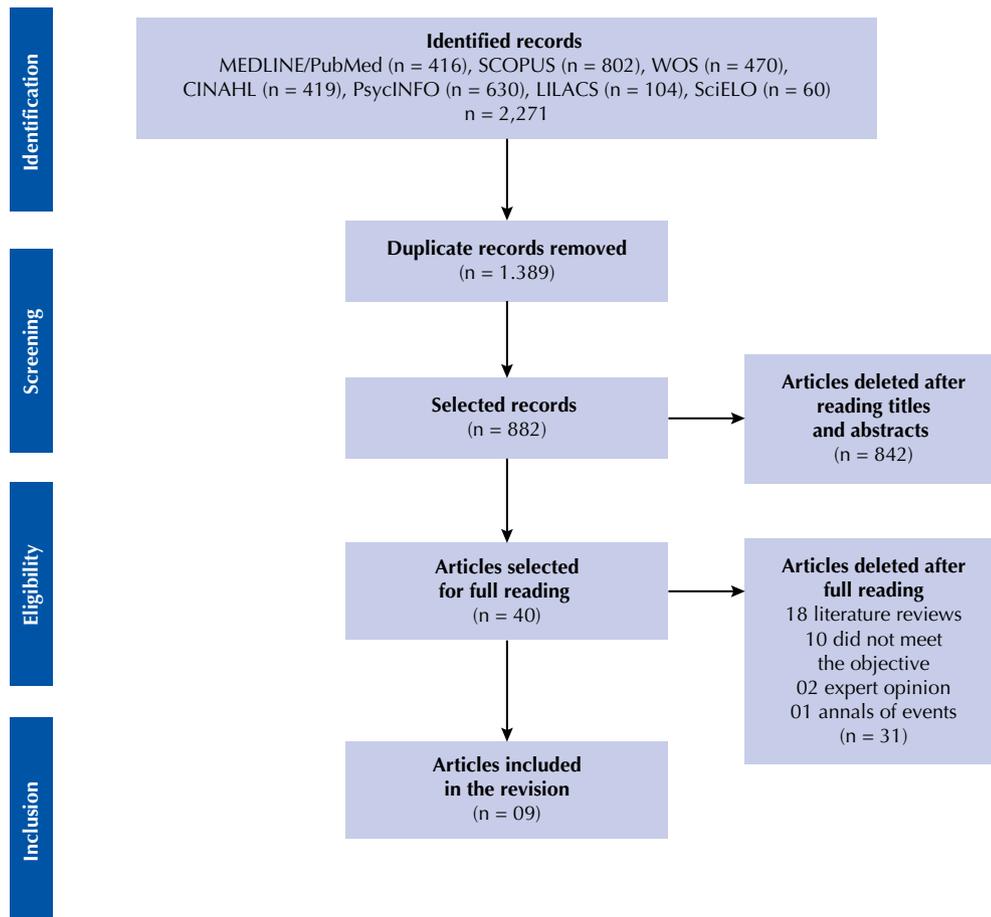


Figure 1 – Flowchart according to Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA)⁽¹⁹⁾.

DATA ANALYSIS AND PROCESSING

The data were analyzed and organized using a collection instrument validated by Ursi⁽²⁰⁾ and adapted for this study, containing: identification, publication year of the study, periodicals, place of performance, methodological characteristics, conclusions and assessment of methodological rigor.

Classification of the levels of evidence (LE) followed: Level I - systematic reviews or meta-analysis of relevant clinical trials; Level II - evidence from at least one well-designed randomized controlled clinical trial; Level III - well-designed clinical trials without randomization; Level IV - well-designed cohort and case-control studies; Level V - systematic review of descriptive and qualitative studies; Level VI - evidence derived from a single descriptive or qualitative study; Level VII - opinion of authorities or expert committees including interpretations of information not based on research⁽²¹⁾.

The evidence can be classified based on these criteria as strong (levels I to II), moderate (levels III to IV) or weak

(levels V to VII). In addition to the strength level, the evidence has a degree of recommendation (DR) generated through the following classification: A - when the research result recommends the intervention; B - when the research result is not conclusive; and C - when the research result contraindicates intervention⁽²²⁾.

The analysis of the evidenced results was descriptive, wherein the synthesis of each study included in the review was presented, as well as comparisons between the studies.

RESULTS

The nine articles which met the proposed inclusion criteria were published between 2011 and 2017, highlighting the year 2017 with three (33%) of these publications. Eight studies addressed the effects of the association between spirituality, religiosity and physical activity on physical health and one addressed the effects on mental health.

Among the journals, the Journal of Religion and Health stood out with two (22%) published investigations. All

included investigations were published in English (100%). Regarding the country of origin, six (67%) are North American studies and the rest were developed in South Korea, Indonesia or Australia by different researchers and research centers in the fields of medicine and nursing.

For the method adopted in the selected studies, five (55%) were transversal, two (22%) longitudinal and two (22%) were randomized. Seven (78%) used self-reports and validated questionnaires to obtain the data. The population

ranged from 27 to 6,647 participants. Six (67%) studies included participants of both genders, two (22%) studies only included women and two (22%) studies exclusively included older adults.

Regarding the evidence strength in the studies, it was observed that seven (78%) articles were classified as level four of evidence, characterized as research with moderate evidence. Chart 2 shows the characterization of the primary studies included in this review.

Chart 2 – Characterization of the primary studies included in the review.

Title	Year/Country	Design/Sample	Objectives	Outcome	LE/DR
Perceptions of Clinical Athletic Trainers on the Spiritual Care of Injured Athletes ⁽²³⁾ .	2011/USA	Transversal/ n=564	To determine the coaches' perceptions and practices regarding the spiritual care of injured athletes.	Positive correlations were found between spirituality and items which favor the implementation of spiritual care.	IV/A
Are Religiosity and Spirituality Associated with Obesity Among African Americans in the Southeastern United States (the Jackson Heart Study)? ⁽²⁴⁾ .	2012/USA	Cohort and longitudinal/ n=2,387	To examine the associations between dimensions of religiosity/spirituality and health behaviors among African Americans in central Mississippi.	Religiosity and spirituality promote good health behaviors. The practice of physical activity was not significant.	IV/B
Efficacy-mediated effects of spirituality and physical activity on quality of life: A path analysis ⁽²⁵⁾ .	2012/USA	Transversal/ n=215	To replicate the model of physical activity and quality of life as validated by McAuley et al. to examine self-efficacy as a mediator of the association between spirituality and quality of life	The most spiritual and physically active participants reported higher quality of life and the effects of these factors on quality of life can be partially mediated by perceptions of self-efficacy.	IV/A
Physical activity with spiritual strategies intervention: a cluster randomized trial with older African American women ⁽²⁶⁾ .	2013/USA	Randomized/ n=27	To determine whether African American women who received a physical activity intervention with spiritual strategies would demonstrate differences over time in health behaviors compared to a control group.	Physical activity with spiritual strategies improves health behavior.	II/A
The Influence of Spirituality and Physical Activity Level on Responsible Behaviour and Mountaineering Satisfaction on Mount Kinabalu, Borneo ⁽²⁷⁾ .	2014/ Indonesia	Transversal/ n=916	To analyze the influence of spirituality and the level of physical activity on the behavior and satisfaction of climbers.	Spirituality positively influences the behavior and satisfaction of climbers. A high level of physical activity moderates these two relationships.	IV/A
Participation in Physical, Social, and Religious Activity and Risk of Depression in the Elderly: A Community-Based Three-Year Longitudinal Study in Korea ⁽²⁸⁾ .	2015/South Korea	Longitudinal/ n=6,647	To examine the association between physical, social and religious activity and risk of depression in older adults.	Participation in physical, social and religious activity was associated with a decreased risk of depression in older adults.	IV/A
The impact of religiosity on dietary habits and physical activity in minority women participating in the Health is Power (HIP) study ⁽²⁹⁾ .	2017/USA	Randomized/ n=132	To investigate the influence of religiosity on physical activity and consumption of fruits, vegetables and fat in women.	There was no association between religiosity and changes in physical activity and diet.	II/B
Spirituality and physical activity and sedentary behavior among latino men and women in Massachusetts ⁽¹⁶⁾ .	2017/USA	Transversal/ n=602	To examine the relationship between spirituality, physical activity and sedentary behavior.	Greater spirituality was associated with an increased likelihood of engaging in physical activity.	IV/B
Spirituality/Religiosity (SpR), Leisure-Time Physical Activity, and Sedentary Behaviour in Students at a Catholic University ⁽³⁰⁾ .	2017/ Australia	Transversal/ n=175	To explore the association between spirituality/religiosity, physical activity and leisure.	Physical activity is not related to spirituality/religiosity, but unconventional spiritual practices (meditation, yoga, mindfulness) provide physical activity and leisure.	IV/B

DISCUSSION

The analyzed studies presented different results and conclusions regarding the effects of the association between spirituality, religiosity and physical activity on physical and mental health, varying in the investigated samples and applied methods. The review pointed to a greater number of publications in 2017^(16,29-30), which indicates the recent interest in the topic. There was a large concentration of studies in developed countries^(16,23-26,28-30), mainly in the USA^(16,23-26,29), making it difficult to generalize the results for populations with different sociocultural characteristics. It is noteworthy that no Brazilian studies were found, pointing out a gap to be investigated by national researchers.

There was variability between studies on how physical activity, spirituality and religiosity were measured. Only two studies⁽²⁵⁻²⁶⁾ used direct measures to provide valid assessments on the physical activity level, such as an intervention with assisted practice⁽²⁶⁾ and the use of an accelerometer during physical activity⁽²⁵⁾. The others performed subjective evaluations without interventions^(16,23-24,29-30), and in some cases these measures were created by the authors themselves without assessing the validity and reliability of physical activity estimates based on instruments⁽²⁸⁾.

Usage of questionnaires offers low cost and ease of application; however, the information reported by individuals has limited accuracy as they tend to overestimate participation in physical activity. The most used questionnaire to assess physical activity practice in the analyzed studies was the International Physical Activity Questionnaire (IPAQ)^(16,29-30). The IPAQ is a questionnaire which has been validated in 12 countries and 14 research centers which "enables estimating the weekly time spent on physical activities of moderate and vigorous intensity in different contexts of daily life such as: work, transportation, domestic tasks and leisure, and also the time spent in passive activities performed in a sitting position"⁽³¹⁾.

Spirituality was also assessed using different methods. Among the studies included in this review, the instrument most used to measure it was the Daily Spirituality Experience Scale^(16,24). This instrument is internationally recognized to measure the nature and depth of spiritual experiences in people's daily lives⁽³²⁾.

Regarding religiosity, the criteria used for evaluation were regular church attendance, participating in Bible study groups or watching religious television programs⁽²⁴⁾.

Regarding the findings of this review, one cross-sectional study carried out in California aimed to determine the coaches' perceptions and practices regarding the spiritual care of injured athletes, finding that spiritual care causes positive therapeutic effects, however the coaches disagreed that providing spiritual care is their responsibility⁽²³⁾.

Another cross-sectional study⁽²⁵⁾ used an accelerometer to assess the physical activity level in a sample of 215 men and women. By associating physical activity, spirituality and quality of life, the authors found that more spiritualized individuals and physical activity practitioners

have better health indicators. Such results point to the importance of the spirituality, religiosity and physical activity triad, strongly influencing the state of physical and mental health.

A longitudinal cohort study in Mississippi examined the associations between spirituality, religiosity, health behaviors and weight among African-Americans⁽²⁴⁾ and suggested that spirituality and religiosity are not reliably related to weight indicators in this population and physical activity did not reveal a statistically significant association. A similar study investigated the influence of religiosity on physical activity and health behavior in which there was also no significant association⁽²⁹⁾. In contrast, a randomized study conducted with African-American women⁽²⁶⁾ and another cross-sectional study carried out in Indonesia⁽²⁷⁾ found a significant association between spirituality, religiosity and physical activity in health behavior.

A cross-sectional study in Australia investigated the association between spirituality, religiosity, physical activity and leisure in university students, finding that although physical activity is not related to spirituality and religiosity, unconventional spiritual practices such as meditation, yoga and mindfulness can be alternatives which predispose healthy lifestyle habits in individuals such as regular physical activity and leisure⁽³⁰⁾.

A study developed with the objective of examining the relationship between spirituality, physical activity and sedentary behavior in a sample of 602 adults in Massachusetts found that greater spirituality is associated with an increased likelihood of engaging in physical activity⁽¹⁶⁾.

Regarding the effects of the association between spirituality, religiosity and physical activity on mental health, a longitudinal study conducted in South Korea investigated the effects of the association between physical, social and spiritual activities and the risk of depression in older adults. The results showed that participation in physical, social and religious activity was associated with a lower risk of depression. The probability of depression decreased by 19% in older adults who engaged in physical activities ≥ 3 times a week with at least 30 minutes per activity. The chances of depression also decreased by 13% and 22% among the older adults who participated in ≥ 1 social activities and religious activities weekly, respectively⁽²⁸⁾.

The nine studies included in this review provide positive evidence regarding the effects of the association between spirituality, religiosity and physical activity on health. However, the consistency on the effects of this association varied in different samples, as well as the type of intervention and instruments used. The prevalence of cross-sectional studies^(16,23,25,27,30) implies important limitations for not having a control group, and the small number of randomized^(26,29) and longitudinal^(24,28) studies have contradictory results regarding the effects of the studied variables. Thus, the findings do not define the causal association between spirituality, religiosity and physical activity in health.

The pioneering nature of this review is highlighted when addressing the effects of the association between

spirituality, religiosity and physical activity on physical and mental health. It is observed that the literature on the investigated subject is scarce and does not provide strong evidence. The ethical and methodological limitations to develop studies on the phenomena in question certainly make it difficult to measure and quantify the impact of spiritual and religious experiences on health through traditional scientific methods. Thus, it is believed that this study contributes to developing future research which brings better scientific evidence about the effectiveness of the association under study, especially in Latin America and the Caribbean, considering that no studies were found from these regions which have greater geographical, cultural and social proximity to Brazil, and therefore could corroborate in the discussion.

This review has some limitations which need to be highlighted: a) the limited number of studies with a robust design methodology; b) the study research was limited to three languages and peer-reviewed literature, therefore other languages and unpublished data, theses, dissertations and institutional property documents were not included.

In addition, this review was limited to critically analyzing published studies on the effect of the association between spirituality, religiosity and physical activity on physical and

mental health, and it is not possible to proceed to a meta-analysis due to the impossibility of combining the results and analyzing them to verify the magnitude of the intervention effects on the variables of interest, considering that the profile of the sample of adults in the included studies was heterogeneous and the procedures performed were not uniform, in addition to the study designs differing from each other. Such a problem denotes that the analyzed evidence is insufficient to draw definitive conclusions.

The challenges for future research are to develop longitudinal and intervention studies with robust methods capable of providing consistency and reliability.

CONCLUSION

The association between spirituality, religiosity and physical activity have effects on physical and mental health, and depend on different types of social and cultural factors of spiritual practices and physical activity, however the evidence found is insufficient and does not describe the implemented strategies, making it impossible to incorporate this association by nurses and other health professionals in their clinical practice. Thus, more studies are needed to strengthen the indication of this association in clinical practice.

RESUMO

Objetivo: Identificar na literatura evidências acerca dos efeitos da associação entre espiritualidade, religiosidade e atividade física na saúde física e mental. **Método:** Revisão sistemática realizada em janeiro de 2019 nas bases de dados MEDLINE/PubMed, SCOPUS, Web Of Science, CINAHL, PsycINFO, LILACS e SciELO, com os descritores “*spirituality*”, “*religion*”, “*physical activity*” e “*physical exercise*”. Incluíram-se estudos primários realizados com adultos, publicados até 2018 em português, inglês ou espanhol. **Resultados:** Foram selecionados nove estudos, publicados entre 2011 e 2017, todos internacionais, com desenho transversal (55%) e nível de evidência quatro (78%). Oito estudos abordaram efeitos na saúde física e um abordou efeitos na saúde mental. **Conclusão:** A Associação entre espiritualidade, religiosidade e atividade física promove efeitos na saúde física e mental, porém as evidências disponíveis não são suficientes para que esta associação seja aplicada na prática clínica.

DESCRITORES

Espiritualidade; Religião; Atividade Motora; Exercício; Saúde Mental; Revisão Sistemática.

RESUMEN

Objetivo: Identificar la evidencia en la literatura sobre los efectos de la asociación entre la espiritualidad, la religiosidad y la actividad física en la salud física y mental. **Método:** Revisión sistemática realizada en enero de 2019 en las bases de datos MEDLINE/PubMed, SCOPUS, Web Of Science, CINAHL, PsycINFO, LILACS y SciELO, con los descriptores “*espiritualidad*”, “*religión*”, “*actividad física*” y “*ejercicio físico*”. Se incluyeron estudios primarios realizados con adultos, publicados hasta 2018 en portugués, inglés o español. **Resultados:** Se seleccionaron nueve estudios, publicados entre 2011 y 2017, todos internacionales, con diseño transversal (55%) y nivel de evidencia cuatro (78%). Ocho estudios se ocuparon de los efectos en la salud física y uno de los efectos en la salud mental. **Conclusión:** La asociación entre la espiritualidad, la religiosidad y la actividad física promueve efectos en la salud física y mental, pero las pruebas disponibles no son suficientes para que esta asociación se aplique en la práctica clínica.

DESCRIPTORES

Espiritualidad; Religião; Actividad Motora; Ejercicio; Salud Mental; Revisión Sistemática.

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