



ISSN: 2230-9926

Available online at <http://www.journalijdr.com>

IJDR

International Journal of Development Research

Vol. 12, Issue, 07, pp. 57798-57802, July, 2022

<https://doi.org/10.37118/ijdr.24990.07.2022>



RESEARCH ARTICLE

OPEN ACCESS

STATE OF THE ART OF SPORTS SPIRITUALITY IN METABOLIC PROCESSES AND IMMUNITY: A SYSTEMATIC REVIEW

Patrícia Maluf Cury¹, Samadhi W. Rajapaksa², Janaki Vidanapathirana³, Idiberto José Zotarelli Filho^{1,6*}, Dayse Silva Caldeira⁴, José Wilson Ribas⁵ and Durval Ribas Filho⁶

¹FACERES – Faculty of Medicine of Sao Jose do Rio Preto, Sao Paulo, Brazil; ²Chairman National Authority on Tobacco & Alcohol, Founder Cancer Care Association of Sri Lanka, and Chairman Palliative Care Trust, Sri Lanka; ³Director of Policy Analysis & Development, Ministry of Health, Sri Lanka; ⁴CLINIC - Dra Dayse Caldeira, ⁵Reviv Clinic- Advanced Center for Integrative Medicine, Brasilia DF, Brazil; ⁶ABRAN - Associação Brasileira de Nutrologia/Brazilian Association of Nutrology, Catanduva, Sao Paulo, Brazil

ARTICLE INFO

Article History:

Received 27th April, 2022

Received in revised form

21st May, 2022

Accepted 08th June, 2022

Published online 30th July, 2022

Key Words:

Spirituality, Religiosity,
Faith, Welfare,
Sports, Physicalactivity

*Corresponding author:

Idiberto José Zotarelli Filho

ABSTRACT

Introduction: Religion, spirituality, and sport are increasingly popular disciplines in the sport. As a historical memorial to the Greek Olympic Games, human movement activities were part of religious cults and rites in ancient societies. The modern athlete normally follows his or her religious tradition privately. Thus, the practice of sports activities linked to spirituality/religiosity (S/R) has acquired increasing importance, becoming an important cultural paradigm. **Objective:** To carry out a systematic review on the main considerations of spirituality and religiosity in sport, showing the state of the art. **Methods:** The present study followed a concise systematic review model, following the rules of the systematic review – PRISMA. The search strategy was carried out in PubMed, Cochrane Library, and Scopus databases, in addition to Google Scholar. The quality of the studies was based on the GRADE instrument and the risk of bias was analyzed according to the Cochrane instrument. **Results and Conclusion:** A total of 156 articles were found, of which 76 articles were fully evaluated and 10 were included and evaluated in the present study to compose the systematic review. Based on the literary findings, spirituality/religiosity plays a vital role in improving sports performance and contributes to the well-being of athletes. In addition, spirituality/religiosity practices represent a driving force in the sport, helping athletes to deal with the uncertainties that can make them stressed/anxious, making them more motivated, confident, and responsible to play to the best of their ability. capacity as they perceive their athletic talent as a gift from God, thus reducing the pressure placed on them to cope with the competitive environment, better coping with sports injuries, and building trust between coaches and athletes.

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Citation: Patrícia Maluf Cury, Samadhi W. Rajapaksa, Janaki Vidanapathirana, Idiberto José Zotarelli Filho et al. "State of the art of sports spirituality in metabolic processes and immunity: A systematic review", *International Journal of Development Research*, 12, (07), 57798-57802.

INTRODUCTION

In the spirituality and religiosity (S/R) landscape, one of the major transformations in religion in contemporary societies has been the decline of church institutions and their reconstruction within a diverse network of associations, therapies, markets, and other unconventional spiritual services (Fernández, 2017). Religious and spiritual beliefs have long been used to deal with difficult situations (Ivo Jirásek, 2021) and, through the scientific literature, it is still not so clear about the role of S/R in physical and mental health during the pandemic, previous studies seem to support its role in favorable health outcomes (Kaiser, 2020).

In this sense, religion, spirituality, and sport are increasingly popular disciplines in sport and are often based on one's faith and religious beliefs. In addition, several other mental states were discussed using the framework of humanistic and positive psychology. As a historical memorial to the Greek Olympic Games, human movement activities were part of religious cults and rites in ancient societies. The father of the modern Olympic Games, Pierre de Coubertin, wrote about the transcendental aspects of modern sport (Fernández, 2017). In this setting, the ancient Olympic Games represent a long history of religious celebration. The games were celebrated for the god zeus and were a demonstration of the religious experience of ancient Greeks (Koenig, 2020).

Sports competitions at Olympia probably took place only on the fringes of the cult realm in the first centuries of Olympia's existence, in which the goddess Hera played the leading role. The foot races for girls with loose hair were part of the festivities that honored her (Mikalson, 2005). Other Panhellenic Games had a religious framework, the Pythian Games were organized in Delphi in memory of the god Apollo's victory over the dragon Python, the Isthmian Games in Corinth were interconnected with the cult of Poseidon, and the Nemea Games were held in honor of Zeus. Athletes participated in every event of these Greek cult festivities. The splendor of the Olympic ceremonial of all Greek tributes panegyric (the ancient Greek religious general assembly) developed and grew to become a synonym for sporting competition by the 6th century BC (Pausanias, 2006). Praying to the goddess Athena, for example, or divine help in general, or for help in winning a race, was a legitimate part of the activities of that era (Sinn). In this context, the modern athlete typically follows his or her religious tradition privately. This does not mean, however, that there is no connection between religion and sport. Religious behavior is commonly found in the sporting environment, including superstitious rituals of athletes and fans, and prayer in sports areas. It is possible to observe a growing interest in the religious and spiritual aspects of sports in the new millennium, which can be seen in the establishment of specific professions such as sports psychologists or chaplains, as well as university centers for the study of religion and spirituality in sport (Kreider, 2003). While sport can be viewed as a specific sacred religious phenomenon (Shilling, 2014), the sport itself is a non-religious human activity, which may have some connection to religion through athletes and their faith and religious beliefs. These possible connections range from human attitudes of faith and piety and their manifestation through sport and their ethical correlations with the psychological attributes of personal identity and categories such as idolatry, sin, pride, and humility (Watson, 2011). A survey indicated that athletes showed higher degrees of an organization (frequency of attendance to services), private religious activities such as prayers or meditation, and degree of integration of religiosity in everyday life than non-athletes (Storch, 2003).

The interrelationships between sports identity and religious identity are also visible, as religiosity (beliefs, faith, practices, rituals) affects the formation of the athlete's role, including training and competing (Proios, 2017). Therefore, it is very important to study various religious associations with the sport because religion should help athletes deal with the suffering and stressful situations that accompany the sport. It is well known that spiritual suffering and other emotional disturbances increase susceptibility to infections (Coughlin, 2012; Ferrell, 2020). The opposite may also be true, as positive emotions seem to produce beneficial effects on the immune system (Brown, 2020; Wilson, 2017). In this sense, religious faith can be a powerful resource for good health and well-being (Koenig, 2012), as demonstrated in several studies, with a positive impact on mental health outcomes (Bosco-Ruggiero, 2016; Moreira-Almeida, 2014), such as a reduction in the prevalence of depression, anxiety, sleep disorders, substance use and abuse, and suicides (Guimarães Filho, 2021). In this respect, religious content is becoming increasingly available as it relates to the dominant moral and social role. Thus, religion is the mechanism by which the meaning of socially established reality is legitimized, serving as a "symbolic protective dome over society" (Berger, 1981). In the anthropology and sociology of sport, symbols are considered a social issue. It is believed that sport is a symbolic reflection of the social structure, while at the same time, it is one of the vehicles of transmission of cultural values. Consequently, there is something distinctive behind sports as it provides symbols as symptoms of a certain spirituality. Thus, the practice of S/R and sports activities has become increasingly important, becoming an important cultural paradigm (Ivo Jirásek, 2021). In this sense, the sport continues to reverberate its strong connection with S/R, since Greco-Roman mythology, as it incorporates the liturgical spirit coupled with its contemporary nature. Therefore, the present study aimed to carry out a systematic review of the main considerations of spirituality and religiosity in sport, showing the state of the art.

METHODS

Study Design: The present study followed a systematic review model, following the rules of the systematic review-PRISMA (Transparent reporting of systematic reviews and meta-analysis-HTTP://www.prisma-statement.org/) (Moher, 2009).

Research Strategy and Information Sources: The search strategy was carried out in PubMed, Cochrane Library, and Scopus databases, as well as Google Scholar, using the MeSH Terms (keywords): *Spirituality. Religiosity. Faith. Well-being. Sports. Physical activity*, and the use of the Booleans "and" between the MeSH terms and "or" between historical discoveries.

Study Quality and Risk of Bias: The quality of the studies was based on the GRADE instrument (Balslem, 2011) and the risk of bias was analyzed according to the Cochrane instrument (Higgins, 2011).

RESULTS AND DISCUSSION

A total of 156 articles were found involving spirituality and religiosity in sport. Initially, article duplication was excluded. After this process, the abstracts were evaluated and a new exclusion was performed, removing the articles that did not contemplate the theme of this article. In total, 76 articles were fully evaluated and 10 were included and evaluated in the present study to compose the systematic review. A total of 30 studies did not meet the GRADE, and 36 studies were excluded due to the risk of bias that could compromise the results (Figure 1).

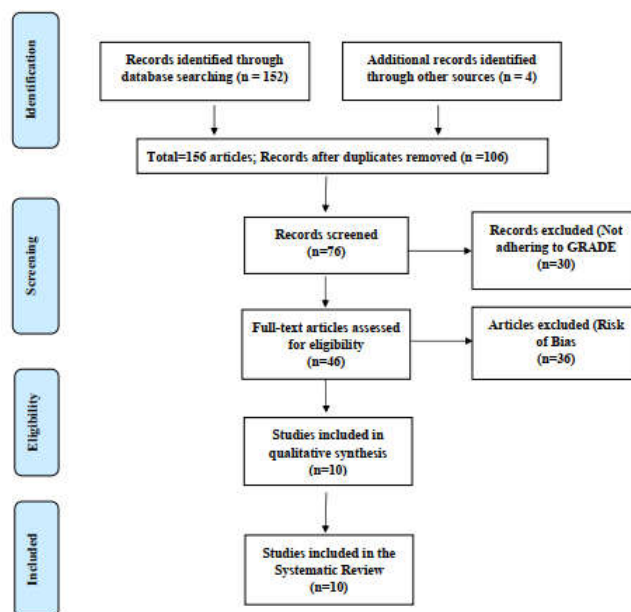


Figure 1. Flowchart and eligibility of studies (Systematic Review, N=10 studies).

Figure 2 presents the results of the risk of bias of the studies through the Funnel Plot, showing the calculation of the Effect Size (Magnitude of the difference) using the Cohen Test (d). Precision (sample size) was determined indirectly by the inverse of the standard error (1/Standard Error). This graph had a symmetrical behavior, not suggesting a significant risk of bias, both between studies with a small sample size (lower precision) that are shown at the base of the graph and in studies with a large sample size that are presented in the upper region of Figure 2. After an in-depth analysis of these selected studies, it was found that complementary and alternative medicine covers a wide range of different non-conventional therapies that have been increasingly used, and S/R has been increasingly prominent in

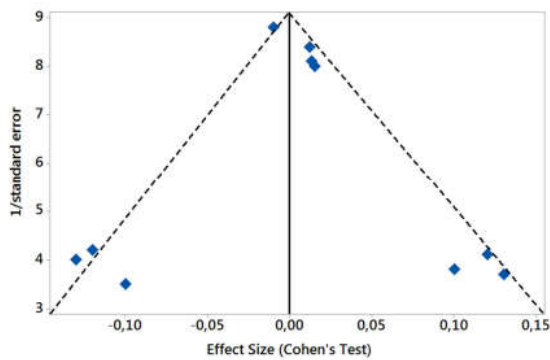


Figure 2. The symmetrical Funnel Plot does not suggest a risk of bias between the small sample size studies that are shown at the bottom of the graph. High confidence and high recommendation studies are shown above the graph

the current sports environment, showing to be closely related in a positive and altruistic way, impacting the performance of athletes, as well as their recovery after physical and emotional trauma (Trkulja, 2020). Strong scientific evidence suggests that individuals who regularly participate in spiritual worship services or related activities and who feel strongly that spirituality or the presence of a higher being or power are sources of strength and comfort for them are healthier and have greater capacities for self-reliance. Numerous research investigations have reported positive correlations between spirituality and reduced rates of stroke, cancer, cardiovascular disease, hypertension, drug abuse, suicide, and overall mortality. It has been suggested that faith is beneficial for health and healing because it helps people avoid harmful behaviors such as smoking and drinking to excess. However, studies designed to statistically control for these factors also report positive associations between spirituality and health in individuals with unhealthy behaviors. The impact of spirituality on health and healing is a topic that has been virtually ignored in the disciplines of athletic training and sports medicine. Because of their lack of exposure to this topic, most athletic coaches are unaware of the many positive associations that exist between spirituality, health, and healing (Udermann, 2000). Intervention studies aimed at promoting increased physical activity have been tested in many different settings, including primary care, workplaces, and the community. Churches are also potential venues for promoting physical activity. However, little is known about the effectiveness of this environment for promoting physical activity.

Thus, one study evaluated the effectiveness of a health promotion program based on mind, body, and spirituality in increasing physical activity and promoting mental and spiritual health. Nineteen women completed the 8-week intervention, and 30 women in an 8-week non-health program at the same church constituted a comparison group. Pre- and post-program surveys evaluated outcome measures. Differences between groups over time were examined using one-sided MANOVA. Physical activity was higher in the intervention group than in the comparison group. In contrast to the comparison group, mental health (symptoms of depression) and spiritual health improved significantly more among intervention participants. The data highlighted the potential for a church-based environment and a holistic approach to health promotion as a successful means of increasing physical activity and promoting mental and spiritual health among women (Jorna, 2006). A review study published in 2019 showed that spirituality plays a key role in improving sports performance, personal growth, and well-being. Numerous researchers have attempted to examine the nexus of religion, spirituality, and psychological constructs to understand their role in sport and exercise performance and contexts. Despite findings that spiritual well-being plays a crucial role in athletic excellence and against a wide range of stressors and negative behaviors, it has received little attention in the sport and exercise psychology literature (Roychowdhury, 2019). The encouragement of sports activities in adolescents also includes participation in charity races, favoring the increase of the individual's social virtues and transcendent motivations (Schnitker, 2020).

In this regard, a recent systematic review study analyzed religion/spirituality (S/R) in sports from a psychological point of view. The titles and abstracts of the articles were reviewed for the selection process. The selected articles were classified into nine categories, such as the role of religion/spirituality, consultants, trust, religious/spiritual faith, flow or being in the zone, identity, anxiety, depression, coping with adversity, and well-being and healing. A total of 56 studies met the criteria. The results show that S/R can play a significant role among athletes in some ways (eg, dealing with uncertainty, building team cohesion, and alleviating anxiety). This study also revealed some issues that should be emphasized for future research, such as the development of quantitative tools for S/R and sports performance measurement and the design of a religious/spiritual coping strategy that can be used among athletes from various cultures/ religions. Although S/R is often overlooked in sports psychology, existing literature shows that it can have positive effects on mental health and contribute to better sports performance (Young-Eun Noh, 2020). Furthermore, a study validated a successful aging model in a sample of Spanish elderly people and observed successful aging based on psychosocial factors, physical activity, and spirituality/religiosity (S/R). Participants were 725 Spanish seniors, of which 478 were women and 247 men, aged between 55 and 100 years. Of these, 501 were physically active and 197 people did not practice physical activity.

The factor validity of the successful aging inventory was studied by confirmatory factor analysis, and four multiple regressions to predict each of the dimensions of successful aging (functional performance, intrapsychic factors, gerotranscendence, and S/R) were estimated. The four multiple regressions predicted highly successful aging (Gutiérrez, 2018). In this sense, spirituality in the health area has been researched in multiple health professions; however, little research has been done on athletic training. Thus, an online study determined the perceptions of college student-athletes about spiritual care. Our participants included 268 university student-athletes from religious and non-religious institutions. Respondents agreed that S/R can positively influence treatment progress (McKnight, 1952). In this regard, a study sought to understand how health, prosocial, and spiritual motivations correspond to changes in the virtues of self-control, patience, and interpersonal generosity among emerging adolescents and adults. Participants included adolescent and emerging adult athletes (N = 396; 12-22 years) on marathon training teams. Participants completed self-report questionnaires four times over six months. Participants were 63% female and identified as 61% Caucasian, 17% Latino/a, 10% African American, 6% Asian American, and 6% other. Bivariate latent growth curve models showed positive relationships between baseline levels of transcendent motivations (spiritual, prosocial) and all three virtues (self-control, patience, interpersonal generosity), as well as basic health motivation and self-control. Linear slopes in all three motivations were positively correlated with change in patience, and greater decreases in these motivations from wave 1 to wave 2 before regaining motivation in subsequent waves correlated with less change in patience. Only linear slope in pro-social motivation correlated positively with change in generosity (Schnitker, 2020). Added to this, a study observed that karateka from 30 to 50 years old used sports karate as a resource to achieve well-being. An ethnographic study based on an eight-month immersion in the dojo identified that sports karate, a sport that indirectly achieves a state of meditation, also achieves well-being through physical conditioning, balance in punches and kicks, how to embrace fear, the aggressive attitude as a stance in life, and the superiority given by control (Turelli, 2020). Also, one study explored the association with adolescents' leisure in a highly secular environment. A nationally representative sample of adolescents (n = 4,182, 14.4 ± 1.1 years, 48.6% boys) participated in the 2014 cross-sectional study on health behavior in school-age children. Compared with non-spiritual teens, spiritual teens were less likely to watch television and play computer games in excess, with odds ratios (ORs) ranging from 0.6 (95% confidence interval 0.5-0.8) to 0.92 (0.9-0.99). Furthermore, religious and spiritual respondents were more likely to be involved in at least one organized activity. The same pattern was observed for combined sports and non-sports activities

and regular reading of books or playing a musical instrument. Therefore, adolescent S/R is associated with a more active way of spending leisure time (Malinakova, 2018).

CONCLUSION

Based on the literary findings, spirituality/religiosity plays a vital role in improving sports performance and contributes to the well-being of athletes. Psychological constructs and spiritual dimensions have a very strong relationship. In addition, spirituality/religiosity practices represent a driving force in the sport, helping athletes to deal with the uncertainties that can make them stressed/anxious, making them more motivated, confident, and responsible to play to the best of their ability capacity as they perceive their athletic talent as a gift from God, thus reducing the pressure placed on them to cope with the competitive environment, better coping with sports injuries and building trust between coaches and athletes.

ACKNOWLEDGMENT

Not applicable.

Funding: Not applicable.

Ethics Approval: Not applicable.

Informed Consent: Not applicable.

Data Sharing Statement: No additional data are available.

Conflict of Interest: The authors declare no conflict of interest.

Similarity Check: It was applied by Ithenticate®.

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