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Relationships between spirituality and healthy behavior in older adults assisted in Primary Health Care

Relações entre espiritualidade e comportamentos saudáveis em idosos atendidos na Atenção Primária à Saúde

Relaciones entre espiritualidad y comportamientos saludables en ancianos Atendidos en la Atención Básica de Salud

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ABSTRACT

Objective: To evaluate the relationship between spirituality and healthy behaviors in older adults assisted in primary health care. Methods: A cross-sectional study was carried out with a sample of 201 older adults in three randomly selected matrix health units (UMS) in Uberaba-MG. Spirituality was assessed by the Spirituality Scale with five items, whose final score ranges from 5 (less spiritual) to 20 (higher spirituality). Health behaviors included smoking, consumption of alcoholic beverages, water, fruits and vegetables, satisfaction with sleep and social relationships, and physical activity. The sociodemographic indicators were sex (male/female), age group (60-74/75+), and schooling (up to 4/5 years or more). Descriptive analyses, Student's t-test, and multiple linear regression were performed, adopting a 95% confidence interval. **Results:** The mean score on the Spirituality Scale was 16.02±2.71. Higher scores were observed among participants who did not smoke (p=0.014); who consumed fruits (p=0.003), vegetables (p=0.002), and water (p=0.017) in adequate amounts; among those classified as physically active (p<0.001); who were satisfied with sleep (p=0.032) and with social relationships (p<0.001). Physical activity practice (β:0.225; CI=0.507-2.131) and satisfaction with social relationships (β:0.190; CI=0.360-2.351) were related to higher spirituality even after controlling for sociodemographic indicators. **Conclusion:** Spirituality is related to healthy behaviors in the investigated older adults assisted in primary health care.

Descriptors: Spirituality; Quality of Life; Health of Elderly; Public Health.

RESUMO

Objetivo: *Avaliar as relações entre espiritualidade e comportamentos saudáveis em idosos atendidos na atenção primária à saúde.* ***Métodos:*** *Estudo transversal realizado com amostra de 201 idosos atendidos em três Unidades Matriciais de Saúde (UMS) selecionadas aleatoriamente, em Uberaba, Minas Gerais, Brasil. Avaliou-se a espiritualidade pela Escala de Espiritualidade com*

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cinco itens, cuja pontuação varia de 5 (menor espiritualidade) a 20 (maior espiritualidade). Os comportamentos de saúde incluíram tabagismo, consumo de bebidas alcoólicas, água, frutas e vegetais, satisfação com o sono, relações sociais e prática de atividade física. Os indicadores sociodemográficos englobaram sexo (masculino/ feminino), faixa etária (60-74/75+) e escolaridade (até 4 anos/5 anos ou mais). Realizaram-se análises descritivas, teste t Student e regressão linear múltipla, adotando-se o intervalo de confiança de 95%. ***Resultados:*** *Encontrou-se a média do escore na Escala de Espiritualidade de 16,02±2,71. Observaram-se as pontuações maiores entre os idosos que não fumavam (p=0,014); que consumiam frutas (p=0,003), vegetais (p=0,002) e água (p=0,017) em quantidades adequadas; entre aqueles classificados como fisicamente ativos (p<0,001); e entre aqueles que estavam satisfeitos com o sono (p=0,032) e com as relações sociais (p<0,001). Prática de atividade física (β:0,225; IC=0,507-2,131) e satisfação com as relações sociais (β:0,190; IC=0,360-2,351) apresentaram-se relacionadas à espiritualidade mais elevada, mesmo após controle por indicadores sociodemográficos.* ***Conclusão:*** *A espiritualidade relaciona-se com comportamentos saudáveis nos idosos investigados atendidos na atenção primária à saúde.*

Descritores: *Espiritualidade; Qualidade de Vida; Saúde do Idoso; Saúde Pública.*

RESUMEN

Objetivo: *Evaluar las relaciones entre espiritualidad y comportamientos saludables en ancianos atendidos en la atención básica de salud.* ***Métodos:*** *Estudio transversal realizado con muestra de 201 ancianos atendidos en tres Unidades Matriciales de Salud (UMS) seleccionadas aleatoriamente, en Uberaba, Minas Gerais, Brasil. Se evaluó la espiritualidad por la Escala de Espiritualidad con cinco puntos, cuya puntuación puede variar de 5 (menos espiritualidad) a 20 (mayor espiritualidad). Los comportamientos de salud incluyeron tabaquismo, consumo de bebidas alcohólicas, agua, frutas y vegetales, satisfacción con el sueño, relaciones sociales y práctica de actividad física. Los indicadores sociodemográficos incluyeron sexo (masculino/ femenino), franja etaria (60-74/75+) y escolaridad (hasta 4 años/5 años o más). Fueron realizados análisis descriptivos, test t Student y regresión linear múltiple, adoptando el intervalo de confianza de 95%.* ***Resultados:*** *Se encontró la média del escore en la Escala de Espiritualidad de 16,02 ± 2,71. Se observaron las mayores puntuaciones entre los ancianos no fumadores (p=0,014); que consumían frutas (p=0,003), vegetales (p=0,002) y agua (p=0,017) en cantidades adecuadas; entre aquellos clasificados como físicamente activos (p<0,001); y entre aquellos que estaban satisfechos con el sueño (p=0,032) y con las relaciones sociales (p<0,001). Práctica de actividad física (β:0,225; IC=0,507-2,131) y satisfacción con las relaciones sociales (β:0,190; IC=0,360-2,351) se presentaron relacionadas con la espiritualidad más elevada, incluso después de control por indicadores sociodemográficos.* ***Conclusión:*** *La espiritualidad está relacionada con comportamientos saludables en los ancianos investigados atendidos en la atención básica de salud.*

Descriptores: *Espiritualidad; Calidad de Vida; Salud del Anciano; Salud Pública.*

INTRODUCTION

The increase in the incidence of chronic non-communicable diseases (NCDs) is one of the main challenges arising from demographic and epidemiological changes associated with population aging[1]. In Brazil, these diseases are among the main causes of mortality and functional decline in the older population[2], health behaviors – among them smoking, alcohol consumption, physical inactivity, and poor diet – are recognized as risk factors for these conditions[3]. Unlike genetic and environmental aspects, health behaviors are changeable through individual and collective interventions[4,5], which has encouraged the production of evidence for the development of public policies aimed at supporting the adoption and maintenance of these behaviors and, consequently, the promotion of health and prevention of NCDs.

The debate on the effectiveness of health promotion policies in Brazil is robust and ongoing. In recent decades, it has advanced by incorporating strategies for user motivation and awareness, as well as co-responsibility for health that must be shared with society and the State[5]. Thus, educational programs focused exclusively on disseminating technical information and recommendations have shown to be ineffective, resulting in the need to understand and address broader and personal issues associated with changes in health-related behavior. The abandonment of habits harmful to health, such as abusive consumption of alcohol, tobacco, physical inactivity, poor sleep quality, social isolation, and poor diet may require additional individual efforts not covered by the biomedical health model[4,5]. In this context, health practices considered alternative and complementary to traditional biomedical behaviors can contribute to the development of self-care, empowering the population in the search for health[6,7].

Several currently widespread practices have spirituality as a central and common aspect, including yoga, meditation, and tai chi, among others[6,7]. Evidence on the positive effects of spirituality on health-related outcomes has grown in recent years, but knowledge has been concentrated on the study of patients with terminal illnesses.

These studies indicate that spirituality protects patients from clinical complications and relieves symptoms and side effects of drug treatments, often contributing to increased living with quality and comfort[8]. Studies mention that these positive effects extend to companions and family members, facilitating coping with grief[8,9]. The mechanisms indicated for these effects comprise three possibilities: 1) benefits associated with mental health, improved mood, and motivation through the release of hormones and other substances associated with pleasure and happiness; 2) benefits associated with stress reduction; 3) benefits associated with processes that improve the functioning of the immune system[10]. However, few studies addressed spirituality in healthy and active people in the community. Thus, knowledge about the contributions of spirituality in primary prevention and health promotion is still fragmented. Considering the expansion of PICS (Práticas Integrativas e Complementares / Integrative and Complementary Practices) in the Health Care Network of the Unified Health System (SUS), especially in primary care, the need to broaden the debate on the subject emerges, in order to substantiate and strengthen these practices continuously[11].

Spirituality is considered one of the domains of quality of life, as it works as a psychological strategy for coping with illness, disability, and death, especially in old age[12]. Although the concept of spirituality is different from religiosity, these aspects are closely related and are recognized as predictors of positive health outcomes[9,10]. Adherence to the principles of religion and frequent participation in religious ceremonies were associated with lower mortality[12] and disease[13] rates, given that the effect of religious involvement on health and the effect of physical exercise on coronary heart disease are comparable[14].

Brazilian studies have been dedicated to understanding the role of spirituality in people's health. Thus, it is understood that successful aging is influenced by personal beliefs[13], as well as, spirituality is a protective factor against stress and depression, in the face of disability and serious health problems, such as cancer, kidney disease, and terminal illnesses. In addition, there is a relationship between high levels of spirituality and better strategies to deal with finitude and grief[14].

In addition to its role in extreme conditions of precarious health, spirituality can influence health behaviors that protect people from chronic diseases and disabilities, such as healthy eating and physical activity, as well as not smoking tobacco or consuming alcoholic beverages[1,2].

However, the relationship between spirituality and healthy behaviors, especially in older adults in the context of Brazilian primary care, still represents a gap in the literature. Therefore, the aim of the study lies in the investigation of the relationship between spirituality and healthy behaviors in older adults treated in primary health care. The hypothesis is that the motivations that lead people to connect with immaterial entities and transcend towards something recognized as sacred are similar to the reasons that stimulate self-care related to the maintenance of life, body, and mind, and consequently, health[9-14].

METHODS

This study corresponds to a cross-sectional analysis of data from the baseline of a longitudinal study designed to investigate the determinants of functional decline in older adults treated in primary health care[15]. With the prior publication, the procedures for sample calculation and selection were obtained[15], which were adopted to obtain a representative sample of older adults assisted in primary health care in the municipality, totalling 201 participants. From users aged 60 years or over, who resided in the territory ascribed to the health unit, and who agreed to participate, the research began. Hospitalized, institutionalized, bedridden older adults with severe functional dependence, advanced dementia, and end-stage disease were not included, criteria were adopted to meet the main objective of the larger study and reduce selection and evaluation biases at baseline. This strategy has been adopted in epidemiological studies with older population and is justified by the fact that the research protocol is based on measures of physical performance and self-report that require the understanding of instructions and verbal commands[16,17].

Participants were recruited at the health unit while they were waiting for appointments previously scheduled with the health team. After receiving information about the research, with an explanation of the Free and Informed Consent Term (IC), the participants participated in the interview, which lasted approximately 60 minutes. Data collection was carried out by researchers trained by the study coordinator, following the recommendations for the application of specific instruments, according to national studies conducted with older adults[16,17].

Based on the description of the variables and instruments used in the current study, spirituality was evaluated using the Spirituality Scale[12,18]. The instrument consists of five statements: 1) my spiritual/religious beliefs give my

life meaning; 2) my faith and beliefs give me strength in difficult times; 3) I see the future with hope; 4) I feel like my life has changed for the better; 5) I learned to appreciate the little things in life. The answers consisted of a Likert scale ranging from 1 – I do not agree – to 4 – I strongly agree. The values of the answers were added so that the score ranged from 5 to 20. The higher the score, the higher the level of spirituality[12,18]. The instrument proved to be reliable in the current sample, resulting in Cronbach's α of 0.748.

Regarding smoking and consumption of alcoholic beverages, the participant was asked if he/she was currently a smoker, recording yes and no answers. The same procedure was carried out to investigate the consumption of alcoholic beverages frequently or in excess. Thus, frequent consumption was defined by the consumption of alcoholic beverages more than three times a week, while excessive consumption was defined by the consumption of more than two doses on a single occasion, as well as the answers "yes" and "no" were recorded[4].

For the consumption of fruits and vegetables, the frequency of consumption was questioned with the following response options: every day; four to six days/week; one to three days/week; less than once a week; less than once a month or never. Participants with adequate consumption of fruits and vegetables were classified as those who consumed at least one serving of fruit and one serving of vegetables per day[4].

Regarding water consumption, it was asked if the participant consumed at least approximately two liters of water daily. The answer options were yes (1) and no (0)[4].

Satisfaction with sleep and personal relationships was obtained by questions extracted from the WHOQol short version[19]. Satisfaction with sleep was evaluated by the question "how satisfied are you with your sleep", with the following response options: satisfied (very satisfied and satisfied) and dissatisfied (dissatisfied, very dissatisfied, and neither satisfied nor dissatisfied). There was also a questioning about the participant's level of satisfaction with personal relationships, with the categories being operated in the same way.

The regular practice of physical activity was investigated through the short version of the International Physical Activity Questionnaire (IPAQ)[20]. This version considers the number of days of the week and the time per day dedicated to leisure-time physical activity, including walking, moderate and vigorous activities; housework, and work. Thus, the weekly time was calculated in minutes and used to classify the groups into active, insufficiently active, and sedentary. Due to the low prevalence of insufficiently active participants, this group was understood as sedentary people. On the other hand, participants who practiced at least 150 minutes a week of moderate activity or walking and/or 75 minutes a week of vigorous activity were classified as active people.

The sociodemographic indicators comprised sex (male/female), age group (60-74/75+), and schooling (up to 4 years/5 years or more).

Descriptive analyzes were performed for all variables in order to characterize the sample. Data tested for normality were obtained by the Shapiro-Wilk test, which revealed normality ($p>0.05$). Then, the means of spirituality between the groups of health behaviors and sociodemographic indicators were compared using the Student's t-test, whose values of $p<0.05$ were considered significant. Subsequently, multivariate analyzes were performed using multiple linear regression - enter method -, considering spirituality as a dependent variable, and each of the health behaviors investigated as independent variables, controlled or not by sociodemographic indicators, in addition to data analysis made by the IBM SPSS program, version 24.

The research project received authorization from the Municipal Health Department of Uberaba, Minas Gerais, and was approved by the Research Ethics Committee of the Federal University of Triângulo Mineiro under Opinion nº. 2,557,676.

RESULTS

Participants were characterized by being mostly female, aged between 60 and 74 years, and having attended formal school for up to four years. Regarding health behaviors, 25 (12.4%) were current smokers; 14 (7%) reported frequent or excessive consumption of alcoholic beverages; 107 (53.2%) and 84 (41.8%) reported that they did not consume fruits and vegetables daily, respectively. There was a finding of insufficient water consumption (approximately <2 liters per day) by 87 (45.3%) of older adults. Dissatisfaction with sleep and personal relationships was reported by 80 (39.8%) and 36 (17.9%) of the participants, respectively. Approximately, one-third of older adults were classified as sedentary or insufficiently active (Table I). The average score on the Spirituality Scale was 16.02± 2.71, and the median was 15± 4, with scores ranging from 8 to 20.

Table I - Sample characteristics. Uberaba, Minas Gerais, Brazil, 2019.

Characteristics	F (%)
Sex	
Male	46 (22.9)
Female	155 (77.1)
Age	
60-74 years	159 (79.1)
>75 years	42 (20.9)
Education	
Up to 4 years	110 (54.7)
5 years or more	91 (45.3)
Smoking	
No	176 (87.6)
Yes	25 (12.4)
Consumption of alcoholic beverages	
No	187 (93)
Yes	14 (7)
Fruit consumption	
Insufficient	107 (53.2)
Sufficient	94 (46.8)
Vegetable consumption	
Insufficient	84 (41.8)
Sufficient	117 (58.2)
Water consumption	
Insufficient	87 (45.3)
Sufficient	104 (54.2)
Satisfaction with sleep	
Dissatisfied	80 (39.8)
Satisfied	121 (60.2)
Satisfaction with social relationships	
Dissatisfied	36 (17.9)
Satisfied	165 (82.1)
Physical activity	
Insufficient/sedentary	60 (30.9)
Active	134 (69.1)

F: Frequency

The average scores on the Spirituality Scale were compared between the groups regarding health behaviors and sociodemographic indicators, revealing significant associations with all behaviors, except for alcohol consumption. Spirituality levels were significantly higher in groups with healthy behaviors when compared to their peers. No associations were observed between spirituality and sociodemographic indicators (Table II).

Table II - Distribution of spirituality means and associations with sociodemographic indicators and health behaviors in older adults. Uberaba, Minas Gerais, Brazil, 2019.

Sociodemographic indicators and health behaviors	m (DP)	p
Sex		
Male	15.74 (2.23)	0.450
Female	16.10 (2.83)	
Age		
60-74 years	16.08 (2.78)	0.522
>75 years	15.78 (2.42)	
Education		
Up to 4 years	15.88 (2.67)	0.420
5 years or more	16.20 (2.76)	
Smoking		
No	16.20 (2.57)	**0.014**
Yes	14.76 (3.33)	
Consumption of alcoholic beverages		
No	16.00 (2.72)	**0.694**
Yes	16.31 (2.72)	
fruit consumption		
Insufficient	15.46 (2.63)	**0.003**
Sufficient	16.62 (2.68)	
vegetable consumption		
Insufficient	15.30 (2.54)	**0.002**
Sufficient	16.50 (2.72)	
Water consumption		
Insufficient	15.55 (2.71)	**0.017**
Sufficient	16.49 (2.65)	
Satisfaction with sleep		
Dissatisfied	15.50 (2.86)	**0.032**
Satisfied	16.36 (2.57)	
Satisfaction with social relationships		
Dissatisfied	14.59 (3.01)	**0.001**
Satisfied	16.33 (2.55)	
Physical activity		
Insufficient/sedentary	14.93 (2.86)	**<0.001**
Active	16.52 (2.50)	

A: average; SD: standard deviation; p: p-value

Through multivariate analyses, the relationships between spirituality and each of the investigated health behaviors were evaluated, controlled or not, by sociodemographic indicators. The results revealed that the practice of physical activity (β:0.225; CI= 0.507-2.131) and satisfaction with social relationships (β:0.190; CI= 0.360-2.351) were related to higher spirituality even after controlling for indicators sociodemographic. More information can be seen in Table III.

Table III - Relationships between spirituality and health behaviors, controlled by sociodemographic indicators. Uberaba, Minas Gerais, Brazil, 2019.

Sociodemographic indicators	β (IC 95%)[a]	β (IC 95%)[b]
Smoking (ref. no)	-0.096 (-1.923-0.331)	-0.110 (-2.050-0.232)
Consumption of alcoholic beverages (ref. no)	0.031 (-1.096-1.767)	0.047 (-0.964-1.967)
Fruit consumption (ref. no)	-0.067 (-0.520-0.243)	-0.071 (-0.531-0.236)
Vegetable consumption (ref. no)	0.130 (-0.295-1.742)	0.110 (-0.425-1.646)
Water consumption (ref. no)	0.048 (-0.503-1.020)	0.042 (-0.545-0.996)
Satisfaction with sleep (ref. dissatisfied)	0.071 (-0.360-1.150)	0.077 (-0.332-1.184)
Satisfaction with social relationships (ref. dissatisfied)	**0.181 (0.304-2.280)***	**0.190 (0.360-2.2-351)***
Physical activity (ref. sedentary)	**0.219 (0.479-2.095)***	**0.225 (0.507-2.131)***

a: Not controlled by sociodemographic indicators; b: Controlled by sociodemographic indicators; β: coefficient; CI: Confidence interval; *p<0.05; ref: referring to

DISCUSSION

This study explored the relations between levels of spirituality and health behaviors in order to test the hypothesis that greater spirituality would be associated with healthy behaviors. The results confirmed the hypothesis, contributing to the advancement of scientific knowledge on the subject and enabling the deepening of the debate on the role of self-care in health-related behavior changes.

In the current study, relations were found between spirituality and healthy behaviors related to food, physical activity, non-smoking, sleep satisfaction, and social relationships. These results confirm that spirituality is greater in older adults who adopt healthy habits, in addition to the relations between the practice of physical activity and satisfaction with social relationships to higher spirituality. Other studies identified that people with greater spirituality tended to adopt better eating habits, practiced physical activity, and did not adhere to smoking and alcohol consumption[14,21-24].

Part of these relationships can be explained by the convenience promoted by the organization of activities in the community, whose programs and groups of physical activities and other social activities tend to take place in spaces shared with churches and temples, privileging people who are already used to attending these places. In addition, some religions explicitly discourage smoking and drinking, which can contribute to the abandonment of these habits[22].

However, these findings also favor the expansion and deepening of the discussion about the mechanisms that possibly explain the positive benefits of spirituality for health. Once associated with other healthy behaviors, spirituality can be configured as a target of interventions by health teams, in order to stimulate the behavioral changes necessary for a longer and healthier life[25]. The study is part of a scenario in which studies on spirituality prevail in the contexts of finitude, mourning, and terminal illness, highlighting the psychological effects of spiritual practices that help in the re-signification of life and unwanted events, especially in old age[6,7,9,14,25-29].

These aspects of spirituality are the most widespread in the literature and are supported by physiological mechanisms associated with stress and the immune system. The main contribution of this study is to point to spirituality as a means to stimulate self-care, which is understood as the common aspect among people who practice healthier habits. This discussion is less frequent in the literature, although in clinical practice and health policies this logic is inherent to the implementation of integrative and complementary practices, aimed at coping with the incident and disabling chronic diseases in the Brazilian older population[8].

In the scenario in which chronic diseases that often accompany longevity emerge, it is understood that health professionals and managers must share the responsibilities for the adoption of strategies that favor healthy living habits, such as health education, seasonal and permanent campaigns, adequacy of physical spaces and promotion of social interaction[5,13]. However, these strategies are often not enough to motivate user behavior changes. It is known that information alone does not change individual health-related behavior, which means that other elements can influence health care, impacting the evolution of the disease and clinical-functional prognosis. In this sense, spirituality, recognized as one of the psychological resources most used by older adults to deal with and overcome problems and adversities related to health and old age, can be a strategy to connect the individual with his own body, stimulate self-care and, thus, adopt and maintain healthier habits.

The arguments presented must be carefully interpreted, in the sense that the current study raises research questions that could be answered by studies with other methodological designs that allow causal inferences, test mediating effects, more complex and controlled models and, also, that address the health behaviors from other perspectives, instruments, and measures. In this sense, the study has limitations related to the general and self-reported assessment of the consumption of fruits, vegetables, water, and alcoholic beverages, for example, which adopted the screening strategy, addressing general aspects of each health behavior. This practice may have underestimated the prevalence of unhealthy behaviors in the sample studied. In addition, although procedures were used to compose a representative sample, this does not represent the entire population ascribed in the territory of the Matrix Health Units, since data collection took place in the units, not recruiting users at home.

In this way, actions based on the promotion of spirituality among older adults users can contribute to stimulating self-care and, thus, favoring the adherence and maintenance of healthy behaviors that are essential for the prevention of chronic diseases and the promotion of health and quality of life for the older population in primary care.

CONCLUSION

Spirituality is related to healthy behaviors in older adults assisted in primary health care. Spirituality was higher among older adults with healthy behaviors, such as: not smoking, consuming vegetables and fruits at least once a day and at least two liters of water a day, being physically active, having satisfactory sleep and social relationships, in addition to being associated with a higher probability of having healthy behaviors.

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INTEREST CONFLICTS

The authors report the absence of conflicts of interest.

CONTRIBUTIONS

Verônica Ribeiro Cardoso, **Adriana Cristina de Araújo Figueiredo** and **Ana Paula Gomes Fernandes** contributed to the acquisition, analysis and interpretation of data; writing and reviewing the manuscript. **Kamila Cristina dos Santos** contributed to data acquisition, analysis, and interpretation. **Vitória Helena Maciel Coelho and Lislei Jorge Patrizzi Martins** contributed to the revision of the manuscript. **Juliana Martins Pinto** contributed to the elaboration and design of the study; acquisition, analysis, and interpretation of data; writing and reviewing of the manuscript. All authors have approved the final version of the manuscript and are responsible for all aspects of it, including ensuring its accuracy and integrity.

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