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RELIGIOSITY AND SPIRITUALITY AMONG MEDICAL STUDENTS DURING THE COVID-19 PANDEMIC: A CROSS SECTIONAL STUDY

PERCEPÇÃO DA RELIGIOSIDADE E DA ESPIRITUALIDADE ENTRE OS ESTUDANTES DE MEDICINA FRENTE À PANDEMIA DO COVID-19

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ABSTRACT

INTRODUCTION: For a long time, it was believed that religiosity and spirituality (R/S) walked separately from science, which is why the devaluation of this subjective character can still be observed today. Despite this, the positive impact of R/S on patients' health is increasingly clear in the literature. This study aims to evaluate the perception of R/S among medical students facing the fight against COVID-19. **METHODOLOGY:** This is an analytical, cross-sectional, quantitative, and retrospective study conducted through a digital questionnaire administered to medical students. 194 responses were obtained. **RESULTS:** Of the sample, 62 (32%) considered themselves fully religious persons, and 28 (14.4%) did not. In addition, 66 (34%) considered themselves fully spiritual, and 13 (6.7%) did not. Regarding whether or not there was damage to mental health during the pandemic/social isolation period, 116 (59.8%) stated that they completely agreed, and 8 (4.1%) strongly disagreed. When asked if participants agreed that R/S contributed to improved mental health, 120 (61.9%) strongly agreed and 4 (2.1%) strongly disagreed. Yet, when questioning whether the participants resorted more to their R/S in this period of pandemic/social isolation, 72 (37.1%) strongly agreed and 33 (17%) strongly disagreed. When asked if they think that R/S contributes to the healing process, 127 (65.5%) of the participants agreed and 14 (7.2%) disagreed. **DISCUSSION:** From the analysis of the results, it was possible to infer that people with higher wage income have a negative relationship with resorting to R/E. Some studies have shown that people with lower incomes have a more intense religious life, corroborating the initial hypothesis. Given the above, the R/S prove to be important allies of health care. For a long time, it was believed that religiosity and spirituality (R/S) walked separately from science, which is why the devaluation of this subjective character can still be observed today. Despite this, the positive impact of R/S on patients' health is increasingly clear in the literature. This study aims to evaluate the perception of R/S among medical students facing the fight against COVID-19. This is an analytical, cross-sectional, quantitative, and retrospective study conducted through a digital questionnaire administered to medical students. 194 responses were obtained. Of the sample, 62 (32%) considered themselves fully religious persons, and 28 (14.4%) did not. In addition, 66 (34%) considered themselves

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fully spiritual, and 13 (6.7%) did not. Regarding whether or not there was damage to mental health during the pandemic/social isolation period, 116 (59.8%) stated that they completely agreed, and 8 (4.1%) strongly disagreed. When asked if participants agreed that R/S contributed to improved mental health, 120 (61.9%) strongly agreed and 4 (2.1%) strongly disagreed. Yet, when questioning whether the participants resorted more to their R/S in this period of pandemic/social isolation, 72 (37.1%) strongly agreed and 33 (17%) strongly disagreed. When asked if they think that R/S contributes to the healing process, 127 (65.5%) of the participants agreed and 14 (7.2%) disagreed. **CONCLUSION:** From the analysis of the results, it was possible to infer that people with higher wage income have a negative relationship with resorting to R/E. Some studies have shown that people with lower incomes have a more intense religious life, corroborating the initial hypothesis. Given the above, the R/S prove to be important allies of health care.

KEYWORDS: *Epidemics; Virus Diseases; Spirituality; Religion.*

INTRODUCTION

Religion encompasses external manifestations, such as the realization of cults, rites, and other forms of expression, that is, it is based on the ceremonial and what can be visible[1]. Spirituality, on the other hand, is understood as a dimension that is part of the human being experience, regardless of whether or not the individual has a religion, being called "God's DNA" present in each creature and what unites us as a being beyond religions, characterized by the subject's intimacy with something greater[2].

The first discussions about religion in the field of psychology were brought by Freud, already in the contemporary age, who considered it an illusory remedy against helplessness, a way to overcome the fear of death[3]. Despite being a subject that has been discussed for centuries, for a long time, it was believed that religiosity and spirituality were separate from science. In this context, the devaluation of this subjective character trait can still be observed today, when the belief in something greater is disregarded in the rationalist conceptions already widely disseminated[4].

In this sense, Mueller, Plevak and Rummans[5], in a meta-analysis, summarize the positive impact of religiosity and/or spirituality on patients' health, both of equal importance, which have come to be recognized as providers of personality and health rebalancing, when aligned with the treatment defined by the health professional, indicating, mainly, greater personal well-being, but also related to better health indices, including longevity, management skills and quality of life, and also lower rates of anxiety, depression and suicide.

Noting this, the World Health Organization[6] expanded the concept of health to "A dynamic state of complete physical, mental, spiritual and social well-being, and not merely the absence of disease", adding and reinforcing the importance of religiosity and spirituality in health and including in its quality-of-life assessment instrument the domain "Religiosity, Spirituality and Personal Beliefs", totaling 6 domains of assessment. Therefore, for these and other reasons, reducing the patient to just a sick body is no longer satisfactory.

Then, in December 2019, in China, the first case of pneumonia of unknown cause was reported. Today, after the worldwide experience of a pandemic, it is known that this respiratory syndrome is caused by SARS-CoV-2 and, because it is caused by a virus of the coronavirus family, it was called COVID-19, from English coronavirus disease[7]. Despite a relatively low mortality, the pandemic led to a very high number of deaths due to its highly contagious nature.

Thus, in an attempt to contain the virus, social isolation measures were adopted in several countries, which proved to be a very effective strategy. Moreover, although the vast majority of patients presented mild symptoms, a characteristic result of COVID-19 was the high proportion of patients who developed serious complications in a short period after infection, which culminated in the collapse of health care in large global centers, leading to a high number of deaths[8].

In this sense, this whole scenario had the potential to negatively impact the health of the population, especially regarding mental health, extending beyond the organic pathological conditions of COVID-19, both because of the threat itself of illness and death, and because of the adoption of coping measures, such as social isolation measures that implied conflicts of relationships and coexistence, as well as economic impacts[9].

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In this context, teaching has been severely hampered by the new context imposed by the pandemic. Among the various academic areas, health teaching also suffered serious consequences, such as medical students, who were affected by the precariousness and distancing of teaching, impacting graduation, as well as the lack of knowledge about the disease that was ravaging the world's population, generating uncertainty about the future of medicine and how the work scenario for young students would unfold.

Therefore, a rational approach to the target audience, especially with medical students, is necessary to understand how religiosity and spirituality are perceived as a means of coping with COVID-19 for well-being and comfort, associating with the technical approach of psychology, which creates conditions for coping with crises[10].

It is known that, despite being an effective measure against the spread of the virus, social isolation is an important cause of psychological distress; that is, even individuals who do not suffer directly from contamination by the disease are subject to anxieties and impacts on mental health. Thus, it is necessary to have adequate information for the emotional control of patients, their families, and the population in times of crisis[9].

Thus, given the positive impact of religiosity and spirituality on the prognosis of sick patients, it is pertinent to study the perception of medical students regarding the character of both as potential allies in coping with COVID-19 for the well-being of patients and the comfort of their families. This study aims to assess the perception of religiosity and spirituality among medical students in the fight against the Coronavirus pandemic.

METHODOLOGY

This is an analytical, cross-sectional, quantitative, and retrospective study conducted with Brazilian students enrolled in a higher education institution in the medical course, aged 18 years or older, with varied gender, age, and income, as detailed in Figures 1, 2, and 3. The study was carried out at the University of Fortaleza during the period of 2021 and 2022.

Participants were asked to complete a questionnaire encompassing demographic data, spiritual and religious practices, and questions related to well-being and mental health, assessing their perceptions of religiosity and spirituality during the COVID-19 pandemic. The questionnaire was developed and hosted on a digital platform, shared via email, and accessible for 2 (two) months. Informed consent was obtained, ensuring the anonymity and voluntary nature of participation.

To minimize potential sources of bias, the following measures were implemented:

- **Random Sampling:** To ensure all participants had an equal chance of selection.
- **Anonymous Questionnaires:** To encourage honest responses and reduce social desirability bias.
- **Participant Diversity:** To reflect the variability within the university population.

The data were analyzed using Microsoft Excel and visualized with Tableau, facilitating the creation of graphs and tables presented in the results. This study was part of the research project "Perception of Religiosity and Spirituality Among Medical Students in the Face of the COVID-19 Pandemic," approved by the Ethics Committee, CAAE number: 50526421.8.0000.5052.

RESULTS

A total of 194 responses were collected, predominantly from female participants, comprising 137 individuals (70.7%). The age distribution of the sample shows that 78 participants (40.2%) were between 18 and 20 years old, 92 (47.4%) were between 21 and 25 years old, and 24 (12.4%) were over 25 years old. Regarding monthly family income, a significant majority, 136 respondents (70.1%), reported earning more than 5 minimum salaries, while 6 participants (3.1%) earned between 1 and 3 minimum salaries.

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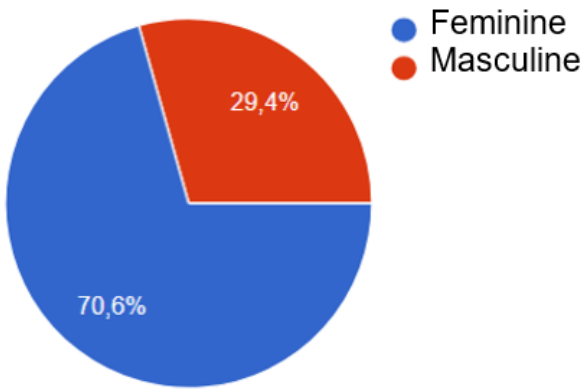
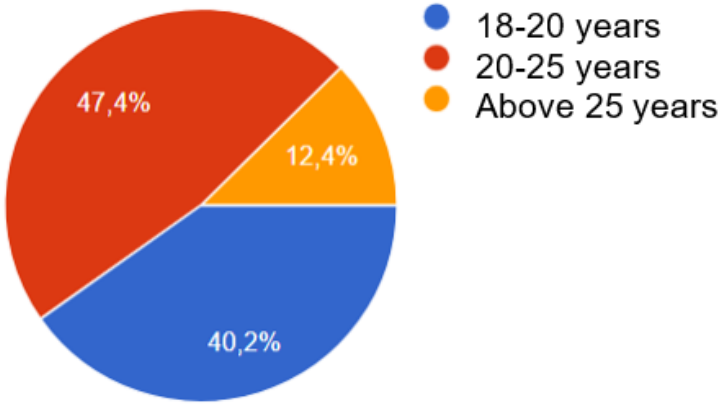
FIGURE 1. Visualization of the sample space according to the sex.



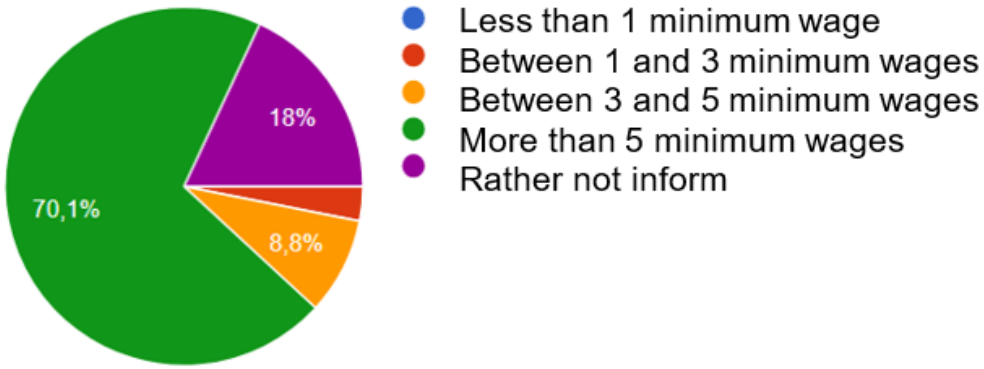
Source: Authors

FIGURE 2. Visualization of the sample space according to the age group



Source: Authors

FIGURE 3. Visualization of the sample space according to income.



Source: Authors.

In terms of living arrangements, 172 participants (88.7%) live with family, 13 (6.7%) live alone, 5 (2.6%) live with friends, and 4 (2.1%) selected "others." Regarding self-identification with religiosity and spirituality, 62 participants (32%) identified as fully religious, while 77 (39.7%) considered themselves partially religious. For spirituality, 66 (34%) considered themselves fully spiritual, and 76 (39.2%) partially spiritual.

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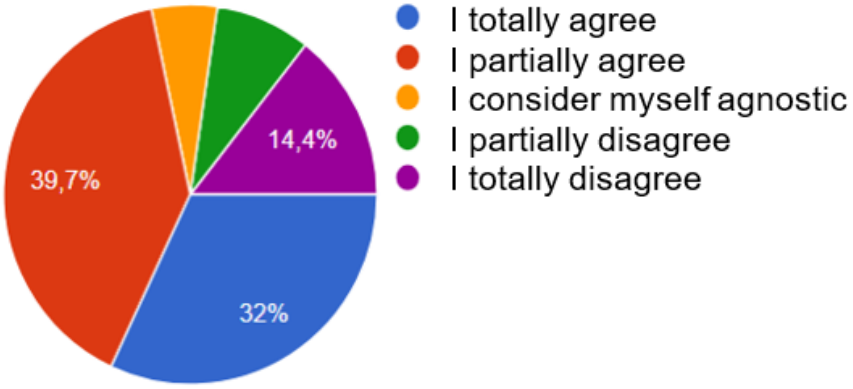
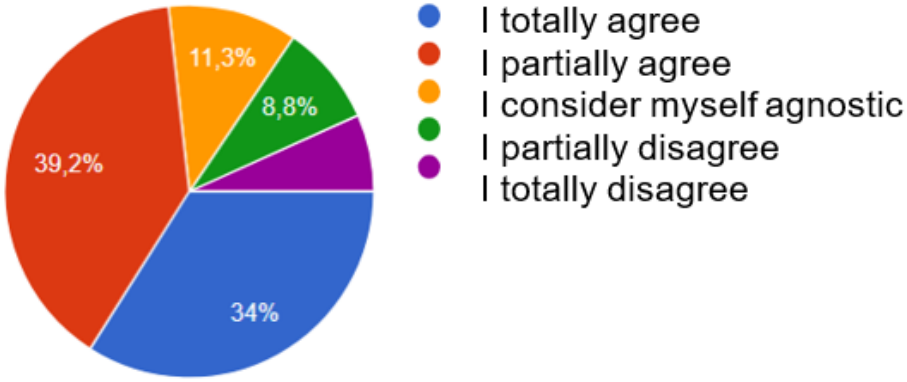
FIGURE 4. Visualization of the sample space for the question "Do you consider yourself a religious person?"



Source: Authors

FIGURE 5. Visualization of the sample space for the question "Do you consider yourself a spiritual person?"



Source: Authors

When asked whether religiosity and/or spirituality contribute to the healing process, 127 participants (65.5%) strongly agreed, and 47 (24.2%) partially agreed. In the context of therapy, 115 respondents (59.3%) fully agreed that religiosity and/or spirituality are therapeutic alternatives. On the impact of the pandemic on mental health, 116 participants (59.8%) fully agreed that their mental health was affected, and 120 (61.9%) believed that religiosity and/or spirituality contributed to improving their mental health.

FIGURE 6. Visualization of the sample space for the question "Do you think religiosity and/or spirituality contribute to the healing process?"

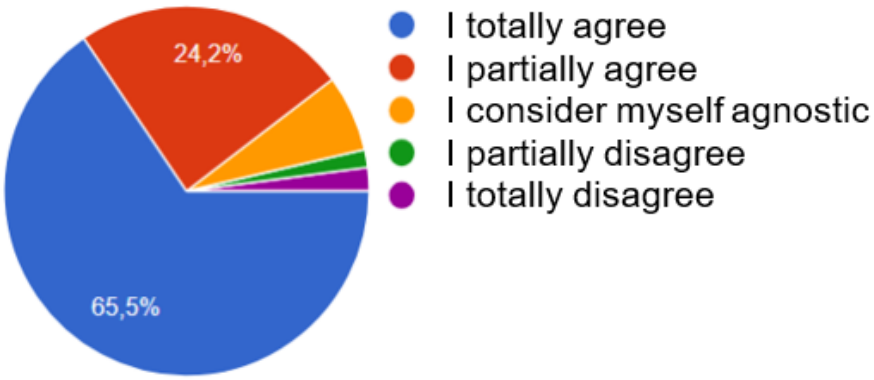


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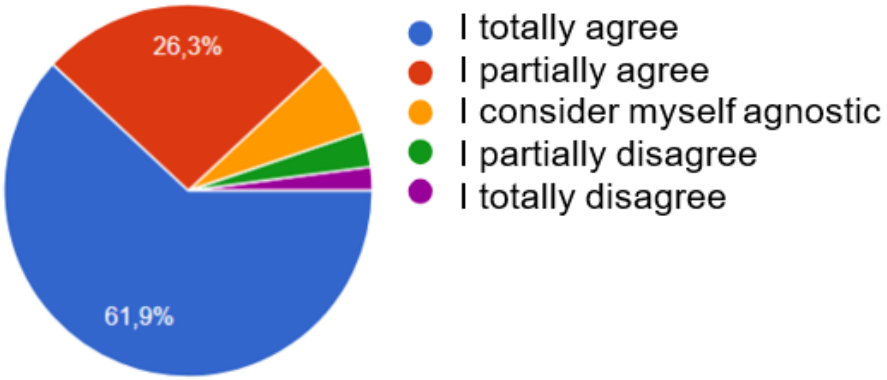
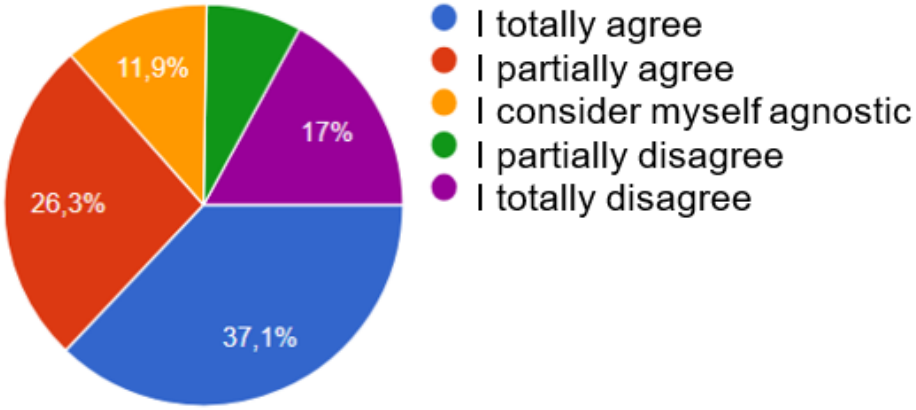
FIGURE 7. Visualization of the sample space for the question "Do you think religiosity/spirituality contribute to improvement of mental health?"



Source: Authors

Regarding COVID-19 exposure, 79 participants (40.7%) did not have COVID, 31 (16%) were unsure of their exposure status, and 84 (43.3%) reported having had COVID. During the pandemic, 72 participants (37.1%) reported turning more to their religiosity and/or spirituality, and 93 (47.9%) did the same when family or friends had COVID-19.

FIGURE 8. Visualization of the sample space for the question "Have you resorted more to your religiosity and/or spirituality in this period of pandemic/social isolation?"



Source: Authors

TABLE 1. Questions by number.

Q1	Do you consider yourself a religious person?
Q2	Do you consider yourself a spiritual person?
Q3	Do you agree that your mental health has suffered damage in this period of pandemic/social isolation
Q4	Do you consider that religiosity or spirituality contributes to improving mental health?
Q5	Did you resort more to spirituality/religiosity in this period of pandemic/social isolation?
Q6	At time when you, your family or friends had COVID-19, did you rely more on your religiosity/spirituality?
Q7	Do you think religiosity/spirituality contributes to the healing process?

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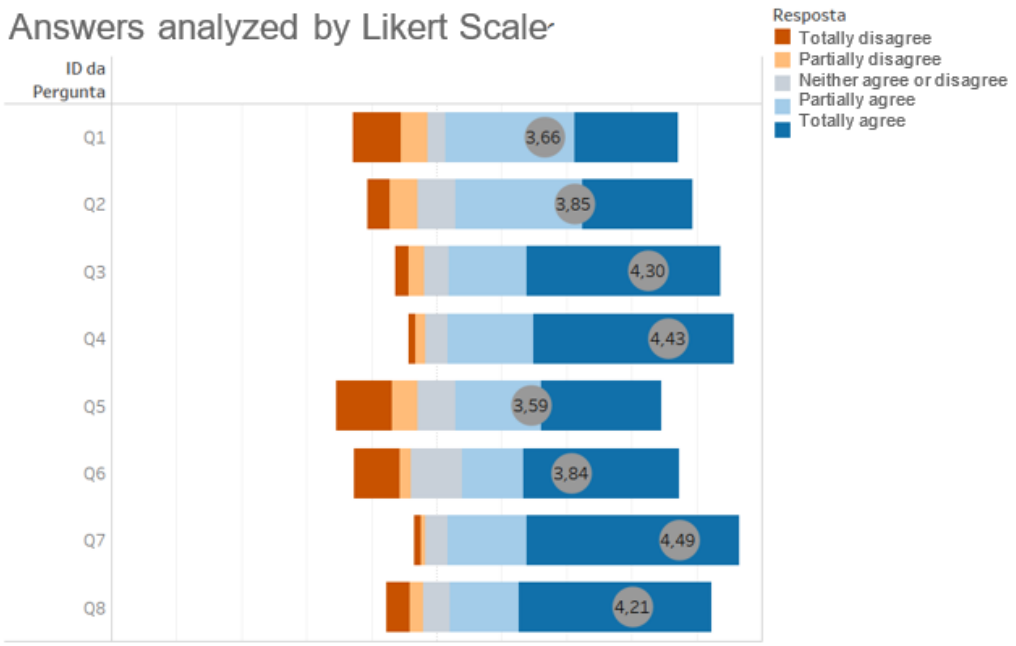
Q8	Do you think religiosity/spirituality are therapeutic alternatives?

FIGURE 9. Likert scale expressed in a Gant chart with responde averages



Source: Authors

SUBGROUP ANALYSIS

To gain a deeper understanding of the results, we conducted a subgroup analysis, segmenting the data based on key variables such as gender, age group, and monthly income.

1. **Gender:**

- **Female participants:** The majority of the sample is female (70.7%). This subgroup shows a significant tendency to view religiosity and spirituality as important factors for the healing process and mental health improvement. Among female participants, 70.8% believe that religiosity and/or spirituality contribute to the healing process, compared to 60% among male participants. This suggests a higher propensity among women to consider these aspects as therapeutic.

2. **Age group:**

- **18 to 20 Years:** This age group represents 40.2% of the sample. It was observed that this age group shows a lower agreement with the statement that religiosity and/or spirituality contribute to mental health improvement (57.7%), compared to participants aged 21 to 25 years (63.3%). The lower life experience and developmental stage of younger individuals may influence their perception of the impact of religiosity and spirituality.

- **21 to 25 Years:** With the highest proportion of participants in this age range, there is a more established view on the importance of religiosity and spirituality. This group demonstrates a higher level of agreement with the statements regarding the contribution of these factors to healing and mental health, possibly reflecting greater maturity and life experience.

3. **Monthly Income:**

- **Up to 3 Minimum Salaries:** Among participants with lower income, there is a lower tendency to believe that religiosity and spirituality are therapeutic alternatives (54.5%), compared to those earning more than 5 minimum salaries (64.2%). This difference may be related to varying levels of access to resources and support, which can influence the perception of the impact of religiosity and spirituality on health.

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- **More than 5 Minimum Salaries:** The majority of participants fall into this income bracket and show a higher agreement with the positive influence of religiosity and spirituality on mental health. This trend may be associated with greater access to resources and a more supportive environment for practicing these beliefs.

These subgroup analyses help to better understand how different demographic characteristics may influence perceptions and experiences related to religiosity and spirituality. Considering these variables is crucial for a more comprehensive and accurate interpretation of the data.

SENSITIVITY OF RESULTS

It is crucial to consider the sensitivity of these results. The data reflects self-reported perceptions and experiences, which may be influenced by various factors such as personal biases or the subjective nature of the questions. Variations in individual interpretations of religiosity and spirituality, as well as the impact of the pandemic on mental health, might affect the consistency and generalizability of the findings. Future research should consider these factors to enhance the robustness and reliability of the conclusions drawn from this study.

DISCUSSION

The experience of a serious illness, one's own or that of a close relative, can drive the search for a justification beyond the disease itself, so that one has certain amenities for the wear and tear that reality is generating. This fact is in line with what was demonstrated in our research, in which, over the 8 questions, an average of 4.04 was obtained in the answers, dialoguing with “I agree” and “I partially agree” about the search by religion in times of infection by the Coronavirus and in the pandemic period as a whole 2[7, 10, 11]. Therefore, some questions left some doubts as to what is neutral religious or spiritual, represented in Figures 4 and 5. Those results can have a lot of interpretations, like agnostic or atheist people, or just the absence of regular practice of rituals, prays.

Of the interviewees, more than 50% stated that religion and/or spirituality positively influence mental health, providing better ways to deal with stressful life events that increase the frequency of positive emotions (optimism, hope, self-esteem), reducing the likelihood that situation will cause additional suffering, such as some mental disorder.

Religion predisposes to an increase in quality of life, encouraging individuals to practice physical exercise, improve their diet, and not abuse the use of alcohol, tobacco, and other drugs[12]. Beliefs are also related to people's lifestyle, and this probably has a direct or indirect impact on the prognosis of diseases, especially in the COVID-19 pandemic. This reality corroborates the data from our study by exposing a greater number of positive responses about the beneficial impact on the healing process that R/S can bring, as seen in items Q7 and Q8 in Table 1, with mean responses of 4.49 and 4.21, but it needs more data to confirm this relation.

In addition, R/S influences the ability of patients and physicians to deal with illnesses, in which many studies point out that professionals who are not able to consider individuals as a whole, meeting their spiritual and religious needs, end up causing, in many cases, a higher medical cost, given that by paying attention to patients' R/S, it is possible to assess if any changes, for example in lifestyle, could be implemented in the routine to help treat and cure certain diseases, instead of using medicines or other medical procedures[4, 8, 13].

A total of 35 participants (18.04%) preferred not to report income and were not included in this analysis. When analyzing the hypothesis, in Q5, a p-factor shows 0.08 ($p>0.05$), being statistically irrelevant. In Q6, we see a p factor of 0.013 ($p<0.05$), which is statistically relevant. Therefore, although most of the results supported the hypothesis of the positive influence of R/S on health, this number was meaningful for us to be aware of possible biases.

As a result, people with higher wages have a slight negative correlation with resorting to religiosity and spirituality when affected by COVID-19 or when family members or friends are exposed to the disease. Although there is little data in the literature, a descriptive study has shown that people with lower income have a more intense religious life, corroborating the initial hypothesis[7].

Another interesting point to be observed is the relationship between gender and religion. A systematic review shows that women are more connected to religion than men[14]. When analyzing items Q1 and Q2 in Table 1 with the participant's sexual identification, we obtain that Q1 had a p value of 0.03 ($p<0.05$), indicating a statistically significant positive correlation. Likewise, Q2 had a p value of 0.038 ($p<0.05$), being statistically relevant. Therefore, we can conclude that women identified themselves more as religious and spiritual than the participants identified as male.

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One of the main limitations of this study was the lack of research and studies focused on the theme of the COVID pandemic linked to the practice of religion/spirituality that could support our main hypotheses. Another important limitation refers to the sample size, which, when presented in a reduced size, allows considering the results found as specific to the studied population.
The analysis may have been affected by the exclusion of 35 participants (18.04%) who did not report their income, which could introduce bias. Additionally, some questions showed p-values close to the significance threshold, such as Q5 with p=0.08, indicating marginal statistical relevance, while Q6 had a p-value of 0.013, demonstrating statistical significance. Another potential source of inaccuracy is the interpretation of responses from agnostic or atheist individuals and those with infrequent religious practices, which may skew the assessment of the impact of religiosity and spirituality. Gender differences also emerged, with women showing a stronger connection to religion compared to men, as evidenced by statistically significant p-values. These limitations and variables must be considered to ensure a more accurate and comprehensive analysis.

CONCLUSION

It is evident that the COVID-19 pandemic still has several effects on human health, both biologically and psychologically. Thus, corroborating the objective and initial hypotheses, it is worth noting that more than 50% of the sample stated that religiosity and/or spirituality is positively linked to mental health, showing itself, for example, as an important tool for preserving a certain condition of well-being. Given the above, it is known that spiritual and religious assistance can be important allies of health care, which corroborates the importance of strengthening the training of physicians capable of empathetic and integral care for the patient.

Future research should focus on including diverse populations to explore different influences on religiosity and mental health, conducting longitudinal studies to assess long-term effects, and employing both quantitative and qualitative methods for a deeper understanding. Investigating the impact of specific religious and spiritual practices, evaluating the integration of spiritual care in medical training, and examining the role of religiosity and spirituality across various health conditions will provide further insights and improve holistic care approaches.

CONFLICT OF INTEREST

The authors declare that there are no conflicts of interest in this study.

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