RELIGIOSITY / SPIRITUALITY, MENTAL HEALTH INDICATORS AND HEMATOLOGIC PARAMETERS OF NURSING PROFESSIONALS

RELIGIOSIDADE/ESPIRITUALIDADE, INDICADORES DE SAÚDE MENTAL E PARÂMETROS HEMATOLÓGICOS DE PROFISSIONAIS DE ENFERMAGEM

RELIGIOSIDAD/ESPIRITUALIDAD, INDICADORES DE SALUD MENTAL Y PARÁMETROS HEMATOLÓGICOS DE PROFESIONALES DE ENFERMERAS

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ABSTRACT
Objective: to analyze the relationship between Religiosity and Spirituality, mental health indicators and haematological parameters of nurses. **Method:** cross-sectional study with 53 employees. It was used Brief Multidimensional Measure of Religiosity and Spirituality (BMMRS), Lipp Stress Inventory, Beck Anxiety and Depression and Subjective Wellbeing, hemogram and immunoglobulin A. **Results:** dimensions Daily Spiritual Experiences and Global Religiosity and Spirituality Self-evaluation are the factors that present greater strength of relation with the indices of stress, depression and Subjective Wellbeing in professionals. Religious participation and impairment were the factors that influenced higher leukocyte, neutrophil and immunoglobulin A values. **Conclusion:** the results identified a relation between Religiosity and Spirituality, mental health indicators and haematological parameters, demonstrating that more religious and spiritualist nurses have better mental health and immunity, as well as a better perception of health.
Descriptors: Mental Health; Religion; Spirituality; Hematology.

RESUMO
Objetivo: analisar a relação entre Religiosidade e Espiritualidade, indicadores de saúde mental, parâmetros hematológicos e percepção da saúde de profissionais de enfermagem. **Método:** estudo transversal com 53 funcionários. Utilizou-se Medida Multidimensional Breve de Religiosidade e Espiritualidade, Inventário Stress Lipp, Ansiedade e Depressão de Beck, Bem-Estar Subjetivo, hemograma e imunoglobulina A. **Resultados:** *Dimensões* Experiências Espirituais Diárias e Autoavaliação Global são os fatores com maior força de relação com os índices de estresse, depressão e Bem-Estar em profissionais. Participação religiosa e comprometimento foram os fatores que influenciaram maiores valores de leucócitos, neutrófilos e imunoglobulina A. **Conclusão:** os resultados identificaram relação entre Religiosidade e Espiritualidade, indicadores de saúde mental e parâmetros hematológicos. Profissionais de enfermagem mais religiosos e espiritualistas apresentam melhor saúde mental e maior imunidade, além de melhor percepção de saúde.
Descritores: Saúde Mental; Religião; Espiritualidade; Hematologia.

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RESUMEN

Objetivo: analizar la relación entre Religiosidad y Espiritualidad, indicadores de salud mental y parámetros hematológicos de enfermeras. **Método:** estudio transversal con 53 empleados. Se utilizó Medida Multidimensional Breve de Religiosidad y Espiritualidad (BMMRS), Inventario Stress Lipp, Escalas de Ansiedad y Depresión Beck y Bienestar Subjetivo, cuestionario de clasificación de la salud, hemograma y inmunoglobulina A. **Resultados:** las dimensiones Experiencias Espirituales Diarias y Autoevaluación Global de Religiosidad y Espiritualidad son los factores que presentan mayor fuerza de relación con los índices de estrés, depresión y Bienestar Subjetivo en profesionales. La participación religiosa y compromiso fueron los principales factores que influyen en los valores de leucocitos, neutrófilos, y la inmunoglobulina A. **Conclusión:** los resultados identificaron relación entre R/E, indicadores de salud mental y parámetros hematológicos, demostrando que enfermeras más religiosos y espiritualistas presentan mejor salud mental y mayor inmunidad, además de una mejor percepción de la salud.

Descriptores: Salud Mental; Religión; Espiritualidad; Hematología.

INTRODUCTION

Religiosity and Spirituality (R/E) have been considered as relevant aspects in the life of a large part of the population.[1-2] In Brazil, 95% of the population considers themselves religious and 83.8% report that religion is a "very important" aspect of existence.[3]

Greater religious involvement is positively associated with better indicators of mental health status that contribute to psychological well-being, such as happiness, life satisfaction, positive affection and high morale.[4]

The spiritual dimension refers to those issues of meaning and sense of life, while religiosity is understood as an expression or practice of the believer and may or may not be related to a religious affiliation.[5] Studies show the correlation between religiosity and general quality of life.[6-7] However, studies that assess the influence of R/E on the dimensions of mental health and hematological parameters of nurses are lacking.

The hypothesis of this study was that R/E are related to less levels of stress, anxiety and depression, as well as better hematological parameters, perception of health and well-being in nursing professionals.

This study aimed to investigate the relationship between R/E, stress, anxiety, depression, hematological parameters and health perception in nursing professionals from outpatient units of the Hospital de Clínicas de Uberaba (HC / UFTM).

METHODS

A descriptive, exploratory and cross-sectional study was carried out. Convenience sampling was used, including 53 nursing health professionals who work in the outpatient units of HC/UFTM. This

work is part of a larger study entitled "Evaluation of the Effects of Complementary Spiritist Therapy on Servers and Patients", the collection period occurred between September 2015 and December 2018. It is referred that the municipality in which the hospital is allocated is pole of the Health Macro-Region of the Southern Triangle, assisting the high complexity of 27 municipalities in Uberaba, Minas Gerais. The number of employees who perform their activities at the Maria da Glória (AMG) and Specialties (AE) Outpatient Units total 91, 66 and 25, respectively.

The inclusion criteria were nursing professionals (technicians and graduates) working in AMG and AE, aged 18 years or over. Of the total population, 38 subjects were excluded from the study because they were away from work, on vacation, did not meet the inclusion criteria or for not accepting to participate in the research.

The employees were invited to participate in the study at a meeting convened for this purpose. When the subjects were absent, they were later located at the service windows and invited to respond individually in order to maintain a higher proportion of employees.

The survey of the sample's characteristics was based on a questionnaire with sociodemographic and health classification questions (1- very good, 2- good, 3- regular, 4- poor and 5- very bad).

To find out issues of R/E, the "Brief Multidimensional Measure of Religiousness/Spirituality" or "Medida Multidimensional Breve de Religiosidade/Espiritualidade" (BMMRS) was used, translated and culturally adapted, validated in the Brazilian version.[8] The dimensions of spirituality and religiosity included in this instrument are intended for use in studies that evaluate the relationship between RE and Health. BMMRS has 38 items and measures 11 dimensions: 1) Daily Spiritual Experiences (DSE); 2) Values /Beliefs; 3) Forgiveness; 4) Private Religious Practices (PRP); 5) Religious Overcoming (SER); 6) Religious support; 7) Spiritual Religious History; 8) Commitment; 9) Organizational Religiosity (OR; 10) Religious Preferences and 11) Global R/E (AAG) Self-Assessment. The answer options are arranged in a likert scale, which in some items vary from 1 to 8 options and in others from 1 to 6 answer options.

This instrument has been validated for clinical and non-clinical population. The values of the responses to the BMMRS items were inverted in the insertion of the data in the database, so that the most religious/spiritualized ones scored more in the BMMRS, except for the negative items

of the Religious/Spiritual Overcoming dimension, in the last question of Religious Support and on the issue of loss of faith in the Religious/Spiritual History dimension.

The levels of stress were evaluated by the Inventory of Symptoms of Stress for Adults-ISSL (LIPP), validated in 1994[9], composed of four tables, each referring to one of the phases of the stress process, is intended for the use of young people and adults and aims to identify the symptoms that the individual presents, assessing whether he has symptoms of stress, the type of symptom predominant and the stage it is in.

The Beck Depression Index[10] is a self-assessment questionnaire for depression, consisting of 21 items that access cognitive, affective, behavioral and somatic aspects of depression in the last seven days. Answers range from 0 (minimum) to 3 (maximum), and the questionnaire varies from zero to 63. The cutoff used as suggestive for clinically relevant depressive symptoms is 11. It has good internal consistency (0.81).

Beck's Anxiety Inventory consists of 21 items that summatically, affectively and cognitively reflect the characteristic symptoms of anxiety. This scale showed good internal consistency (α = 0.92) and good test - retest reliability in one week r (58) = 0.751.

It was used the Scale of Subjective Well-Being (BES)[11] to assess the affective components (positive and negative affects) and non-affective components (satisfaction with life). The affect subscale is composed of 21 items referring to positive affects and 26 items referring to negative aspects. Each item can have responses between 1 ("not at all") and 5 ("extremely"). This tool refers to what people think and feel about their own lives[12] considers they are components of BES life satisfaction, positive or pleasurable affect, such as emotions and feelings of joy, contentment, among others, and negative or disgusting affection that includes guilt, sadness, anxiety, nervousness, anger, stress, depression and envy.[13] All subscales have good internal consistency (positive affects, 0.95; negative affects, 0.95; and satisfaction with life, 0.9). In this study, the total scores of the evaluated tools were considered. The well-being index consists of subtracting the measure of negative affects from the measure of positive affects and normalizing the resulting score.[14]

Hematological parameters were analyzed by means of a complete blood count and immunoglobulin A (IgA). The employees were seated in a chair to collect peripheral blood in the upper limb. Hemogram analysis was performed with the aid of a cytometerautomated XP-2000i

SYSMEX, quantifying the total erythrocytes; hemoglobin; platelets; total leukocytes and leukocyte differential. In addition to analyzing *IgA*.

This study is an integral part of the research developed under nº 1,144,646.

SPSS (Statistical Package for Social Science) software version 20.0 was used for data analysis. Data analysis was performed including absolute and relative frequencies, measures of central tendency (mean or median) and variability (standard deviation and amplitudes). Spearman's correlation coefficient was used to analyze the magnitude and direction of the relationship between variables and classified as: weak ($0 < |r| < 0.3$), moderate ($0.3 \leq |r| < 0.5$), strong ($0.5 \leq |r| \leq 1.0$). Significance level considered was $\alpha = 0.05$.

RESULTS

The average age of health professionals was 38.81, varying between 22 and 69 years. Most health professionals are female (92.5%), married (48.2%) and fathered children (66%). As for professional training, 39.6% have completed higher education, the majority (60.4%) with individual income above 3 minimum wages.

Regarding the institutional bond, the majority (58.5%) were not effective and 41.5% were effective. Regarding length of service, 43.4% worked between 7.1 to 15 years, 24.5% between 2.1 to 7 years, 18.9% had more than 15.1 years in the institution and only 13.2% worked less 2 years.

Most (94.2%) do not smoke and do not drink (69.8%) in the institution's various outpatient clinics. There was no report of illicit drug use according to table 1.

Table 1- Sociodemographic and religious characteristics of health professionals. Uberaba, MG, Brazil, 2015-2018.

Variables	n	%
Genre		
Male	4	7.5
Feminine	49	92.5
Age (in years) *	38.81 ± 10.40	
Race / color		
White	35	66
Non-White	18	34
Religion		
Catholic	11	20.8
Evangelical	2	3.8
spiritist	26	49.1
C + E	3	5.7
Others	2	3.8

Without religion	2	3.8
Marital status		
Not married	7	13.2
Married / Together	25	47.2
Separated / Divorced	22	41.5
Widower	3	5.8
Schooling (in years of study)		
1 ⊢ 8	3	5.8
8	19	35.8
9 or more	31	58.5
Individual monthly income (in minimum wages) †		
<3	21	39.6
> 3	32	60.4
Smoking		
Yes	3	5.8
No	50	94.2
Ethics		
Yes	16	30.2
No	37	69.8

Note: * Mean ± standard deviation; † Minimum wage in Brazil.

Concerning Religious/Spiritual History dimension, 57.4% reported having had a religious or spiritual experience that changed their life. The ages ranged between 10 and 41 years old, an employee mentioned "this occurred when he was a teenager and an adult", another professional when he was a mother and another as "several". Regarding the question of reward with your faith, 76.1% reported that yes, the ages ranged between 10 and 43 years, four reports of "teenager, all possible, several and always".

As can be seen, the BMEDS EED dimension correlates moderately, with negative sense and significant, with the phases of stress: resistance and exhaustion, Depressio Well-being - negative affect and positively with BES indices: Well-being - positive affect, Satisfaction with life and Happiness Index (r = between 0.50 and 0.30, p <0.05).Regarding the Values and Beliefs dimension, a moderate positive correlation was detected with Satisfaction with life.

Pardon correlates moderately, positively with *Well-being - positive affection* and Satisfaction with life. (r = between 0.50 and 0.30, p <0.05).The SRE dimension is related moderately, with a negative sense and with Depression (r=<0.30, p <0.05).

The Commitment dimension has a moderate negative relationship with stress and depression and a positive one with positive affect.

Regarding the AAG dimension, moderate negative relationships with Stress Phase exhaustion and Depression and positive with Well-being - positive affect and satisfaction with life (r = <0.30, p <0.05), as shown in Table 2.

Table 2 - Spearman's Test results (correlation coefficients) of the dimensions assessed by the questionnaire BMMRS * according to the mental health variables (Stress, anxiety, depression and BES[†]). Uberaba, MG, Brazil, 2015-2018.

Variables	Daily Spiritual Experiences[§]	Values / Beliefs[‖]	Forgiveness[¶]	Private Religious Practices**	Religious and Spiritual Overcoming[††]	Religious Support[‡‡]	Commitment[§]	Organizational Religiosity[‖‖]	Global Self-Assessment[¶¶]
Alert phase	-068	020	-180	-017	-035	-021	-043	-158	-074
	0.631	0.887	0.197	0.906	0.804	0.881	0.764	0.259	0.599
Resistance phase	-345 *	-164	-248	-199	-082	-080	-252	-150	-287 *
	0.011	0.240	0.074	0.153	0.560	0.570	0.071	0.285	0.037
Exhaustion phase	-411 *	-216	-240	-204	-098	-112	-363 *	-180	-402 *
	0.002	0.121	0.084	0.143	0.486	0.423	0.008	0.197	0.003
Anxiety	-172	-112	-175	-083	-037	-178	-158	-153	-230
	0.217	0.424	0.211	0.554	0.791	0.201	0.265	0.273	0.097
Depression	-432 *	-140	-307 *	-158	-360 *	-137	-354 *	-132	-386 *
	0.001	0.319	0.026	0.257	0.008	0.329	0.010	0.345	0.004
Welfare - negative affection	-308 *	-081	-298 *	-138	012	-206	-179	-147	-217
	0.025	0.565	0.030	0.324	0.930	0.139	0.203	0.295	0.119
Welfare - positive affection	445 *	178	300 *	293 *	072	225	321 *	218	324 *
	0.001	0.204	0.029	0.033	0.607	0.106	0.020	0.117	0.018
Satisfaction with life	487 *	318 *	363 *	133	258	162	230	059	305 *
	0.000	0.021	0.008	0.341	0.062	0.247	0.101	0.684	0.026
Index Happiness	-361 *	-124	-302 *	-200	-001	-249	-229	-169	259
	0.008	0.376	0.028	0.150	0.993	0.073	0.102	0.226	0.061

Note: * Statistically significant scores for $p < 0.05$.

Source: Research data.

In the correlation analysis between the scores of the BMMRS dimensions and the physical health variables, moderate and significant correlations were detected with a negative sense between *Health classification* and the Values and Beliefs dimension; and strong correlations with EED and AAG.

The commitment dimension has a significant relationship with neutrophil and IgA scores.

Strong positive correlations were found between the dimension Organizational religiosity and the count of total leukocyte scores and neutrophil levels (Table 3).

Table 3 - Spearman's test results (correlation coefficients) of the dimensions of religiosity/spirituality according to the CBC index and health perception. Uberaba, MG, Brazil, 2015-2018.

Variables	Daily Spiritual Experiences	Values/ Beliefs	Forgiveness	Private Religious Practices	Religious and Spiritual Overcoming	Religious Support	Commitment	Organizational Religiosity	Global Self-Assessment
Total red cells	214	189	295	-103	051	-059	102	009	280
	0.393	0.452	0.234	0.684	0.841	0.816	0.697	0.970	0.260
Hemoglo bina	108	193	306	-210	008	-118	-045	-148	206
	0.670	0.444	0.218	0.402	0.973	0.641	0.864	0.557	0.411
Leukocytes	025	-018	-176	107	-207	293	433	498 *	068
	0.920	0.949	0.484	0.673	0.409	0.238	0.083	0.035	0.790
Neutrophils	-054	-216	-102	038	-338	320	529 *	525 *	023
	0.838	0.406	0.696	0.884	0.184	0.210	0.035	0.031	0.931
Lymphocytes	-246	150	195	171	-099	-070	290	323	-270
	0.326	0.552	0.437	0.497	0.695	0.783	0.258	0.190	0.278
Platelets	-117	108	-176	-156	038	149	305	-001	256
	0.643	0.669	0.485	0.536	0.881	0.554	0.233	0.997	0.306
IgA	202	317	388	196	560 *	021	677 *	432	154
	0.453	0.221	0.138	0.466	0.024	0.918	0.006	0.095	0.570
Health classification	-509 *	-412 *	-130	-153	-103	-147	-255	-156	-627 *
	0.000	0.004	0.378	0.298	0.486	0.317	0.084	0.291	0.000

Note: * Statistically significant scores for $p < 0.05$.

Source: Research data

DISCUSSION

In view of the findings, it was possible to notice that there is a significant relationship between R/E, mental health indicators and hematological parameters. The results in terms of the relationship between the BMMRS domains show that the *EED* and *AAG* dimensions are the factors that have the greatest strength in relation to the rates of stress, depression, BES and health classification in health professionals. Religious participation (*organizational religiosity*) was the factor that influenced the highest values of leukocytes, neutrophils and IgA. Furthermore, the *commitment* dimension has a strong relationship with neutrophils and IgA.

The sample was mostly composed of women, aged between 22 and 69, married, with children, with a degree in higher education and who exercise their work activities during the morning and afternoon shifts. A study[15] demonstrates that being a professional woman is stressful due to the double work shift, which includes profession and household chores that most of the time women are submitted to.

In our study, we found a high percentage of spiritists (49.1%) compared to the Brazilian population. This fact can be explained by the strong influence of the Spiritist doctrine in this municipality.

Regarding the dimensions of the BMMRS scale, it is noteworthy that EED is related to lower levels of stress, depression and negative affections, greater positive affections, satisfaction with life and happiness, in addition to a better health rating. The greater the EED experienced by the individual, the lesser the tendency to present stress, develop depression and also more positive affection, the better health classification and, consequently, they are happier and more satisfied with life. The dimension of EED demonstrates the frequency with which employees experiment experiences, such as the presence of God, comfort in religion or spirituality, love for others, admiration for nature, inner peace and desire for closeness with God. A study with the elderly is in agreement with the fact that women experience spirituality, its everyday values and beliefs more than men.[16]

Regarding the self-reference about how religious/spiritual the individual considers himself, the more present, the professionals reported a better perception of health, have lower levels of stress, depression, greater positive affection, satisfaction with life and happiness index. Some studies corroborate these findings[1,16], when reporting a strong protective relationship between R/E and population health.

Our research shows that employees who have higher values and beliefs have a better perception of health and are more satisfied with life. Religious values and beliefs can provide coping behaviors and resources to deal with stressful situations, resulting in well-being and satisfaction with life.[16]

Religious people are more likely to exercise forgiveness, or are more encouraged to forgive. A study shows that such practice is associated with well-being.[16] The findings of this study show that the greater the ability to *Forgiveness,* lower the rate of depression and greater positive affection and satisfaction with life.

The dimension of *religious and spiritual overcoming* of R/E demonstrates the strategies of religiosity and spirituality used by employees, to deal with difficult life circumstances. In this study, professionals who use SER more often have less depression. This fact is extremely important, since nursing has an important role in the care of people with mental disorders.[17]

Employees with greater *commitment*, contribute monthly to the religious community, present any less stress and depression, in addition to greater positive affection and immunity. In our survey, participants did not mention financial values. In a study conducted with older adults, the authors show that a large part fully agrees to experience religious beliefs throughout life.[16]

In our study, the dimension of organizational religiosity, which means the religious participation of employees in masses, services, prayer groups and religious meetings, is related to greater immunity. Evidence suggests that R/E is related to favorable health outcomes, as well as a reduction in overall mortality.[18-19]

Religiosity/spirituality are important coping factors in the face of stressful events and are related to a better quality of life[20] for the population.

As a limitation, we can refer to the sample by convenience, although we try to include nursing professionals considered as a stressful profession. However, few studies have evaluated the mental health and immunological aspects of nursing professionals, a fact that makes the study relevant and highlights the need to search for strategies to deal with stressful situations that provide better health conditions for professionals.

CONCLUSION

The results of this study identified a relationship between R/E, mental health indicators and hematological parameters, demonstrating that more religious and spiritualistic nursing professionals have

better mental health, greater immunity, based on leukocyte, neutrophil and *IgA* scores, in addition to better perception of health. Therefore, it becomes evident the need to value them as health factors and to insert the discipline of spirituality and health in professional nursing training for health practices.

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