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ORIGINAL PAPER

Religiosity and Physician Lifestyle from a Family Health Strategy

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Abstract This study examines the association between religiosity and physician lifestyle from a Family Health Strategy perspective. This is a cross-sectional study with 30 physicians, who completed the religiosity and lifestyle questionnaires. Among the participants, 70% ($n = 21$) had no "focus" on spirituality and health. The average total lifestyle score was 74.1 (SD = 8.1), but the "Physical Activity" subscale score was below average (3.4, SD = 2.37). We found eight significant correlations between religiosity and lifestyle subscales ($p < 0.05$). Greater religious involvement is associated with better overall and specific areas of physician lifestyle.

Keywords Spirituality · Religion · Integrality · Health promotion · Lifestyle

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Introduction

There has been an increasing number of publications indicating the influence of religiousness/spirituality (R/S) on physical and mental health over the past five decades (Lucchetti et al. 2011; Koenig et al. 2012; Gonçalves and Bellodi 2012; Koenig 2015, Abdala et al. 2015a, b; Saleem and Saleem 2017). The subject is still undervalued in the medical environment, probably due to a lack of academic preparation (Lucchetti et al. 2013; Borges et al. 2013). In addition, there is a belief that this is not the physician's role in clinical care (Lucchetti et al. 2010; McCormick 2014).

According to Koenig (2012, p. 11–13, 2015), religiosity is understood as: "a system of beliefs, practices and symbols developed to facilitate closeness to the sacred or the transcendent." It can be estimated by the measuring affiliation, religious attitudes and experiences, commitment, attendance to services, prayer or meditation. Spirituality, on the other hand, is characterized as the "relation with the sacred or the transcendent (God, superior power, ultimate reality)" and may or not be linked to a certain religion or practices. It includes positive experiences and personality traits, which reflect mental and social health more than spirituality itself.

It is recommended that the term "religiosity" be used for research purposes, and "spirituality" for clinical applications. When conducting research, specific terms should be used, while clinical interventions allow wider and more inclusive terms like spirituality. Therefore, as religiosity is more specific, it is often used to assess relationships with health (rather than spirituality) (Koenig et al. 2012; Koenig 2015).

In order to broaden the discussion, some researchers have examined the association between R/S and lifestyle, defined as a "typical style or way of living that characterizes an individual or group" (BVS 2017). The World Health Organization (WHO) indicates that the lifestyle construct is a collection of habits and decisions that will influence health and quality of life (World Health Organization, 2004, p. 37). Thus, in this study, we hypothesized that there is an association between religiosity and lifestyle and that, the knowledge resulting from this research might motivate a reflection on the need of religiosity/spirituality attention as a part of patient care.

The objective of this study was to analyze the association between religiosity and lifestyle of physicians working in a regional Family Health Center (FHC) in Sao Paulo, Brazil.

Method

This was a cross-sectional study with quantitative approach. The research presented in this article is part of a larger study entitled "Perception of the Health Professionals at a Family Health Center, regarding Spiritual Assistance to Users" supported by the Brazilian Research Committee. The guidelines of the Declaration of Helsinki (World Medical Association 2000) and the legislation of Resolution 466/12 of the National Health Council (CNS) (Brazil 2013) were followed. This study was authorized by the Ethics Committee of the Adventist University Center of Sao Paulo—CEP/UNASP-SP on 03/10/2014 (Protocol: 688.878) and also by the Research Ethics Committee of the Municipal Health Department of the Municipality of Sao Paulo CEP/SMS on 03/31/2014 (Protocol: 818.071).

The study involved 30 doctors who are part of a regional family health center (FHC) team in the South Zone of the city of Sao Paulo, Brazil. Inclusion criteria were: being

active in the FHC; accepting to participate in all stages of the research, signing the informed consent form (ICF) and completing the appropriate instruments used for data collection. The socio-demographic data questionnaire was used, which also included questions about the presence of religiosity discussions during the formative process; if there was spiritual training in the work environment as well as The Duke Religious Index (DUREL) and the FANTASTIC Lifestyle questionnaire.

The Duke Religious Index (DUREL) instrument contains five questions covering three subscales, namely (1) Organizational Religious Activity (ORA): attendance at religious meetings; (2) Non-Organizational Religious Activity (NORA): frequency of private religious activities; (3) Intrinsic Religiosity (IR): refers to the search for internalization and the full experience of religiosity as the main objective of the individual, which contains three questions classified as IR 1, IR 2 and IR 3. The lower the score achieved in each subscale, the better the participant's religiosity index. This instrument was created by Koenig in the University of Duke, North Caroline (Koenig and Büssing 2010) and validated in Brazil by Taunay et al. (2012).

Lifestyle was analyzed through the FANTASTIC questionnaire that seeks to identify the behavior of individuals in the last 30 days. It encompasses 25 questions divided into nine subscales, namely: (1) family and friends; (2) physical activity; (3) nutrition; (4) cigarettes and drugs; (5) alcohol; (6) sleep, seatbelt, stress and safe sex; (7) type of behavior; (8) insight and (9) career. This questionnaire was created in Canada in 1984 and validated in Brazil by Rodriguez-Añez et al. (2008).

The sum of all points of the FANTASTIC questionnaire classifies the individuals into five categories: "Excellent" (85–100 points); "Very good" (70–84 points); "Good" (55–69 points); "Regular" (35–54 points) and "Needs improvement" (0–34 points).

The data were collected from June to August 2014. As the sample consisted of 30 physicians, the normality of the data was previously tested using the Shapiro–Wilk test, which showed that they did not present a normal distribution. Therefore, the Spearman correlation test was performed, adopting a $p < 0.05$ to be considered statistically significant.

Results

Of the 30 physicians participating in the study, 17 (56.7%) were female, with an average of 38 years ($\pm$ 10.65), 12 professionals (40%) are evangelicals, nine Catholics (30%), and six have no religion (20%). Three of them did not respond (10%). The majority (70%) did not discuss spirituality and health in their academic formation, nor had any training in their work environment (for 86.7% of them) (Table 1).

Scores on the Duke Religion Index (DUREL) indicated that 36.7% attended religious services once/week or more and 66.6% had a regular habit of praying and meditating once a day. In the three questions of Intrinsic Religiosity (IR 1, IR 2, IR 3) 90, 83.3 and 73.3%, respectively, indicated "definitely true" plus "tends to be true" (Table 2).

The internal reliability test of the subscale of religiousness (IR 1–IR 3) was measured by calculating Cronbach's alpha of 0.935, which is considered excellent.

According to FANTASTIC, the lifestyle reached a total score of 74.1 (sd = 8.1), with 61.9% "very good," 23.8% "good" and 9.52% "excellent." As for the internal reliability test of the FANTASTIC questionnaire, a Cronbach's alpha of 0.736 was considered very good.

Table 1 Characteristics of physicians from the PSF health professionals, Capao Redondo ($N = 30$), according to absolute and relative frequencies. Sao Paulo, Brazil, 2016

Variable	*N*	%
Sex ($n = 30$)		
Female	17	56.7
Male	13	43.3
Religion ($n = 29$)		
Evangelicals	12	40.0
Catholic	9	30.0
Others (Buddhist, agnostic, spiritualist, Christian)	1	3.3
Spiritist	1	3.3
None	6	20.0
Practitioner ($n = 29$)		
Yes	18	60.0
No	12	40.0
Number of physicians, according to the type of medicine school where they had graduate ($n = 30$)		
Confessional	6	20.0
Secular	24	80.0
How long did you graduate? ($n = 29$)		
0–3 years	9	31
3.1–5 years	2	6.9
5.1–10 years	7	24.1
More than 10 years	11	37.9
Did you receive focus on Spirituality in your graduation? ($n = 30$)		
Yes	9	30.0
No	21	70.0
Did you receive training about spirituality after your graduation? ($n = 30$)		
Yes	4	13.3
No	26	86.7
Did you participate in the training? ($n = 30$)		
Yes	4	13.3
No	26	86.7

When analyzing FANTASTIC by subscale, in this study, it was emphasized that the "physical activity" subscale ($n = 30$) was 3.4 ($\pm$ 2.37, 0–8), being below the average in relation to the other subscales (Table 3).

In the Spearman correlation test between the ordinal subscales of religiosity and the quantitative subscales of the "FANTASTIC" lifestyle, eight significant moderate correlations were found. They were: ORA and "Insight"; ORA and IR 1 and "Career"; IR 2 and "Family and Friends." There were also inverse associations, statistically significant between ORA, NORA, IR 3 and "Alcohol," as well as between IR 2 and "Physical Activities" (Table 4).

Table 2 Frequencies for religion variables. Sao Paulo, Brazil, 2016

	Category	N	%
ORA (n = 30)	More than once/week	3	10.0
	Once a week	8	26.7
	A few times a month	3	10.0
	A few times a year	8	26.7
	Once a year or less	2	6.7
	Never	6	20.0
NORA (n = 30)	More than once a day	7	23.3
	Daily	13	43.3
	Two or more times/week	5	16.7
	A few times a month	2	6.7
	Rarely or never	3	10.0
IR 1 (n = 30)	Definitely true of me	21	70.0
	Tends to be true	6	20.0
	Unsure	1	3.3
	Tends not to be true	1	3.3
	Definitely not true	1	3.3
IR 2 (n = 30)	Definitely true of me	16	53.3
	Tends to be true	9	30.0
	Unsure	1	3.3
	Tends not to be true	1	3.3
	Definitely not true	3	10.0
IR 3 (n = 30)	Definitely true of me	12	40.0
	Tends to be true	10	33.3
	Unsure	1	3.3
	Tends not to be true	2	6.7
	Definitely not true	5	16.7

ORA Organizational Religious Activity, *NORA* Non-Organizational Religious Activity, *IR 1* I feel the presence of God or the Holy Spirit in my life, *IR 2* my believes are behind of my way of life, *IR 3* I strive to live my religion in all aspects of life

Table 3 Descriptive analysis of the "FANTASTIC" subscales and total score. Sao Paulo, Brazil, 2016

Variables/subscale	Mean	Median	Standard deviation	Min	Max
Family and friends (N = 29)	6.8	7.0	1.36	4	8
Activities (N = 30)	3.4	3.0	2.37	0	8
Nutrition (N = 30)	7.8	8.0	2.50	2	12
Tobacco and drugs (N = 29)	14.6	15.0	1.15	12	16
Alcohol (N = 28)	11.4	12.0	1.07	8	12
Sleep/seat belt/stress/sex (N = 28)	16.0	16.0	2.44	8	20
Type of behavior (N = 30)	4.4	4.0	1.87	1	8
Insight (N = 30)	8.5	9.0	2.24	3	12
Career (N = 27)	3.0	3.0	0.96	1	4
FANTASTIC total score (N = 21)	74.1	77.0	8.07	54	85

Table 4 Spearman Correlation between the Life Style FANTASTIC and religiosity subscales (without reversing the score). Sao Paulo, Brazil, 2016

Lifestyle fantastic subscales	Religiosity subscales	ORA	NORA	IR 1	IR 2	IR 3
Family and friends ($N = 26$)	*R*	0.085	0.160	0.371	0.393	0.284
	p value	0.681	0.435	0.062	0.047*	0.160
Activities ($N = 27$)	*R*	− 0.080	− 0.371	− 0.235	− 0.419	− 0.286
	p value	0.693	0.056	0.239	0.030*	0.148
Nutrition ($N = 27$)	*R*	0.016	0.010	0.161	0.003	0.198
	p value	0.938	0.960	0.422	0.986	0.322
Tobacco/toxics ($N = 26$)	*R*	− 0.364	− 0.164	− 0.182	− 0.111	− 0.155
	p value	0.068	0.423	0.373	0.588	0.450
Alcohol ($N = 25$)	*R*	− 0.424	− 0.637	− 0.288	− 0.386	− 0.537
	p value	0.035*	0.001*	0.162	0.057	0.006*
Sleep, seat belt, stress, safe sex ($N = 25$)	*R*	0.143	− 0.044	0.131	− 0.121	− 0.071
	p value	0.497	0.836	0.531	0.565	0.737
Type of behavior ($N = 27$)	*R*	0.274	0.257	0.199	0.090	− 0.018
	p value	0.167	0.196	0.320	0.655	0.929
Insight ($N = 27$)	*R*	0.416	0.274	0.211	0.095	0.073
	p value	0.031*	0.166	0.292	0.636	0.719
Career ($N = 24$)	*R*	0.532	0.247	0.459	0.237	0.238
	p value	0.007*	0.245	0.024*	0.266	0.262
FANTASTIC total score ($N = 21$)	*R*	0.294	0.147	0.263	0.254	0.077
	p value	0.237	0.562	0.292	0.309	0.762

ORA Organizational Religious Activity, *NORA* Non-Organizational Religious Activity, *IR 1* I feel the presence of God or the Holy Spirit in my life, *IR 2* my believes are behind of my way of life, *IR 3* I strive to live my religion in all aspects of life

*Statistically significant at $p < 0.05$

Discussion

The majority of participants in our study were women (56.7%), with an average of 38 years. In Brazil, among doctors, men are still the majority, 57.5% (Scheffer 2015), but there is a trend toward increasing the number of female physicians in medicine.

As for religion, we observed that 20% of the doctors, participants of this study, have no religion, reaching more than twice the general population, that is 8.1% (Brazil 2010).

According to a sample of 11.7% of all Brazilian doctors, 62.9% considered themselves Catholics, 13.6% without religion, 11.5% Spiritist, 7.3% Protestant and 4.7% of other denominations (Barbosa et al. 2007).

The Federal Medical Council reports that 43.8% of physicians surveyed declare themselves to be very or totally religious, compared to 30% as not at all or little religious (Barbosa et al. 2007). In another study (Santos 2013), it was found that 65% of physicians were very or moderately religious.

In a more detailed study in Brazil, "New Map of Religions," researchers from the Center for Social Policy of the Getúlio Vargas Foundation, found that the frequency in

attending religious services in the country is 50% higher in women and in the elderly (Neri 2011).

Regarding the absence of the R/S approach during the training process, a study that analyzed the curriculum of 86 of the 180 Brazilian medical schools found that only 10.4% of these schools offer classes on this topic; 40.5% had some content about spirituality and health; only two medical schools had practical training, and three included in the curriculum. The majority (54%) of the coordinators of medical courses believe that it is important to teach R/S and health in their schools (Lucchetti et al. 2012).

Souza (2008) mentions that 47 medical schools in the USA, including the Harvard Medical School, have included R/S in their curriculum. However, Lucchetti (2010) says that this number is even higher, reaching 100 American medical schools and 59% British ones.

Fonseca et al. (2014), in a review article, analyzing references in large databases indexed on R/S in undergraduate medical courses between 2006 and 2012, found seven articles exclusively related to the inclusion of R/S theme in the training of physicians, six in the USA and one from the UK. This is also true for 85.9% of 1.400 medical students in Vienna, who would consider talking with their patients about religious/spiritual issues if they wish to do so (Rassoulian et al. 2016).

Data from an anonymous survey enrolling 237 medical doctors from Germany reported that "physicians with a spiritual attitude would see illness also as a chance for an individual development and associated with a biographical meaning rather than just a useless interruption of life" (Büssing et al. 2013, p. 8,9).

The results of the DUREL: ORA, NORA and IR, revealed higher scores on all dimensions when compared to the study by Santos (2013). His study involved 37 Brazilian pediatricians who indicated ORA, attending "once per week or more" to be only 10.8%; "a few times a year" 45.9% and never 8.1%. For NORA, their practice of private religious activities "more than once a day" was 43.2% and "rarely or never" was 13.5%.

As for Intrinsic Religiosity (IR), which evaluates whether one is sincerely committed to a faith tradition, the studies of Fonseca et al. (2014) and Santos (2013), found that, experiencing the presence of God or the Holy Spirit was answered "totally true" and at least "somewhat true" 66 and 73% of the time, respectively, and "somewhat not true or completely not true" 14 and 5.4% of the time, respectively; in IR 2—my beliefs are behind my way of life, they answered "totally true" 69 and 81%, respectively, and "not true" 23 and 2.7%. In the IR 3—I strive to live my religion in all aspects of life, 63 and 73% answered "totally true" and 26 and 8.1% "not true."

According to FANTASTIC, in the present study, a very good overall score (74.08 ± 8.1) was found, but with deficiencies in the "physical activities" subscale (3.4 ± 2.37; $0 - 8$), this being below the average in relation to the other subscales.

When evaluating the lifestyle and stress levels in medical students of a private University in Vitoria, Espírito Santo State—Brazil, the authors classified the general score of the questionnaire "FANTASTIC" as good (Group 2—students from the 5th to 8th semester, with 69.2 points) or very good (Group 1—1st to 4th semester, with 72.1 points, and Group 3—9th to 12th semester, with 71.3 points) (Barbosa et al. 2015).

In a study of 1224 medical graduates from the State University of Sao Paulo (UNESP) in Botucatu, Sao Paulo—Brazil, from 1968 to 2005, using self-administered questionnaires with questions that sought to evaluate aspects of quality of life, physical health and mental health, similar results were identified (adding the "good and very good" answers) with 67.8, 78.8 and 84.5%, respectively (Torres et al. 2011).

In a Portuguese study, conducted with 707 college students, aged 18–20 years, health volunteers, the total lifestyle score was 94.1 (± 10.5) points ("very good," in this adapted scale that goes up to 120 points). No participants had scores below 46 points, 29 participants (4.1%) had a "Regular" rating, 94 participants (13.3%) "good," 434 participants (61.4%) "very good" and 150 participants (21.2%) "excellent" (Silva et al. 2014).

As for the "activities" subscale that was below average in our study, similarities were also found in the study with 482 medical students evaluated by the "FANTASTIC" questionnaire, whose averages were 3.2 (Group 1, students from the 1st to 4th semester); 2.8 (Group 2, 5th to 8th semester) and 3.1 (Group 3, 9th to 12th semester) (Barbosa et al. 2015).

This was also the study of 29 medical professionals from a Family Health Care Center, whose average was 2.93 in the subscale "physical activities" (Silva et al. 2016).

When investigating the health of 324 medical students in Juiz de Fora, Minas Gerais—Brazil, 43% of them did not perform any physical activity and 51% of them considered that, their diet had deteriorated after entering college. The authors recommend intervention measures during graduation to improve the understanding and adoption of good health practices (Chehuen Neto et al. 2013).

The Botucatu UNESP study (Torres et al. 2011) highlights aspects that have most positively interfered with quality of life: practicing physical activities, having leisure time and not smoking.

In Botucatu's study (Torres et al. 2011), less than half (44.4%) of the physicians interviewed practiced physical activities three or more days a week.

When analyzing the correlations found in our study, it was observed that IR 2 was associated with the subscale "Family and Friends." In a study that corroborates this result, the authors mention that this positive correlation was maintained, even after correcting confounding variables such as marital status, age, gender, educational level and socioeconomic level. This is also done in a context of Intrinsic Religiosity (Moreira-Almeida and Stroppa 2012).

According to review articles, social support from religiosity is highlighted by 14 studies considered to be of good technical quality with a positive correlation in 79% of them. The authors also point out that, of the 37 articles, they also considered it of good quality, it was observed that, about 68% had positive correlation when evaluated in the context of Intrinsic Religiosity (Koenig 2012, 2015).

As for the association between IR 2 and physical activities found in our study, we inferred that greater religious involvement, more commitment to physical exercise, corroborated by a systematic review in which groups based on faith, scripture and/or sacred teachings and the level of religiosity represented the main factors for the adoption of an active lifestyle (Santos et al. 2013).

When analyzing the association between ORA, NORA, IR 3 and the alcohol use in the present study, the results of research on the influence of R/S on health behaviors are corroborated (Koenig 2012, 2015). In a cross-sectional study with 363 individuals aged 18 years and over, organizational and Intrinsic Religiosity was found to be a protective factor in relation to moderate and high alcohol and tobacco consumption (Queiroz et al. 2015).

Other authors also demonstrated this beneficial relationship by investigating 1124 students in an online survey, indicating that the importance given to religion had a protective effect on alcohol use among these adolescents (Neighbors et al. 2013).

In the correlation between ORA and Insight ($r = 0.416$, $p = 0.03$), the "FANTASTIC" instrument deals with the items: "I think positively and optimistically"; "I feel tense and

disappointed" and "I feel sad and depressed." When evaluating 48,894 American nurses, with an average age of 58 years, followed by 1996 until 2008, the same correlation of the current study was perceived, with lower risk of being depressed among those who participated in religious services than those who did not participate (Li et al. 2016).

Although a positive association was found in 61% of the works between depressed patients and those who are religious or spiritual, there are also those in which this was not the case, especially those involving negative religious coping that present punitive aspects of religiosity. The most positive effects of R/S on depression are more intense in populations at risk and experiencing stress situations (Moreira-Almeida and Stroppa 2012).

R/S presents a positive correlation with health in 73% of 40 studies from 2000 to 2010 that evaluated the sensation of hope and 81% of 32 studies that evaluated optimism. Of the 444 papers selected on depression, 61% had correlation; 49% had an improvement in anxiety, and only 11% presented worsening of the picture due to the punitive context, with a negative correlation between R/S and suicide rates, that is, the higher the R/S, the lower the suicide rates in 71% of these articles selected in his scholarly review (Koenig et al. 2012; Koenig 2015).

As for the positive association found between ORA, IR 1 and "Satisfaction with my work or function," a direct relationship was not identified in the literature. In an indirect way, we understood that, when evaluating aspects related to the fixation of physicians in the workplace, about one-third of physicians consider themselves overworked in their jobs in this order (all with more than 96% of choice): salary/remuneration; working condition; quality of life; safe environment; possibility of improvement and specialization and career plan and professional recognition, authors pointed out that about one-third of physicians consider themselves overworked in their work (Scheffer 2015).

Also, indirectly, regarding these issues, we highlighted that R/S brings greater meaning and sense of purpose in life, with a positive correlation in 93% of the 45 studies evaluated. Scholars also stated that, from 36 to 39% there was improvement in performance in daily activities versus 18–23% leading to worsening. They also identified a 79% positive correlation in 14 studies that investigated the association between R/S, social capital and volunteering (Koenig et al. 2012; Koenig 2015).

This work has a number of limitations such as a small sample of physicians, its cross-sectional nature and issues related to the application in clinical practice, though, more studies are needed in order to have substantial associations.

Conclusion

Most of the physicians in this study did not have academic training regarding spirituality and health either during training or after graduation. The level of religiosity was high; however, it is centered in the particular activities of the religion and in the subjective religiosity given to the intrinsic domain.

They have a very good lifestyle, except for the subscale "Physical Activities," with regard to moderate or vigorous physical exercises. We have found a positive association between the variables ORA and "Insight"; ORA, IR 1 and "Career"; IR 2 and "Family and Friends." Statistically significant inverse associations between ORA, NORA, IR 3 and "Alcohol" as well as IR 2 and "Physical Activities" were also observed.

This study led us to a deeper understanding of how religiosity is related to the physician's lifestyle; in other words, a stronger religious involvement is associated with a better mental health, a good relationship and a positive health behavior.

Compliance with Ethical Standards

Conflict of interest All the authors declare that they have no conflict of interest.

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