

## Relationship between religiosity and smoking cessation among users of the Family Health Strategy\*

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**Objective:** to explore the relationship between religiosity and smoking cessation among users of the Family Health Strategy.

**Method:** a longitudinal study carried out with participants of the Smoking Treatment Program of two basic health units. Religiosity (exposure) was assessed according to the Duke University Religiosity Index and described according to age, race, family income, marital status and schooling. Smoking cessation (outcome) was quitting smoking for at least six months. The bivariate analyses were based on Pearson's chi-square test and on Mann-Whitney's non-parametric test.

**Results:** gender, age and marital status were related to religiosity, but religiosity was not related to smoking cessation.

**Conclusion:** most of the smokers presented predominance of religious involvement, especially women, older individuals and those living with a partner, which shows that this can be an important aspect of support during treatment for smoking cessation.

**Descriptors:** Religion; Family Health Strategy; Tobacco Use Cessation; Tobacco Use Disorder.

\* Paper extracted from master's thesis "Association between religiosity and cessation of smoking in users served by family health strategy", presented to Universidade Federal do Rio de Janeiro, Escola de Enfermagem Anna Nery, Rio de Janeiro, RJ, Brazil.

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### How to cite this article

Mattos LR, Abreu AMM, Portela LF, César MP, Paixão LAR, Jomar RT. Relationship between religiosity and smoking cessation among users of the Family Health Strategy. SMAD, Rev Eletrônica Saúde Mental Álcool Drog. 2022 Apr.-June;18(2):50-59. <https://doi.org/10.11606/issn.1806-6976.smad.2022.178885>

## Relação entre religiosidade e cessação do tabagismo entre usuários da Estratégia Saúde da Família

**Objetivo:** explorar a relação entre a religiosidade e a cessação do tabagismo entre usuários da Estratégia Saúde da Família. **Método:** estudo longitudinal realizado com participantes do Programa de Tratamento do Tabagismo de duas unidades básicas de saúde. A religiosidade (exposição) foi avaliada segundo o Índice de Religiosidade da Universidade de Duke e descrita segundo idade, raça, renda familiar, situação conjugal e escolaridade. A cessação do tabagismo (desfecho) foi a interrupção do tabagismo por pelo menos seis meses. As análises bivariadas se basearam no teste qui-quadrado de Pearson e no teste não paramétrico de Mann-Whitney. **Resultados:** sexo, idade e situação conjugal relacionaram-se com a religiosidade, porém a religiosidade não se mostrou relacionada à cessação do tabagismo. **Conclusão:** A maioria dos tabagistas apresentou predominância no envolvimento religioso, especialmente mulheres, indivíduos mais velhos e que vivem com parceiro, o que mostra que esse poder ser um aspecto importante de apoio durante o tratamento para a cessação do tabagismo.

**Descritores:** Religião; Estratégia Saúde da Família; Abandono do Uso de Tabaco; Tabagismo.

## Religiosidad y abandono del tabaquismo en usuarios del plan Estrategia de Salud de la Familia

**Objetivo:** explorar la relación entre religiosidad y abandono del tabaquismo entre usuarios del plan Estrategia Salud de la Familia. **Método:** estudio longitudinal realizado con participantes del Programa de Tratamiento del Tabaquismo de dos unidades básicas de salud. La religiosidad (exposición) se evaluó de acuerdo con el Índice de Religiosidad de la Universidad de Duke y se describió según la edad, raza, ingresos familiares, estado civil y educación. El abandono del tabaquismo (resultado) consistió en la interrupción del tabaquismo durante al menos seis meses. Los análisis bivariados se basaron en la prueba de chi-cuadrado de Pearson y en la prueba no paramétrica de Mann-Whitney. **Resultados:** el sexo, la edad y el estado civil se relacionaron con la religiosidad, pero la religiosidad no se relacionó con el abandono del tabaquismo. **Conclusión:** en la mayoría de los fumadores predominó la participación religiosa, especialmente en mujeres, personas mayores y que viven en pareja, lo que demuestra que este puede ser un aspecto importante de apoyo durante el tratamiento para el abandono del tabaquismo.

**Descriptorios:** Religión; Estrategia de Salud Familiar; Cese del Uso del Tabaco; Tabaquismo.

## Introduction

Smoking is a serious problem for global public health, as well as one of the main causes of death, diseases and impoverishment, responsible for major economic and social costs, especially due to the majority (80%) of its consumers living in low- or middle-income countries<sup>(1)</sup>. Although there has been a reduction in tobacco use in most countries and regions, population growth still reflects a large number of smokers worldwide<sup>(1)</sup>.

In the Brazilian context, fighting against the smoking habit is a very successful policy with international prominence<sup>(2)</sup>, as Brazil is one of the only countries in the world which has been able to effectively develop and implement smoking control policies recommended by international treaties. It is notorious that over the last few years, with all the measures adopted to combat tobacco use, millions of lives have been saved; however, this problem is far from an end<sup>(1)</sup>.

The III National Survey on Drug use in the country showed that 17.3% of the Brazilian population consumed some tobacco product in the 12 months preceding the survey<sup>(3)</sup>. It is estimated that in Brazil, tobacco consumption was responsible for 147,072 deaths, 2.69 million years of life lost, 75,663 strokes, 157,126 acute myocardial infarctions and 63,753 cancer diagnoses in 2011. In addition, it has represented a cost of R\$ 23.37 billions for the health system<sup>(4)</sup>.

The disparities between health and socioeconomic status still represent a challenge for managers in the sense of increasing the population impact of smoking control actions in the world<sup>(5)</sup>. The decreasing trend in the prevalence of smokers among people with higher schooling levels and more purchasing power shows the importance of treating the smoking habit from the perspective of a problem that reflects social inequalities and affects the poorest population<sup>(6-7)</sup>. The amount spent on tobacco causes relevant impacts on the household budget, since that money could be used to meet other more urgent needs in the family nucleus<sup>(8)</sup>.

Currently, the WHO points out that one of the main strategies to be adopted is offering assistance in smoking cessation<sup>(1)</sup>. Although nearly 80% of the smokers wish to quit the habit, only approximately 3% a year are able to do so without help, which evidences the importance of promoting strategies and encouragement means that stimulate smoking cessation<sup>(9)</sup>. It is known that the Smoking Treatment Program performs very well in terms of cost per smoker that quits the habit since, especially taking into account the burden of tobacco-related diseases, treatment for smoking cessation must be a priority measure in the planning of health resources<sup>(10)</sup>.

In Brazil, it is recommended that care for the smoker be offered in the basic health unit, in the territory where the individual lives, where a relationship of bond with the

professionals who assist them is supposed; therefore, greater therapeutic success can be attained when addressing the individual in a comprehensive manner, a relevant aspect, since the smoking cessation process proves to be something complex and multifactorial, which is not yet well understood<sup>(11)</sup>.

From this perspective, some approaches have been highlighted in the sense of pointing out the importance of the religiosity aspects in the smoking habit, as an aid to overcome the barriers involved in cessation<sup>(12-14)</sup>. Religiosity can appear related to health, mainly from three perspectives: as a coping strategy, as a source of social support, and as a behavioral modifier<sup>(15)</sup>.

Religiosity can be related to the smoking habit through the perspective that people who regularly attend religious activities or who have spirituality and the presence of a higher being or energy as sources of comfort are healthier and have greater healing potentials, because faith would benefit health, since it helps people to avoid unhealthy habits<sup>(16)</sup>. In addition to that, the simple act of praying can generate relief from tensions, diverting the thought from the problems and afflictions<sup>(17)</sup>.

Another important relationship of religion is as complementary support to the treatment, through welcoming, bonding and social support. The Church can represent a promising environment for a new network of friends<sup>(18)</sup>. Thinking about the positive effect of religiosity may favor a new perspective about motivation of the individuals, because it promotes conservative attitudes towards drug use and better compliance with the established rules, in addition to favoring high levels of well-being, self-efficiency, and self-respect for the body and the mind<sup>(19)</sup>.

However, there is a gap in this knowledge because few studies address the characteristics of the religiosity of the smoking population in primary care, which can have certain potential for the elaboration of more complete and comprehensive interventions to approach smokers and their best care possible. In this sense, this study aimed at exploring the relationship between religiosity and smoking cessation among users treated by the Family Health Strategy.

## Method

This was a longitudinal and quantitative study that used data from two different moments in the participants' life. The first moment referred to the information collected at the time of their entry into the units' smoking treatment program and the second was related to the interviews conducted during the home visits or in the health units, where previous exposure to religiosity was verified.

The study was carried out in two primary care units in the municipality of Rio de Janeiro that had their territory covered by Family Health Strategy teams and had the

Smoking Treatment Program structured for at least five years. In much of their area, the units covered territories with significant social vulnerability and were located in the neighborhoods of Ramos and Tijuca.

The Smoking Treatment Program is structured through cognitive interventions and behavioral skills training, which aim at cessation and prevention of relapse. It is developed through periodic sessions, preferably in support groups, but can also be conducted individually. When initiating the cognitive-behavioral approach, a clinical evaluation consultation of the smokers is conducted in order to elaborate a treatment plan, where the professionals must evaluate aspects such as: the patients' motivation to quit smoking, their level of physical dependence on nicotine, whether there is indication and/or contraindication of the use of drug support, existence of psychiatric comorbidities, and collecting their clinical history<sup>(11)</sup>.

All the smokers registered to participate in the group within the Smoking Treatment Program of the units under study were considered eligible, and were interviewed based on the script recommended by the National Cancer Institute, between 2011 and 2015. From the total of 496 users enrolled in the Smoking Treatment Program, 395 were not found after three contact attempts and one refused to participate; therefore, 100 users comprised the non-probabilistic sample of this study, all of which had attended the first interview for admission to the program more than six months ago and did not have any cognitive impairment.

Data collection took place from June to December 2016 and was divided into two stages: secondary data collection and face-to-face interviews. Collection of secondary data was based on the "Clinical Anamnesis for the Treatment of the Smoking Habit", an instrument elaborated by the National Cancer Institute. The instrument used in the face-to-face interview included the version of the Duke Religiosity Scale (DUREL) translated and adapted to Portuguese<sup>(20)</sup> and consisted in three religiosity dimensions that are separately evaluated: organizational religiosity (OR), non-organizational religiosity (NOR) and intrinsic religiosity (IR), all considered as exposures of interest in this study.

The exposure variables were categorized as "high religiosity" (reference category) and as "low religiosity" (exposure category), having as cutoff points the values of 3 for organizational and non-organizational religiosity and of 7.5 for intrinsic religiosity<sup>(21)</sup>. The outcome of interest was smoking cessation, adopted in this study as having quit smoking at some moment for at least six months. In addition to that, the following variables were also used: age, race, family income, marital status and schooling.

Sample description was based on descriptive statistics such as simple frequencies and percentage

values. The bivariate analyses were based on Pearson's chi-square test and on Mann-Whitney's non-parametric test, considering  $p < 0.05$ . The data were analyzed in the *Statistical Package for the Social Sciences* (IBM-SPSS, 19.0) program.

This study was approved by the Research Ethics Committee of the Anna Nery Nursing School (*Escola de Enfermagem Anna Nery*, EEAN) under No. 1,515,331.

## Results

The investigated group was mostly composed by women (74%), white-skinned (52.0%) and single (67.7%). The mean age was 51.7 years old (SD=11.6) and 51.3% had a family income higher than two minimum wages.

Table 1 shows that most of the participants were Catholics (40%) and only 11% reported professing no religion. Of the sample, 16% never attended any religious temple (organizational religiosity) and 8% reported never devoting their time to individual religious activities, such as prayers, meditations, and reading the Bible or other religious texts (intrinsic religiosity). Regarding intrinsic religiosity, 89% answered that God's presence is entirely true in their lives, 57% consider it entirely true that their religious beliefs are the foundation of their entire way of living, and 48% say it is entirely true that they strive hard to live up to their religion in all aspects of life.

Table 1 - Religiosity characteristics of the sample. Rio de Janeiro, RJ, Brazil, 2016 (n = 100)

Characteristics studied	%
Religion declared	
Catholicism	40
Protestantism	26
Afro-Brazilian	13
Kardecist Spiritism	6
Others	4
No religion	11
Organizational religiosity	
How often do you go to a church, temple, or other religious gathering?	
1. More than once a week	11
2. Once a week	26
3. Two or three times a month	20
4. A couple of times a year	18
5. Once a year or less	9
6. Never	16

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Characteristics studied	%	Characteristics studied	%
Non-organizational religiosity		4. Mostly not true	0
How often do you devote your time to individual religious activities such as prayer, meditation, reading the Bible or other religious texts?		5. Not true	2
1. More than once a day	40	My religious beliefs are the real foundation of my entire way of living.	
2. Daily	41	1. Entirely true for me	57
3. Two or more times a week	4	2. Mostly true	21
4. Once a week	3	3. I'm not sure	12
5. A few times a month	4	4. Mostly not true	5
6. Rarely or never	8	5. Not true	4
Intrinsic religiosity		I strive hard to live up to my religion in all aspects of life.	
I feel the presence of God (or of the Holy Spirit) in my life.		1. Entirely true for me	48
1. Entirely true for me	89	2. Mostly true	33
2. Mostly true	6	3. I'm not sure	6
3. I'm not sure	2	4. Mostly not true	3
		5. Not true	9

Table 2 shows that participants aged 52 years and older presented a higher proportion of high organizational religiosity (p = 0.023). Regarding non-organizational religiosity, individuals with lower incomes presented a higher proportion of high religiosity (p = 0.009). In relation

to intrinsic religiosity, it was observed that people over 52 years of age (p = 0.019), as well as women (p = 0.009) and those living with a partner (p = 0.015), showed a higher proportion of high religiosity.

Table 2 - Relationship between sociodemographic variables and religiosity in the sample. Rio de Janeiro, RJ, Brazil, 2016 (n = 100)

Characteristics studied	Organizational religiosity		Non-organizational religiosity		Intrinsic religiosity	
	High religiosity n (%)	p-value	High religiosity n (%)	p-value	High religiosity n (%)	p-value
Age						
From 52 years old	33 (68.8)	0.023	42 (87.5)	0.882	45 (93.8)	0.019
Up to 52 years old	24 (46.2)		46 (88.5)		40 (76.9)	
Race						
White	28 (54.9)	0.641	44 (86.3)	0.414	43 (84.3)	0.462
Non-white	28 (59.6)		43 (91.5)		42 (89.4)	
Family income						
More than 2 minimum wages	24 (61.5)	0.853	32 (82.1)	0.030	33 (84.6)	0.157
Up to 2 minimum wages	22 (59.5)		36 (97.3)		35 (94.6)	

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Characteristics studied	Organizational religiosity		Non-organizational religiosity		Intrinsic religiosity	
	High religiosity n (%)	p-value	High religiosity n (%)	p-value	High religiosity n (%)	p-value
Gender						
Male	13 (50.0)	0.402	22 (84.6)	0.537	18 (69.2)	0.009
Female	44 (59.5)		66 (89.2)		67 (90.5)	
Marital status						
Lives with partner	19 (61.3)	0.685	28 (90.3)	0.870	23 (74.2)	0.015
Does not live with a partner	37 (56.9)		58 (89.2)		60 (92.3)	
Schooling						
Higher education	11 (64.7)	0.671	15 (88.2)	0.091	15 (88.2)	0.857
Complete high school	17 (56.7)		24 (80.0)		25 (83.3)	
Incomplete elementary school	27 (57.4)		45 (95.7)		41 (87.2)	

In Table 3, no relationship was observed between the religiosity dimensions and smoking cessation.

Table 3 - Relationship between variables related to religiosity and smoking cessation and continued abstinence in months. Rio de Janeiro, RJ, Brazil, 2016 (n = 100)

Characteristics studied	Outcomes			
	Smoking cessation		Continued abstinence	
	n (%)	p <sup>*</sup> -value	Mean (±SD)	p <sup>†</sup> -value
Organizational religiosity				
High	16 (28.1)	0.379	7.5 (12.30)	0.207
Low	10 (23.3)		6.7 (13.49)	
Non-organizational religiosity				
High	22 (25.0)	0.504	7.3 (13.37)	0.439
Low	4 (33.3)		5.8 (7.08)	
Intrinsic religiosity				
High	23 (27.1)	0.566	7.5 (13.21)	0.881
Low	3 (20.0)		5.53 (10.10)	

\*p-value = Pearson's Chi-Square Test; †p-value = Mann-Whitney's U Test

## Discussion

In the population studied, only a small percentage stated professing no religion and the majority self-declared as Catholics or Protestants, data that

resemble the 2010 census and other studies already conducted<sup>(22-24)</sup>. Regarding religious affiliation, it is important to highlight that people can consider themselves Catholics, although on more social occasions than in the religious rituals experienced. Especially in



Brazil, it is observed that people consider themselves Catholics as a broad denomination, but attend Spiritist centers, candomblé and other cults simultaneously. Therefore, the data on religious frequency or religious affiliation must be interpreted with caution.

In this study, the relationship of the female gender and older age with greater religiosity is reinforced by the results found in other studies<sup>(25-26)</sup>. In the aging process, religion emerges as an important coping strategy, mainly in the case of aged individuals. In addition to that, professing a religion provides support in understanding the afterlife and the purpose of life, as well as it contributes to the physical and mental health of the older adults. Religious practice also helps in reducing anxiety, increases hope and helps to understand the meaning of existence<sup>(17)</sup>.

Another study, which aimed at estimating the prevalence and type of tobacco use among older adults, verified by logistic regression analysis that religiosity was independently associated as a protective factor for smoking<sup>(27)</sup>. In this study, income, schooling level, occupation and marital status did not present consistent relationships with religiosity; however, other studies show that they may be related. Individuals with lower incomes presented higher proportions of high religiosity in general, which can be related to a greater search to overcome economic problems through individual religious activities, such as prayers and reading religious texts<sup>(17)</sup>. The simple act of praying generates relief from tensions, diverting thought from problems and afflictions. Another study identified that the lower the number of years studied, the higher the levels of religiosity presented<sup>(26)</sup>.

Religiosity has been taking shape in the health field as a support to face several situations and adversities. For a long time, religious aspects of human life have been disregarded by mental health professionals, even being often considered as pathological, mainly when related to psychiatric patients. However, current studies show that religiosity has been a factor of great importance in human life, having a positive association with good mental health<sup>(28)</sup>.

A higher level of religiosity can serve as a preventive factor for the consumption of licit and illicit drugs, as well as being able to reduce the rates of suicides, addictions to licit and illicit drugs, violent behaviors and psychopathologies, among others<sup>(29)</sup>. Having religiosity is presented as a protection factor against smoking in a study conducted in 2016 with 977 students in Bushehr, southern Iran, where it was evidenced that higher scores for religious beliefs among the students reduced the chances for associations with passive, moderate and intense smokers<sup>(29)</sup>. Even adherence to religious institutions by the family can act as a factor to prevent drug use even in contexts of social adversity, where there is exposure to trafficking and violence<sup>(30)</sup>.

In this study, no statistical significance was found between the predictive variables and the outcome, which we can attribute to the reduced number of participants, since many were not found for the investigation of exposure, in addition to the homogeneity of the population studied in relation to religiosity. However, in several studies<sup>(31-32)</sup>, religiosity is discussed as an important aspect in actions to prevent and quit smoking, and this was found predominantly among the studied population.

In a cohort study that examined the influence of multiple dimensions of religious involvement (religious frequency, religious importance, spiritual importance, religious/spiritual comfort and decision-making) on behavior changes in relation to smoking, religiosity evidenced the association of religion in preventing initiation of the smoking habit but not in smoking cessation<sup>(31)</sup>. Another study conducted in basic health units in southeastern Brazil evidenced that religiosity was an important factor in the influence of the smoking behavior among the users, as well as in prevention and use. Those who stated professing a religion had lower prevalence values regarding the smoking habit than those who did not. Additionally, prevalence among those who did not profess any religion was higher than among those who did. In addition to that, the smoking habit was associated with self-reported religiosity, organizational religious activity and some aspects of intrinsic religiosity<sup>(32)</sup>.

The smoking cessation process is something complex and multifactorial; therefore, it is necessary to seek to understand smokers within their life history and possible motivations. Going beyond the prescriptive practice requires careful observation on the part of the health professionals, as well as their ability to create an environment capable of motivating people to care for their own health<sup>(33)</sup>. Religion can act as complementary support to the treatment, through welcoming, bonding and social support. The Church can be a promising environment for a new network of friends<sup>(18)</sup>. In this context, in a systematic review on barriers to smoking cessation in vulnerable groups, it is verified that stress management and lack of support for abandonment are priority areas for research on cessation, implementation of the program and change in public health policies<sup>(34)</sup>.

All these aspects alert to the need for interventions that reinforce self-motivation as a fundamental element for smoking cessation. They indicate the importance of prevention and treatment groups for smokers in the primary care services, locus where the professional has the opportunity to know and monitor the user within their social context<sup>(35)</sup>.

As study limitations, it is worth mentioning the small sample, due to the difficulty recruiting the participants to conduct the interviews for issues related to urban violence present in the territory under study, change of address,

difficulty accessing the participants due to work issues, added situations that eventually affected the statistical power of the study. In addition to that, the possibility of memory bias, as the information regarding religiosity as exposure was collected after the outcome had occurred.

## Conclusion

It is noticed that the vast majority of the smokers studied present predominance in religious involvement, especially women, older individuals and those living with a partner, which shows the importance of considering this aspect during cessation treatment, although no relationship was found between religiosity and smoking cessation. Thus, the originality of the study is demonstrated by addressing the theme of the religiosity of the Family Health Strategy users enrolled in the Smoking Treatment Program.

It is important that the theme of religiosity is addressed in the training courses of health professionals and professional updating, as it is an aspect to be considered for a more comprehensive approach to smokers. In addition to that, we recommend new studies that explore the theme, mainly with regard to the support of religiosity in the face of substance consumption cessation, and not only as a protective factor against initiation of use, since it is a theme still little explored in the literature.

The understanding of the variables involved in smoking cessation and the maintenance of abstinence are still confusing and multifaceted. In this sense, religiosity can be inserted as an important path in the search to understand this relationship in order to support health professionals so that they modify their practices for a broader and fuller approach to the users.

The health professional's objective is to find common ground with all the patients, not meaning to change beliefs, but trying to support beliefs that help the patient to face the disease. Coping strategy, source of social support, behavioral modifier.

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**All authors approved the final version of the text.**

**Conflict of interest: The authors have stated that there are no conflicts of interest.**

Received: Apr 8<sup>th</sup> 2021

Accepted: Aug 13<sup>th</sup> 2021

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