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Healthy lifestyle and common mental disorders (CMD) in the context of COVID-19

Estilo de vida e Transtornos Mentais Comuns (TMC) no contexto da COVID-19

Estilo de vida y Trastornos Mentales Comunes (TMC) en el contexto de la COVID-19

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Abstract
Objective: to analyze the mediating effect of a healthy lifestyle on the mental health of participants in a Virtual Health Fair, during the COVID-19 pandemic. Methodology: Cross-sectional of 1,029 people aged 18 years and over. The Virtual Health Fair was organized as a tridimensional, and data were collected through a link on Google Forms, containing the sociodemographic data form, the Eight Natural Remedies Questionnaire (Q8RN), and the Common Mental Disorders questionnaire (SRQ-20). A Structural Equation Modeling (SEM) was performed. Results: Most participants were female (69%; n= 729), married (53.5%; n= 565), of higher education (43.2%; n= 458), and Adventist in religious affiliation (56.7%; n=597). On average, lifestyle was categorized as good by the Q8RN score (mean 56.61; SD 11.59), with a deficiency in the practice of exercise (5.87; 4.02). The Body Mass Index (BMI) was overweight on average (mean 26.02; SD 5.24). A prevalence of common mental disorders was 30.2% based on the SRQ-20 questionnaire. Conclusion: Results indicated that BMI, age, education, and religion had a strong protective effect (62%, $p<0.05$) for common mental disorders, mediated by healthy lifestyle. A better lifestyle, through the eight natural remedies, within the context of the COVID-19 pandemic, mediated the protective effects of lower BMI, older age, and Adventist religion on common mental disorders. The practice of healthy habits should be encouraged in promoting mental health during the current and future pandemics.
Keywords: Healthy lifestyle; Mental health; COVID-19; Health promotion.

Resumo
Objetivo: analisar o efeito mediador do estilo de vida saudável na saúde mental dos participantes de uma Feira Virtual de Saúde, durante a pandemia de COVID-19. Metodologia: Estudo transversal de 1.029 pessoas com 18 anos ou mais. A Feira Virtual foi organizada de forma tridimensional e os dados foram coletados por meio de um link no Google Forms, contendo o formulário de dados sociodemográficos, o Questionário de Oito Remédios Naturais (Q8RN) e o questionário de Transtornos Mentais Comuns (SRQ-20). Realizou-se uma Modelagem de Equações Estruturais (SEM). Resultados: A maioria dos participantes era do sexo feminino (69%; n= 729), casada (53,5%; n= 565), com ensino superior (43,2%; n= 458) e adventista de filiação religiosa (56,7%; n=597). Em média, o estilo de vida foi

categorizado como “bom” pelo escore Q8RN (média 56,61; DP 11,59), com deficiência na prática de exercícios (5,87; 4,02). O Índice de Massa Corporal (IMC) apresentou média de sobrepeso (média 26,02; DP 5,24). A prevalência de transtornos mentais comuns foi de 30,2% com base no questionário SRQ-20. Conclusão: Os resultados indicaram que IMC, idade, escolaridade e religião tiveram forte efeito protetor (62%, p<0,05) para transtornos mentais comuns, mediado por estilo de vida saudável. Um estilo de vida melhor, por meio dos oito remédios naturais, no contexto da pandemia de COVID-19, mediou os efeitos protetores do IMC mais baixo, da idade avançada e da religião adventista nos transtornos mentais comuns. A prática de hábitos saudáveis deve ser incentivada na promoção da saúde mental durante as atuais e futuras pandemias.
Palavras-chave: Estilo de vida saudável; Saúde mental; COVID-19; Promoção de saúde.

Resumen
Objetivo: analizar el efecto mediador de un estilo de vida saludable en la salud mental de los participantes de una Feria Virtual de Salud, durante la pandemia de COVID-19. Metodología: Estudio transversal de 1.029 personas de 18 años o más. La Feria Virtual se organizó en tres dimensiones y los datos fueron recolectados a través de un enlace en Google Forms, que contiene el formulario de datos sociodemográficos, el Cuestionario de Ocho Remedios Naturales (Q8RN) y el cuestionario de Trastornos Mentales Comunes (SRQ-20). Se realizó un Modelado de Ecuaciones Estructurales (SEM). Resultados: La mayoría de los participantes eran mujeres (69%; n= 729), casadas (53,5%; n= 565), con estudios superiores (43,2%; n= 458) y filiación religiosa (56,7%; n=597). En promedio, el estilo de vida se clasificó como "bueno" según la puntuación Q8RN (media 56,61; SD 11,59), con una mala práctica de ejercicio (5,87; 4,02). El Índice de Masa Corporal (IMC) mostró un promedio de sobrepeso (media 26,02; DE 5,24). La prevalencia de los trastornos mentales comunes fue del 30,2% según el cuestionario SRQ-20. Conclusión: Los resultados indicaron que el IMC, la edad, la educación y la religión tuvieron un fuerte efecto protector (62%, p<0,05) para los trastornos mentales comunes, mediado por un estilo de vida saludable. Un mejor estilo de vida a través de los ocho remedios naturales, en el contexto de la pandemia de COVID-19, medió los efectos protectores de un IMC más bajo, la edad avanzada y la religión adventista en los trastornos mentales comunes. Se debe fomentar la práctica de hábitos saludables en la promoción de la salud mental durante las pandemias actuales y futuras.
Palabras clave: Estilo de vida saludable; Salud mental; COVID-19; Promoción de la salud.

1. Introduction

COVID-19 is an infectious disease caused by the new coronavirus (SARS-CoV-2) that has different symptoms, depending on the variant of infection, such as: fever, tiredness, dry cough, pain, nasal congestion, headache, conjunctivitis, sore throat, diarrhea, loss of taste or smell, rash, or discoloration of fingers or toes (OPAS, 2021). Having an effective vaccine is essential, but it alone does not guarantee protective results for the most vulnerable groups, justifying adherence to other prevention and comprehensive health promotion programs (Cueto, 2020).

This infectious disease spread rapidly around the globe, becoming a pandemic in early 2020. Because of its severity, it has impacted not only the health of thousands of people, but also their economic and social lives (Silva, Santos, & Oliveira, 2020; Faro et al., 2020; Castro et al., 2021). The same authors cited that social isolation, for example, has had important consequences for the population’s health, generating serious mental disorders. Among the most cited Common Mental Disorders (CMD) are depression, anxiety attacks and difficulties in relationships (Park et al., 2021).

A meta-analysis done by Santabárbara et al. (2021) showed that the prevalence of anxiety in the general population, during COVID-19 was of 25% (95% CI 21%-29%), indicating a threefold increase compared to the global pre-pandemic period which was 7,3% (Stein et al., 2017). Vieira and Meirinhos (2021) also corroborate this statement that mental health was better before the pandemic in Portugal.

Several individual and population strategies must be implemented to preserve the mental well-being of vulnerable groups and lessen the impact of modifiable factors associated with anxiety.

Another meta-analysis reporting sadness/depression, nervousness/anxiety and sleep problems revealed that, out of 45,161 Brazilian adults surveyed, 40.4% (95%CI 39.0;41.8) constantly felt sad or depressed, 52.6 % (95%CI 51.2;54.1) anxious or nervous; 43.5% (95%CI 41.8;45.3) developed sleep problems and 48.0% (95%CI 45.6;50.5) reported intensified preexisting sleep problems during the COVID-19 pandemic (Barros et al., 2020). These same authors declared that the greatest

psychological impact and prevalence of feelings of depression/sadness and anxiety/nervousness were in women. Plus, to that, the highest prevalence of negative mental health symptoms was in young adults and people with a history of depression.

The COVID-19 pandemic was associated to numerous factors, including a weakened immune system that, coupled with inadequate lifestyle habits such as altered or insufficient sleep, inadequate eating, sedentary lifestyle and not taking time to relax, led many to emotional exhaustion, unhappiness and even death (Nieman, 2019; Pluut & Wonders, 2020; Jahrami et al., 2022).

In a study with 2,689 people, represented by 65 countries, the negative impact of the pandemic on the state of physical and mental health, as well as on lifestyle (eating habits, sleep, and tobacco use) was evidenced, with worse results for those who were severely deficient in health status (Tuakli-Wosornu et al., 2022).

Hence, the importance of promoting a healthy lifestyle as a strategy to prevent and cope with this and other diseases. Lifestyle is conceptualized as "the typical way of living that characterizes an individual or group" (BVS, 2021). In this study, we sought to address Healthy Lifestyle based on the adoption of healthy habits using the Eight Natural Remedies (ENR) approach proposed by White (1905): nutrition, exercise, water, sunlight, temperance, clean air, rest, and trust in God. These remedies form the acronym NEWSTART was proposed by the Weimar Institute in California - USA, in 1977 (Foster, 1989).

The positive effects of healthy practices, contemplated in the ENR, have been associated with health promotion by strengthening the immune system and acting synergistically in integral health, covering the physical, mental, and spiritual aspects of the human being (Venter et al., 2020; Ghareghani et al., 2018; Glencross et al., 2020; Rico-Rosillo & Veja-Robledo, 2018; Lucchetti, Koenig & Lucchetti, 2021).

The ENR were addressed more comprehensively in a book that brings in each chapter how each natural remedy can positively influence overall health, including mental health outcomes (Alfieri & Abdala, 2019). These authors affirm that, a balanced nutrition, rich in B vitamins, minerals, vitamins, essential amino acids, and fatty acids are essential for the proper functioning of the brain; exercise prevents and treats mental disorders as well as helps people socialize, when it comes to group physical activities; water balances the mood, emotions and calms the nerves; sunlight reduces episodes of depressive symptoms; temperance is linked to moderation, parsimony, control over impulses, attitudes, and decisions; clean air increases levels of mental well-being, generating satisfaction; adequate and quality rest restores energy and vitality, restoring a better way of thinking; and, last, but not least, trust in God promotes resilience and coping, bringing tranquility and peace (Alfieri & Abdala, 2019).

Thus, this study aimed to analyze the mediating effect of a healthy lifestyle between sociodemographic factors and mental health, in participants of a "Virtual Health Fair", in the context of COVID-19.

2. Methodology

This is a cross-sectional study, with a quantitative approach (Polit & Beck, 2006). Non-probability sampling was used, using the Snowball Sampling technique (Goodman, 1961; Vinuto, 2015), which means that each participant would recruit another subject close to him for the study (Costa, 2018). The participants were aged 18 or over who were invited to participate in an educational event called Virtual Health Fair (VHF). This fair was organized by the members of the research group called Religiosity and Spirituality in Integrality of Health (REIS), that is certified by the National Council for Scientific and Technological Development of Research (CNPq) in Brazil. This study was approved by the Research Ethics Committee by the number 4.643.106, CAAE 45212621.5.0000.5377.

When visiting the VHF, the participants travel through a circuit with eight virtual booths where a short lecture is given by health professionals. They also have an opportunity to receive guidance on each of the ENRs and telephone contact is made available for any additional questions. VHF was developed by "OnCloud7".

For data collection, a link to access the VHF was made available, after reading and agreeing to the Free and Informed Consent Term (FICT). Participants answered a form containing sociodemographic data and the instruments: Questionnaire Eight Natural Remedies (Q8RN), (Abdala et al., 2018) and the Self-Reported Questionnaire (SRQ-20) (Harding et al., 1980).

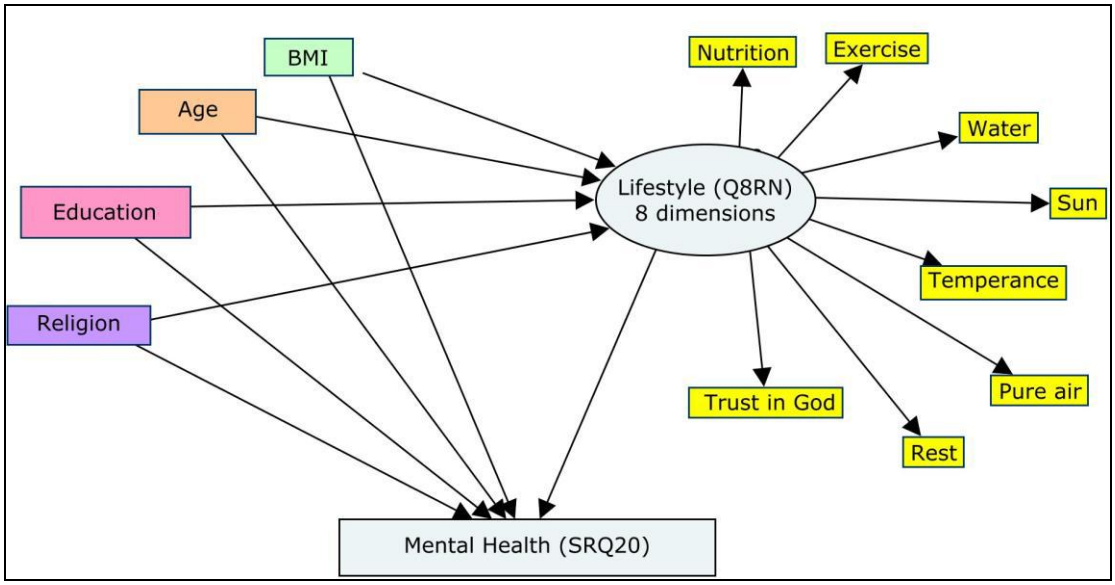
The form with sociodemographic and health data included the following variables: age, weight, height, sex, education, religion, Blood Pressure (systolic and diastolic) and Body Mass Index (BMI).

The Q8RN is an instrument validated in Brazil by Abdala et al. (2018), adult version, containing 22 questions, distributed in eight domains related to ENR, built to assess adherence to healthy habits constituting the healthy lifestyle, guided by White (1905). The eight domains are: Nutrition (ex.: how often do you include beans, whole grains, nuts, fruits, vegetables in the main meals of the day?), Exercise (ex.: how many minutes do you spend "on average" when you practice vigorous exercise?), Water (how many cups of 250 ml of water do you drink daily?), Sunlight (ex.: how often do you expose yourself to the sun for at least 15-20 minutes a day?), temperance (ex.: do you drink alcohol like beer, wine, liquor, brandy, sugarcane liquor ou any other?; do you smoke cigarettes, pipes, our any tobacco?), air (ex.: considering the places where you spend most of your time, how do you rate the quality of the air you breathe?), rest (ex.: do you usually sleep 7-8 hours/night, waking up rested and in good spirits?) and trust (ex.: how often do you attend religious or spiritual meetings?).

It is important to relate that the psychometric properties were adequate for the final 22 questions of this questionnaire (Abdala et al., 2018). Factorial confirmatory analysis was performed in the R program, by a WLMSV (Weighted Least Squares Mean and Variance-adjusted) polychoric type, in which the categories of responses of the questionnaire evaluated were, for the most part, Likert. For the results, Comparative Fit Index (CFI) and Tucker-Lewis Index (TLI) values greater than 0.92 and Root Mean Mean Square of Approximation (RMSEA) less than 0.07 were considered acceptable (Hair et al., 2009).

The SRQ-20 is a questionnaire for the identification of Common Mental Disorders (CMD) at the primary care level. It was developed by Harding et al. (1980) and validated in Brazil by Mari and Williams (1986). It consists of 20 questions designed to detect mild disorders. For a person to be considered as a possible case, a score of eight or more affirmative (yes) answers is necessary, where each yes is worth one point. This score was obtained from the determination of sensitivity (86,33%), specificity (89,31%), and positive (76,43%) and negative predictive values (94,21%) in other samples. This cut-off point makes it possible to obtain two groups: on the one hand, individuals most likely to have a CMD and on the other, a group with a greater probability of not having it (Gonçalves, Stein & Kapczinski, 2008). Descriptive statistical analysis was performed with sociodemographic and health variables. A multivariate analysis was also performed, using Structural Equation Modeling (SEM) in the "R" program, to analyze the mediating effect of adherence to ENR by this population (n= 1,029). In the model built for the SEM technique, the independent variables used were BMI, age, education, and religion (Adventists X others); mediating variable: Q8RN and outcome variable: SRQ-20 (Figure 1).

Figure 1 – Theoretical Structural Model of Independent Variables (BMI, age, Education, Religion), the mediator (Lifestyle – Q8RN) and the outcome (SRQ-20). Sao Paulo, 2021.



Source: Authors.

3. Results

The average age of the participants was 39.6 years (sd= 14.1), with 69% of them being female (n= 729), 57% self-reported white skin color (n= 603), 53.4% married (n= 565), and 43% (n= 458) in tertiary education level. As for religion, 56.7% (n= 597) identified themselves as Adventists, followed by 17.1% Catholics (n= 180) (Table 1).

Table 1 – Distribution of participants according to gender, reported skin color, marital status, education, and religion. São Paulo, SP, 2021.

Variables	Categories	n	%
Gender (n= 1.056)	Female	729	69.0
	Male	327	31.0
Reported skin color (n= 1.058)	White	603	57.0
	Brown	336	31.8
	Black	90	8.5
	Yelow	23	2.2
	Indigenous	6	0.6
Marital status (n= 1.056)	Single	377	35.7
	Married	565	53.5
	Separated	12	1.1
	Divorced	74	7.0
	Widow	28	2.7
Education (n= 1.059)	Elementar	26	2.5
	High school	244	23.0
	College	458	43.2
	Pos-graduated	236	22.3
	Master	67	6.3
	Doctorate	20	1.9
	Outro	8	0.8
Religion (n=1.052)	Adventist	597	56.7
	Catholic	180	17.1
	Evangelical	162	15.4
	None	52	4.9
	Spiritualist	38	3.6
	Another one	23	2.2

Source: Authors.

The lifestyle represented by the eight dimensions of the Q8RN, presented a total score of 56.61 (sd = 11.59), with a "good" classification. The Cronbach's Alpha of the Q8RN instrument was 0.79, indicating good internal consistency. The "exercise" dimension was the only one below average (5.87; 4.02). Then, the dimensions nutrition (6.3; 2.71), water intake (4.47; 1.86), fresh air (4.60; 1.71) and rest (4.08; 2.06) were close to the average. The BMI was 26.02 (sd=5.24), indicating mild overweight (Table 2).

Table 2 – Distribution of means, standard deviation, minimum and maximum of the total score and dimensions of the Q8RN, Systolic and Diastolic Blood Pressure and Body Mass Index (BMI). (n=1,070). São Paulo, SP, 2021.

	Mean	Standard deviation	Minimum	Maximo
Total score	56,61	11,59	20	88
Nutrition	6,3	2,71	0	12
Exercise	5,87	4,02	0	12
Water	4,47	1,86	0	8
Sun light	5,73	1,42	0	8
Temperance	12,34	3,26	0	16
Pure air	4,60	1,71	0	8
Rest	4,08	2,06	0	8
Trust in God	13,22	3,05	0	16
SBP* (n= 905	11,74	1,11	9	17
DBP (n= 891)**	7,81	0,85	5	11
BMI* (n= 1051)**	26,02	5,24	15,41	54,67

SBP – Systolic Blood Pressure; **DBP – Diastolic Blood Pressure; ***BMI – Body Mass Index. Source: Authors.

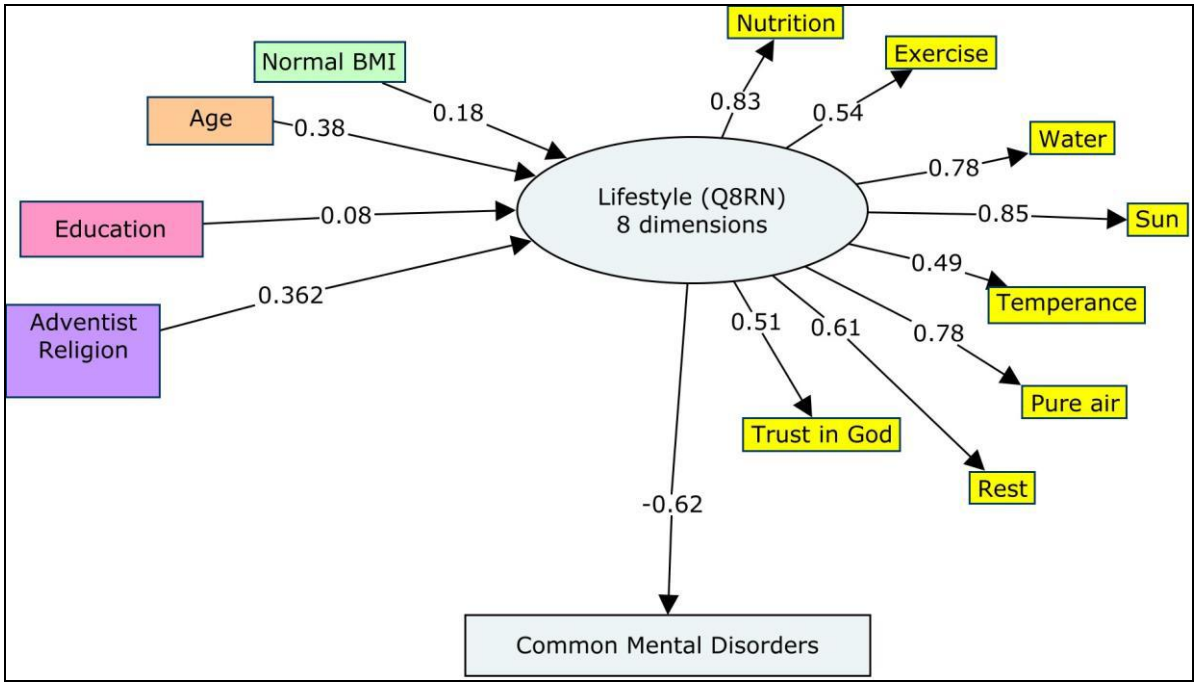
As for mental health, the participants showed a prevalence of 30.2% with an indication of CMD, that is, they responded with 8-20 “yes” to the SRQ-20. Interestingly, participants aged 60-80 years showed less evidence of these disorders (3.42; 3.75) compared to those aged 18-59 (5.50; 4.74) ($p<0.05$). Cronbach's Alpha for the SRQ-20 in this population was 0.88, also indicating an excellent internal consistency of the instrument.

When running the proposed structural model to evaluate the independent variables with the mediator and the outcome, it was observed that the lifestyle practiced by Adventists was shown to have a protective effect on mental health. The older the age, the lower the chance of CMD, as well as having a normal BMI.

Being Adventist had an effect of 36% on the lifestyle. The protective effect of lifestyle on CMDs became stronger, which indicates the important role of the religion variable that, mediated by lifestyle, impacts the outcome of CMDs.

It was also observed that the direct effects of the independent variables normal BMI, education, Adventist religion and age on the CMD outcome, the loads were weak, eliminating them from the design. Thus, Figure 2 presents the effects of the loads of these variables, indirectly, that is, mediated by lifestyle with effects on the CMD.

Figure 2 – Result of Structural Equation Modeling between independent variables and Common Mental Disorders, mediated by Lifestyle (Q8RN). São Paulo, SP, 2021.



Source: Authors.

The model fit indices were: TLI= 0.871, CFI= 0.842 and RMSEA= 0.071. As for the second-order measurement component (CFA), the latent variable EV is very well indicated by the first-order latent variables, relative to the Q8RN domains (Table 3), as evaluated by Abdala et al. (2018).

Table 3- Distribution of independent variables, mediator (EV) and final outcome in a Structural Equation Modeling, WLSMV estimator, standardized estimate and *p*-value. (n=1,029). São Paulo, SP, 2021.

Variables	Estimator WLSMV		
	Estimation	Standard estimation	*p*-value
Measurement Component Constructs			
1st order construct			
Domain 1 - Nutrition			
1. How often do you include in the main meals of the day: beans, whole grains, nuts, fruits, vegetables and vegetables?	1.000	0.632	0.000
2. How do you qualify the type of food you consume the most? * Choose the most appropriate option for you.	0.884	0.563	0.000
3. How many of the following items do you consume one or more times a week? (snacks, crackers, fried foods, soft drinks and sweets in general)	1.005	0,635	0.000
Domain 2 - Exercise			
4. Do you practice leisure activities such as walking, cycling, ball playing, radical sports or other hobbies and enjoyable activities?	1.000	0.873	0.000
5. How many times a week do you practice vigorous exercise (which makes you sweat and increase your heart rate, such as long walking, running, cycling, etc.)?	1,060	0.921	0.000
6. How many minutes do you spend "on average" when you practice vigorous exercise?	0.988	0.863	0.000
Domain 3 - Water			
7. How many cups (250 ml) of water do you drink daily?	1.000	0.565	0.000
8. Do you use water as a remedy for home treatments when needed? (For example, hot and cold packs, ice application, inhalation, hot foot bath and, baths in general).	0.903	0.513	0.000
Domain 4 - Sun			
9. How often do you expose yourself to the sun for at least 15 to 20 minutes a day?	1.000	0.577	0.000
10. In your house, are the windows and shutters open daily for sunlight and natural light?	0.850	0.495	0.000
Domain 5 - Temperance			
11. Do you drink alcohol (beer, wine, liquor, brandy, sugarcane liquor, or any other)?	1.000	0.493	0.000
12. Do you smoke cigarettes, pipes, or any tobacco?	1,103	0.542	0.000
13. Have you used any drugs, such as marijuana, crack, cocaine, etc. in the last three months?	1.058	0.521	0.000
14. Do you drink caffeine containing beverages (coffee, black tea, green tea, mate tea, white tea or soft drinks)?	2.029	0.974	0.000
Domain 6 – Pure air			

15. Considering the places where you spend most of your time, how do you rate the quality of the air you breathe?	1.000	0.454	0.000
16. Do you take deep breaths outdoors and/or to control tension and anxiety?	1.268	0.570	0.000
Domain 7 - Rest			
17. Do you usually sleep 7 - 8 hours/night, waking up rested and in good spirits?	1.000	0.806	0.000
18. Do you usually sleep early (around 10 pm or earlier)?	0.802	0.655	0.000
Domain 8 – Trust in God			
19. Do you trust in Alah/Higher Self or something sacred?	1.000	0.896	0.000
20. Does your trust in Alah/Higher Self or something sacred positively influence your way of life?	1.019	0.912	0.000
21. How often do you attend religious or spiritual meetings?	0.766	0.695	0.000
22. Do you practice religious or spiritual activities in your private life (meditations, prayers, religious books or Quran readings, volunteer work/charity activities, etc.)?	0.822	0.744	0.000
2nd order Constructs – Lifestyle			
Domain 1 - Nutrition	1.000	0.828	0.000
Domain 2 - Exercise	0.890	0.538	0.000
Domain 3 - Water	0.828	0.777	0.000
Domain 4 - Sun	0.936	0.853	0.000
Domain 5 - Temperance	0.450	0.494	0.000
Domain 6 – Pure air	0.660	0.777	0.000
Domain 7 - Rest	0.934	0.609	0.000
Domain 8 – Trust in God	0.864	0.510	0.000
Structural Component			
Normal BMI	0.194	0.177	0.000
Age	0.015	0.378	0.000
Education	0.044	0.084	0.015
Adventist religion	0.399	0.362	0.000
Commun Mental Disorders (SRQ-20) =			
Lifestyle	-1.200	-0.617	0.000

Source: Authors.

4. Discussion

While analyzing the deficiency in the practice of "exercise" in the studied group, a similarity was observed in a study carried out with 548 medical students in Brazil, in which the pandemic had a negative impact on the practice of systematic physical exercise, healthy eating and interpersonal relationships (Kobbaz et al., 2021). In a review of the literature on physical activity and the pandemic, it was evidenced that physical inactivity was exacerbated by the restrictions imposed to control COVID-19 (Knight et al, 2021).

In another study with 5,896 individuals in 17 countries, the presence of COVID-19 was related to a sedentary lifestyle, in which 38.4% of the people involved stopped practicing physical activities. The authors suggested public health interventions to encourage healthy behaviors during and after the pandemic (Abouzid et al., 2021).

During the confinement period, 818 people aged 18+ in an English cohort reported that they sat more both during the week and on weekends. They also stated higher food intake during the pandemic, especially among those who practiced the lowest levels of physical activity, less than 30 minutes per week (Kass et al., 2021).

As for overweight, it is worth always emphasizing the importance of measures for weight control. In a worldwide study involving 186 countries, on the seven risk factors related to higher mortality in this pandemic (overweight, insufficient physical activity, smoking, type 2 diabetes, hypertension, hyperlipidemia, and age over 65 years), being overweight and elderly were associated with increased mortality connected with COVID-19 on a global scale. Furthermore, the more risk factors a person accumulates, the greater the risk of mortality (Wang et al., 2021).

As for the other variables, which were closer to the average, such as nutrition, water intake, fresh air, and rest, it is noteworthy that a healthy and balanced diet has a beneficial effect in conditions that predispose to COVID-19 and its complications. A diet with high antioxidant, anti-inflammatory and immunomodulatory potential may constitute greater prophylaxis, decreasing the severity of COVID-19 (Skrajnowska et al., 2021).

Increasing water intake was one of the strategies used by nurses to help promote the mental health of patients in times of COVID-19 (Pinho et al., 2021). In addition to drinking pure water, hydrotherapy also plays an important role. In a clinical trial, it was observed that water temperature (thermoneutral – 33 to 34 degrees) can be important for improving the immune response (Lee et al., 2019).

Thus, also in relation to clean air, there is a strong and robust association between air pollution and a greater number of infections and deaths from COVID-19. Air pollution (of which particulate matter is the main one) kills up to seven million people worldwide (Becchetti et al., 2021).

Lack of proper rest can be related to mood swings, depression, and anxiety. Authors observed that, even with healthy aging, the altered sleep pattern appeared to be related to individual changes, lifestyle, and attitudes adopted by the elderly during COVID-19 confinement (Cipriani & Bartoli, 2021). Another review study inferred that, even after the pandemic, people would have difficulty getting back to normal sleep habits, suggesting follow-up by experts in the field to encourage good rest practices, which would lead to better emotional and social health (O'regan et al., 2021).

As for the dimensions of "temperance" and "trust in God" in the present study, the results presented were above average. Temperance, or balance, or moderation, is not just abstaining from smoking, alcohol, and drugs, but also avoiding overwork that can lead to emotional exhaustion. Excess in the use of internet also generates psychic disorders, such as Burnout Syndrome, caused by professional burnout. Intemperance regarding regular hours of sleep causes stress, depression and even panic attacks (Meira & Moraes, 2019).

In a study that applied structural equation modeling carried out with 392 adults, using the Q8RN, it was found that the better the lifestyle, the better the physical and mental health outcomes of these people, mediated by religiosity. Thus, it was observed that religious practice is a protective factor for people's physical and mental health (Abdala et al., 2021).

In a meta-analysis that included 48 studies on spirituality and mental health, evidence of a positive effect of religiosity/spirituality on mental health was found (Garssen, Visser & Pool, 2020).

It can be said that the effects of Religiosity/Spirituality on mental health are bidirectional and the attitude of the religious person to deal with suffering can also affect mental health outcomes (Luccchetti, Koenig & Lucchetti, 2021).

As limits of this study, it was observed that a cross-sectional study limits what can be said about the causal nature of associations, and non-probability sample affects the generalizability to other populations.

5. Conclusion

The lifestyle of the population studied through the Q8RN was "good", with a deficiency in the practice of regular physical exercises. Regarding the outcome for mental health, evaluated by the SRQ-20, it was found that the effect of the independent variables, age, normal BMI and being of the Adventist religion, occurs indirectly through the practice of healthy habits related to ENR, that is, the adoption of a healthy lifestyle, recommended in the domains of the Q8RN, had a strong protective effect for the CMDs.

The protective effect of lifestyle on CMDs became stronger, having the important role of the religion variable that, mediated by lifestyle, impacted the outcome of CMDs. The global effort to motivate the practice of factors related to healthy lifestyle, by different population groups, can help to reduce the prevalence of CMD, not only in the context of COVID-19, but in several future crises. The COVID-19 pandemic was a unique moment to reflect and teach about the importance of practicing a healthy lifestyle as a whole: physical, mental and spiritual.

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