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Original Article

HEALTHY-APPROPRIATE LIFESTYLE AS AN INTERVENING FACTOR IN PERCEIVING STRESS AND MOOD OF AMATEUR VOLLEYBALL ATHLETES

ESTILO DE VIDA SAUDÁVEL COMO UM FATOR INTERVENIENTE NA PERCEPÇÃO DE ESTRESSE E ESTADO DE HUMOR DE ATLETAS AMADORES DE VOLEIBOL

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RESUMO

Este estudo objetivou avaliar o estilo de vida como um fator interveniente na percepção do estresse e do estado de humor de atletas amadores de voleibol. Participaram 217 atletas (137 mulheres e 80 homens). O estilo de vida foi avaliado pelo questionário Estilo de Vida Fantástico (Añes, Reis & Petroski, 2008); o estresse foi mensurado pela Escala de Estresse Percebido, adaptada por Luft et al. (2007), além da Escala de Humor de Brunel (BRUMS) (Mcnair, Lorr, Droppleman, 1971). Para a comparação da percepção de estresse e do estado de humor em função da classificação do estilo de vida foi empregada a One-Way ANOVA, seguida do teste *Post-Hoc* de *Tukey*. A Regressão Linear Múltipla foi utilizada para verificar a associação dos domínios de estilo de vida sobre a percepção de estresse e estado de humor. Os resultados mostraram que as estratégias de *coping* de rendimento sob pressão, confronto com a adversidade, concentração, formulação de objetivos, confiança e motivação se associaram negativamente com o estresse percebido (r entre -0,22 e -0,32) e positivamente com a resiliência (r entre 0,28 e 0,43). Já a estratégia de ausência de preocupação se associou positivamente ao estresse percebido (r = 0,32). Concluiu-se que atletas com um estilo de vida mais saudável tendem a apresentar menores sintomas de estresse e estados negativos de humor, além de uma maior sensação de vigor. Sugere-se a implementação de estratégias de rotinas pré-sono, a promoção de práticas de higiene do sono e o apoio para lidar com distúrbios do sono e aprimorar o descanso e a recuperação dos atletas.
Palavras-chave: Estilo de vida. Estresse. Humor. Amador. Voleibol.

ABSTRACT

This study aimed at assessing lifestyle as an intervening factor in perceiving stress and mood of amateur volleyball athletes. 217 athletes participated in the study (137 women and 80 men). Lifestyle was evaluated by using the Fantastic Lifestyle Questionnaire (Añes, Reis & Petroski, 2008); stress was measured using the Perceived Stress Scale, adapted by Luft et al. (2007), in addition to Brunel Mood Scale (BRUMS) (Mcnair, Lorr, Droppleman, 1971). One-Way ANOVA was used to compare perceived stress and mood according to lifestyle classification, followed by Tukey's Post-Hoc test. The Multiple Linear Regression was used to verify the association between lifestyle domains and perceived stress and mood. The results showed that the coping strategies of performance under pressure, confrontation with adversity, concentration, formulation of objectives, confidence and motivation were negatively associated with perceived stress (r between -0.22 and -0.32), and positively related to resilience (r between 0.28 and 0.43). The worry-free strategy was positively associated with perceived stress (r = 0.32). In conclusion, the athletes with a healthier lifestyle tend to have fewer symptoms of stress and negative mood state, in addition to a greater vigor feeling. Pre-sleep routine strategies are suggested, besides sleep hygiene practices and support for dealing with sleep disorders and, thus, enhance the athletes' rest and recovery.
Keywords: Lifestyle. Stress. Humor. Amateur. Volleyball.

Introduction

Lifestyle, which encompasses individual behavior and habits, has a significant impact on stress and mood perception, especially considering the amateur volleyball athletes[1]. A healthy lifestyle can promote mental and physical health, improve sport performance, prevent stress-related diseases, and improve quality of life[2]. Thus, investigating how lifestyle influences stress and mood is essential to develop effective intervention and prevention strategies[3].

Some studies have explored the relationship between lifestyle and perceived stress and mood in athletes who practice different sports. CrossFit practitioners have satisfactory self-esteem and higher scores in preventive behavior, social relationships and physical activity[4]. Furthermore, amateur athletes from various sports practiced on campus showed greater

excitement and mobility of neural processes, as well as lower neuroticism, which contributed to a healthy lifestyle and prevention of emotional burnout[5]. Furthermore, lifestyle and perceived stress influence athletes' mood and positive mindset; thus, social support and coping strategies are crucial for amateur athletes' performance and well-being[6].

However, there is little current research regarding an analytical study on lifestyle and its influence on stress and mood of amateur volleyball athletes and how they are perceived[7]. Despite the lack of literature, researchers emphasize that there are still gaps regarding the influence of lifestyle on mental health of amateur athletes, especially in volleyball, which is the second most practiced collective sport in Brazil. In this sense, lifestyle is a sociological concept that refers to a combination of tangible and intangible factors, that is, physical and psychological or cultural aspects that constitute the way of life of an individual or a group[8]. This includes preferences regarding the type of food consumed, activities performed and recurring habits that define the way of life of a person or community[9].

Considering the context of athletes, lifestyle has a significant impact on psychological aspects and mental health[10]. The practice of sports has beneficial effects on the cardiorespiratory and muscular systems, as well as on behavioral function and mental health[11]. However, high-performance sports can generate high levels of stress due to several factors, such as injury, overtraining, Burnout, life away from home, lack of a supportive and emotional social network, internal and external pressure to achieve results, dietary restrictions, use of substances to improve performance and manage stress, among others[10,12,13].

In addition, these sport demands and the athlete's lifestyle are directly related to stress and mood[14]. Pressure and competition can generate stress and anxiety, as well as lack of care with psychological aspects might lead to problems, such as Burnout syndrome, depression and anxiety disorders, capable of affecting the athlete's performance and personal life[15,16].

Therefore, understanding the relationship among lifestyle, sport demands, stress and mood is crucial to promote the athletes' mental health and improve their performance. Continued research in this area is essential to develop effective intervention and prevention strategies. Given such considerations, the present study aimed at assessing the relationship between lifestyle and perceived stress and mood of amateur volleyball athletes.

Methods

This cross-sectional study included 217 athletes (137 women and 80 men) who participated in the Amateur Volleyball League in 2023, in Maringá city, state of Paraná. Table 1 shows the sociodemographic data of the sample. The participants were selected in a non-probability sampling and by convenience. The inclusion criteria were as follows: 1) being at least 18 years old, and 2) being registered in the Amateur Volleyball League.

Table 1. Sample sociodemographic datas

Variables	n	M/SD
Age of men (years)	80	31,7 ± 10,5
Age of women (years)	136	33,3 ± 11,8
Age total (years)	216	33.1 ± 10.9
Women time in practice (years)	80	4,4 ± 1.3
Men time in practice (years)	136	5.3 ± 1.7

Note: M = Mean; SD Standard deviation.
Source: The authors.

Instruments

The Fantastic Lifestyle Questionnaire portuguese version[17] was used to assess lifestyle. Such a questionnaire evaluates habits and behavior of the target population in relation to healthy-appropriate lifestyles. It includes 25 items that explore nine domains of the physical, psychological and social components of lifestyle. The questionnaire is identified based on the acronym *FANTASTIC*, that is, (F) Family and Friends; (A) Activity (physical activity); (N) Nutrition; (T) Tobacco; (A) Alcohol and other Drugs; (S) Sleep/Stress; (T) Type of Behavior; (I) Introspection; (C) – Career/Work. The items have five response options with a numerical value ranging from 0 for the first column to 4 for the last column. The sum of all the points resulting from all the domains allows us to reach an overall score that classifies individuals from 0 to 100 points, that is, the closer to 100, the better the lifestyle. The McDonald's Omega for this study data was $\omega = 0.68$, which indicates a moderate internal consistency.

Stress was measured by using the Perceived Stress Scale (PSS-10), which was translated and adapted to Brazilian Portuguese[18]. The PSS-10 is an instrument composed of 10 items, six positive and four negative ones, answered on a Likert-type scale with answers ranging as follows: never (0), almost never (1), sometimes (2), fairly often (3), and very often (4). The questions ask about one's feelings and thoughts during the last month. The McDonald's Omega for this study data was $\omega = 0.65$, which indicates a moderate internal consistency.

The Brunel Mood Scale (brums), portuguese version[19] contains 24 simple mood descriptors, such as feelings of anger, disposition, nervousness and dissatisfaction that are perceptible to the individual being assessed. The individuals respond to how they feel about these feelings, according to a 5-point scale (from 0 = not at all to 4 = extremely). The original question asked is "How do you feel now?", however, it can be asked in different forms, that is, "How have you been feeling this past week, including today?"; or "How do you usually feel?" The 24 items on the scale comprise the six subscales: anger, confusion, depression, fatigue, tension and vigor. Each subscale contains four items. The sum of the responses for each subscale yields a score that can range from 0 to 16. The McDonald's Omega for this study data ranged from $\omega = 0.71$ to $\omega = 0.79$, which indicates a strong internal consistency.

Procedures

Initially, the researchers contacted the board of the Amateur Volleyball League to obtain approval so as to perform the research with the athletes. The project was then submitted to and approved by the Research Ethics Committee (REC) in accordance with the rules of Resolution 466/12 of the National Health Council on research involving human beings, under Opinion Nº. 5.658.335. Data collection was carried out at the competition venues before the games. Only the athletes who signed the Free Informed Consent Form (FICF) participated in the competition. Data collection began in March and ended in May 2023.

Data analysis

Data analysis was performed by using Spss 25.0 software based on a descriptive and inferential statistics approach. Frequency and percentage were used as descriptive measures for the categorical variables. Considering the numerical variables, data normality was analyzed using the Kolmogorov-Smirnov test and the coefficients of asymmetry and kurtosis. Bootstrapping procedures (1000 re-samplings; 95% CI BCa) were also performed to obtain greater reliability of the results, in addition to correcting possible normality deviations of data distribution and differences among group sizes; and also, to obtain a 95% confidence interval for the means[20]. In order to compare perceived stress and mood state according to lifestyle classification, One-Way ANOVA followed by Tukey's Post-Hoc test was used. The Pearson's correlation coefficient was used to verify the association among the variables. Seven multiple linear regression models were conducted by using the enter method for variable entry so as to

verify the association among the lifestyle domains (independent variables) and perceived stress and mood domains (dependent variables). The Variance Inflation Factors (VIF) were calculated for the analysis of multicollinearity indicators (VIF < 5.0).

Results

Table 2 shows the means, standard deviations and correlations for lifestyle, stress and mood variables of amateur volleyball athletes).

Table 2 - Correlations, means and standard deviation for lifestyle, stress and mood variables of amateur volleyball athletes

Variables	Lifestyle								Stress			Mood state			
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Family and friends	0,12	0,11	0,10	0,01	**0,17***	0,08	0,10	0,12	-0,07	-0,09	**-0,14***	**-0,15***	-0,06	**-0,15***	-0,10
2. Physical activity	-	**0,29****	0,05	0,12	0,06	-0,08	**0,14***	**0,18****	-0,08	-0,01	-0,04	0,07	0,09	-0,03	0,06
3. Nutrition		-	**0,23****	0,12	**0,19****	**0,21****	**0,20****	**0,18****	**-0,17***	0,02	-0,11	0,01	**0,14***	-0,06	0,01
4. Tobacco			-	**0,32****	**0,29****	**0,22****	**0,29****	**0,20****	**-0,20****	-0,02	-012	**-0,14***	**0,18***	-0,09	-0,04
5. Alcohol and other drugs				-	**0,20****	0,12	0,11	**0,15***	-0,08	**-0,20****	0,01	0,01	0,02	-0,11	-0,03
6. Sleep/Stress					-	**0,37****	**0,54****	**0,26****	**-0,39****	**-0,18****	**-0,22****	-0,26**	0,07	**-0,35****	-0,12
7. Type of behavior						-	**0,44****	0,12	**-0,41****	-0,12	**-0,19****	-0,33**	0,09	**-0,20****	**-0,14***
8. Introspection							-	**0,39****	**-0,60****	**-0,21****	**-0,46****	-0,39**	**0,16***	**-0,29****	**-0,21***
9. Career/Work								-	**-0,37****	**-0,17***	**-0,29****	-0,19**	0,06	**-0,23****	**-0,16***
10. Stress									-	0,**26****	**0,40****	0,41**	**-0,21****	**0,29****	**0,28****
11. Tension										-	**0,20****	0,28**	0,12	**0,20****	**0,62****
12. Depression											-	0,51**	**-0,21***	**0,40****	**0,40****
13. Anger												-	-0,12	**0,38****	**0,41****
14. Vigor													-	**-0,24****	-0,05
15. Fatigue														-	**0,32****
16. Confusion															-
Mean	2,57	2,04	3,36	3,11	2,93	2,33	2,78	2,92	24,28	0,95	0,32	0,49	2,80	0,92	0,50
Standard deviation	1,28	0,91	0,70	1,06	0,74	0,92	0,81	1,14	7,52	0,89	0,64	0,84	0,78	0,89	0,65
Scale	0-4	0-4	0-4	0-4	0-4	0-4	0-4	0-4	0-4	0-4	0-4	0-4	0-4	0-4	0-4

Note: *Pearson correlation* $^{**}p$<0,01. $^{*}p$<0,05.
Source: The authors.

The mean scores on the Fantastic response scale from 0 to 4 and from the highest to the lowest one were as follows: tobacco (M = 3.36; SD = 0.70), family and friends (M = 3.18; SD = 1.12), alcohol and other drugs (M = 3.11; SD = 1.06), sleep/stress (M = 2.93; SD = 0.74), career/work (M = 2.92; SD = 1.14), introspection (M = 2.78; SD = 0.81), physical activity (M = 2.57; SD = 1.28), type of behavior (M = 2.33; SD = 0.92), and nutrition (M = 2.04; SD = 91). The athletes perceived a relatively moderate level of stress (M = 24.28; SD = 7.52). Finally, the mean scores on the BRUMS 0-4 response scale from the highest to the lowest one were as follows: vigor (M = 2.80; SD = 0.78), tension (M = 0.95; SD = 0.89), fatigue (M = 0.92; SD = 0.89), confusion (M = 0.50; SD = 0.65), anger (M = 0.49; SD = 0.84), and depression (M = 0.32; SD = 0.64).

Considering the correlation analysis (Table 2), it is noteworthy that negative and weak correlations ($r < 0.40$) of the lifestyle domains were found between the stress score and negative mood states. Vigor correlated positively and weakly ($r < 0.40$) with the lifestyle domains of nutrition, introspection and tobacco and with the perceived stress score. The results related to the lifestyle level classification of amateur volleyball athletes showed that 59.0% (n=128) of the athletes had a very good/excellent level; 28.6% (n=62) had a good level, and 12.4% (n=27) had a poor/regular level.

Table 3 shows the comparison between perceived stress and the mood domains of amateur volleyball athletes according to their lifestyle classification.

Table 3. Comparison between perceived stress and the mood domains of amateur volleyball athletes according to their lifestyle classification

Variables	Lifestyle			*P* value
	Poor/Regular (n=27)	Good (n=62)	Very good/ Excellent (n=128)	
	M (SD)	M (SD)	M (SD)	
Stress	29.30 (7.15)	27.48 (6.95)	21.67 (6.73)[a]	<0.001*
Humor states				
Tension	1.43 (0.88)[b]	0.6 (0.88)	0.85 (0.76)	0.009*
Depression	0.63 (0.93)	0.50 (0.69)	0.18 (0.30)[a]	<0.001*
Anger	0.87 (0.89)	0.67 (0.89)	0.32 (0.58)[a]	<0.001*
Vigor	2.66 (0.93)	2.60 (0.79)	2.92 (0.71)[c]	0.014*
Fatigue	1.31 (1.08)[b]	1.06 (0.87)	0.77 (0.82)	0.005*
Confusion	0.69 (0.68)	0.57 (0.61)	0.42 (0.58)	0.084

Note: *Significant difference – $p < 0,05$: One-Way ANOVA followed by Tukey's Post-Hoc test between: a) Very good/Excellent and Good and Poor/Regular; b) Poor/Regular and Very good/Excellent; c) Very good/Excellent and Good.

Source: Th authors.

When comparing perceived stress and the mood domains of amateur volleyball athletes based on their lifestyle classification (Table 3), a significant difference was found among the groups concerning perceived stress ($p < 0.001$) and the following mood domains: tension ($p = 0.009$), depression ($p < 0.001$), anger ($p < 0.001$), vigor ($p = 0.014$) and fatigue ($p = 0.005$). It is noteworthy that the amateur volleyball athletes with a very good/excellent lifestyle classification regarding the mood domains showed lower stress, depression and anger means than the athletes with a poor/regular and good lifestyle.

In addition, it was found that the athletes with a very good/excellent lifestyle also showed lower tension and fatigue when compared to athletes with a poor/regular lifestyle. Finally, it was seen that athletes with a very good/excellent lifestyle showed greater vigor when

compared to athletes with a good lifestyle. Table 4 shows the lifestyle domains as predictirs os stress perceived by amateur colleyball athletes.

Table 4. Lifestyle domains as predictors of stress perceived by amateur volleyball athletes

Predictors	Stress (M1)
	β (IC)
1. Family and Friends	-0.01 (-0.76; 0.71)
2. Physical activity	-0.03 (-0.88; 0.51)
3. Nutrition	0.01 (-0.94; 0.95)
4. Tobacco	-0.01 (-1.30; 1.21)
5. Alcohol and other drugs	0.02 (-0.64; 0.95)
6. Sleep/Stress	-0.03 (-1.63; 1.01)
7. Type of behavior	**-0.21 (-2.75; -0.74)****
8. Introspection	**-0.44 (-5.37; -2.78)*****
9. Career/Work	**-0.17 (-1.86; -0.32)****
R^2	0.41
F	17.300***
Durbin-Watson	1.84

Note*:* Only standardized regression coefficients that were less than the 0.05 significance level are highlighted in bold. B = Unstandardized regression coefficient; β = Standardized regression coefficient; CI = 95% confidence interval; *p < .05, **p < .01, ***p < .001.

Source: The authors.

Table 4 revealed the multiple regression analysis, which shows that the model consisting of lifestyle domains explained 41% of the variability in athletes' perceived stress. However, only the domains of type of behavior (β = -.21; p <0.01), that is, introspection (β = -.44; p <0.001) and career/work (β = -.17; p <0.01) had negative perceived stress.

This indicates that high scores in these domains moderate perceived stress.Table 5 shows the lifestyle domains as predictors of the amateur volleyball athletes' mood state.

Table 5. Domains of lifestyle as predictors of the amateur volleyball athletes' mood state

Predictors	Tension (M2)	Depression (M3)	Anger (M4)	Vigor (M5)	Fatigue (M6)	Confusion (M7)
	β (CI)	B (CI)	B (CI)	β (CI)	β (CI)	β (CI)
Family and Friends	-0,07 (-0,15; 0,05)	-0,09 (-0,13; 0,02)	-0,12 (-0,19; 0,01)	-0,10 (-0,17; 0,03)	-0,08 (-0,17; 0,04)	-0,10 (-0,14; 0,03)
Physical activity	-0,03 (-0,13; 0,08)	0,06 (-0,04; 0,10)	0,06 (-0,05; 0,13)	0,05 (-0,06; 0,13)	0,03 (-0,08; 0,12)	0,05 (-0,05; 0,11)
Nutrition	0,10 (-0,04; 0,23)	-0,02 (-0,11; 0,08)	0,12 (-0,02; 0,23)	0,08 (-0,05; 0,20)	0,04 (-0,10; 0,17)	0,05 (-0,07; 0,14)
Tobacco	0,12 (-0,03; 0,34)	-0,01 (-0,13; 0,12)	-0,03 (-0,21; 0,13)	**0,16 (0,01; 0,34)***	0,06 (-0,11; 0,26)	0,04 (-0,10; 0,18)
Alcohol and other drugs	**-0,21 (-0,29; -0,06)****	0,06 (-0,04; 0,12)	0,05 (-0,07; 0,14)	-0,04 (-0,13; 0,08)	-0,05 (-0,16; 0,07)	-0,02 (-0,10; 0,07)
Sleep/*Stress*	-0,04 (-0,24; 0,14)	0,05 (-0,08; 0,18)	-0,01 (-0,19; 0,16)	-0,03 (-0,21; 0,14)	**-0,26 (-0,50; -0,12)****	0,04 (-0,11; 0,18)
Type of behavior	-0,05 (-0,19; 0,10)	0,01 (-0,09; 0,11)	**-0,20 (-0,32; -0,05)****	0,02 (-0,12; 0,15)	-0,05 (-0,20; 0,09)	-0,07 (-0,16; 0,06)
Introspection	-0,14 (-0,34; 0,04)	**-0,45 (-0,49; -0,23)*****	**-0,29 (-0,47; -0,13)****	0,14 (-0,04; 0,30)	-0,08 (-0,28; 0,09)	**-0,19 (-0,29; -0,01)***
Career/Work	-0,10 (-0,19; 0,04)	**-0,14 (-0,15; -0,01)***	-0,07 (-0,15; 0,05)	-0,03 (-0,12; 0,08)	-0,13 (-0,21; 0,01)	-0,10 (-0,14; 0,03)
R^2	0,07	0,22	0,18	0,03	0,12	0,03
F	2,75**	7,45***	6,28***	1,73*	4,32***	1,70*
Durbin-Watson	1,71	1,77	2,06	1,76	1,83	1,91

Legend: Only standardized regression coefficients that were less than the 0.05 significance level are highlighted in bold. B = Unstandardized regression coefficient; β = Standardized regression coefficient; CI = 95% confidence interval; *p < .05, **p < .01, ***p < .001.

Source: The authors.

Discussion

The present study aimed at assessing the relationship between lifestyle and perceived stress and mood of amateur volleyball athletes, the main findings showed that the lifestyle domains explained 41.0% of the variability in athletes' perceived stress. Considering such domains, the type of behavior, introspection and career/work act as moderators of the athletes' stress symptoms. Lifestyle behavior is characterized by a set of habits and customs that are influenced, modified, encouraged or limited by the socialization process throughout life. These habits and customs include the use of some substances, such as alcohol, tobacco, beverages, nutrition and exercises[21].

According to the lifestyle behavior recommended by the World Health Organization[21], the amateur practice of sports in its competitive format has come to be considered as part of one's lifestyle, as well as of people's social status due to the concern with physical fitness, intrinsic or extrinsic motivation for practice[22] or dietary control[23]. For maintaining certain lifestyle, the socioeconomic level of amateur athletes is extremely important, and it can even be considered as a predictor of better sport performance[24].

The amateur athletes' socioeconomic level is associated with higher education and remuneration above three minimum wages[25], for example, amateur runners[26] and amateur

tennis players[23]. This better socioeconomic level enables the athletes to have resources for food consumption and use of ergogenic aids aimed at improving sport performance[27].

Regarding the relevance of introspection for a healthy lifestyle, Soares[28] mentions that introspection can allow a deep review of thoughts, feelings and memories, potentially leading to a deeper understanding of oneself and one's emotional challenges. Considering the professional career, the amateur athletes need to overcome the barriers of a dual career (competitive sport and professional career/academic life)[29], and, thus, they need social support provided both at the micro level (coaches, families, etc.)[30], and macro level (political and educational institutions)[31]. Despite their dual careers, the athletes reported receiving valuable resources, such as the transfer of sporting values to the work sphere; however, there are important barriers, such as the perception of sport institutions as absent entities in the work-sport combination[32].

The lifestyle dimensions, that is, type of behavior, introspection and career/work also emerged as protective factors against negative mood states, such as depression, anger and confusion, along with lower consumption of alcohol and other drugs. These findings are consistent with was reported in the literature: the athletes with a very good/excellent lifestyle had lower means of stress, depression and anger, and greater vigor, compared to those with a poor/regular lifestyle[33]. On the other hand, Rosoff et al.[34] found an association between smoking and a lower quality of life, including lower job satisfaction. The negative impact of tobacco on the mental and emotional health of individuals is highlighted, since tobacco use and alcohol consumption are behaviors that often occur together[35].

In addition, the athletes' mood is associated with their success in competitions, thus, in a competition it is important that they have good quality sleep to alleviate their mood swings[36]. Therefore, the sport demands, quality of sleep and a balanced lifestyle contribute to having better mood states, which results in student-athletes with less stress and fatigue[37]. A sufficient quantity and quality of sleep is essential for health at all stages of life, since sleep influences almost all life dimensions[38]. Young adults with higher daily energy expenditure have greater sleep efficiency. In this sense, physical training might be successful in individuals with sleep disorders[39]. Increasingly positive attitudes towards improving the athletes' lifestyle and health at any competitive level should be encouraged. Continued efforts are needed to educate professional and amateur athletes to guide them on mental health issues[40].

The main limitation of the present study is that the available literature mainly focuses on professional or elite athletes to the detriment of the large portion of society that practices competitive sports on an amateur basis, which makes a more specialist discussion difficult. The design of this cross-sectional study is another limitation, since verifying the impact of lifestyle throughout the sport career of amateur athletes and the impact of this involvement on their family life and other daily environments are not possible.

The present study has practical implications and highlights the need to assess the extent and scope of mental health problems in sport. It also contributes in the sense of making the amateur athletes conscious on care. This study also showed the need for intervention programs, when necessary, with multidisciplinary teams and research on the dual career of amateur athletes, which seems to be one of the challenges to be faced by the scientific community. The results highlighted the need to identify negative lifestyle variables as an alternative for amateur leagues to promote educational programs aimed at improving the amateur athletes' healthy behavior.

Conclusion

In conclusion, the athletes with a healthier lifestyle tend to exhibit fewer symptoms of stress and negative mood states, in addition to having a greater sense of vigor. These results

have significant practical implications for coaches, health professionals and others involved in the care and support of athletes. Such findings will also be useful as a basis for the development of comprehensive and adapted intervention programs.

In particular, the significance of education and awareness about the relevance of a healthy lifestyle in the sports context is highlighted. This might include the implementation of some strategies, such as creating pre-sleep routines, promoting sleep hygiene practices and providing resources and support to deal with sleep disorders aimed at improving the athletes' rest and recovery.

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