

Does Quality of Life Impact the Mental Health of Students at a University of the Brazilian Amazon?

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Abstract

The literature indicates a high prevalence of mental disorders in the university population and reveals the vulnerability of this public to psychic illness. Thus, exploring protective and risk constructs related to mental health problems in higher education students is important to collaborate with more effective interventions. Studies already associate personal and academic characteristics including age, income, and academic performance with mental illness of university students. However, there is still little scientific knowledge about psychosocial predictors such as quality of life to psychological disorders in this population. This study analyzed the predictive effect of quality of life on mental health of academics from a Public University of western Amazonia of Brazil. A cross-sectional design was carried out with 301 university students, who responded to the instruments: Quality of Life of the World Health Organization (WHOQOL-bref); Maslach Burnout Inventory/Student Survey (MBI-SS); General Health Questionnaire (QSG); and a socio-demographic and academic characterization form. The results of the regression analyses indicated that the Quality-of-Life domains predicted the dimensions of emotional exhaustion and professional efficacy of burnout syndrome and influenced the five factors of general health, namely psychic stress, desire for death, distrust in performance capacity, sleep disorders and psychosomatic disorders. These findings suggest that strategies focused on increasing quality of life can mitigate mental health problems among university students.

Keywords: university students; quality of life; mental health; burnout syndrome.

Mental health problems among university students have been a cause for concern worldwide, since the literature indicates a high prevalence of psychological morbidities in this population. In addition to causing suffering to the student and his/her family, mental disorders are determinant for poor academic performance and dropout of the course (Auerbach et al., 2018; Evans-Lacko & Thornicroft, 2019; January et al., 2018).

Recent evidence indicates a prevalence between 18.4% and 80.3% of common mental disorders in higher education students, including depression, anxiety and stress (Graner and Cerqueira, 2019; Othman, et al. 2019). The findings of othman's study, et al. (2019), for example, showed that university students have 39.5% of symptoms of depression; 23.8% anxiety and 80.3% of moderate to high stress symptoms.

Regarding factors related to mental illness of university students, previous research has established that low family support, interpersonal relationship problems, socioeconomic situation, poor academic performance, dissatisfaction with the course and belonging to ethnic, colored, gender and sexual minorities negatively affect mental health (Borgogna et al., 2018; Galdino et al., 2020; Gomes et al., 2020; Karyotaki, et al., 2020; Othman et al., 2019; Smolen & Araújo, 2017).

It is perceived, therefore, that the association of sociodemographic and academic variables in the mental health of university students is already well defined. On the other hand, there are fewer elements about the implications of protective psychosocial constructs for psychic illness. Therefore, it is important to study aspects that collaborate for the full use of various competencies of university students during the academic phase.

Unquestionably, the transition to higher education requires adaptation to multiple academic, psychosocial and biological challenges. During the training period, university students need to develop skills such as a sense of identity in a new social context, commitment to personal and professional goals, adaptation to new relationships, and still have to meet the expectations of important people in their lives (Acharya et al., 2018; Fernández-Rodríguez, Soto-López & Cuesta, 2019). These inherent demands of academic life are sources of vulnerability for the development or aggravation of mental health problems.

In addition to these challenges, students from low- and middle-income countries add to the aggravating of the difficulty of access to health services, especially when it comes to prevention and promotion of mental health (Evans-Lacko & Thornicroft, 2019). Not to mention that many university students of low socioeconomic status deal with the pressure of being responsible for raising the socioeconomic position of their family, because they are usually the first to have access to higher education. Certainly, there are many Brazilian university students in this condition.

Studies that characterize the socioeconomic and cultural profile of Brazilian university students, conducted by the National Forum of Pro-Rectors of Community and Student Affairs (FONAPRACE), have recorded the process of inclusion of students from different cultures and social classes in universities in the last decade. Regarding the socioeconomic issue, the fifth edition of this research shows that there was an increase of students in higher education institutions in Brazil with per capita income of up to 1 and a half minimum wages. There is a total of 70.2% of university students with this income range at the university. And the Northern region - located in the Western Amazon - has the highest percentage (81.9%) of university students in situations of socioeconomic vulnerability (FONAPRACE, 2019).

Conceição et al. (2019) corroborate the information mentioned when evaluating that stressful

situations that occur in the university context generate symptoms and psychic reactions that affect or are affected by quality of life. Thus, the quality of life understood as social and psychological well-being and a state of health can serve as a resource of psychological adjustment to cope with the stressful demands of university life.

Quality of life

The conception of quality of life encompasses multiple aspects, so there is no consensus among theorists about its definition. However, Fleck et al. (1999) state that scholars from different cultures agree that quality of life as a subjective construct needs to be based on multidimensional aspects to involve the positive and negative dimensions of life. Thus, three important characteristics corresponding to quality of life are seized: subjectivity, multidimensionality, and the presence of negative and positive dimensions.

These central elements of quality of life were founded by the World Health Organization (WHO) which conceptualizes it as the self-perception of the position it occupies in life, in the context of the culture and value systems in which one lives, as well as in relation to the objectives, expectations, standards and concerns (WHO, 1995). This study will adopt this definition, because it allows analyzing essential domains of human life, including physical, psychological, social relations and the environment.

In the academic context, quality of life plays an important role for the student's permanence in higher education institutions. University students with quality of life are better integrated into the training environment and have a higher rate of academic performance (Seo et al., 2018; Langame et al., 2016).

In this sense, the perception of quality of life can be used as a protective resource to face the challenges encountered in the university trajectory. Identifying variables of mental health support of university students promotes academic success and, consequently, contributes to the prevention of mental health problems (Gambetta-Tessini et al., 2016; Pekmezovic et al., 2011). On the other hand, quality of life in university students can be negatively affected by psychological disorders such as stress and burnout (Ribeiro et al., 2018). Therefore, it is up to investigate whether university students with perception of quality of life are less prone to mental health problems.

In general, the importance of studying quality of life as a predictor variable of mental health problems among higher education students is highlighted. To specifically know the physical, psychological, social relations and environment domains that are associated with common mental disorders including burnout, stress, psychosomatic disorders, sleep-related problems, and death wish.

Burnout syndrome

Burnout syndrome is a psychopathology that results from the consequences of stress and emotional tension that occurred in the context of work. Scholars in this area agree that burnout has three dimensions: exhaustion, cynicism (depersonalization) and low professional achievement. Maslach and Jackson (1981) explain that the first dimension corresponds to a feeling of physical and mental exhaustion, feelings of excessive demands and decreased emotional resources to deal with stressful situations. Cynicism or depersonalization is presented as an attempt at emotional distancing from some aspects of work. Finally, low professional achievement refers to thoughts of disability and dissatisfaction with performing at work.

The state of exhaustion is understood as the main symptom of this syndrome (Maslach, Schaufeli & Leiter, 2001). Although burnout research was initially limited to workers and the working environment, its current field of study covers other groups of people including higher education students (Carlotto, Otto & Kauffmann, 2010; Salanova et al., 2009;). The investigations on burnout in this context comprise the student as pre-occupational and refers to the syndrome as academic burnout (Morales-Rodríguez, Pérez-Mármol & Brown, 2019).

Based on the general concept, the definition of burnout in university students is also composed of three dimensions. Emotional Exhaustion, qualified by the feeling of being exhausted by the demands of the study. Disbelief is understood as cynical behaviors and distancing from the study. And Professional Ineffectiveness is characterized by the perception of incompetence in studies. The operational concept used in this study applies these dimensions to evaluate burnout.

Recent empirical investigations suggest that burnout syndrome is frequent in university students (Shankland et al., 2019; Worly et al., 2019; Bullock et al., 2017; Almeida et al., 2016). The findings of the research by Jiménez-Ortiz et al. (2019) indicated a prevalence of 52% of emotional exhaustion and 17.8% of burnout in students.

Hernández-Martínez et al. (2016) examined burnout and risk factors associated with mental health in higher education students. A prevalence of 50% of students with emotional exhaustion, 16% of low professional efficacy and 30% of high disbelief in relation to others was demonstrated. Corresponding to general health factors, 70% of the students presented sleep disorders, 15% symptoms of depression and anxiety, 10% reported not feeling happy and the same percentage felt useless.

By conducting a study on burnout and engagement in 225 Australian students at Monash University, Morales-Rodríguez et al. (2019) observed that demographic and academic variables are significantly correlated with burnout syndrome and educational engagement. The university students participating in this research who had greater propensities to develop burnout were those who were in more advanced study periods. Age and excessive dedication to academic activities were risk factors. Women were more prone to burnout development. The research also demonstrated that self-care activities are a preventive factor, which triggers an increase in well-being.

In the Brazilian reality, Asunción et al. (2019) evaluated the presence of Burnout Syndrome, relating it to sociodemographic, academic, and psychosocial variables in health university students. From this study, a percentage of 14.4% of students with this syndrome was evidenced. In addition, the authors identified significant relationships between burnout dimensions with course performance, course withdrawal. Therefore, students with poor performance and who have already thought about dropping out of the course have more exhaustion and less professional effectiveness.

The studies analyzed show that Burnout Syndrome may appear in students during the academic training phase. Thus, identifying this syndrome in this period may suggest possible academic difficulties in advance and allow the design of interventions to prevent the development of burnout in the university environment.

Common mental disorder in college students

Mental health problems with the presence of non-psychotic symptoms such as irritability, insomnia, difficulty concentrating, fatigue and psychosomatics are called Common Mental Disorders (Goldberg, 1994). This term will be used in this study to designate less severe psychological morbidities, described operationally by Goldberg (1972) in five factors: psychic stress, desire for death, distrust in performance, sleep disorder and psychosomatic disorder.

Studies point to the risk that the university context presents to psychic illness and have a high prevalence of common mental disorders in higher education students (Auerbach et al., 2018; Ferreira, Kluthcovsky & Cordeiro, 2016). In addition to this finding, it should be considered that the occurrence of mental disorders usually occurs for the first time during the youth years (Saeed et al., 2018, Souza, Caldas & Antoni, 2017). Phase in which the student enters university education.

While conducting a survey with university students from 8 countries, Auerbach et al. (2018) concluded that 35% of the students presented at least one of the common mental disorders evaluated in the study. These results are similar to those reported by Graner and Cerqueira (2019) in their literature review, in which they found prevalences of 18.5% to 49.1% of common mental disorders among university students, reflecting high rates of psychological problems in this public.

Although mental health problems among university students have been the subject of several studies (Hernández-Torrano et al., 2020), the studies remain focused on health students and are conducted in universities in developed countries (Graner and Cerqueira, 2019). Thus, there is a need to investigate psychosocial predictors of mental health problems in university students in developing countries, including Brazil.

Given the prevalence of mental disorders among university students and the negative consequences at personal, academic and social levels that psychological problems cause, it is important to study protective factors and risks associated with the development of such morbidities. Therefore, this study explores the predictor effect of quality of life on mental health of students at a public university in the Western Brazilian Amazon. In addition, it analyzes the relationship between sociodemographic characteristics and quality of life and mental health. The results of this research can collaborate with educational policies to improve strategies for teaching and promoting psychological health of higher education students. Future studies deepening the theme are therefore recommended for progress in determining protective factors and risk to the psychological health of university students.

Method

Sample

The sample included 301 university students from a Federal University located in the Western Brazilian Amazon, selected for convenience. The mean age of the university students was 29.34 years (SD=8.78); 65.2% were female; 58.9% have a family income of up to two minimum wages. About color, 84.7% declared themselves black or brown.

The required eligibility criteria included enrolling in some undergraduate course and agreeing to participate in the research as a volunteer. To determine the sample size, an *a priori* sampling calculation

was performed using the GPower 3.1 program, the result of which estimated a minimum size of 107 participants considering the multiple regression measurement analysis in an average effect size (f^2 .010) and a power of 80%, with a probability of error of 5%.

Instruments

Quality of Life was measured by the abbreviated version in Portuguese of the World Health Organization Quality of Life (WHOQOL-bref) questionnaire, developed by the World Health Organization (1948) and adapted to the Brazilian reality by Fleck et al. (2000). It consists of 26 items, 24 of which are divided into four domains: physical, psychological, social relations and environment and two items on general quality of life and general perception of health. The response scale ranges from 1 to 5 points. The Instrument presents satisfactory characteristics of internal consistency for all domains, with *Cronbach's* alpha of 0.84 for domain 1; 0.79 for 2; 0.69 for 3; 0.71 for 4.

Burnout syndrome was evaluated using the Brazilian version of the Maslach Burnout Inventory - Student Survey (MBI-SS), validated for Brazil by Carlotto and Câmara (2006). It is an instrument consisting of 15 items that are subdivided into three dimensions: Emotional Exhaustion (5 items); Disbelief (4 items) and Professional Efficacy (6 items). All items are evaluated using a seven-point scale ranging from 0 (never) to 6 (every day). The internal consistency of the subscales, assessed by Cronbach's alpha, presented (0.81) for emotional exhaustion; (0.74) for professional efficacy; and (0.59) for disbelief. Although the last dimension presented a low level of internal consistency, Carlotto and Câmara (2006) consider that the MBI-SS, version for the Brazilian reality has the fundamental requirements regarding internal consistency and factorial validity to evaluate burnout syndrome in the university population.

To assess the presence of common mental disorders, the *General Health Questionnaire* was used, built by Goldeberg (1972) and adapted and validated for Brazil by Pasquali et al. (1996) as a General Health Questionnaire (QSG). The QSG-60 has five factors: psychic stress, desire for death, lack of confidence in performance/self-efficacy capacity, sleep disorders and psychosomatic disorders; in addition to a general factor that verifies the severity of the absence of mental health. It is answered on a four-point scale from 1 (less than usual) to 4 (much more than usual), in some items the scale is reversed. The internal consistency of the factors calculated by Cronbach's alpha was (0.89) for dimensions 1, 2 and 3; (0.80) for factor 4; (0.83) for factor 5. All 60 items, analyzed together, presented alpha of 0.95. Therefore, the scale has good internal consistency.

The characterization of the sociodemographic and academic profile included data from the course in which he is enrolled; course choice function; sex; age; marital status; color/ethnicity; if you have a child and quantity; with whom you live; which means of transport used to go to college; how it is maintained financially; if you have a paid activity; individual and family monthly income, if you receive student aid.

Procedures

Ethical considerations

The project was submitted to the Research Ethics Committee (CEP). After ethical approval, the students signed the informed consent before answering the questionnaires. Data were collected in the classroom in a group manner and took approximately 15 minutes.

Analysis

The distribution of sociodemographic characteristics and correlations were determined by descriptive

statistics. Student and Anova t-tests were applied to compare the variables. And the relationships were analyzed by Pearson's correlation coefficient measurement. In addition, multiple regressions were performed to explore the predictive power of the quality-of-life domains on burnout and general health.

Results

Levels of Quality of Life, Burnout and Common Mental Disorders in University Students

The means of the variables are presented in Table 1. The average scores of the general quality of life indicators and domains included in this variable are calculated; the dimensions of burnout syndrome; as well as the factors that represent common mental disorders.

The university students evaluated their own quality of life in the interval between "neither bad nor good" and "good", considered an intermediate level of QoL. In addition, there was indifference or satisfaction when they were asked how satisfied they were with their own health, considering the last two weeks preceding the questionnaire response. Regarding the domains of quality of life, university students presented higher scores in the domains of social and psychological relationship and lower in the physical and environmental domains.

On burnout syndrome, the results indicated that university students present emotional exhaustion between "a few times a month" and "once a week". In the dimension of disbelief, between "once a month or less" and "a few times a month". Finally, on professional efficacy, they reported "once a month" and "some times a week". This means that students often feel emotionally exhausted because of the demands of studies; have been more disbelieving about the usefulness of studies and less interested in them. However, they do not consider themselves incompetent as students and believe that they learn many interesting things from their studies. Thus, although the results indicated mean levels of two dimensions of burnout (emotional exhaustion and cynicism/disbelief), the university students do not present the syndrome, because the professional efficacy score was medium to high. According to Schaufeli et al. (2002), are indicative of burnout, high positions in emotional exhaustion and cynicism/disbelief and low in efficacy professional.

Regarding the presence of common mental disorders, psychic stress was the most frequent among university students (21.4%), followed by sleep disorders (17.9%); performance distrust (12.3%); psychosomatic disorders (8.3%) and death wish (5.6%). About the factor "severity of absence of mental health", 52.2% of the students presented case without injury, 41.5% borderline and 6.3% case with injury. The results were evaluated according to the standard standards table of the General Health Questionnaire, validated in Brazil by Pasquali et al. (1996), which indicates a symptomatic profile of Common Mental Disorders when the values are equal to or greater than 3.00.

Table 1. Mean scores of Quality-of-Life Indicators, burnout, and general health (N = 301)

Variablel	Mean	DP	Percentage		
Overall Quality of Life	3.69	0.71			
General perception of health	3.50	0.92			
Physical domain	12.19	1.88			
Psychological domain	13.29	2.22			
Dominance of social relationships	14.27	3.15			
Environment domain	12.18	2.23			
Emotional exhaustion	3.67	1.43			
Disbelief	2.19	1.35			
Professional effectiveness	4.65	0.99			
			symptomatic	Borderline	asymptomatic
Psychic stress	2.30	0.71	21,4%	27,4%	51,2%
Death wish	1.55	0.67	5,6%	20,6%	73,8%
Distrust in performance	2.25	0.56	12,3%	30,2%	57,5%
Sleep disorders	2.08	0.80	17,9%	27,3%	54,8%
Psychosomatic disorders	2.04	0.59	8,3%	37,9%	53,8%
			With grievance	Borderline	No harm
Severity of absence of mental health	2.10	0.53	6,3%	41,5%	52,2%

Relationships and Predictor effects of Quality of Life on Burnout and Common Mental Disorders

The quality of life domains presented significant correlations, in $p = 0.01$, with the dimensions of burnout and with the health factors. More specifically, the physical, psychological, social relations and environment domains are negatively related to emotional exhaustion ($r = -3.5, p = .000; -0.29; p = .000; r = -0.30, p = .000$), disbelief ($r = -0.24, p = .000; r = -0.29, p = .000; r = -0.19, p = .000; r = -0.20, p = .000$), psychic stress ($r = -0.45, p = .000; r = -0.44, p = .000; r = -0.42, p = .000; r = -0.45, p = .000$), death wish ($r = -0.40, p = .000; r = -0.44, p = .000; r = -0.35, p = .000; r = -0.41, p = .000$), distrust in performance ($r = -0.50, p = .000; r = -0.50, p = .000; r = -0.45, p = .000; r = -0.44, p = .000$), sleep disorder ($r = -0.39, p = .000; r = -0.27, p = .000; r = -0.32, p = .000; r = -0.29, p = .000$), psychosomatic disorder ($r = -0.37, p = .000; r = -0.37, p = .000; r = -0.39, p = .000; r = -0.37, p = .000$), and Severity of absence of mental health ($r = -0.50, p = .000; r = -0.49, p = .000; r = -0.47, p = .000; r = -0.48, p = .000$). In addition, they presented a positive association with the efficacy dimension of burnout syndrome ($r = 0.30, p = .000; r = 0.40, p = .000; r = 0.26, p = .000; r = 0.22, p = .000$).

These results suggest that university students with high levels of quality of life have lower values of two dimensions of burnout, as well as all general health factors. On the other hand, higher scores

of quality of life among students also represent higher levels of professional efficacy, as shown in Table 2.

Table 2. Correlations between quality of life, burnout and general health factors (N = 301)

variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Physical mastery	-												
2. Psychological domain	.55**	-											
3. Mastery of social relations	.43**	.51**	-										
4. Environment domain	.50**	.57**	.46**	-									
5. Emotional exhaustion	-.35**	-.29**	-.24**	-.30**	-								
6. Disbelief	-.24**	-.29**	-.19**	-.20**	.38**	-							
7. Professional effectiveness	.30**	.40**	.26**	.22**		-.36**	-						
8. Psychic stress	-.45**	-.44**	-.42**	-.45**	.51**	.39**	-.16**	-					
9. Death wish	-.40**	-.44**	-.35**	-.41**	.34**	.38**	-.18**	.74**	-				
10. Distrust in performance	-.50**	-.50**	-.45**	-.44**	.39**	.39**	-.28**	.83**	.71**	-			
11. Sleep Disorders	-.39**	-.27**	-.32**	-.29**	.39**	.20**		.68**	.52**	.59**	-		
12. Psychosomatic disorders	-.37**	-.37**	-.39**	-.37**	.44**	.27**	-.12*	.75**	.53**	.68**	.67**	-	
13. Severity of lack of mental health	-.50**	-.49**	-.47**	-.48**	.48**	.39**	-.19**	.94**	.81**	.91**	.76**	.83**	-

* p < .05. ** p < .01.

Regression analysis was used to predict the effect of quality-of-life domains on burnout dimensions and general health factors. The results obtained in the regression and presented in Table 3 indicate that, together, the quality-of-life domains significantly predicted the dimensions emotional exhaustion and professional efficacy of burnout syndrome, $F(4.296) = 13.15$ and $F(4.296) = 15.75$, $p < .001$, with $R^2 = .15$, $p < .001$ and $R^2 = .18$, $p < .001$, respectively. Adjusted R^2 values .14 and .16 indicate that 14% of the variability in emotional exhaustion and 16% in professional efficacy in university students is predicted by the quality-of-life domains. The size and direction of relationships suggest that lower levels of quality of life increase emotional exhaustion and higher levels in the physical, psychological, and social domains increase the perception of professional self-efficacy among university students. However, by decreasing the environmental domain score, the level of self-efficacy is high.

The domains of quality-of-life influenced stress levels $R^2 = .31$, $p < .001$, Deathwish $R^2 = .26$,

$p < .001$, distrust in performance $R^2 = .36$, $p < .001$, sleep disorders ($R^2 = .18$, $p < .001$), psychosomatic disorders ($R^2 = .23$, $p < .001$) and severity of absence of mental health ($R^2 = .37$, $p < .001$). Together, the quality-of-life domains explained 37% of stress, 25% of death wish, 35% of distrust in performance, 17% of sleep disorders, 22% of psychosomatic disorders and 36% in the severity of the absence of mental health among university students.

Table 3. Regression models of quality-of-life domains on burnout and common mental disorders

Model	Saw	R	R ²	R ² Adjusted	b	β	Standard error	F
1 (Emotional Exhaustion)	Physical domain	.39**	.15	.14	-0.72	-0.24	1.33	13.15
	Psychological domain				-0.15	-0.06		
	Domain of social relations				-0.11	-0.06		
	Environment domain				-0.30	-0.12		
2 (Disbelief)	Physical domain	.31	.10	.08	-0.31	-0.11	1.29	7.88
	Psychological domain				-0.49	-0.20		
	Domain of social relations				-0.06th	-0.04		
	Environment domain				-0.04	-0.02		
3 (Professional effectiveness)	Physical domain	.42**	.18	.16	.24	.11	.90	15.75
	Psychological domain				.62	.35		
	Domain of social relations				.08	.06		
	Environment domain				-0.12	-0.07		
4 (VD Stress)	Physical domain	.56**	.31	.30	-0.32	-0.21	.60	33.45
	D omínio psicológico				-0.16	-0.12		
	Domain social relations				-0.16	-0.18		
	Environment domain				-0.24	-0.19		
5 (Death Wish)	Physical domain	.51**	.26	.25	-0.23	-0.16	.58	26.1
	Psychological domain				-0.25	-0.21		
	Domain of social relations				-0.08	-0.09		
	Environment domain				-0.20	-0.17		
6 (Distrust in Performance)	Physical domain	.60**	.36	.35	-0.28	-0.24	.45	41.60
	Psychological domain				-0.21	-0.21		
	Domain of social relations				-0.14	-0.19		
	Environment domain				-0.12	-0.12		
7 (Sleep Disorders)	Physical domain	.43**	.18	.17	-0.50	-0.29	.74	16.71
	Psychological domain				.03	.23		
	Domain of social				-0.17	-0.16		

	relations Environment domain				-.13	-.09		
8 (Psychosomatic disorders)	Physical domain	.48**	.23	.22	-.19	-.15	.52	21.79
	Psychological domain				-.11	-.10		
	Domain of social relations				-.16	-.21		
	Environment domain				-.15	-.14		
9 (Severity of absence of mental health)	Physical domain	.61**	.37	.36	-.26	-.23	.42	44.12
	Psychological domain				-.14	-.14		
	Domain of social relations				-.14	-.21		
	Environment domain				-.18	-.19		

** p < .01

Discussion

The main objective of this study was to explore the effect of quality of life on mental health and university students who study at a Federal University of western Western Brazil. As expected, the study's findings indicated that the quality of life domains explained the variation of the dimensions emotional exhaustion and low professional efficacy of burnout, as well as the levels of common mental disorders included in the analyses.

And university students with lower levels of quality of life in the physical, psychological, social relations and environment domains have more sense of physical and mental exhaustion, feelings of excessive demands, decreased emotional resources to deal with stressful situations and thoughts of disability, and dissatisfaction with studies. These characteristics describe the dimensions emotional exhaustion and low professional efficacy of burnout syndrome. These findings reflect those of Ribeiro et al. (2018), who in a systematic literature review found that quality of life was often negatively associated with burnout. Quality of life also influenced the five factors of general health, namely psychological stress, desire for death, distrust in performance capacity, sleep disorders and psychosomatic disorders. As well as the severity of the absence of mental health.

Thus, lower indicators of quality of life increase the chances of university students having experiences of tension, irritation, impatience, tiredness and overload that make life a constant, exhausting and unhappy struggle; evidence the desire to end one's own life, since it presents itself as useless, meaningless and without prospects; express the awareness of being unable to perform or perform daily tasks satisfactorily; present sleep-related problems, including insomnia and nightmare, and organic practices such as feeling unhealthy, headaches, weakness and chills. Finally, have a higher level of severity of the absence of mental health.

According to these data, it is inferable that the elements that contain the quality of life as social and psychological well-being and a state of health can be a resource of psychological adjustment to cope with the stressful demands of university life, thus collaborating with the mental health of university students.

In addition, they suggest that strategies focused on promoting the number of users can mitigate mental health problems among university students.

Therefore, it is evident the importance of a good quality of life as a protective factor for the mental health of university students. Therefore, it is necessary to study other psychosocial and academic dimensions to evaluate their possible relationships with mental health, including students from different regions of Brazil.

Conclusion

It is conceivable that the domains of quality of life are important factors to protect the mental health of university students living in the Western Brazilian Amazon. Considering the negative impact caused by psychological problems in the academic, family and social life of higher education students, it is essential to invest in institutional and public policies focused on quality of life, to collaborate with the promotion of mental health of the university population, especially students living in regions with reduced alternatives regarding the multiple dimensions of quality of life.

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