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ASSESSMENT OF LEVELS OF ANXIETY, DEPRESSION AND QUALITY OF LIFE IN PRE-COLLEGE STUDENTS

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Abstract: Introduction: The main task of adolescence is the search for an adult identity, which highlights insertion in a higher education course, the gateway to professional qualification. During the preparation, disorders that compromise the mental health and quality of life of adolescents and young people can develop. The study evaluated the levels of anxiety, depression and quality of life in young people in a pre-university course, correlating them with social, demographic and academic factors. Methods: A cross-sectional observational study with pre-college students who took one or more tests of the College entrance exam - 2021. An online questionnaire was applied to collect socio-demographic data and measured levels of anxiety and depression (HAD scale) and quality of life (SF -36). Results submitted to statistical analysis. Project approved by CEP - opinion 5,107,639. Result: The sample consisted of 62 students, of which 67.77% were between 17-18 years old, predominantly female (79.03%), mostly belonging to classes D and E (82.26%). The majority (83.87%) had completed high school and came from a public school (83.87%). 72.58% were attending the first year of the prep course and 25.81% indicated they wanted to enroll in the Medicine course. Scores below the average for age were observed in all SF-36 domains when compared to the Brazilian population, with emphasis on emotional aspects, with Median equal to zero. There was a moderate negative correlation between levels of anxiety, depression and quality of life in terms of social and mental health. A positive correlation was found between female gender (p=0.0148 / p=0.0411), lower family income (p=0.0420 / p=0.0256) and anxiety and depression levels, as well as between public school students and anxiety levels (p=0.0063). The correlation observed in the study reveals the impact of these disorders on the quality of life of these adolescents, directed towards the domains of mental health, social and emotional aspects and vitality. Conclusion: Adolescent pre-university college students have lower levels of quality of life. Anxiety and depression negatively influence the quality of life of this population. The highest levels of anxiety and depression were positively correlated with female gender, lower family income and public school background.

Keywords: Adolescence, Entrance Examination, Anxiety, Depression, Quality of Life.

INTRODUCTION

Adolescence is the period between 10 and 19 years[1], when an adult and sexual identity is formed, a stage marked by successive contradictions and a demanding social attitude. It is a dynamic process guided by the influence of socioeconomic and cultural factors.

Notably, the choice of profession and the search for a qualification recognized by the labor market guide the behavior of adolescents. A recent survey conducted in public and private schools in Rio Grande do Sul reveals the scenario at the end of secondary education: the entrance exam is the dominant choice among five alternatives of possible activities to be undertaken by young people, after the end of secondary education.[2]

However, social inequalities such as those of class, gender and ethnicity, lead to a situation of vulnerability and restriction of opportunities throughout the academic training of young people, making it difficult to enter higher education institutions[3].

In view of this, from the 1970s onwards, with the democratization of access to higher education and the desire for social ascension of the emerging middle class, there was the emergence and intensification of the so-called

"Coursinho Effect". Currently, the highest percentages of people entering the entrance exams are made up of candidates who completed one or two years of prep.

Thus, at the moment when a teenager finds himself the author of his own life, begins to look ahead and ask himself how to guarantee a better future 1, the entrance exam is presented as the main choice. During preparation, it is common for the appearance of various psychophysiological disorders such as anxiety and depression that compromise their mental health and quality of life.

In a study carried out in 2019, the prevalence of Generalized Anxiety Disorder (GAD) symptoms among students was high (41.4%), when compared to other studies in other populations 5. Anxiety commonly intensifies in the context of pressures, demands and stresses of daily life, being a natural and adaptive reaction. Among the physical manifestations of these disorders in the months preceding the tests, difficulty concentrating (52.5%), restlessness, headaches, muscle aches and dizziness stand out 6.

To produce health with adolescents and young people, it is necessary to consider their life projects, believe that they learn to deal with their problems and with their life context, having the support and co-responsibility of health workers, without moralism, control and oppression. Therefore, understanding the physical and psychological effects, as well as the impact on quality of life caused by this period, is necessary in order to provide comprehensive care to adolescents.

In this sense, the present study aimed to study the levels of anxiety, depression and quality of life in the young population of a pre-university preparatory course and to correlate them with the students' quality of life indices and social, demographic and academic factors.

METHODS

A cross-sectional observational study was carried out, in which social, demographic and academic characteristics were evaluated through a questionnaire prepared by the researchers. The variables measured were: gender (male/female), age (less than 17 years/ 17 years/ 18 years/ 19 years/ 20 years or more), family income (up to 1 salary, from 1 to 2 salaries, above 2 up to 4 wages, from 5 to 10 wages, above 10 wages), type of high school - EM (public/private), schooling (already completed the EM/ I'm taking the EM), first time taking a course (yes/no), desired course (Medicine/others/don't know).

The place where the study was carried out was the Pre-University Course Noc Educação, a social impact project founded in 2014, based in Santo André-SP, which offers a disruptive model of preparation for ENEM and the main entrance exams. The innovative pedagogical project instituted by the preparatory course is based on hybrid study, with the intense use of technology in the learning process, the concept of flipped classes and the engagement of educators. In addition, the course has a heterogeneous group of students, belonging to different social classes, thanks to the cross-financing system, that is, for each paying student a scholarship is offered to a public school student.

In conjunction with the pedagogical project, students are also offered monthly consultations with neuroscientists and psychologists, called "Mentoring", to support emotional and psychological issues related to the planning and carrying out of the study.

To prepare the questionnaire, the following points were considered:

1) Reduced number of questions, in order not to extend the total time to complete the survey;

2) Application on a virtual platform, due to the context of social isolation imposed by the COVID-19 pandemic;

3) Preference for questionnaires in the multiple choice model,

4) Ease of understanding and self-completion online;

5) Evaluation of the wide variety of factors that influence young people's actions and decisions during preparation for the College entrance exam Exam;

Taking into account the points listed above, the translated and validated questionnaires SF-36 and HAD Scale were used as evaluation instruments. The online application platform was Google Form, a widely accessible resource, easy to use and available free of charge.

The SF-36 questionnaire is an instrument composed of 36 multiple-choice questions that assess eight dimensions within the aspects of quality of life: functional capacity, limitation due to physical aspects, pain, general state of health, vitality, social aspects, emotional aspects and mental health. The purpose of using the aforementioned questionnaire was to measure the impact of the pre-university entrance exam period on the daily lives of these individuals.

The HAD scale is an instrument consisting of 14 multiple-choice questions, divided into two subscales with seven items each, anxiety (HAD-A) and depression (HAD-D). Easy to understand and quick to fill out, the questionnaire aims to separately assess the levels of anxiety and depression. The overall score on each subscale ranges from 0 to 21.

First, the research and the ethical and confidentiality conditions of the study were presented. The approximate time to complete the form was 20 minutes. After reading, the participants declared that their participation was voluntary and that they agreed with the terms of the research. It was also clarified that non-participation in the research would not cause any harm to the students.

The survey link, available on the Google Form platform, was sent to students through the official contact of the course in the "Whastapp" application. This was available for responses during the period of one week in the months of February and June.

The variables were distributed by absolute frequency and relative frequency. Quantitative variables were presented by measures of central tendency and variability measures by testing data normality using the Shapiro-Wilk test.

To correlate the level of anxiety and depression with quality of life, the Pearson or Spearman correlation test was applied. To compare the variables gender, type of school (public or private), family income, age with levels of anxiety and depression, Student's tests or the Mann-Whitney test were used.

The significance level adopted was $p < 0.05$. And the statistical program used was Stata version 14.0.

RESULTS

The sample consisted of 62 students, of which 42 (67.74%) were between 17-18 years old, with a predominance of females (49 - 79.03%), mostly belonging to classes D and E (51 - 82, 26%). The majority (52 - 83.87%) had completed high school and came from a public school (52 - 83.87%). 45 students (72.58%) were attending the first year of the prep course and 16 (25.81%) indicated they wanted to enter the medical course.

Scores below the average for age were observed in all SF-36 domains when compared to the Brazilian population, with emphasis on emotional aspects (AE), Median equal to zero. The score obtained for anxiety ($M_d = 12$) was higher than that of depression ($M_d = 7,5$). There was a moderate negative correlation between the levels of

Variable	n	(%)
Gender (N=62)		
male	13	20,97
female	49	79,03
Age (N=62)		
below 17 years	5	8,06
17 years	18	29,03
18 years	24	38,71
over 20 years	15	24,19
Family income (N=62)		
up to 1 minimum wage	6	9,68
from 1 to 2 minimum wages	19	30,65
over 2 up to 4 minimum wages	26	41,94
over 5 up to 10 minimum wages	10	16,13
over 10 minimum wages	1	1,61
Education (N=62)		
I already finished high school	52	83,87
I'm still in high school	10	16,13
Type of school in high school (N=62)		
Public	52	83,87
Private	10	16,13
First time taking a course? (N=62)		
Yes	45	72,58
No	17	27,42
Selected course (N=62)		
Medicine	16	25,81
Others	41	66,13
The person does not know	5	8,06

Table 1: Characterization of the study population or study sample.

anxiety, depression and quality of life in terms of social, vitality and mental health. A weak negative correlation was also found between anxiety, depression and general health status, as well as between levels of depression, functional capacity and pain. In addition, there was a moderate negative correlation between emotional aspects and anxiety levels.

A positive correlation was found between female gender (p=0.0148 / p=0.0411), lower family income (p=0.0420 / p=0.0256) and levels of anxiety and depression. Public school students showed a positive correlation with levels of anxiety (p=0.0063), a relationship not observed with levels of depression. There was also no statistically significant relationship between age and levels of anxiety and depression.

DISCUSSION

The score obtained in this study for levels of anxiety (M_d= 12) corresponded to a picture of probable anxiety, in relation to depression (M_d= 7,5), the result ranged from improbable to possible depression. These findings confirm the results of Schönhofen FL, et al [5] and Kitiş, et al[10] respectively: the symptomatology of Generalized Anxiety Disorder (41.4%) and depressive symptoms (54.5%) is high in students during preparation for college entrance exams.

The results obtained in the SF-36 portrayed the decline in quality of life in this population, with emphasis on the emotional domains (M_d= 0), pain (M_d= 21), vitality (M_d= 30), mental health (M_d= 40), general state of health (M_d= 50) and social aspects:M_d= 50), all showed a difference of at least 29.8 points for the average for age compared to the Brazilian population [15].

The impact of high levels of anxiety and depression on the quality of life of this population is not well established in the literature, but a study carried out in Porto Alegre in 2008[13] observed that 32.1% of patients classified as having stress had physical symptoms (headaches, body

Variável	Median	25-75%	Mín	Max
HAD - A	12	8-16	1	21
HAD-D	7,5	5-11	3	17
SF-36 CF	85	75-95	30	100
SF-36 AF	75	25-100	0	100
SF-36 DOR	21	15,5-26	5	40
SF-36 ES	50	40-65	5	65
SF-36 VIT	30	20-45	5	85
SF-36 AS	50	37,5-62,5	0	100
SF-36 AE	0	0-33,33	0	100
SF-36 SM	40	28-60	12	84

Table 2: Sample distribution according to had and sf-36 scale domains.

	HAD A		HAD D	
	Spearman's rho	p	Spearman's rho	P
SF-36 CF	- 0.2148	0.0936	-0.2791	0.0280
SF-36 AF	-0.0307	0.8130	-0.0568	0.6611
SF-36 DOR	-0.2369	0.0637	-0.2794	0.0278
SF-36 ES	-0.2505	0.0495	-0.3020	0.0171
SF-36 VIT	-0.4110	0.0009	-0.5592	0.0000
SF-36 AS	-0.5531	0.0000	-0.5450	0.0000
SF-36 AE	-0.4465	0.0003	-0.2359	0.0650
SF-36 SM	-0.6347	0.0000	-0.6393	0.0000

Table 3: Relationship between anxiety levels, depression and quality of life.

	Female		Male			
	Median	IC 95%	Median	IC 95%	z	P
HAD A	13	11-15	8	7,39 - 12,60	2.438	0.0148
HAD D	8	7-9,86	4	3,39 - 8,60	2.042	0.0411

Table 4: Relationship between anxiety and depression levels and gender.

	Public		Private			
	Median	IC 95%	Median	IC 95%	Z	p
HAD A	13	11-15	7	5,71 - 13	2.733	0.0063
HAD D	8	7-9	7	3,71-11,28	0,714	0.4751

Table 5: Relationship between anxiety levels, depression and type of school.

	Up to 17 years		18 years or over			
	Median	IC 95%	Median	IC 95%	z	P
HAD A	11	10-13	13	9,88-15,11	-0.928	0.3532
HAD D	8	4,2-9	7	7-10	-0.549	0.5828

Table 6: Relationship between anxiety levels, depression and age.

	1-4 minimum wages		5- 10 minimum wages		
	Median	IC 95%	Median	IC 95%	p
HAD A	13	11,02-14,97	10	6,4-12,43	0.0420
HAD D	8	7-9	5	3-8,14	0,0256

Table 7: Relationship between anxiety levels, depression and family income.

aches, digestive problems, among others). Rodrigues & Pelisoli[12] in a large exploratory study carried out in the same year, they found that 90.5% of the students indicated that the entrance exam changed their life habits.

The correlation observed in the study reveals the impact of these disorders on the quality of life of these adolescents, directed towards the domains of mental health, social and emotional aspects and vitality. In this sense, Kitiş, et al10 in their study, report the association between musculoskeletal disorders, depressive symptoms and levels of quality of life (SF-36), in addition to a positive correlation between depressive symptoms, musculoskeletal disorders and decreased sleep duration.

The survey also identified that females have higher levels of anxiety and depression. This correlation is well established in the literature[5,10,11,12,13,14]. Possible explanations for this difference between genders are: genetic factors, hormonal influences, vulnerability to environmental stressors and social factors: worse wages for the same jobs as men, have a greater workload and have fewer opportunities.

In addition, the study also pointed out the correlation between lower family income and higher rates of anxiety and depression. This result reinforces the finding of the recent study carried out in Alfenas 14, students with family income between 1000 and 6000 reais had more anxiety and depression. In view of this, the study developed by Whitaker 4 provides possible explanations for this correlation: higher education is presented, for families from lower urban strata, as the best alternative for their children's social ascension. This portion of society (middle and lower-middle classes) is pressured and distressed by salary deterioration, and therefore the goal is to get their children to enter a public university, which offers the lowest number of places in higher education.

Another point raised in the research was the correlation of public schooling with higher levels of anxiety. This result differs from what is reported by Schönhofen FL5, et al: individuals who attended a private school in the third year of high school had a higher prevalence of Generalized Anxiety Disorder (GAD) symptoms than those who attended a public school. A hypothesis that explains this divergence is the perception of the absence of "Cultural Capital" by public school students, which generates anxious and insecure feelings.

As it was defined by Whitaker[4], "Cultural Capital" is the set of prior knowledge linked, for example, to literature, theatre, music, political events, which extraordinarily widens the possibilities of learning History and Geography. They are transmitted through informal education (the one that takes place in the family environment) and are joined to implicit values that define attitudes towards education. In this sense, the discriminatory mechanisms that make up society result in a lack of opportunities and, consequently, a lack of informal education throughout the education of public school students.

Just like: Rodrigues & Pelisoli[12] and Soares, A. B., & Martins, J. S. R[11], this study did not detect a significant correlation between age and levels of anxiety and depression, corroborating the hypothesis that triggering factors for anxiety and depression in young people may occur throughout adolescence.

The present study presented as a limitation a restricted number of participants that composed the sample. It is also necessary to consider the form of online application of the questionnaires and the pandemic scenario, in force at the time of application of the study, as possible biases. In addition, the use of antidepressants and previous pathological conditions were not questioned.

However, due to the lack of scientific evidence and specific guidelines for health and education professionals who provide assistance to adolescents in this context, the research can constitute a significant reference for medical and educational practice.

CONCLUSION

The present study concluded that adolescent students in pre-university preparatory courses have lower levels of quality of life. Anxiety and depression negatively influence the quality of life of this population. The highest levels of anxiety and depression were positively correlated with female gender, lower family income and public school background.

Considering the results found, it is necessary to improve educational and health care strategies for this population. In this sense, it is suggested the early screening of anxious and depressive symptoms in pre-university preparatory courses, taking into account the most susceptible groups, in addition to the work of a multidisciplinary team that provides support for the mental health of students, in order to improve their mental health. quality of life of these individuals.

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