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PHARMACOLOGICAL PROFILE, QUALITY OF LIFE AND POSITIVE PSYCHOLOGICAL ACADEMIC CAPITAL: CORRELATES IN MEDICAL STUDENTS AT PUBLIC AND PRIVATE HIGHER EDUCATION INSTITUTIONS IN THE CITY OF CAMPINA GRANDE-PB

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Abstract: GOAL: Identify the health, quality of life and psychological capital needs of medical students in the city of Campina Grande – PB, based on the individualized pharmacological profile of this population. **METHODS:** 65 medical students from the city of Campina Grande were filled out the SOCIO-DEMOGRAPHIC PROFILE, PHARMACOLOGICAL PROFILE, QUALITY OF LIFE (psychological version) and PSYCHOLOGICAL CAPITAL SCALE forms. **RESULTS:** The sample consisted of 37 men and 28 women, aged between 19 and 44 years old and with variable family income, between 1 and 40 minimum wages. **CONCLUSION:** The main drug classes used by medical students in the city of Campina Grande are: NSAIDs, antidepressants and analgesics. The main justifications for the use of drugs among medical students are: pain, anxiety, allergies and depression.
Keywords: Pharmacology, Medical Students, Quality of Life

INTRODUCTION

In recent years, research has revealed many factors that influence student performance and well-being, with a recognized need to take into consideration, the role of personal characteristics and psychological resources in predicting students' academic success and well-being (MARTÍNEZ, et al, 2019). The highly competitive and responsible environment of the Medicine course can lead university students to seek alternative ways to increase their academic performance, such as the use of psychostimulants and other medications. Recent studies indicate that around half of medical students start using these substances when they enter college, and relate their consumption mainly to the effects of increasing concentration and reducing sleep (MORGAN et al, 2017).

Furthermore, according to Acosta et

al, (2019) the prevalence of the use of d-amphetamines and methylphenidate by medical students is 47.4%, with 89.4% of users not having a prescription. It is also worth highlighting illicit drugs, for example: the consumption of alcohol and tobacco by medical students is considered high compared to other courses (BOGOWICZ; FERGUSON; GILVARRY et al, 2018). Data indicate that, on average, alcohol consumption increases 2.27 times, from the first year of the course to internship, and the habit of smoking increases from 17.4% of students to around 28.2% at the end of the course (VAZ, et al, 2020).

Mental health problems are also common: a systematic review with meta-analysis suggests that the prevalence of depression among medical students in Brazil is 30.6%, and 31.5% for common mental disorders (PACHECO et al, 1999). Other more recent studies indicate a prevalence of depression between 8.2% (RIBEIRO et al, 2020) and 18% (COSTA. MEDEIROS; CORDEIRO et al, 2020) in medical students.

From this perspective, investigating the pharmacological profile of medical students is necessary, and constitutes the first step towards characterizing the main pathologies faced by them, and can be a tool used for programs to improve quality of life and build the psychological capital necessary to the development of their metacognition, increased confidence, emotional security and resilience (MARTÍNEZ, et al, 2019).

GENERAL GOALS

Identify the health, quality of life and psychological capital needs of medical students in the city of Campina Grande – PB, based on the individualized pharmacological profile of this population.

SPECIFIC GOALS

I. Correlate the medications used by the research target audience with the motivational causes for the use of these drugs.

II. Check and analyze the sources used by students to indicate and acquire the drugs used.

III. Prospect students' level of knowledge about the drugs used.

IV. Verify the existence of protective psychological factors (psychological capital) used by medical students to maintain emotional health and reduce the use of medications.

V. Propose, based on the results obtained, the development of institutional policies to support students with regard to health care and academic performance.

METHODOLOGY

Initially, the questionnaire to be evaluated in the research was prepared together with the supervising professor, based on the current bibliography. The Quality of Life Scale (Medical Outcomes Study36. SF-36) (CICONELLI, 1997; ADORNO; BRASIL-NETO, 2013; LAGUARDIA, 2014), the Quality of Life Scale (psychological version) (SOARES et. al, 2019), the Psychological Capital Scale for the academic context (MARTÍNEZ; MENEGHEL; CARMONAHALTY; YOUSSEF-MORGAN, 2019; CARMONA-HALTY; VILLEGAS-ROBERTSON; MARÍN-GUTIÉRREZ. 2019).

In addition, a socio-demographic characterization questionnaire was also created (with aspects related to gender, age, income), academic (course, course period, time dedicated to studying, satisfaction with the course, professional expectations before the start of the course and after, self-assessment of academic quality, etc.), and pharmacological attitudes (quantitative drug consumption in the fortnight prior to the

questionnaire, name and/or pharmacological class of the drug used, purpose of consumption, who indicated or advised the drug, source for obtaining/ purchase of the drug, self-assessment of knowledge about adverse effects and contraindications, duration and rate of consumption). A sample of 65 medical students from public institutions in the city of Campina Grande – PB was asked to respond to these instruments.

Concomitant to this, a bibliographic survey was carried out on the topic on the PUBMED platform, with the purpose of obtaining general knowledge regarding the topic of drug use related to the mental health of medical students around the world.

During data collection, the following crossing was performed with the Boolean operator AND: "Medical Students and Drugs" in the PUBMED database. This search was carried out independently, in order to select articles whose titles and abstracts suited the study, using the established inclusion and exclusion criteria. Table 1 describes the results of the searches carried out in the databases through the use of filters, following the inclusion and exclusion criteria. To this end, articles were selected based on reading their titles and summaries. Furthermore, the articles found were pre-selected by reading the titles and abstracts. Thus, to organize the data, the researchers developed a data collection instrument containing: Title, authors (year), main results and methodological characteristics (Table 2). Subsequently, the full text was read and analyzed according to the inclusion criteria.

Descriptors	Data base	References obtained	Analyzed abstracts	Selected articles
Medical Students and Drugs	PUBMED	831	42	7

Table 1 – Quantitative articles, with Boolean operators and filters. Campina Grande, Paraíba, 2021.

RESULTS

The sample studied was composed of 37 men and 28 women, all medical students at ``Universidade Federal de Campina Grande``, between the 1st and 6th period of the course. Family income was quite variable, with records ranging from 1 to 40 minimum wages. Around 35% of women stated that they had already undergone some psychiatric treatment, and 50% had already undergone psychotherapeutic treatment, while 15% of men stated that they had already undergone psychiatric treatment and 30% had already undergone psychotherapeutic treatment. The epidemiological associations of the sample are represented in Table 1.

	Men	Women
N	37	28
Age (years)	19 - 40	19 - 33
Family income (minimum wages)	01 - 40 salaries	01 - 40 salaries
Has the person ever had psychiatric treatment?	YES: 15% NO: 85%	YES: 35% NO: 65%
Has the person already undergone psychotherapy treatment?	YES: 30% NO: 70%	YES: 50% NO: 50%

Table 1 - Epidemiological association of a sample of 65 volunteers

When asked about the number of drugs used in the last fortnight, 37% of students said they had not used any drugs, while 36% used 1 drug, 17% used 2 drugs, and 10% used 3 or more drugs. Among the classes of drugs used, NSAIDs (non-steroidal anti-inflammatory drugs), used by 23% of the sample, antidepressants and analgesics, used by 18% of the sample, and antihistamines, used by 12% of the sample stand out, as shown in Table 2.

Class of drug used	Quantity of sample used in the last fortnight (%)
Zit	23%
Pain killer	18%
Anti-depressive	18%
Antihistamine	12%
Isotretinoin	6%
Benzodiazepines	4%
Anti-diabetics	3%
Proton pump inhibitors	3%
Anthelmintics	3%

Table 2 - Classes of drugs used by the sample in the last fortnight. *NSAID = non-steroidal anti-inflammatory

When asked about the reason for using these drugs, the main justification was treating pain (27% of the sample), followed by anxiety (15%), allergies (12%) and depression (11%), as shown in table 3.

Justification	Quantity of the sample with these complaints in the last fortnight (%)
Pain	27%
Anxiety	15%
Allergy	12%
Depression	11%
Gastrointestinal Problems	8%
Insomnia	6%
Zit	6%

Table 3- Justification for the use of drugs in the last fortnight

When asked how they obtained information about drugs, around 49.2% of the sample responded that it was during a medical consultation, while 22% of the sample asked informally to a colleague in the health field, 25% on scientific research websites and 30.5% on general search sites. Furthermore, when asked how they obtained the drug, 80% responded that they bought it in drugstores, while 5% obtained it online and 15% asked other people to buy it for them. Furthermore, 67% of the sample were unable to specify at least 3 adverse effects caused by the medicines they use.

In relation to the sample's quality of life, the QUALITY OF LIFE SCALE (psychological version) evaluates responses on a scale of 1 to 5, so that 1 means totally disagree, and 5 totally agree. Table 4 shows the percentage of the sample who answered the questions with 4 or 5.

Quality of life aspect	Positive response (4 or 5, on a scale of 1 to 5) in the sample
I'm more irritable lately	55%
I've been feeling bad, tired and without energy	60%
I find it difficult to disconnect from everyday worries	58,50%
I feel a void in my life	25%
I feel intense loneliness	28%
I wake up tired	65%
I have difficulty concentrating	70%
I'm anxious for no reason	40%
I feel guilty about the direction my life has taken	35%
I get angry easily	28%
I'm distressed for no reason	27%
I'm more pessimistic	34%
I've been feeling unhappier lately	27%
I cry more often	25%
I consume alcoholic beverages more than 3 times a week	6%
People criticize the amount of alcohol I usually drink	4,50%
Use of drugs	3%
I feel rejected by friends and family	12%
My life is meaningless	9%
I use controlled medication	17%
Lately I have been using medication to sleep	4,50%
I am a smoker	1,50%
I want to isolate myself from my friends and family	4,50%

Table 4 - Sample quality of life

DISCUSSION

A study carried out among medical students in France showed that the 1st and 2nd years of medical graduation are the main window for preventive intervention for drug use and self-medication, considering the greater prevalence of these habits during this period (FOUND G, et al, 2020). This data is in line with the data obtained in our study, as around 70% of the sample is in these undergraduate periods.

Our results showed that around 51% of students did not obtain information about drugs during a medical consultation, therefore they are self-medicating. A study carried out in Iran showed that the main factor that led students to self-medicate was confidence in self-diagnosis (NIROOMAND N, et al, 2020). Similarly, in Pakistan, 99% of medical students reported the habit of self-medication (KANWAL ZG, et al, 2018). This shows the importance of actions, in the first years of graduation, related to the harms of self-medication, and about who is the competent agent for prescribing drugs.

Other studies have demonstrated the non-medical use of psychoactive drugs, and also the use of drugs recreationally, with the purpose of alleviating issues related to the poor mental health of medical students (CÂNDIDO FG, et al, 2018; ACOSTA DL, et al, 2019; VOLPE U, et al, 2019), which may be related to the high prevalence of Burnout Syndrome in this population (CALCIDES DAP, et al, 2019). However, this data is in line with what was obtained in our research, which showed that only 6% of the sample uses alcohol more than 3 times a week and 3% uses drugs recreationally, despite the poor mental health conditions of students. of medicine were observed in this study. It must be noted that the low prevalence of alcohol and drug use by students may be related to the COVID-19 pandemic, due to possible greater difficulty in obtaining these products.

Regarding the classes of medications used, a study showed that among medical students, the most commonly used drugs are: analgesics (79%), antibiotics (66.54%), anti-inflammatories (65.75%), antipyretics (58.37%), and vitamins (35%) (ALINE MOR, ANDRÉ PC, BRUNO SR, at al., 2011), which differs from our study, which showed that antidepressants are the second most used pharmacological class by students, according to table 2.

CONCLUSIONS

The main drug classes used by medical students in the city of Campina Grande are: NSAIDs, antidepressants and analgesics. The main justifications for the use of drugs among medical students are: pain, anxiety, allergies and depression. Around half of students obtain information about drugs in medical consultations, while the other half obtain information through alternative means, such as the internet and third parties, and acquire drugs mainly in drugstores (80%) and through third parties (15%). Furthermore, the level of knowledge of drugs by students is low, as 67 of the sample do not know at least 3 adverse effects of the medication used. Specific programs must be created aimed at students in the 1st and 2nd year of the medical course, as it is during this period that the habit of self-medication is more prevalent, in order to show the adverse effects related to the misuse of medications and what abuse entails. These drugs can have a negative impact on your health.

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