


## Impacts of the pandemic on the mental health of postgraduate students<sup>1</sup>

### ARTICLE

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### Abstract

This bibliographic and field study aimed to explore the perceptions of students in the Postgraduate Program in Education (PPGE) at a state university in Paraná regarding the mental health of postgraduate students and the difficulties they experienced during the COVID-19 pandemic. The research involved 76 postgraduate students who completed, remotely, an intersectional survey with 69 questions. The data collected revealed that, during the pandemic crisis, postgraduate students suffered from stress, anxiety, insomnia, and lack of motivation; they also reported difficulties related to the frequency and quality of sexual interactions, as well as increased consumption of alcohol and psychotropic medications.

**Keywords:** Mental health. Postgraduate students. Emergency Remote Teaching. Teaching-Learning.

### Impactos da pandemia na saúde mental de pós-graduandos

### Resumo

Este estudo, de natureza bibliográfica e de campo, objetivou explorar as percepções de discentes do Programa de Pós-Graduação em Educação (PPGE) de uma universidade estadual paranaense acerca da saúde mental de pós-graduandos e das dificuldades experienciadas por eles no contexto da pandemia da covid-19. A pesquisa contou com a participação de 76 pós-graduandos que preencheram, remotamente, um *survey* interseccional com 69 questões. Os dados levantados revelaram que, durante a crise pandêmica, os pós-graduandos sofreram com estresse, ansiedade, insônia e desmotivação; apresentaram dificuldades quanto à frequência e à qualidade das interações sexuais, além de terem intensificado o consumo de álcool e medicamentos psicotrópicos.

**Palavras-chave:** Saúde mental. Pós-graduandos. Ensino Remoto Emergencial. Ensino-Aprendizagem.

<sup>1</sup> This work originated as an excerpt from a broader master's research project that investigated the phenomenon of mental health and psychological distress among graduate students in education during the pandemic. The thesis was defended on December 12, 2022 (Glatz, 2022), under the supervision of the second author.

## 1 Introduction

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Discussing mental health within the academic context still represents a challenge, especially in light of the impacts of the recent health crisis caused by the COVID-19 pandemic and the marks and traumas it left behind. During 2020 and 2021, approximately 156 countries suspended in-person educational activities, distancing around 1.5 billion students from classrooms, which affected roughly 70% of the global academic population (Farias; Silva, 2021; Gonçalves *et al.*, 2021). Studies conducted during that period indicate a prevalence of symptoms such as anxiety and stress among students, along with unproductivity, sleep disturbances, and difficulties in learning and adapting to remote formats (Costa *et al.*, 2021; Santos *et al.*, 2021). It can be said that the pandemic brought about unprecedented and traumatic situations that, according to Benjamin (1987), are referred to as “shock experiences,” capable of leaving deep marks on the psychic apparatus, limiting one’s ability to name and process pain and suffering.

The higher education environment, even before the pandemic, had already been identified in the literature as a factor that intensifies distress among students. Studies show that the rate of psychological distress and non-psychotic mental disorders is higher among university students compared to young people of the same age group who are not in academia (Graner; Cerqueira, 2019; Baader *et al.*, 2014). Moreover, it is estimated that between 15% and 25% of university students experience some form of psychological distress throughout their academic journey, which significantly affects their quality of life, health, and consequently, their persistence in university (Ariño; Bardagi, 2018).

Nevertheless, when it comes to graduate studies, the situation becomes even more delicate. In addition to the stressors commonly present in higher education, graduate students face other adversities, such as *productivism* and the overload of academic tasks, frustration with their research topic, difficulties in the advisor–advisee relationship, pressure to publish, feelings of loneliness, competition among peers, and the scarcity of resources and scholarships to support their research (Glatz *et al.*, 2022).

Therefore, this research is justified by the need to recognize the impacts that the pandemic has had on the psychic and social lives of the participants, seeking to answer the following question: Did the COVID-19 pandemic intensify psychological distress among graduate students?

Accordingly, this study aimed to explore the perceptions of students enrolled in the Graduate Program in Education (PPGE) at a state university in Paraná regarding the mental health of graduate students and the difficulties they experienced in the context of the COVID-19 pandemic.

In order to seek answers to this question and contribute to the development of new studies and research on the COVID-19 pandemic and its relationship with the mental health of *stricto sensu* graduate students, a field study was conducted with the participation of 76 graduate students (master's, doctoral, and postdoctoral).

This paper is divided into two sections, in addition to the introduction and final considerations. The first section presents the methodological procedures used to carry out and systematize the research, while the second discusses the challenges and difficulties faced by graduate students during the pandemic period.

## 2 Methodology

To achieve the proposed objective, a mixed-methods study was conducted, integrating quantitative and qualitative data within a single research design (Creswell, 2010), with a basic purpose. This analysis seeks to fill a knowledge gap on the topic and is considered exploratory and descriptive, as it not only facilitates an initial understanding of the problem and suggests hypotheses but also describes the characteristics of a specific population or phenomenon (Gil, 2019). The research is classified as a field study, since it examines the object in its natural environment, collecting data under real conditions without direct researcher intervention, and using instruments that range from descriptive surveys to more analytical studies (Severino, 2013).

For data collection, an intersectional survey developed by the authors was used. It was applied at a specific moment to a selected sample, aiming to describe the characteristics of a broader population at a single point in time (Babbie, 1999). The instrument was designed based on a pilot study previously analyzed by three PhD researchers in the field of Education (Belei *et al.*, 2008).

It is worth noting that the study was approved by the Permanent Committee for Ethics in Research with Human Beings (COPEP), under the Certificate of Ethical Appraisal Presentation (CAAE) no. 50408921.8.0000.0104, Opinion no. 5.027.421. All ethical procedures were strictly followed to protect participants' identities, with no collection of names or any other information that could allow identification.

For participation in the study, the inclusion criteria restricted the sample to graduate students formally enrolled in master's, doctoral, or postdoctoral programs within the Graduate Program in Education, excluding those with suspended enrollment or non-regular student status.

The survey consisted of 69 open- and closed-ended questions addressing sociodemographic aspects, subjective perceptions of being a graduate student, and views on quality of life and mental health during the pandemic. Developed using Google Forms 365®, the survey link was sent via institutional email to 190 enrolled students, and data collection took place between October and December 2021, resulting in a sample of 76 participants.

Quantitative data were organized in Excel 365®, while qualitative data were decoded, organized, and categorized into three analytical categories following Bardin's (2011) technique: 1) Mental health and quality of life among graduate students; 2) Between distress and contentment: the dilemmas of being a graduate student in Brazil; and 3) Emergency Remote Teaching and the pandemic context in graduate education.

However, for this article, only a portion of the third category was examined, as the focus here is to understand the impacts of the pandemic on graduate students' mental health.

## 3 What do graduate students in education say?

Before discussing the results, it is crucial to highlight that, by September 2022—almost two years after the onset of the pandemic—around 600,555,262 people worldwide had been infected with the COVID-19 virus, of whom 6,472,914 had died. Brazil ranked third globally in the number of confirmed cases, with 34,414,011 infections, and at that time, it was also the second country with the highest number of deaths caused by the disease, totaling 683,851 fatalities (WHO, 2022).

These numbers reflect the psychic and social state in which many Brazilians found themselves, facing an economic crisis and the constant threat of death (Gruschka, 2014). The pandemic deprived us of pleasures and loved ones, denied us the chance to be with those we loved in their final moments, tormented those who passed, and left deep scars on those who remained (Gaudenzi, 2021).

The research revealed that 14 (18.42%) of the graduate students surveyed had contracted the virus during the data collection period, and that for 43 (56.58%) of them, a family member had also been infected. Unfortunately, among these 43 students, 11 (27.91%) lost loved ones—parents, siblings, grandparents, uncles, or cousins. This “denied mourning” represents profound psychological suffering, in which accepting death and the transience of life becomes painfully difficult (Freud, 2010).

In addition, 39 (51.32%) students reported that family conflicts remained unchanged during the pandemic, while 31 (40.79%) stated that these conflicts had intensified. Regarding daily routines, 38 (50.00%) graduate students declared that significant changes had led to overload and extreme fatigue. Another 36 (47.37%) mentioned minor changes, and only 2 (2.63%) reported no impact on their household routines.

Based on these findings, it can be observed that a considerable portion of the sample (40.79%) faced greater family tension, and half of the participants (50.00%) reported intense changes in their routines, adding stress factors. Studies indicate an

increase in domestic violence cases during isolation, especially between partners and between parents and children (Marques *et al.*, 2020; Ornell *et al.*, 2020).

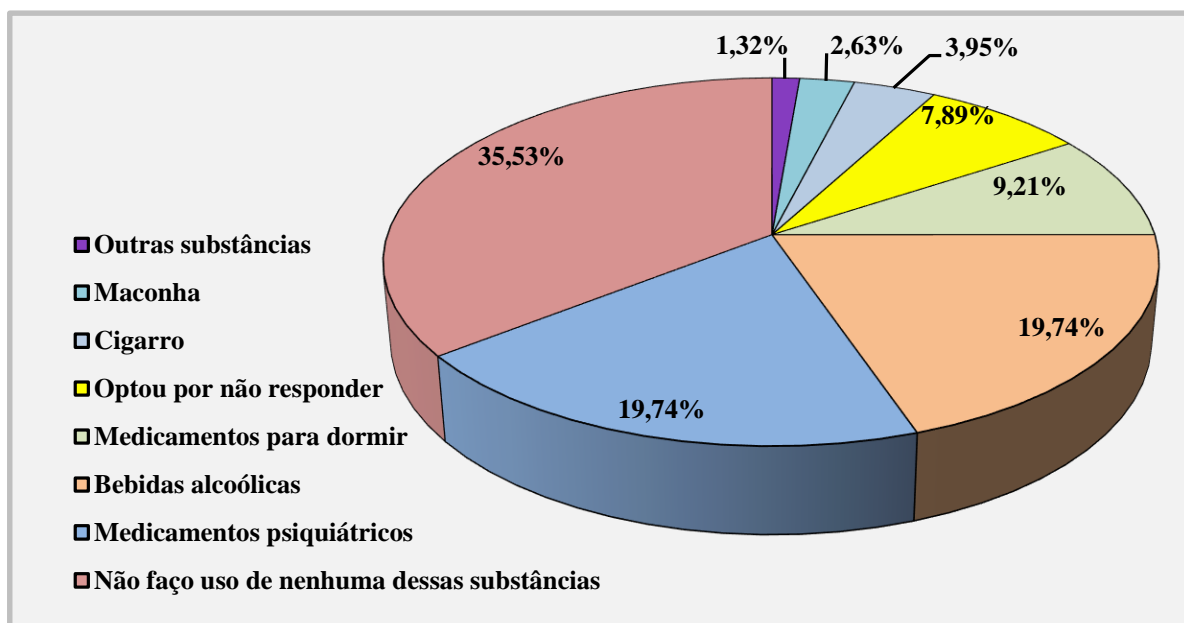
Countries such as China, the United Kingdom, the United States, France, and Brazil observed an explosion of violence cases in the first months of social distancing. In Brazil, the Ministry of Women, Family and Human Rights (MMFDH) recorded a 17% increase in reports made through the “Dial 100” hotline in March 2020. In Rio de Janeiro, the State Public Prosecutor’s Office (MPE) reported a 50% increase in domestic violence reports shortly after the beginning of distancing measures, with violence against women being the most recurrent. In Paraná, the Military Police registered a 15% increase in incidents during the first weekend of distancing (Marques *et al.*, 2020).

The increase in household chores, sexual coercion, financial hardship, fear of contamination, reduced physical and social contact, interruption of support services, prolonged coexistence with aggressors, high stress levels, uncertainty about the future, difficulty adhering to preventive measures, and the rise in alcohol and psychoactive substance consumption were all factors associated with the surge in violence during the pandemic (Marques *et al.*, 2020; Ornell *et al.*, 2020).

Graph 1 shows the consumption of psychoactive substances during the COVID-19 pandemic among the research participants.



Graph 1 – Consumption of psychoactive substances during the COVID-19 pandemic



Source: prepared by the authors (2024).

When cross-referencing these explanations with the responses obtained in another survey question, it was observed, as illustrated in Graph 1, that 30 graduate students (39.47%) reported having started and/or increased their consumption of alcoholic beverages and/or psychotropic medications<sup>2</sup> during the pandemic. Among them, 7 (9.21%) used sleeping pills<sup>3</sup>; 3 (3.95%) used tobacco; 2 (2.63%) consumed marijuana; 1 (1.32%) used other drugs/substances; and 6 (7.89%) chose not to answer this question.

Graduate students feel the academic pressure of constant production and reproduction of scientific knowledge, while being marginalized by a society that demands massive productivity and medicalizes any symptom or behavior that deviates from the ideal of “well-being” required for the functioning of the capitalist system. In connection with this,

<sup>2</sup> Namely: Fluoxetine, Topiramate, Alprazolam, Amitriptyline, Lorazepam, Nortriptyline, Desvenlafaxine, Venlafaxine, Fluvoxamine, Sumatriptan, Propranolol, Bupropion, and Trazodone.

<sup>3</sup> Among them: Amitriptyline, Donarem, Rivotril, and Zolpidem.

22 (28.95%) graduate students were using psychotropic drugs or sleeping pills at the time of data collection.

This shows that the difficulties and suffering experienced are often perceived as pathologies to be “treated” or “medicalized,” in order to stop being inconvenient or deviant. The medicalization of behaviors that fail to conform to societal expectations thus becomes justified. Bodies that are not controlled to perform the required activities are deemed abnormal; therefore, they must be medicalized (Cordeiro *et al.*, 2020).

This process of medicalizing life has become increasingly common today, revealing how our society approaches barbarism, in which individuals, deprived of a rich culture, experience failures, repression, and guilt that manifest as aggression, behavioral outbursts, and intense psychological suffering (Adorno, 1996; Han, 2017).

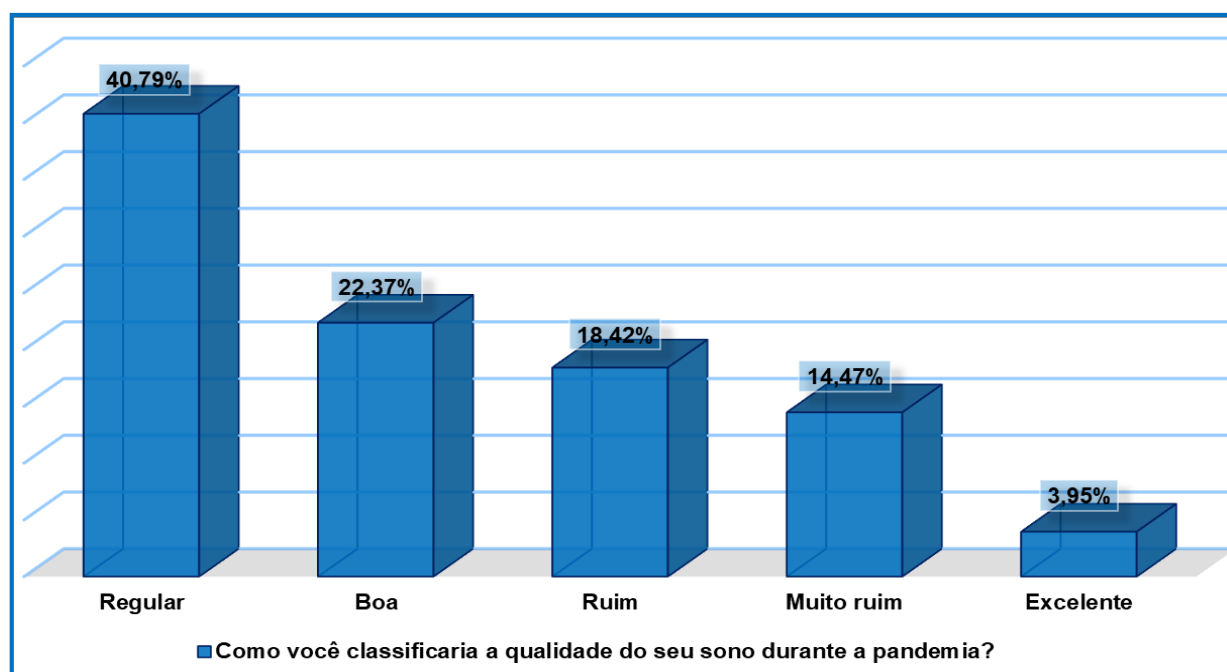
Furthermore, according to the World Health Organization (WHO), “[...] as rates of anxiety, fear, depression, boredom, and uncertainty increased during the pandemic, alcohol consumption also rose [...]” (PAHO, 2020, p. 2). Faced with the difficulties caused by social distancing, distrust of Brazilian political actions, and low optimism about the country’s response to the pandemic, the consumption of alcohol and psychoactive substances became an “alcoholic anesthesia” (Dunker, 2017, p. 40), a way to mask anxiety and psychological suffering (Gonçalves *et al.*, 2021).

It can thus be concluded that the greater the domestic and family changes caused by the pandemic and its containment measures, the higher the use and abuse of alcohol and other psychoactive substances, which also resulted in higher rates of domestic violence. During social isolation and *Emergency Remote Teaching* (ERT), several symptoms and warning signs intensified, revealing the pandemic’s negative impact on graduate students’ mental health. The onset of anxiety, stress, and sleep disorders indicates a fragility in students’ mental well-being. In addition, 42 (55.26%) graduate students reported feeling anxious and/or stressed during the pandemic, while 38 (50.00%) expressed experiencing stress, anxiety, and lack of motivation.

Graph 2 shows the quality of graduate students’ sleep during the COVID-19 pandemic.



Graph 2 – Quality of graduate students' sleep during the COVID-19 pandemic



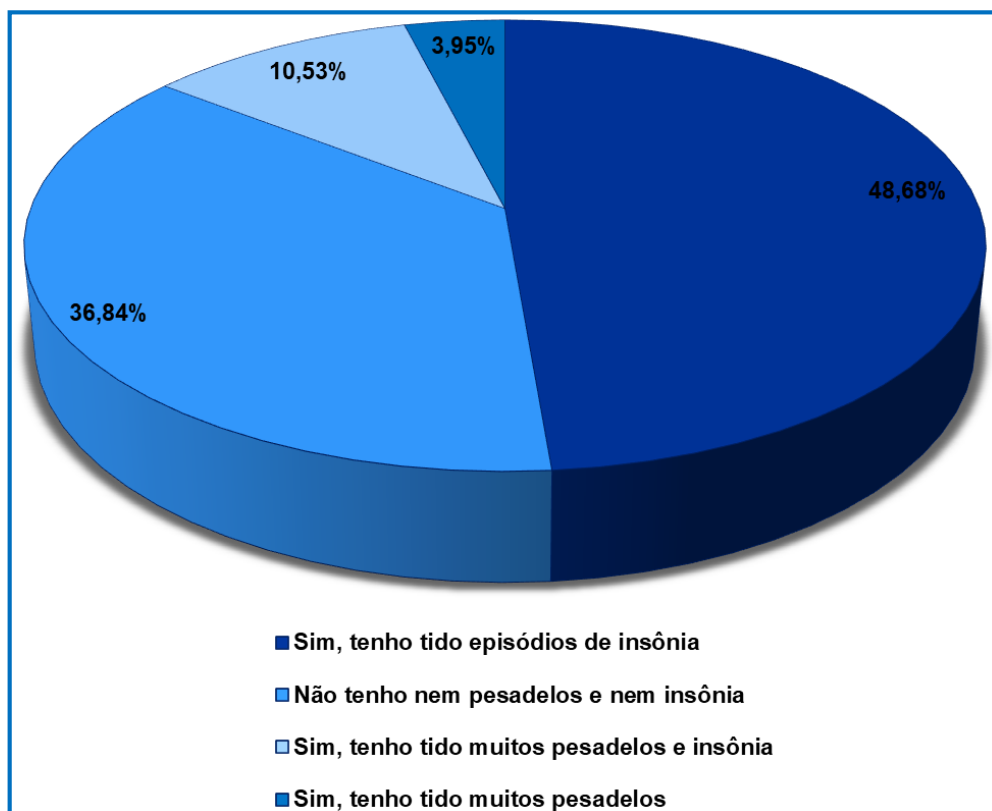
Source: prepared by the authors (2024).

Regarding the sleep quality perceived by graduate students during the COVID-19 pandemic, as shown in Graph 2, 31 (40.79%) participants rated it as average; 28 (36.84%) as poor and/or very poor; 17 (22.37%) as good; and only 3 (3.95%) reported having excellent sleep quality.

These findings reaffirm results from previous studies, which had already indicated sleep alterations among this population, along with increases in symptoms such as discouragement, demotivation, anxiety, stress, changes in drive, and emotional difficulty in coping with the challenges imposed by the pandemic (Santos *et al.*, 2021; Gonçalves *et al.*, 2021).

Graph 3 shows the frequency of sleep disorders experienced during the pandemic by research participants.

Graph 3 – Frequency of sleep disorders experienced during the pandemic



Source: prepared by the authors (2024).

Regarding sleep disorders such as nightmares and/or insomnia manifested during the pandemic, Graph 3 shows that 37 (48.68%) graduate students reported frequent insomnia episodes; 8 (10.53%) reported, in addition to insomnia, occasional nightmares; 3 (3.95%) mentioned only nightmares; and 28 (36.84%) stated they had not experienced insomnia or nightmares during social isolation.

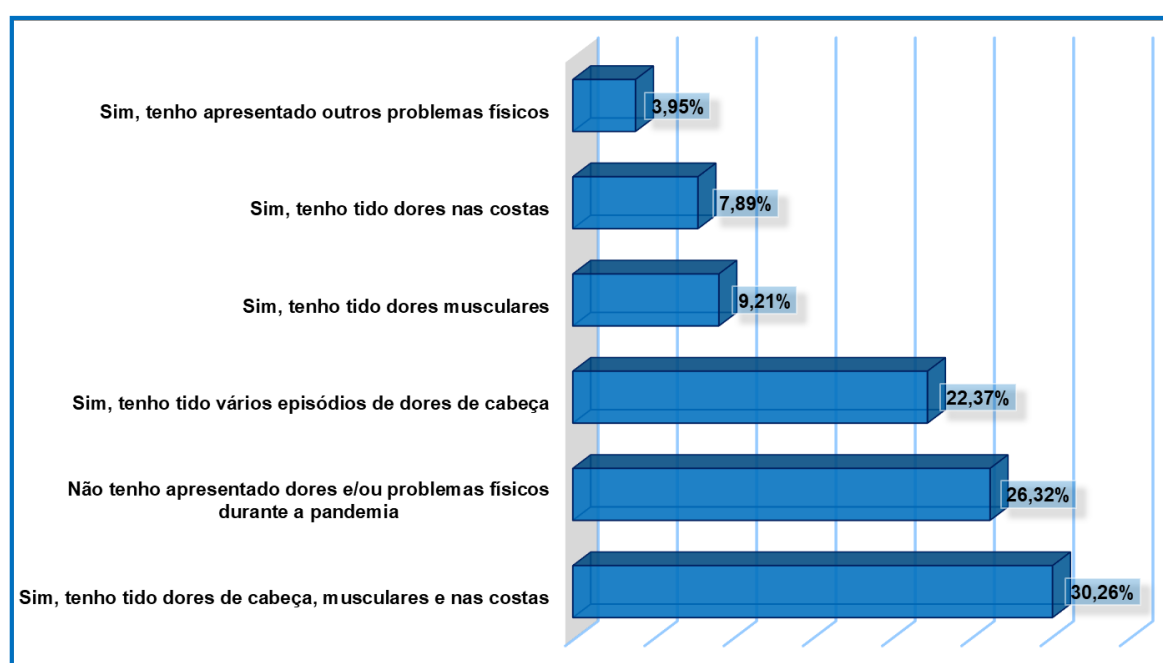
Lima *et al.* (2021) found that women, especially adults and young adults (around 35 years old), showed a significant increase in sleep problems during the COVID-19 pandemic. These findings align with studies conducted in Italy, Spain, and China, which also identified a higher risk of sleep disorders among this subgroup. Changes in schedules, routine disruptions, the accumulation of domestic and professional tasks, childcare and family responsibilities, as well as the stress of confinement during a phase of great

aspirations (studies, career, relationships), help explain why this group was particularly affected (Lima *et al.*, 2021; Telles; Voos, 2021).

These results clarify why nearly 50% of the graduate students in the sample reported recurrent insomnia episodes during the pandemic, considering that 75.68% of participants identified as cisgender women and 52.63% were between 20 and 35 years old.

Graph 4 shows the rate of physical problems reported during the pandemic period.

Graph 4 – Rate of physical problems reported during the pandemic period



Source: prepared by the authors (2024).

In Graph 4, 23 (30.26%) participants reported frequent episodes of headaches, muscle pain, and back pain; 20 (26.32%) did not report any pain or physical problems during the pandemic; 17 (22.37%) mentioned only headaches; 7 (9.21%) indicated only muscle pain; and 6 (7.89%) developed other physical problems during the pandemic, such as stomach pain, stress-induced gastritis, and fibromyalgia.

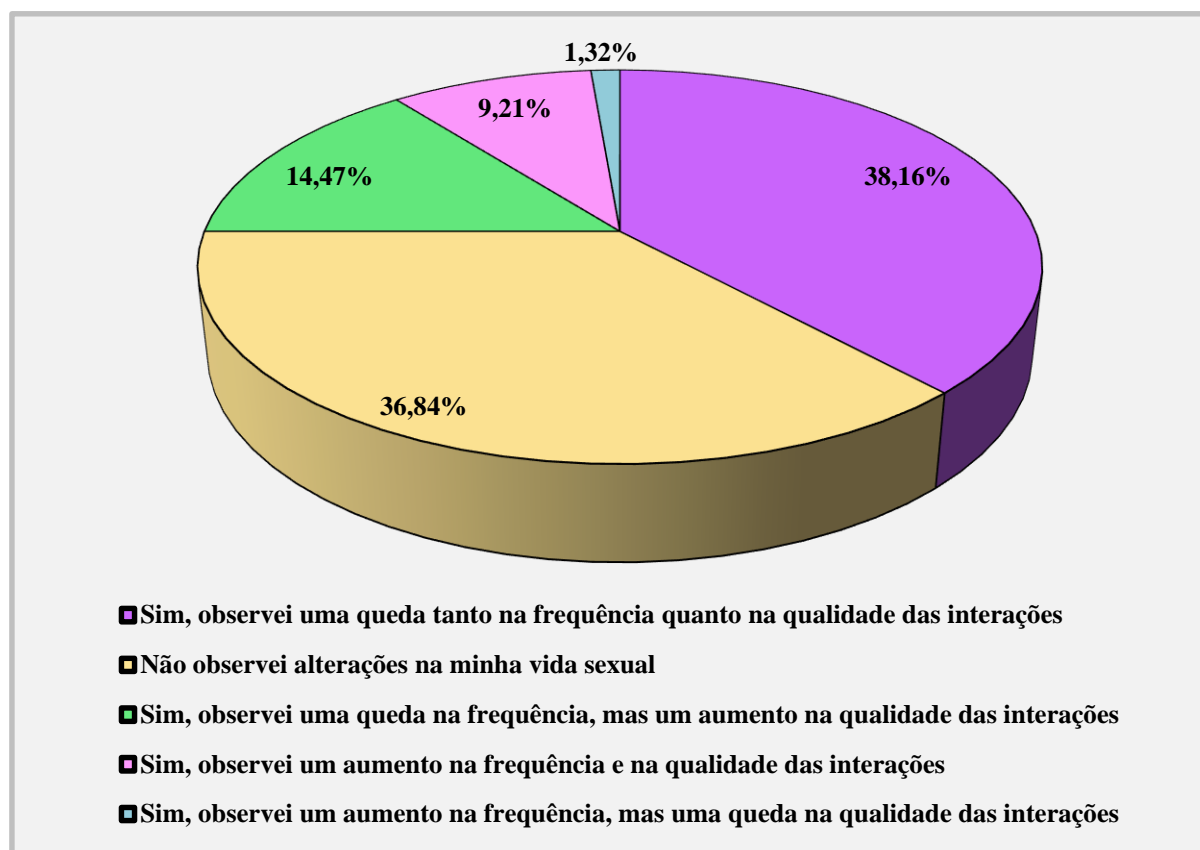
Most of the physical problems that emerged during the pandemic reflect the living conditions of social isolation, which interrupted daily in-person activities such as exercise,

and introduced remote work and *Emergency Remote Teaching*. The extended time spent at home for work and/or study required adaptations to environments often unsuitable for these activities and intensified feelings of anxiety and stress, disrupting circadian rhythm and triggering sleep disorders such as insomnia and sexual dysfunctions (Silva; Lima, 2022).

Silva and Lima (2022) found that social isolation measures affected people's circadian rhythms, leading to sleep deregulation and the onset of disorders such as insomnia and excessive sleepiness, impairing physical, mental, and social performance. According to these authors, the decrease or total interruption of physical activities, changes in eating habits, increased sedentary behavior, and excessive screen use – combined with an evening chronotype tendency – generated stress and mood problems that compromised both physical and mental quality of life.

Thus, it becomes clear that the pandemic period and social isolation generated a series of adversities and changes in the domestic and professional routines of graduate students, contributing to increased consumption of psychoactive substances, alcohol, and psychotropic medications, as well as disruptions in sleep cycles and the emergence of physical pain. These conditions may also help explain why graduate students reported difficulties in their sexual lives during the pandemic, as shown in Graph 5.

Graph 5 – Changes in graduate students' sexual lives during the pandemic



Source: prepared by the authors (2024).

As shown in Graph 5, 29 (38.16%) participants in the sample reported a decrease in both the frequency and quality of their sexual interactions during the pandemic period; 28 (36.84%) stated that they did not notice any changes in their sexual lives; 11 (14.47%) observed a reduction in frequency but an increase in the quality of their interactions; 7 (9.21%) reported higher frequency and quality in their interactions; and only 1 (1.32%) indicated an increase in frequency but a decline in sexual quality.

The difficulties regarding the frequency and quality of these students' sexual interactions may be related to symptoms such as distress, anxiety, and stress. In addition, the recurrence of physical pain, sleep disturbances, excessive consumption of psychoactive substances, and especially weight gain among graduate students may have

triggered feelings of low self-esteem, shame, and self-criticism toward their own bodies (Queiroz; Spinelli Junior, 2022), negatively affecting the quality of sexual relations during the pandemic and the isolation period.

## 4 Final considerations

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This study aimed to explore the perceptions of students enrolled in the Graduate Program in Education (PPGE) at a state university in Paraná regarding the mental health of graduate students and the challenges they faced during the COVID-19 pandemic.

The data revealed that graduate students encountered various difficulties while continuing their studies and research through the remote *stricto sensu* graduate education format. Among the main issues were sleep dysregulation, insomnia, reduced sexual interactions, physical pain, and the excessive use of psychoactive substances, alcohol, and psychotropic medications, among others. These factors generated negative feelings and emotions such as anxiety, stress, and discouragement, as well as pronounced mental exhaustion. Such difficulties – combined with fear of contamination, death, and unresolved grief – deeply affected the participants' mental health, intensifying the psychological suffering they experienced.

Regarding the study's limitations, it is worth noting that the sample consisted exclusively of graduate students from a specific Education program at a single state university in Brazil. Nevertheless, it is hoped that this work contributes to the development of new research that brings the theme of mental health closer to the academic environment of *stricto sensu* graduate studies.



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