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Suicidal Behavior among Portuguese Medical Students - A Nationwide Study

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Abstract

Background: Suicidal behavior among medical students is a critical public health concern, yet research in Portugal remains scarce. This study aimed to assess the prevalence of suicidal behavior among Portuguese medical students and identify associated risk and protective factors.

Methods: A cross-sectional study was conducted among students from seven Portuguese medical schools. Participants (n=638) were surveyed via validated instruments to assess suicidal behavior, childhood trauma, social support and mental health status, along with a sociodemographic questionnaire. Logistic regression analyses identified independent predictors of suicide risk.

Results: A total of 638 students participated (M_{age}=22.4 SD_{age}=3.3; 77.3% cis-gender female) in the study, with 43.9% (n = 278) classified as high risk for suicide (SBQ-R ≥ 7). Suicidal ideation in the past year was reported by 31.7% (n = 202), and 2.7% (n = 17) attempted suicide. Independent risk factors included adverse childhood experiences (OR = 1.265, 95% CI: 1.088–1.471, p = 0.002), experiencing a serious illness or accident of a close person (OR = 2.167, 95% CI: 1.290–3.638, p = 0.003), and lack of psychiatric care (OR = 4.073, 95% CI: 2.524–6.573, p < 0.001). Protective factors included higher perceived social support (OR = 0.439, 95% CI: 0.332–0.581, p < 0.001) and better mental health status (OR = 0.962, 95% CI: 0.950–0.974, p < 0.001).

Conclusions: Portuguese medical students exhibit a high prevalence of suicidal behavior, associated with multiple risk and protective factors. Lack of psychiatric care, adverse childhood experiences, and acute life stressors were key predictors of suicidality, while strong social support emerged as the strongest protective factor. The identification of predictive factors of suicidal behavior allows for early interventions of at-risk students and targeted prevention efforts. A medical education framework that prioritizes both academic excellence and student well-being is crucial to fostering a healthier learning environment.

Keywords

Suicide;Protective Factors;Risk Factors;Prevalence;Medical Students.

Resumo

***Introdução**: O comportamento suicidário é um problema de saúde pública premente entre estudantes de medicina, ainda assim constata-se uma carência de estudos em Portugal. Este estudo teve como objetivo avaliar a prevalência do comportamento suicidário em estudantes de medicina de Portugal e identificar fatores de risco e protetores associados.*

***Métodos**: Foi conduzido um estudo transversal com estudantes de sete faculdades de medicina portuguesas. As pessoas participantes (n=638) responderam a instrumentos validados para avaliar o comportamento suicidário, traumas de infância, suporte social e estado de saúde mental, além de um questionário para variáveis sociodemográficas. A análise de regressão logística identificou preditores independentes de risco suicida.*

***Resultados**: Participaram um total de 638 estudantes no estudo (M_{idade} = 22,4 anos, DP_{idade} = 3,30; 77,3% mulheres cisgénero), com 43,9% (n = 278) categorizados como alto risco de suicídio (SBQ-R ≥ 7). A ideação suicida no último ano foi reportada por 31,7% (n = 202), e 2,7% (n = 17) tentaram suicídio. Os fatores de risco independentes incluíram experiências adversas na infância (OR = 1,265, IC 95%: 1,088–1,471, p = 0,002), vivência de uma doença grave ou acidente por uma pessoa próxima (OR = 2,167, IC 95%: 1,290–3,638, p = 0,003) e ausência de acompanhamento psiquiátrico (OR = 4,073, IC 95%: 2,524–6,573, p < 0,001). Os fatores protetores incluíram maior perceção de suporte social (OR = 0,439, IC 95%: 0,332–0,581, p < 0,001) e melhor estado de saúde mental (OR = 0,962, IC 95%: 0,950–0,974, p < 0,001).*

***Conclusão**: As/os estudantes de medicina portuguesas/es apresentam uma elevada prevalência de comportamento suicida, associada a múltiplos fatores de risco e proteção. A ausência de acompanhamento psiquiátrico, as experiências adversas na infância e os eventos de vida stressantes foram identificados como os principais preditores de comportamentos suicidários, enquanto que a maior perceção de suporte social emergiu como o fator protetor mais significativo. A identificação de fatores preditivos do comportamento suicidário permite a implementação precoce de intervenções direcionadas para estudantes em risco e estratégias de prevenção específicas. A adoção de um modelo educativo que valorize tanto a excelência académica como o bem-estar da comunidade estudantil é essencial para cultivar um ambiente de aprendizagem mais saudável.*

Palavras-chave

Suicídio;Fatores de Proteção;Fatores de Risco;Prevalência;Estudantes de Medicina.

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List of Acronyms

ACEs	Adverse childhood experiences
WHO	World Health Organization
EM-UM	School of Medicine, University of Minho
FMUP	Faculty of Medicine, University of Porto
ICBAS-UP	Abel Salazar Institute of Biomedical Sciences, University of Porto
FM-UCP	Catolica Medical School
FMUC	Faculty of Medicine, University of Coimbra
FCS-UBI	Health Sciences Faculty, University of Beira Interior
FMUL	Faculty of Medicine, University of Lisbon
NMS	NOVA Medical School
DCBM-UAlg	Medical and Biomedical Sciences School, University of Algarve
MHI-5	Mental Health Inventory-5
ESSS	Social Support Satisfaction Scale
SBQ-R	Suicidal Behaviors Questionnaire-Revised
SD	Standard deviation
IQR	Interquartile range
OR	Odds Ratio
CI	Confidence Interval
p	p-value
LGBTQIAP+	Lesbian, Gay, Bisexual, Transgender, Queer/Questioning, Intersex, Asexual, Pansexual and more

1. Introduction

1.1 Terminology and Definitions

Suicide, defined as the deliberate act of self-inflicted harm leading to death, represents one of the most pressing global health concerns (1). Nonfatal suicidal thoughts and behaviors, which we will address as suicidal behaviors, include suicide ideation, suicide plans and suicide attempts (2). Suicidal behavior operates along a continuum, progressing from ideation to planning, attempting, and, in some cases, culminating in suicide (1). Suicidal ideation is characterized by recurring thoughts of self-inflicted death, while a suicide plan involves the contemplation of specific methods or strategies to carry out the act. A suicide attempt is defined as self-injurious behavior with some level of intent to end one's life but that doesn't result in death (3). It's important to distinguish suicide attempts from non-suicidal self-harm, which refers to a self-injurious behavior with no intent of dying (2).

1.2 Prevalence of Suicide and Suicidal Behavior

Globally, suicide is responsible for 700,000 deaths each year and is the fourth leading cause of death among individuals aged 15 to 29 (4). Within this age group, it ranks as the third leading cause of death among females and the fourth among males (4). In Portugal, suicide remains a major public health issue, accounting for 934 deaths in 2021, of which 77.6% were male (5). Among them, 68 were between the ages of 15 and 29, with men disproportionately affected (79.4%) compared to women (20.6%) (5). Portugal's suicide mortality rate of 11.5 per 100,000 inhabitants in 2019 exceeded the European Union average of 10.3 per 100,000 (4), underscoring the country's higher-than-average suicide burden.

Among medical students, suicidal ideation exhibits significant variability across populations and contexts (6). A 2018 systematic review analyzing data from 17 studies across 13 countries, encompassing 13,244 medical students, reported prevalence rates of suicidal ideation ranging from 1.8% to 53.6% (6). To further illustrate the situation in Europe, specific studies have examined the prevalence of suicidal ideation in medical students across different countries. In Italy, a multicenter study found a 13.7% prevalence of present suicidal ideation (7), while a study in Sicily reported a higher rate of 26.1% in the past six months (8). In Spain, a study from the University of Valencia identified a 15.8% prevalence of recent suicidal ideation (9), while in France, estimates reported a 9% 12-month prevalence (10).

In Portugal, research on suicidal behavior among medical students remains scarce, with only two significant studies addressing this issue (11,12). A 2016 study conducted at a single Portuguese medical school found that 3.7% of surveyed students reported suicidal ideation, with 1.1% developing a suicide plan and 0.7% reporting previous suicide attempts (11). More recently, a nationwide study spanning nine medical schools identified a 12% prevalence of suicidal ideation (12).

1.3 Medical Students: A Vulnerable Population

Medical students constitute a uniquely vulnerable group, exhibiting higher rates of depression, anxiety, and burnout compared to the general population (6,12). Their mental health tends to decline over the course of their training (6) and throughout their semesters (13). Recent research highlights elevated levels of depression, anxiety, burnout, and psychological distress among Portuguese medical students (11–13), underscoring the urgent need for targeted intervention and prevention strategies. In addition to the common stressors of university life, medical students endure an intense academic workload, extensive amounts of information, limited leisure time, frequent high-stakes evaluations, and exposure to human suffering and death (6). The competitive nature of medical school admissions may favor individuals with perfectionism, obsessive traits, neuroticism, and introversion – personality traits associated with increased psychological distress (6,12).

1.4 Predictors of Suicidal Behavior and Suicide in Medical Students

1.4.1 Multifactorial Etiology

The etiology of suicidal behavior is multifaceted, involving a complex interplay of biological, psychological, social and, environmental factors (3,6,14). Among medical students, specific stressors associated with academic environment and professional trajectory often amplify existing vulnerabilities (6,11). Predicting suicidal behavior remains highly challenging, as no single theory fully explains its complexity despite the existence of numerous theoretical models (3). Addressing these gaps requires identifying both risk and protective factors for suicidal behavior (3).

1.4.2 Risk Factors

Demographic characteristics play a crucial role in suicide risk (2). The well-documented "gender paradox" in suicidality indicates that while women exhibit higher rates of suicidal ideation and attempts, men have a greater likelihood of dying by suicide due to their use of more lethal methods (15). Existing evidence suggests that transgender individuals experience higher levels of suicidality compared to their cisgender counterparts (16). Sexual minorities are also at an increased risk, with bisexual individuals reporting the highest rates of suicidal behavior, followed by lesbian/gay individuals (15,16). Other demographic risk factors include younger age (2,6) and living alone (11), lower socioeconomic status, financial difficulties (6) and dissatisfaction with academic performance (11).

Psychiatric and psychological factors represent some of the most consistently reported risk factors for suicidal behavior. Mood, anxiety, substance use, and sleep disorders have all been linked to a higher risk of suicidal ideation and attempts (2,3,11). Additionally, individuals with a history of depressive symptoms, current or past psychopharmacological treatment, or previous psychiatric hospitalization appear to be particularly vulnerable (6). Beyond clinical diagnoses, several psychological factors such as hopelessness, anhedonia, impulsivity, and heightened emotional reactivity have been identified as contributors to increased psychological distress and suicidal behavior (2,3).

Stressful life events play a significant role in suicide risk. Many theoretical models propose that while predisposing factors such as psychiatric and psychological conditions increase susceptibility, acute or chronic life stressors act as catalysts for suicidal behavior. Interpersonal conflicts, including family and romantic problems, along with persistent stress exposure, contribute to this risk. Such mechanisms may partially explain why individuals with chronic pain conditions and those in high-stress occupations, such as physicians, have increased suicide rates (2). Additionally, war, natural disasters, displacement, and discrimination have all been associated with increased suicidality. The stress of cultural adaptation, particularly among displaced populations, may further heighten suicide risk. Social isolation and exposure to community violence can also create an environment conducive to suicidal behavior (1).

Other factors such as structural barriers to accessing healthcare — including stigma, fear of familial or social consequences, failure to recognize the importance of seeking professional help, lack of healthcare alternatives, time or financial constraints — can increase suicide risk by limiting early intervention (1,17).

Adverse childhood experiences (ACEs) have been identified as particularly strong predictors of suicidal behavior. Among these, emotional abuse is considered the most significant risk factor for both suicidal ideation and attempts. Other risk factors for suicide attempts include physical and sexual abuse, a family history of suicide attempts, and physical neglect. Regarding suicidal ideation, in addition to these risk factors, emotional neglect and having an incarcerated family member are also associated with increased risk (18).

Temporal patterns in suicidality have also been observed, with evidence suggesting that suicidal behaviors peak in May and June (2), while the mechanisms underlying this seasonal variation remain poorly understood (19,20). Finally, the World Health Organization (WHO) has acknowledged a previous suicide attempt as the single strongest predictor of future suicide risk. Recent research concludes that certain risk factors, including previous suicide attempts, prior psychiatric treatment, a history of suicidal ideation or attempts, low socioeconomic status, and exposure to stressful life events, are all significant predictors of suicide mortality (3).

1.4.3 Protective Factors

Despite the numerous risk factors contributing to suicidal behavior, few studies have evaluated protective factors that mitigate its occurrence. One of the most critical protective factors is social support, which has been consistently linked to lower levels of psychological distress and a reduced risk of suicide behavior. Strong social relationships with partners, family, friends and significant others, are key protective factors against suicidal behavior (1,2). Other factors, such as being pregnant and having young children at home are protective against suicide attempts, although the presence of young children is associated with an increased risk of the first onset of suicidal ideation (2).

Religious and spiritual beliefs have also been identified as protective factors, with studies suggesting that individuals who engage in religious practices exhibit lower rates of suicidal behavior (2). Conversely, adaptive coping mechanisms and problem-solving skills have been shown to mitigate the risk of suicidal behavior. Students who develop strong coping strategies are better equipped to manage academic pressures and personal stressors, reducing their overall risk of suicidal behavior (2,21).

Finally, institutional and community-based interventions play a crucial role in fostering resilience among medical students. Universities that implement structured mental health programs, peer support initiatives, and wellness curricula have reported

lower rates of depression and suicidal ideation among their students (6). By prioritizing mental health education, reducing stigma, and promoting access to psychological support services, medical schools can significantly enhance student well-being and reduce the burden of suicidal behavior in this high-risk population.

1.5 Cultural Context of Suicidal Behavior

The social determinants of suicidal behavior are deeply shaped by cultural context, yet much of the existing research is based on Western populations, limiting the understanding of diverse populations' experiences. Conventional psychiatry often underestimates the influence of cultural and social-structural factors on distress and help-seeking behaviors. For instance, marriage can increase suicide risk for women in China due to gender inequality, social isolation and economic dependence (22). Conversely, in Western nations, such as Portugal, where individualistic values and gender equality are more pronounced, marriage often serves as a protective factor, where it can be a source of emotional and financial support (6,22). Access to lethal means also varies significantly, with pesticide-related suicides more common in Asian countries, firearm-related suicides predominant in the United States, and hanging, strangulation, and suffocation being the most frequent methods in Portugal (23). Similarly, in cultures where honor and filial piety are central values, failure to meet societal expectations may lead to shame-driven suicidality (22). These cultural variations highlight the importance of interpreting suicide risk and protective factors within their specific societal contexts rather than in isolation. As this study was conducted within a Western framework, its findings should be understood within this cultural lens.

1.6 Rationale for This Study

Poor mental health among medical students has far-reaching consequences, including diminished academic performance, impaired relationships, and long-term psychological distress. Suicidal behaviors exacerbate these challenges, often leading to withdrawal from medical career and, in severe cases, to suicide. The repercussions extend beyond medical school, affecting students' future roles as healthcare professionals. Burnout, impaired decision-making, and reduced empathy, which are common outcomes of poor mental health, can adversely impact patient care and safety. Addressing mental health challenges during medical education is therefore crucial, not only for the well-being of students but also for the healthcare system quality.

Despite the high prevalence of suicidal behaviors among medical students in Portugal (11,12), research on this topic remains scarce. Existing studies have primarily focused on psychological distress and depression, with little emphasis on protective factors or nationwide data. This gap underscores the need for a comprehensive study to identify both risk and protective factors associated with suicidal behaviors in this population.

1.7 Objectives

Understanding suicidal behavior and its associated factors among medical students is critical given their increased vulnerability to mental health issues. Identifying both risk and protective factors is essential for the development of targeted interventions aimed at reducing suicide risk and improving mental health support in medical schools.

Thus, this study aims to assess the prevalence of suicidal behavior among medical students in Portugal and its risk and protective factors, considering sociodemographic, psychological, academic, and clinical variables.

2. Materials and Methods

2.1 Type of Study

A cross-sectional observational study was conducted to assess the prevalence of suicidal behavior and its associated factors among medical students in Portugal. The study included students from seven of the nine medical schools in the country, providing a broad representation of this population. Given the academic pressures and mental health challenges faced by medical students, investigating suicide risk factors in this context is essential for developing targeted prevention strategies in Portuguese medical schools.

2.2 Procedures

Data collection took place over two weeks (from 03/06/2024 to 17/06/2024) through an online self-completed questionnaire (via *Google Forms*®). The questionnaire was distributed to all students enrolled in the pre-graduation in Medicine program across nine Portuguese medical schools. The participating institutions included School of Medicine, University of Minho (EM-UM), Faculty of Medicine, University of Porto (FMUP), Abel Salazar Institute of Biomedical Sciences, University of Porto (ICBAS-UP), Catolica Medical School (FM-UCP), Faculty of Medicine, University of Coimbra (FMUC), Health Sciences Faculty, University of Beira Interior (FCS-UBI), Faculty of Medicine, University of Lisbon (FMUL), NOVA Medical School (NMS), and Medical and Biomedical Sciences School, University of Algarve (DCBM-UAlg). However, due to the refusal of the director from FMUC and the absence of a response from the director of FM-UCP, students from these universities did not participate in the study. The survey was shared via institutional email and academic year groups to maximize participation.

The study obtained approval from the Ethics Committee of the University of Beira Interior on May 21, 2024. Data confidentiality was ensured throughout the study. Adherence to ethical principles such as obtaining informed consent, ensuring participant anonymity and confidentiality, promoting beneficence, respecting participant integrity, and guaranteeing the right to withdraw from the research at any time was guaranteed.

2.3 Measures

2.3.1 *Personal, Sociodemographic and Clinical Questionnaire*

A sociodemographic questionnaire collected data on gender identity, age, medical school, academic year, sexual orientation, socioeconomic status, scholarship holder status, academic performance, living arrangements, and commute time to the university. Participants were also asked about negative life events and their perceptions of problems and difficulties. Substance use was assessed using a 3-point Likert scale, with participants indicating whether they had used substances (tobacco, alcohol, cannabis, non-prescribed benzodiazepines and ecstasy).

2.3.2 *Mental Health*

Mental health was assessed using the Portuguese version of the Mental Health Inventory-5 (MHI-5) validated by José Ribeiro, a brief questionnaire designed to evaluate both positive and negative dimensions of mental health (24). The scale consists of five items addressing aspects of psychological well-being and distress, with responses rated on a 6-point Likert scale. Higher scores indicate better mental health, and the scale demonstrated good internal consistency ($\alpha = 0.80$) (24). Participants were also asked about their use of psychological support resources and their current health status.

2.3.3 *Social Support*

Social Support was assessed using a revised version of the Social Support Satisfaction Scale (ESSS) translated and validated for the Portuguese population by José Ribeiro (25). The ESSS consists of three items rated on a 5-point Likert scale: "I am satisfied with the way I relate to my family", "When I need to vent, I easily find someone to talk to", and "I am satisfied with the amount of time I spend with my friends" ($\alpha = 0.74$). The final score was calculated as the mean of these three items, with higher scores indicating greater satisfaction with perceived social support (25). Additionally, students were asked if they were currently in a romantic relationship.

2.3.4 *Childhood Trauma*

Childhood trauma was assessed using the Portuguese version of the Adverse Childhood Experiences (ACEs) Questionnaire (26). The measure included 10 items assessing 10 domains of childhood adversity: emotional abuse, physical abuse, sexual abuse, emotional neglect, physical neglect, divorce or parenteral separation, exposure to domestic violence, substance abuse in the family environment, mental illness or suicide of a family member, and incarceration of a family member. Responses were collected using dichotomous (yes/no) scales, and the total ACE score was calculated by summing

endorsed items (α = 0.88). Higher scores indicate greater exposure to adversity, with at least one positive response considered indicative of an adverse experience (26).

2.3.5 Suicidal Behavior

Suicidal behavior was assessed using the Portuguese-language version (14) of the Suicidal Behaviors Questionnaire-Revised (SBQ-R) (27). The scale consists of four items, each addressing a distinct dimension of suicidality: lifetime suicidal ideation and attempts, frequency of suicidal ideation over the past year, threat of suicidal behavior, and self-reported likelihood of suicidal behavior. Responses were scored on Likert scales, with higher total scores indicating greater suicide risk (α = 0.69). The total score ranges from 3 to 18, with a cutoff of ≥7 for identifying participants at risk of suicide. Individuals scoring at or above the cutoff are approximately 29 times more likely to have a history of suicide attempts (27).

2.4 Data Analysis

The descriptive analysis of the data was conducted using absolute and relative frequencies for qualitative variables and measures of central tendency (mean or median) and dispersion (standard deviation (SD) or interquartile range (IQR)) for quantitative variables. The use of mean (with SD) or median (with IQR) was based on the distribution of the variables under study. To identify potential factors associated with suicidal behaviors, bivariate analyses were performed using Student's t-test for quantitative variables and Chi-square test for qualitative variables. Multivariable analysis was conducted using a logistic regression model, conducted using the Forward Wald Method, to identify independent risk and protective factors associated with suicidal behavior.

All analyses were performed using SPSS software, version 29, and a significance level of 0.05 was considered for all procedures.

3. Results

3.1 Personal, Sociodemographic and Clinical Characteristics

A total of 638 medical students from seven Portuguese medical schools participated in the study, with a mean age of 22.4 years (SD = 3.3; range: 18–45 years). Most participants identified as female (77.3%, n=493). Transgender and non-binary individuals were excluded from the study due to ethical considerations regarding indirect identification, as their small numbers in the sample could compromise anonymity. Regarding sexual orientation, 77.7% (n = 496) identified as heterosexual, 11.1% (n = 71) as bisexual, 6.6% (n = 42) as gay or lesbian. The general characterization of the sample is detailed in Table 1.

In terms of socioeconomic status, 78.7% (n = 502) were in the middle-income category, 19.6% (n = 125) needed a scholarship but did not receive one, and 8.3% (n = 53) were scholarship holders. Most students (68.0%; n = 434) had relocated for university, with 47.2% (n = 301) reporting commute times of less than 15 minutes, while 4.4% (n = 28) had commutes exceeding 90 minutes (supplementary table 1).

Negative life events were prevalent, with the most common being the serious illness or accident of a close individual (16.1%; n = 103), the death of a family member (13.0%; n = 83), financial difficulties (11.9%; n = 76), and the end of a stable romantic relationship (10.2%; n = 65). The most frequently cited academic difficulties included organizing academic work (69.9%; n = 446) and concerns about academic performance (49.7%; n = 317) (supplementary table 2).

In terms of mental health, assessed based on the MHI-5 scale, 46.9% (n = 299) of participants reported severe symptoms (≤52), 16.8% (n = 107) had moderate symptoms (52–60), and 36.4% (n = 232) scored above 60, indicating good mental health. Nearly half (47.3%; n = 302) had sought psychological support from a psychologist, 27.4% (n = 175) had consulted a family doctor, and 22.3% (n = 142) had visited a psychiatrist. A total of 23.5% (n= 150) had been diagnosed with a mental health condition, 26.0% (n = 166) had undergone or were undergoing psychotherapy, and 17.7% (n = 113) were using prescribed psychiatric medication. In terms of substance use, students reported using alcohol (87.0%; n = 555), tobacco (29.8%; n = 190), cannabis (20.7%; n = 132), and ecstasy (1.9%; n = 12). Unprescribed use of sedatives, tranquilizers or hypnotics was reported by 8.6% (n =55) (supplementary table 3).

Social support, assessed using the ESSS scale, yielded a mean score of 4.0 (SD = 0.8), suggesting a generally high perception of social support. Additionally, 48.3% (n = 308) of students were in an affective relationship (supplementary table 4).

Finally, adverse childhood experiences, assessed through the ACEs Questionnaire, showed that 54.1% (n = 293) of students had experienced at least one adverse childhood event. The most frequently reported included a family history of mental illness or suicide (29.3%; n = 187), emotional abuse (18.8%; n = 120), and emotional neglect (17.2%; n = 110). Other domains reported included physical abuse (9.1%; n = 58), exposure to domestic violence (6.1%; n = 39) and sexual abuse (4.2%; n = 27) (supplementary table 5).

Table 1 – Personal and sociodemographic characteristics and suicide risk among Portuguese medical students (N=638)

Variable	**n (%) or mean (sd)**	**SBQ-R Score**		***p***
		< 7 (low suicide risk) (N=360)	**≥ 7 (high suicide risk) (N=278)**	
Gender Identity*				0.758
Cisgender Female	493 (77.3)	277 (56.2)	216 (43.8)	
Cisgender Male	137 (21.5)	79 (57.7)	58 (42.3)	
Age (years), mean (SD)**	22.4 (3.3)	22.3 (2.9)	22.5 (3.7)	0.426
Medical School				0.299
FCS-UBI	260 (40.8)	154 (59.2)	106 (40.8)	
FML	157 (24.6)	89 (56.7)	68 (43.3)	
ICBAS-UP	53 (8.3)	26 (49.1)	27 (50.9)	
EM-UM	51 (8.0)	31 (60.8)	20 (39.2)	
FCM-UNL	46 (7.2)	25 (54.3)	21 (45.7)	
FMUP	39 (6.1)	23 (59.0)	16 (41.0)	
FMCB-UAlg	32 (5.0)	12 (37.5)	20 (62.5)	
Academic year				0.442
1	107 (16.8)	57 (53.3)	50 (46.7)	
2	76 (11.9)	40 (52.6)	36 (47.4)	
3	98 (15.4)	51 (52.0)	47 (48.0)	
4	158 (24.8)	100 (63.3)	58 (36.7)	
5	114 (17.9)	63 (55.3)	51 (44.7)	
6	85 (13.3)	49 (57.6)	36 (42.4)	
Sexual Orientation***				**<0.001**
Heterosexual	496 (77.7)	308 (62.1)	188 (37.9)	
Bisexual	71 (11.1)	19 (45.2)	23 (54.8)	
Homosexual	42 (6.6)	27 (38.0)	44 (62.0)	
Others	16 (2.5)	4 (25.0)	12 (75.0)	

Note: p-value was assessed using Student's t-test for quantitative variables and Chi-square test for qualitative variables. The values in bold indicate statistically significant differences ($p < 0.05$).

* In the **gender identity** variable, only **cisgender female** (N = 493) and **cisgender male** (N = 137) students were included, while eight responses were missing (four participants identified outside the female/male cisgender binary and were excluded, and four preferred not to disclose their gender), resulting in **N = 630** for this variable.

** For **age, medical school, and academic year**, there were no missing responses (**N = 638**).

*** In **sexual orientation**, 13 participants selected "Prefer not to answer/Don't know" leading to a final **N = 625** for this variable.

3.2 Prevalence of Suicidal Behavior

Table 2 outlines the prevalence of suicidal behavior across its various dimensions in the overall sample and Supplementary Table 6 reports the answers to the specific scale's items. The mean SBQ-R score was 7.0 (SD = 3.1). A score of ≥7, which is associated with a 29-fold increased likelihood of attempting suicide, was observed in 43.9% (n = 278) of participants, while 56.4% (n = 360) scored below this threshold, indicating lower suicide risk.

Among the total sample, 2.7% (n = 17) reported a prior suicide attempt, and 16.9% (n = 108) disclosed having made suicide plans. In the past year, 31.6% (n = 202) of participants experienced suicidal ideation. Regarding disclosure of the threat of suicidal attempt, 23.9% (n = 153) reported confiding with someone. Finally, when assessing the perceived likelihood of a future suicide attempt, 5.2% (n = 33) considered it likely, whereas the majority (94.8%, n = 605) viewed such an attempt as unlikely.

Table 2 – Key Results from the Prevalence of Suicidal Behaviors Among Portuguese Medical Students (N=638)

Variable	**mean (sd)**
Overall SBQ-R Score	7.0 (3.1)
SBQ-R Classes	**n (%)**
Low Risk for Suicide (<7)	360 (56.4)
High Risk for Suicide (≥7)	278 (43.9)
Dimensions of Suicidal Behavior	
Lifetime Suicide Ideation and Suicide Attempt (Item 1)	
Non-Suicidal	275 (43.1)
Suicide Risk Lifetime Ideation	238 (37.3)
Suicide Plan	108 (16.9)
Suicide Attempts	17 (2.7)
Frequency of Suicidal Ideation Over the Past 12 Months (Item 2)	
Past 12 Months Suicidal Ideation	202 (31.6)
Threat of Suicidal Attempt (Item 3)	
Threat of Suicidal Attempt	153 (23.9)
Self-Reported Likelihood of Suicidal Behavior in the Future (Item 4)	
Likely to attempt suicide in the future	33 (5.2)

Note: The values in bold indicate statistically significant differences (p < 0.05). SBQ-R = Suicidal Behaviors Questionnaire-Revised; SD = Standard Deviation. SBQ-R scores ≥7 indicate high suicide risk, associated with a 29-fold increased likelihood of attempting suicide.

3.3 Factors Associated with Suicidal Behavior

Bivariate analysis identified several significant factors associated with higher suicide risk (Supplementary table 7). Greater satisfaction with social support, measured by the ESSS, demonstrated a strong protective effect (OR = 0.317, 95% CI: 0.249–0.404, $p < 0.001$). Mental health status, assessed via the MHI-5, was also a key predictor: lower overall scores correlated with increased risk (OR = 0.947, 95% CI: 0.937–0.957, $p < 0.001$), with severe symptoms (≤52) showing the highest odds (OR = 5.504, 95% CI: 3.748–8.081, $p < 0.001$).

Adverse childhood experiences significantly predicted suicidal behavior, particularly emotional neglect (OR = 4.213, 95% CI: 2.683–6.615, $p < 0.001$) and emotional abuse (OR = 3.545, 95% CI: 2.321–5.415, $p < 0.001$). Physical abuse (OR = 2.692, 95% CI: 1.528–4.741, $p < 0.001$), exposure to domestic violence (OR = 2.173, 95% CI: 1.117–4.226, $p = 0.022$) and sexual abuse (OR = 2.280, 95% CI: 1.027–5.060, $p = 0.043$) were also significant predictors.

Sexual orientation also emerged as a significant predictor, with bisexual (OR = 2.670, 95% CI: 1.599–4.456, $p < 0.001$), homosexual (OR = 1.983, 95% CI: 1.052–3.739, $p = 0.034$) and other non-heterosexual identities (OR = 4.915, 95% CI: 1.562–15.461, $p = 0.006$) associated with higher risk compared to heterosexual individuals.

Substance use, particularly frequent non-prescribed benzodiazepine use (OR = 17.150, 95% CI: 2.215–132.774, $p = 0.006$), was strongly linked to suicidal behavior. Frequent (OR = 2.004, 95% CI: 1.103–3.638, $p = 0.022$) and sporadic tobacco use (OR = 1.524, 95% CI: 1.042–2.230, $p = 0.030$) were also significant predictors.

Negative life events, such as financial problems (OR = 2.639, 95% CI: 1.602–4.347, $p < 0.001$) and serious illness or accidents involving significant others (OR = 2.344, 95% CI: 1.521–3.612, $p < 0.001$), were significant predictors. Perceived difficulties in relationships with teachers (OR = 3.909, 95% CI: 1.629–9.383, $p = 0.002$) and family (OR = 3.732, 95% CI: 2.447–5.691, $p < 0.001$) were strongly associated with suicidal behavior. Academic dissatisfaction, particularly with rankings (OR = 8.437, 95% CI: 2.874–24.775, $p < 0.001$), further increased risk.

Finally, lack of psychological support, particularly not consulting a psychiatrist (OR = 5.065, 95% CI: 3.345–7.668, $p < 0.001$) or psychologist (OR = 1.975, 95% CI: 1.438–2.713, $p < 0.001$), was associated with elevated suicidal risk.

3.4 Independent Risk and Protective Factors of Suicidal Behavior

To identify independent predictors of high suicide risk, a multivariable binary logistic regression was conducted using the Forward Wald method (Supplementary table 8). Variables with $p < 0.05$ in the bivariate analysis were included in the model. The analysis revealed several significant risk and protective factors among Portuguese medical students (Figure 1).

Higher scores on the ESSS scale were significantly associated with a reduced likelihood of suicide risk (OR = 0.439, 95% CI: 0.332–0.581, $p < 0.001$), highlighting the protective role of perceived social support. Similarly, a better mental health status, as measured by the MHI-5, was inversely related to suicide risk (OR = 0.962, 95% CI: 0.950–0.974, $p < 0.001$).

Conversely, adverse childhood experiences significantly increased the odds of high suicide risk (OR = 1.265, 95% CI: 1.088–1.471, $p = 0.002$). A specific negative life event – serious illness or accidents involving someone important – further elevated suicide risk (OR = 2.167, 95% CI: 1.290–3.638, $p = 0.003$). Notably, lack of access to psychiatric care emerged as the strongest independent risk factor (OR = 4.073, 95% CI: 2.524–6.573, $p < 0.001$), emphasizing the critical role of professional mental health resources in mitigating suicide risk.

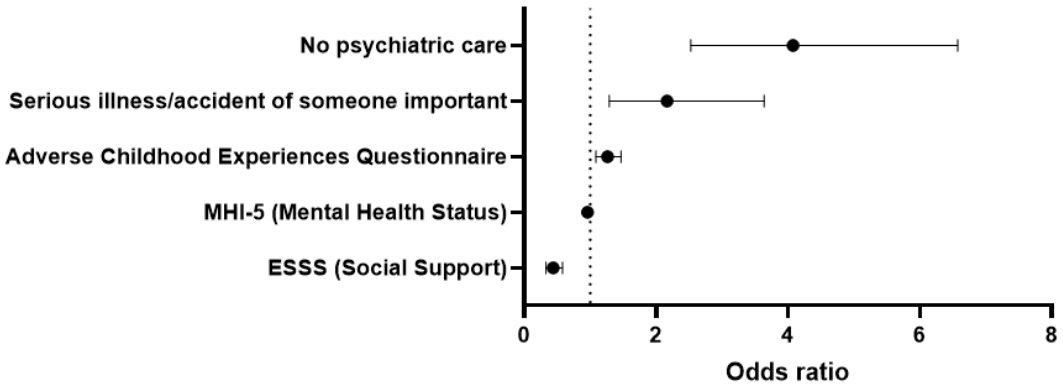

Figure 1 – Multivariable Logistic Regression Analysis of Predictors for High Suicide Risk (95% Confidence Interval)

4. Discussion

This study investigated the prevalence of suicidal behavior among Portuguese medical students, identifying key risk and protective factors. The findings reveal a concerning burden of suicidal behavior in this population, with significant implications for mental health interventions and institutional support systems.

4.1 Prevalence of Suicidal Behavior

A high prevalence of suicidal behavior was observed among Portuguese medical students. In our study, we identified a high-risk suicide group, comprising 43.9% of participants. Our figures surpass previous national studies (11,12), with 31.7% of students reporting suicidal ideation in the past year and 2.7% reporting previous suicide attempts, suggesting a worsening trend in medical students' mental health.

The observed discrepancies between our findings and prior studies may be attributed to several factors. Methodological differences, such as the use of the SBQ-R scale, which captures a broader range of suicidal behaviors compared to other assessment tools, likely contribute to the higher prevalence rates identified in our study (27). Additionally, the timing of data collection during exam season, a period associated with heightened academic stress (6) and temporal peaks in suicidality (2), may have further amplified these results.

When contextualized within the international landscape, Portuguese medical students exhibit higher rates of suicidal behavior compared to some European counterparts (7–10). While methodological differences, such as assessment tools and time spans, may play a role in these variations, broader systemic and cultural factors must also be considered. Differences in mental health support and care services, stigma surrounding psychiatric care, and academic stressors specific to each country may contribute to the disparities observed. Further research is needed to understand how these elements interact and influence suicide behavior among medical students across Europe, particularly in Portugal. Collaborative studies could enable a comprehensive assessment of cross-national risk and protective factors, medical education systems, and mental health support and care frameworks, ultimately informing targeted interventions and policy improvements.

The COVID-19 pandemic significantly impacted the mental health of the general population and university students, leading to increased levels of anxiety, depression,

and suicidal behaviors (28). Studies conducted during the outbreak in France and the U.S. found suicidal ideation rates that exceeded pre-pandemic estimates (29,30). While the acute stressors of lockdowns have subsided, the long-term psychological effects remain unclear. Persistent academic strain, social disconnection, and the cumulative burden of the crisis may continue to influence suicide behavior among medical students, underscoring the need for ongoing mental health support (28).

4.2 Risk and Protective Factors for Suicidal Behavior

The present study expands on existing literature by examining key predictors of suicide risk among Portuguese medical students and identifying factors that differentiate high-risk individuals from their peers. While prior studies have largely focused on mental health distress, depression, and burnout, our findings underscore the significant impact of adverse childhood experiences, acute life stressors, and lack of access to psychiatric care as independent risk factors. Additionally, social support and overall mental well-being emerged as significant protective factors against suicidal behavior.

Our findings align with preexisting research, indicating that adverse childhood experiences are among the strongest predictors of suicide risk in medical students. Emotional factors are often overshadowed by the emphasis placed on physical abuse, yet emotional neglect and emotional abuse emerged as the strongest predictors of suicidal behavior. Our findings that early emotional maltreatment leads to long-term emotional dysregulation and heightened suicide risk, emphasize the need for early identification and tailored interventions for students with a history of childhood adversity (31–33). Physical abuse, exposure to domestic violence, and sexual abuse were also significant predictors, reinforcing the notion that multiple forms of adversity frequently co-occur and collectively contribute to long-term psychological distress (33).

An important finding worth noting is the prevalence of exposure to domestic violence and sexual abuse in our sample. While these rates were lower than other adverse childhood experiences, they remain concerning, with 6.1% of students reporting exposure to domestic violence and 4.2% reporting sexual abuse. These figures highlight the persistent prevalence of such violence in Portugal, underscoring the need for broader societal efforts to address and prevent these forms of trauma.

Another significant independent risk factor was experiencing a serious illness or accident involving a close person. Such acute life stressors can increase the severity of suicidal behavior, particularly in individuals with pre-existing psychological

vulnerabilities (34). Universities, through their close contact with students and faculty, are uniquely positioned to identify and support individuals experiencing such stressors. For instance, they could implement a system where professors are trained to recognize signs of distress and refer students to appropriate resources, whether internal (e.g., on-campus counseling services) or external (e.g., community mental health programs and mental care services). Additionally, fostering a culture of openness and proactive outreach—where students are regularly informed about available support systems and encouraged to seek help during difficult times—can make a significant difference in mitigating the impact of acute and chronic stressors on mental health.

Crucially, the lack of psychiatric care emerged as the strongest independent risk factor for suicidal behavior, highlighting the urgent need for accessible mental health services in university settings. This finding, coupled with pre-existing research showing the reluctance of Portuguese medical students to seek psychiatric help, underscores the importance of universities taking proactive steps to support students both preventively and therapeutically, fostering healthier learning environments (17). While waiting for psychiatric appointments, universities can implement measures to promote better mental health. One potential approach is the establishment of dedicated mental health support offices that offer group interventions led by psychologists and facilitate peer support initiatives. Additionally, student-led initiatives—such as workshops and peer-to-peer programs organized within medical schools—can help promote mental health awareness and equip students with effective coping strategies. Although not significant in the multivariable analysis, results of our study further revealed that not seeking psychological support from a psychologist or family doctor was significantly associated with high suicide risk.

Despite the numerous risk factors identified, our study highlights higher perceived social support as the strongest independent protective factor against suicidal behavior among Portuguese medical students. This aligns with prior research emphasizing the role of supportive interpersonal relationships in the prevention against psychological distress (12,13) and suicidal ideation (2,3,11). The demanding nature of medical school can lead to social withdrawal and isolation, which are not only risk factors for suicide, but also warnings signs that should prompt intervention (35). Our results reinforce the need for medical schools to actively foster an environment that facilitates meaningful social interactions and promotes a sense of belonging. Implementing structured peer mentorship programs, group-based wellness initiatives, and interventions aimed at strengthening students' personal and professional support may be important strategies for suicide prevention (6,36).

A better mental health status was independently associated with a lower likelihood of suicide risk. Notably, 63.7% of students exhibited severe or moderate depressive symptoms, indicating a substantial proportion who may require further clinical evaluation and mental health care. While a screening tool rather than a diagnostic instrument was used, these results highlight the need for formal psychiatric assessment to confirm diagnoses (24). These findings align with prior research, which reported similar high rates of depression in Portuguese medical students (12). Depression is a well-established risk factor for suicidal behavior (3,6,11). Anxiety's role in suicidal behavior is less clear, with inconsistent findings likely due to its frequent comorbidity with depression. However, evidence suggests that individuals with anxiety disorders, except for obsessive-compulsive disorder, tend to have higher rates of suicidal behavior (37). These results underscore the importance of expanding access to psychological services and integrating mental health screening into routine student assessments to identify and support at-risk individuals.

Several factors were statistically significant in the bivariate analysis but did not remain significant in the final regression model, indicating that their effects may be mediated by broader psychological, social, or institutional factors. Nonetheless, these factors remain crucial in understanding the broader context of suicidality among medical students. For instance, there were no significant differences in suicide risk between cisgender men and women, which aligns with findings from other studies showing that, unlike in the general population, medical students of both genders experience similar rates of suicidal ideation (6,11). It is important to note that transgender and non-binary individuals were not included in the study, as per the recommendations of the ethical committee, which aimed to prevent indirect identification of these individuals due to the small sample size. Future research should prioritize larger and more inclusive samples to better understand the mental health needs of gender-diverse medical students, who are known to be at higher risk for suicidal behavior due to societal stigma and discrimination (16).

Sexual orientation emerged as a significant risk factor in the bivariate analysis, with bisexual, homosexual, and other non-heterosexual students demonstrating a substantially higher likelihood of being in the high suicide risk group. These findings align with previous research showing that bisexual individuals, in particular, report elevated rates of suicidal ideation and attempts compared to both heterosexual and homosexual peers. Several challenges may contribute to this increased vulnerability, including bisexual erasure, monosexism, and a lack of bisexual-affirming social support, which can further contribute to feelings of isolation and distress (15). Targeted mental

health interventions for LGBTQIAP+ students, including the development of a medical education framework that fosters a more inclusive and respectful academic environment, with anti-discriminatory policies and effective reporting systems, are crucial for a safe-learning environment.

Several acute stressors were linked to high suicide risk, particularly financial difficulties and the end of a stable romantic relationship. Financial distress is a well-documented risk factor for poor mental health in medical students, as it can heighten stress and restrict access to healthcare (2,6,11,35). In our study, although socioeconomic status was not significant, contrary to findings from other countries such as the U.S., where this factor is often significant, this discrepancy may be explained by the relatively lower financial burden of higher education in Portugal (6). However, Portuguese universities should continue to assist students in need, with scholarships and affordable accommodations. Recent initiatives in Portugal, such as free psychological consultations in universities and expanded access to external mental health support, represent critical steps in addressing the issues forementioned. Given the high prevalence of mental health conditions among Portuguese university students (11–13,38), ensuring these services remain widely available is essential.

Regarding academic stressors, difficulties in performance and daily task organization were significantly associated with suicide risk. Medical school is an intensely demanding environment, and students that struggle with workload management may feel overwhelmed and increasingly isolated (6). While these variables were not independent predictors in the regression model, their strong association with suicide risk highlights the need for structured academic support services, such as time management workshops, faculty mentorship, and curriculum adaptations that prioritize student well-being.

To our knowledge, no prior study evaluated the association between the year of study and suicidal behaviors among Portuguese medical students. Our findings reveal no significant association between a student's curricular year and suicidal behavior, suggesting that suicide risk does not systematically fluctuate throughout medical education. However, research published in Portugal shows that distress, anxiety, and depression tend to peak in the first two years before declining over the remainder of medical school (12). Similarly, while burnout levels are high in the early years, they reach their highest in the final sixth year (13). These patterns highlight the importance of early mental health assessment and intervention. Implementing simple, effective strategies—such as guidance from senior students on coping mechanisms—could play a crucial role

in helping medical students navigate academic challenges and safeguard their well-being. Similarly, no statistically significant differences in suicide risk were observed between medical schools, though students from FMCB-UAlg and ICBAS-UP exhibited the highest prevalence of high suicide risk (more detailed data in table 1), warranting further investigation into potential institution-specific stressors.

Substance use, particularly the frequent misuse of benzodiazepines, exhibited a strong association with suicide risk in the bivariate analysis, consistent with research linking sedative misuse to increased suicidality, underlying psychiatric disorders and maladaptive coping mechanisms for psychological distress. Notably, substance users often engage in polysubstance use, further heightening their vulnerability and risks (39). Similarly, tobacco use was significantly linked to greater suicide risk, while findings on cannabis use were inconsistent, only sporadic cannabis users showed higher odds of suicide risk, whereas frequent users exhibited no significant association. Regarding alcohol, we found no significant evidence of its association with suicidal behaviors, which contrasts with previous studies where such an association has been established (6,11,40). Our findings reinforce existing evidence that individuals who use drugs are a high-risk population for suicide. Understanding the patterns of substance use, including polysubstance dependence, and its impact on emotional regulation is crucial for developing effective, evidence-based interventions.

Students who reported to have a mental health condition were significantly more likely to be in the high suicide risk group, reinforcing the well-established link between psychiatric disorders and suicidality (2,3,6). Likewise, those currently undergoing psychiatric treatment, including medication or psychotherapy, exhibited a higher likelihood of suicidal behavior. While these treatments are essential in managing mental health conditions, their association with increased suicide risk suggests that students receiving care may represent a particularly vulnerable subgroup. This underscores the importance of early intervention, continuous mental health monitoring, and tailored support strategies to ensure that at-risk students receive comprehensive and effective care beyond initial clinical diagnosis.

4.3 Limitations

This study's cross-sectional design prevents causal inferences, as it captures associations at a single point in time without assessing temporal relationships. The timing of data collection during exam season (June) may have further amplified the prevalence of suicidal behavior, as academic stress is typically heightened during this

period. Future longitudinal studies should assess the evolution of suicidal behavior and its predictors over time, while also considering seasonal variations in stress and mental health. Additionally, cross-national studies could help disentangle the role of cultural and institutional factors in shaping suicide risk among medical students.

Data collection relied on self-reported measures, which may be subject to recall bias and social desirability bias, particularly regarding sensitive topics such as suicidal behavior and mental health conditions. To mitigate these limitations, future studies could incorporate mixed methods approaches, combining quantitative surveys with qualitative interviews.

Selection bias may also be present in this study, as participation was voluntary, potentially leading to an overrepresentation of students with higher mental health awareness or distress. Moreover, the exclusion of transgender and non-binary individuals due to ethical concerns regarding indirect identification, means that the study does not capture the experiences of gender-diverse individuals, who are known to be at higher risk for suicidal behavior. Future studies could employ stratified sampling techniques to ensure a more representative sample and include targeted recruitment strategies to engage gender-diverse participants while safeguarding their anonymity.

Another limitation concerns the unavailability of data from two medical schools, which may impact the generalizability of the findings. Additionally, some variables, such as substance use and financial difficulties, were assessed using non-validated or single-item measures, which may lack the precision and reliability of more comprehensive instruments. This could have affected the accuracy of the associations observed in the bivariate analysis. A collaboration with all medical schools and the use of validated, multi-item scales might mitigate these limitations.

The lack of more research on suicidal behavior among Portuguese medical students limits the ability to contextualize the findings within a broader national framework. Finally, although multiple risk and protective factors were examined, other potentially relevant variables, such as personality traits and coping strategies, were not included in the analysis. To address these gaps, future research should incorporate these dimensions to provide a more comprehensive understanding of this critical issue.

5. Conclusion

This study reveals a concerning prevalence of suicidal behavior among Portuguese medical students, highlighting the need for urgent mental health interventions at university and community levels. Four in ten students surveyed were classified as high risk for suicide, with multiple contributing factors – including lack of psychiatric care, acute life stressors, and adverse childhood experiences – heightening their vulnerability. On the other hand, strong perceived social support and better mental health status emerged as key protective factors, reinforcing the importance of fostering mental and emotional well-being. Furthermore, the development of public policies to support universities in implementing evidence-based prevention and intervention programs, such as mental health education, peer support networks, and accessible counseling services, is essential to address this critical issue effectively.

Beyond addressing risk factors, fostering a healthy learning environment is essential. Recognizing early warning signs and identifying students at heightened risk can enable timely intervention and the implementation of preventive strategies. Strengthening social connections, equipping students with effective coping mechanisms, and ensuring access to comprehensive psychological support should be key components of suicide prevention efforts. We advocate for a fundamental transformation in medical education—one that not only upholds academic excellence but also actively prioritizes student well-being. By integrating mental health awareness, peer support initiatives, and institutional policies that encourage help-seeking behaviors, medical schools can cultivate an environment that allows students to thrive both academically and personally.

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Annexes

Annex I – Supplementary Tables

Supplementary Table 1 – Economic and living factors and suicide risk among portuguese medical students (N = 638)

Variable	n (%)	SBQ-R Score		*p*
		< 7 (low suicide risk) (N=360)	≥ 7 (high suicide risk) (N=278)	
Socioeconomic status				0.111
Lower third	50 (7.8)	24 (48.0)	26 (52.0)	
Middle third	502 (78.7)	294 (58.6)	208 (41.4)	
Upper third	86 (13.5)	42 (48.8)	44 (51.2)	
Scholarship holder status				0.062
I am not a scholarship holder, nor do I need it	460 (72.1)	263 (57.2)	197 (42.8)	
I have a scholarship	53 (8.3)	75 (60.0)	50 (40.0)	
I need a scholarship, but I didn't get it	125 (19.6)	22 (41.5)	31 (58.5)	
Household				0.434
Friend(s) or colleague(s)	270 (42.3)	160 (59.3)	110 (40.7)	
Original family	208 (32.6)	119 (57.2)	89 (42.8)	
Other family members	36 (5.6)	19 (52.8)	17 (47.2)	
Partner(s) or spouse(s)	29 (4.5)	16 (55.2)	13 (44.8)	
University Residence	28 (4.4)	16 (57.1)	12 (42.9)	
Alone	67 (10.5)	30 (44.8)	37 (55.2)	
Change of residence upon entering university				0.505
Yes	434 (68.0)	241 (55.5)	193 (44.5)	
No	204 (32.0)	119 (58.3)	85 (41.7)	
Average travel time from home to university - one way (minutes)				**0.024**
< 15	301 (47.2)	181 (60.1)	120 (39.9)	
16-30	134 (21.0)	73 (54.5)	61 (45.5)	
31-60	110 (17.2)	66 (60.0)	44 (40.0)	
61-90	65 (10.2)	31 (47.7)	34 (52.3)	
> 90	28 (4.4)	9 (32.1)	19 (67.9)	

*Note: The values in **bold** indicate statistically significant differences (p < 0.05). p-value was assessed using Chi-square test for qualitative variables.*

Supplementary Table 2 – Personal and academic factors and suicide risk among portuguese medical students (N = 638)

Variable	n (%)	SBQ-R Score		*p*
		< 7 (low suicide risk) (N=360)	≥ 7 (high suicide risk) (N=278)	
Negative life events in the last 6 months				
Death of a family member	83 (13.0)	41 (49.4)	42 (50.6)	0.166
End of a stable love relationship	65 (10.2)	29 (44.6)	36 (55.4)	**0.043**
Financial problems	76 (11.9)	27 (35.5)	49 (64.5)	**<0.001**
Had a serious illness or an accident	32 (5.0)	12 (37.5)	20 (62.5)	**0.027**
Someone important in your life has suffered a serious illness or an accident	103 (16.1)	40 (38.8)	63 (61.2)	**<0.001**
Perception of problems and difficulties				
Academic performance	317 (49.7)	155 (48.9)	162 (51.1)	**<0.001**
Organization of daily tasks	218 (34.2)	97 (44.5)	121 (55.5)	**<0.001**
Organization of academic work	446 (69.9)	238 (53.4)	208 (46.6)	**0.017**
Money management	181 (28.4)	80 (44.2)	101 (55.8)	**<0.001**
Relationship with colleagues	138 (21.6)	46 (33.3)	92 (66.7)	**<0.001**
Relationship with teachers	27 (4.2)	7 (25.9)	20 (74.1)	**0.001**
Relationship with family	123 (19.3)	38 (30.9)	85 (69.1)	**<0.001**
Physical health	355 (55.6)	171 (48.2)	184 (51.8)	**<0.001**
Academic rankings in relation to effort spent				0.065
Lower to effort spent	231 (36.2)	127 (55.0)	104 (45.0)	
In agreement with the effort spent	386 (60.5)	226 (58.5)	160 (41.5)	
Superior to the effort expended	21 (3.3)	7 (33.3)	14 (66.7)	
Level of satisfaction with academic rankings				**<0.001**
Very satisfied	33 (5.2)	25 (75.8)	8 (24.2)	
Satisfied	247 (38.7)	163 (66.0)	84 (34.0)	
Neutral	131 (20.5)	73 (55.7)	58 (44.3)	
Not very satisfied	190 (29.8)	89 (46.8)	101 (53.2)	
Dissatisfied	37 (5.8)	10 (27.0)	27 (73.0)	
Parental satisfaction level regarding academic classifications				**<0.001**
Very satisfied	255 (40.0)	172 (67.5)	83 (32.5)	
Satisfied	226 (35.4)	122 (54.0)	104 (46.0)	
Neutral	121 (19.0)	58 (47.9)	63 (52.1)	
Not very satisfied	30 (4.7)	6 (20.0)	24 (80.0)	
Dissatisfied	6 (0.9)	2 (33.3)	4 (66.7)	

*Note: The values in **bold** indicate statistically significant differences (p < 0.05). p-value was assessed using Chi-square test for qualitative variables.*

Supplementary Table 3 – Mental health status and substance use and suicide risk among portuguese medical students (N = 638)

Variable	**n (%) or mean (sd)**	**SBQ-R Score**		***p***
		< 7 (low suicide risk) (N=360)	**≥ 7 (high suicide risk) (N=278)**	
Use of psychological support resources				
Family doctor	175 (27.4)	89 (50.9)	86 (49.1)	0.081
Psychiatrist	142 (22.3)	38 (26.8)	104 (73.2)	**<0.001**
Psychologist	302 (47.3)	144 (47.7)	158 (52.3)	**<0.001**
Other mental health support professional	30 (4.7)	12 (40.0)	18 (60.0)	0.063
Health status				
Do you have any mental illness? [yes]	150 (23.5)	48 (32.0)	102 (68.0)	**<0.001**
Are you currently using medication for a mental health condition? [yes]	113 (17.7)	28 (24.8)	85 (75.2)	**<0.001**
Have you had or currently have psychotherapy sessions for your mental health condition? [yes]	166 (26.0)	55 (33.1)	111 (66.9)	**<0.001**
Tobacco use				**0.013**
Frequently	49 (7.7)	21 (42.9)	28 (57.1)	
Sporadically	141 (22.1)	70 (49.6)	71 (50.4)	
Never	448 (70.2)	269 (60.0)	179 (40.0)	
Alcohol use	0.086			
Frequently	66 (10.3)	29 (43.9)	37 (56.1)	
Sporadically	489 (76.6)	285 (58.3)	204 (41.7)	
Never	83 (13.0)	46 (55.4)	37 (44.6)	
Cannabis use				**0.042**
Frequently	9 (1.4)	5 (55.6)	4 (44.4)	
Sporadically	123 (19.3)	57 (46.3)	66 (53.7)	
Never	506 (79.3)	298 (58.9)	208 (41.1)	
Non-prescribed benzodiazepine use				**<0.001**
Frequently	13 (2.0)	1 (7.7)	12 (92.3)	
Sporadically	42 (6.6)	16 (38.1)	26 (61.9)	
Never	583 (91.4)	343 (58.8)	240 (41.2)	
Ecstasy use				0.298
Sporadically	12 (1.9)	5 (41.7)	7 (58.3)	
Never	626 (98.1)	355 (56.7)	271 (43.3)	
MHI-5				
Total score	54.2 (18.9)			
Severe symptoms (≤ 52)	299 (46.9)			
Moderated symptoms (]52-60])	107 (16.8)			
Absence of symptoms (> 60)	232 (36.4)			

*Note: The values in **bold** indicate statistically significant differences (p < 0.05). MHI-5 refers to the Mental Health Inventory-5. p-value was assessed using Student's t-test for quantitative variables and Chi-square test for qualitative variables.*

Supplementary Table 4 – Social support and suicide risk among portuguese medical students (N = 638)

Variable	**n (%) or mean (sd)**	**SBQ-R Score**		***p***
		< 7 (low suicide risk) (N=360)	**≥ 7 (high suicide risk) (N=278)**	
ESSS				
Total score	4.0 (0.8)			
Romantic relationship				0.321
Yes	308 (48.3)	180 (58.4)	128 (41.6)	
No	330 (51.7)	180 (54.5)	150 (45.5)	

*Note: The values in **bold** indicate statistically significant differences (p < 0.05). ESSS refers to the Social Support Satisfaction Scale, which assesses perceived social support. p-value was assessed using Student's t-test for quantitative variables and Chi-square test for qualitative variables.*

Supplementary Table 5 – Adverse childhood experiences characterization (N = 638)

	n (%) or mean (sd)
Family Adverse Childhood Experiences Questionnaire	
Total score	1.1 (1.4)
Dimensions	
Emotional abuse	120 (18.8)
Physical abuse	58 (9.1)
Sexual abuse	27 (4.2)
Emotional neglect	110 (17.2)
Physical neglect	10 (1.6)
Divorce or parental separation	91 (14.3)
Substance abuse in the family environment	47 (7.4)
Mental illness or suicide of a family member	187 (29.3)
Incarceration of a family member	3 (0.5)
Exposure to domestic violence	39 (6.1)

*Note: The values in **bold** indicate statistically significant differences (p < 0.05).*

Supplementary Table 6 – Detailed Item Responses of the Suicidal Behaviors Questionnaire-Revised (SBQ-R) (N = 638)

Item	n (%)
"Have you ever thought about or attempted to kill yourself?"	
Never	275 (43.1)
Brief passing thought	238 (37.3)
Plan but did not try	67 (10.5)
Plan and really wanted to die	40 (6.3)
Attempt but did not want to die	6 (0.9)
Attempt and really hoped to die	12 (1.9)
"How often have you thought about killing yourself in the past year?"	
Never	436 (68.3)
Rarely (1 time)	87 (13.6)
Sometimes (2 times)	62 (9.7)
Often (3-4 times)	31 (4.9)
Very often (5 or more)	22 (3.4)
"Have you ever told someone that you were going to commit suicide, or that you might do it?"	
No	485 (76.0)
One time but not really wanted to die	59 (9.2)
One time and really wants to die	40 (6.3)
More than once but did not want to die	32 (5.0)
More than once and really wanted to die	22 (3.4)
"Have you ever told someone that you were going to commit suicide, or that you might do it?"	
Never	236 (37.0)
No chance at all	158 (24.8)
Rather unlikely	144 (22.6)
Unlikely	67 (10.5)
Likely	24 (3.8)
Rather likely	6 (0.9)
Very likely	3 (0.5)

Notes: Detailed responses to each SBQ-R item are presented.

Supplementary Table 7 – Bivariate analysis of significant predictors of high suicide risk (N = 638)

Variable	OR	CI 95%	*p*
Sexual Orientation* (ref: heterossexual)			**< 0.001**
Homosexual	1.983	1.052-3.739	**0.034**
Bisexual	2.670	1.599-4.456	**< 0.001**
Others	4.915	1.562-15.461	**0.006**
Age	1.020	0.973-1.070	0.411
Average travel time from home to university - one way (minutes) (ref: < 15 min)			**0.031**
16-30	1.260	0.836-1.901	0.270
31-60	1.006	0.644-1.570	0.981
61-90	1.654	0.965-2.835	0.067
> 90	3.184	1.394-7.273	**0.006**
Tobacco (ref: never)			**0.014**
Sporadically	1.524	1.042-2.230	**0.030**
Frequently	2.004	1.103-3.638	**0.022**
Cannabis (ref: never)			**0.043**
Sporadically	1.659	1.116-2.465	**0.012**
Frequently	1.146	0.304-4.319	0.840
Benzodiazepine (ref: never)			**0.001**
Sporadically	2.322	1.219-4.423	**0.010**
Frequently	17.150	2.215-132.774	**0.006**
Negative life events in the last 6 months (ref: no)			
End of a stable love relationship	1.698	1.013-2.846	**0.044**
Financial problems	2.639	1.602-4.347	**<0.001**
Had a serious illness or an accident	2.248	1.080-4.682	**0.030**
Someone important in your life has suffered a serious illness or an accident	2.344	1.521-3.612	**<0.001**
Perception of problems and difficulties (ref: no)			
Academic performance	1.847	1.346-2.535	**<0.001**
Organization of daily tasks	2.090	1.499-2.913	**<0.001**
Organization of academic work	1.523	1.076-2.157	**0.018**
Money management	1.997	1.409-2.830	**<0.001**
Relationship with colleagues	3.376	2.268-5.025	**<0.001**
Relationship with teachers	3.909	1.629-9.383	**0.002**
Relationship with family	3.732	2.447-5.691	**<0.001**
Physical health	2.163	1.566-2.989	**<0.001**
Level of satisfaction with academic rankings (ref: very satisfied)			**<0.001**
Satisfied	1.610	0.696-3.725	0.265
Neutral	2.483	1.043-5.912	**0.040**
Not very satisfied	3.546	1.522-8.261	**0.003**
Dissatisfied	8.437	2.874-24.775	**<0.001**
Parental satisfaction level regarding academic classifications (ref: very satisfied)			**<0.001**
Satisfied	1.767	1.220-2.558	**0.003**
Neutral	2.251	1.446-3.504	**<0.001**
Not very satisfied	8.289	3.263-21.054	**<0.001**
Dissatisfied	4.145	0.744-23.087	0.105

Use of psychological support resources - no (ref: yes)			
Psychologist [no]	1.975	1.438-2.713	**<0.001**
Psychiatrist [no]	5.065	3.345-7.668	**<0.001**
Health status - no (ref: yes)			
Do you have any mental illness? [no]	3.767	2.551-5.562	**<0.001**
Are you currently using medication for a mental health condition? [no]	5.222	3.289-8.292	**<0.001**
Have you had or currently have psychotherapy sessions for your mental health condition? [no]	3.686	2.535-5.359	**<0.001**
ESSS			
Total score	0.317	0.249-0.404	**<0.001**
MHI-5			
Total score	0.947	0.937-0.957	**<0.001**
Classes (ref: Absence of symptoms (> 60))			**<0.001**
Severe symptoms (≤ 52)	5.504	3.748-8.081	**<0.001**
Moderated symptoms (]52-60])	1.742	1.055-2.877	**0.030**
Family Adverse Childhood Experiences Questionnaire			
Total score	1.577	1.380-1.803	**<0.001**
Dimensions – yes (ref: no)			
Emotional abuse	3.545	2.321-5.415	**<0.001**
Physical abuse	2.692	1.528-4.741	**<0.001**
Sexual abuse	2.280	1.027-5.060	**0.043**
Emotional neglect	4.213	2.683-6.615	**<0.001**
Physical neglect	1.300	0.373-4.537	0.680
Divorce or parental separation	1.130	0.723-1.764	0.592
Substance abuse in the family environment	1.384	0.764-2.509	0.284
Mental illness or suicide of a family member	2.190	1.549-3.097	0.999
Exposure to domestic violence	2.173	1.117-4.226	**0.022**

*Note: The values in **bold** indicate statistically significant differences ($p < 0.05$). p-value was assessed using Student's t-test for quantitative variables and Chi-square test for qualitative variables. ESSS refers to the Social Support Satisfaction Scale, which assesses perceived social support. MHI-5 refers to the Mental Health Inventory-5.*
** In **sexual orientation**, 13 participants selected "Prefer not to answer/Don't know" leading to a final **N = 625** for this variable.*

Supplementary Table 8 – Multivariable Logistic Regression Analysis of Predictors for High Suicide Risk (N = 638)

Variable	OR	CI 95%	p
ESSS (Social Support)	0.439	0.332-0.581	**< 0.001**
MHI-5 (Mental Health Status)	0.962	0.950-0.974	**< 0.001**
Adverse Childhood Experiences Questionnaire	1.265	1.088-1.471	**0.002**
Negative Life Events			
Serious illness/accident of someone important	2.167	1.290-3.638	**0.003**
Psychological Support Utilization			
No psychiatric care	4.073	2.524-6.573	**< 0.001**
Constant	85.659		**< 0.001**

*Note: The values in **bold** indicate statistically significant differences ($p < 0.05$). Multivariable logistic regression was conducted using the Forward Wald method. Statistical significance was set at $p < 0.05$. Reference categories: Psychological Support Utilization (Ref: Yes). Abbreviations: ESSS = Emotional Social Support Scale; MHI-5 = Mental Health Inventory-5; ACEs = Adverse Childhood Experiences; OR = Odds Ratio; CI = Confidence Interval.*

Annex II – Questionnaire in the Portuguese language

CONSENTIMENTO INFORMADO

O meu nome é Rodrigo Martins e sou aluno do Mestrado Integrado em Medicina da Faculdade de Ciências da Saúde da Universidade da Beira Interior. Estou a desenvolver uma investigação com o objetivo de avaliar a ideação suicida e fatores associados numa amostra de estudantes de medicina em Portugal. Pretende-se, assim, averiguar fatores de risco e de proteção associadas à ideação suicida e explorar diferenças na ideação suicida entre diferentes subgrupos de estudantes de medicina. Colaborando nesta investigação estás a possibilitar o avanço do conhecimento nesta área. Este projeto não tem qualquer tipo de apoio financeiro, renumerações ou proveitos para além dos científicos das/os investigadoras/es e não existem conflitos de interesse.

Este estudo está a ser desenvolvido por uma equipa de investigação da Faculdade de Ciências da Saúde da Universidade da Beira Interior (FCS-UBI) e do Instituto de Ciências Biomédicas Abel Salazar (ICBAS), sob a coordenação do Prof. Dr. Paulo Vitória. A equipa é constituída por Rodrigo Martins (estudante do Mestrado Integrado em Medicina), Paulo Vitória (Professor auxiliar DPE/FCSH/UBI, Psicólogo, PhD), Marta Duarte (Psicóloga e Gestora Executiva do Centro Académico Clínico das Beiras) e Laetitia Teixeira (Professora auxiliar do ICBAS-UP, PhD) sob a coordenação do Professor Doutor Paulo Vitória. Apenas estas/es investigadoras/es terão acesso aos dados fornecidos nos questionários, sendo toda a informação obtida neste estudo anónima e confidencial, pelo que não será possível a identificação das pessoas participantes, e em caso de necessidade haverá ocultação de respostas.

O presente estudo destina-se à realização da Dissertação para a obtenção do grau de Mestre em Medicina de Rodrigo Martins.

Compreendo que:

- *A minha participação neste estudo é inteiramente voluntária, não sendo fornecido nenhum pagamento às pessoas participantes;*
- *Posso recusar-me a colaborar nesta investigação, ou retirar o meu consentimento a qualquer momento, sem que isso me traga quaisquer consequências negativas;*

- *Toda a informação obtida neste estudo será confidencial e anónima e que os dados recolhidos não serão utilizados para outros fins além da investigação em causa.*

A decisão de participar é livre, voluntária e informada pelo presente documento. Qualquer dúvida ou informação adicional de que necessite, poderá ser colocada diretamente ao investigador principal: rodrigomart2001@gmail.com

1. *Declara que irá colaborar livremente, e que leu e compreendeu a informação acerca do estudo e da sua participação? (resposta única)*
    a) *Sim*
    b) *Não*
2. *Identidade de género (resposta única)*
    a) *Feminina*
    b) *Masculina*
    c) *Feminina trans*
    d) *Masculina trans*
    e) *Não-binária*
    f) *Prefiro não responder*
    g) *Outra: ____*
3. *Idade: ____*
4. *Escola médica (resposta única)*
    a) *Faculdade de Ciências da Saúde da Universidade da Beira Interior (FCS-UBI)*
    b) *Faculdade de Ciências Médicas da Universidade Nova de Lisboa (FCM-UNL)*
    c) *Escola de Medicina da Universidade do Minho (EM-UM)*
    d) *Faculdade de Medicina e Ciências Biomédicas da Universidade do Algarve (FMCB-UAlg)*
    e) *Faculdade de Medicina da Universidade de Lisboa (FML)*
    f) *Faculdade de Medicina da Universidade Católica Portuguesa (FM-UCP)*
    g) *Faculdade de Medicina da Universidade de Coimbra (FMUC)*
    h) *Faculdade de Medicina da Universidade do Porto (FMUP)*
    i) *Instituto de Ciências Biomédicas Abel Salazar (ICBAS-UP)*
5. *Ano curricular (resposta única)*
    a) *1º*

   b) *2º*
   c) *3º (1º ano na FMCB-UAlg)*
   d) *4º (2º ano na FMCB-UAlg)*
   e) *5º (3º ano na FMCB-UAlg)*
   f) *6º (4º ano na FMCB-UAlg)*

6. *Orientação sexual: Qual das seguintes opções melhor define a sua orientação sexual? (resposta única)*
   a) *Heterossexual*
   b) *Bissexual*
   c) *Homossexual*
   d) *Panssexual*
   e) *Assexual*
   f) *Prefiro não responder*
   g) *Outra: ___*
7. *Categoria sócio-económica: Na sua perspetiva, em que categoria sócio-económica se insere a sua família? (resposta única)*
   a) *Terço inferior*
   b) *Terço intermédio*
   c) *Terço superior*
8. *Situação de bolseira/o (resposta única)*
   a) *Preciso de bolsa mas não obtive*
   b) *Sou bolseira/o de Ação Social do Ensino Superior e/ou de outras instituições*
   c) *Não sou bolseira/o nem preciso de Bolsa*
9. *Mudança de residência: O ingresso na universidade implicou mudança de residência? (resposta única)*
   a) *Sim*
   b) *Não*
10. *Mudança de residência: Com quem vive atualmente? (resposta única)*
   a) *Sozinha/o*
   b) *Com o meu agregado familiar de origem*
   c) *Com outros/as familiares*
   d) *Numa Residência Universitária*
   e) *Namorada/o(s) ou esposa/o(s)*
   f) *Amiga/o(s) ou colega(s)*
   g) *Outra: ___*

11. *Quanto tempo demora, em média, a chegar de casa à sua universidade (somente ida)? (resposta única)*
    a) *Até 15 minutos*
    b) *De 16 a 30 minutos*
    c) *De 31 a 60 minutos*
    d) *De 61 a 90 minutos*
    e) *Mais de 90 minutos*
12. *Consumo de substâncias psicoativas (resposta única)*

	Nunca	*Esporadicamente*	*Frequentemente*
Tabaco	○	○	○
Bebidas alcoólicas	○	○	○
Cannabis (Marijuana/Erva ou Haxixe/Chamon)	○	○	○
Cocaína (ou Coca)	○	○	○
Heroína (cavalo, pó)	○	○	○
Anfetaminas (ou speeds)	○	○	○
Medicamentos sedativos, tranquilizantes e hipnóticos (benzodiazepínicos) não prescritos por uma pessoa médica	○	○	○
Ecstasy (MDMA)	○	○	○

13. *Perceção de problemas ou dificuldades – Neste momento deparo-me com as seguintes dificuldades/problemas (resposta múltipla):*
    a) *Desempenho académico*
    b) *Organização de tarefas diárias (alimentação, transportes, etc)*
    c) *Organização do trabalho académico (gestão de tempo, etc)*
    d) *Gestão de dinheiro*
    e) *Relacionamento com colegas*
    f) *Relacionamento com docentes*
    g) *Relacionamento com a família*
    h) *Saúde física (dores de cabeça, cansaço, alimentação, etc)*
14. *Relação romântica-afetiva: Atualmente numa relação romântica-afetiva? (resposta única)*
    a) *Sim*
    b) *Não*

15. *Acontecimentos de vida negativos: Em baixo encontrará uma lista de acontecimentos que poderá ter experienciado. Para cada um destes deverá assinalar se este aconteceu, ou não, na sua vida nos últimos 6 meses. (resposta múltipla)*
    a) *Morte de um(a) familiar*
    b) *Término de uma relação amorosa estável*
    c) *Dificuldades financeiras*
    d) *Sofreu de uma doença grave ou um acidente*
    e) *Alguém importante na sua vida sofreu de uma doença grave ou um acidente*
16. *Desempenho académico: Como considera as suas classificações académicas em relação ao esforço despendido com o curso? (resposta única)*
    a) *Inferiores ao esforço dispendido*
    b) *Concordantes com o esforço despendido*
    c) *Superiores ao esforço despendido*
17. *Desempenho académico: Neste momento, qual o seu nível de satisfação com as suas classificações académicas? (resposta única)*
    a) *Muito satisfeita/o*
    b) *Satisfeita/o*
    c) *Neutro*
    d) *Pouco satisfeita/o*
    e) *Nada satisfeita/o*
18. *Desempenho académico: Neste momento, qual considera ser o nível de satisfação dos seus pais relativamente às suas classificações académicas? (resposta única)*
    a) *Muito satisfeita/o*
    b) *Satisfeita/o*
    c) *Neutro*
    d) *Pouco satisfeita/o*
    e) *Nada satisfeita/o*
19. *Escala de Satisfação com o Suporte Social - versão reduzida (ESSS), versão Portuguesa de Pais-Ribeiro (2001): Estamos interessados/as em avaliar o que pensa em relação às afirmações seguintes. Leia cuidadosamente cada uma das afirmações. Utilizando a escala abaixo, indique como se sente acerca de cada uma delas assinalando o respetivo espaço com X. (resposta única)*

	Discordo totalmente	*Discordo*	*Neutro*	*Concordo*	*Concordo totalmente*
Estou satisfeito com a forma como me relaciono com a minha família	○	○	○	○	○
Mesmo nas situações mais embaraçosas, se precisar de apoio de emergência tenho várias pessoas a quem posso recorrer	○	○	○	○	○
Quando preciso de desabafar com alguém encontro facilmente amigos com quem o fazer	○	○	○	○	○

20. *Inventário de Saúde Mental - Versão Portuguesa de Pais-Ribeiro (2001): Abaixo vai encontrar um conjunto de questões acerca do modo como se sente no dia a dia. Responda a cada uma delas assinalando num dos círculos por baixo a resposta que melhor se aplica a si. (resposta única)*

	Nunca	*Quase nunca*	*Durante algum tempo*	*A maior parte do tempo*	*Quase sempre*	*Sempre*
Durante quanto tempo, no mês passado se sentiu muito nervoso?	○	○	○	○	○	○
Durante quanto tempo, no mês que passou, se sentiu calmo e em paz?	○	○	○	○	○	○
Durante quanto tempo, no mês que passou, se sentiu triste e em baixo?	○	○	○	○	○	○
Durante quanto tempo, durante o mês	○	○	○	○	○	○

passado, se sentiu triste e em baixo, de tal modo que nada o conseguia animar?						
No último mês durante quanto tempo se sentiu uma pessoa feliz?	○	○	○	○	○	○

21. *Questionário de História na Infância - versão reduzida (Felitti & Anda, 1998; Versão Portuguesa Maia & Silva, 2007): Em seguida são apresentadas um conjunto de questões/afirmações que se referem a experiências da infância, ou seja acontecimentos antes dos 16 anos de idade. Responda a todas as questões com a maior sinceridade. O anonimato e confidencialidade estão garantidos. (resposta múltipla)*
    a) *Algum dos seus pais ou outro adulto que vivia em sua casa o insultou ou humilhou de forma frequente ou muito frequente?*
    b) *Algum dos seus pais ou outro adulto que vivia em sua casa o puxou, agarrou ou atirou-lhe alguma coisa de forma frequente ou muito frequente?*
    c) *Um adulto ou outra pessoa pelo menos cinco anos mais velha que você alguma vez lhe tocou ou obrigou-o tocar o corpo dela de forma sexualizada?*
    d) *Sentiu, de forma frequente ou muito frequente, que ninguém na sua família o amava ou pensava que você era especial ou importante?*
    e) *Sentiu, de forma frequente ou muito frequente, que não tinha o suficiente para comer, tinha de usar roupas sujas, e não tinha quem o/a protegesse?*
    f) *Os seus pais separaram-se ou divorciaram-se durante a sua infância?*
    g) *Viveu com alguém que tivesse problemas com álcool ou era alcoólico ou usava drogas?*
    h) *Viveu com alguém que estivesse deprimido, tivesse algum problema psiquiátrico ou tentou suicidar-se?*
    i) *Alguma das pessoas que vivia consigo esteve na prisão?*

j) *Algum dos seus pais foi agarrado, puxado, mordido ou atiraram-lhe algum objecto de forma frequente ou muito frequente?*
   - *A sua mãe ou madrasta*
   - *O seu pai ou padrasto*

22. *Questionário de Comportamentos Suicidários - versão revista (QCS-R), (SBQ-R; Osman et al., 2001) - Versão portuguesa de Rui C. Campos e colegas (2011): INSTRUÇÕES: Para cada uma das 4 perguntas, assinale com uma cruz a resposta que melhor se aplica a si. Para cada uma das 4 perguntas escolha apenas uma das respostas.*
    a) *Já alguma vez pensou em matar-se ou tentou matar-se? (resposta única)*
       - *1 – Nunca*
       - *2 - Tive apenas um breve pensamento passageiro*
       - *3a - Tive um plano para me matar, pelo menos uma vez, mas não o tentei fazer*
       - *3b - Tive um plano para me matar, pelo menos uma vez, e queria realmente morrer*
       - *4a - Tentei matar-me, mas não queria morrer*
       - *4b - Tentei matar-me, e esperava mesmo morrer*
    b) *Com que frequência pensou matar-se no último ano? (resposta única)*
       - *1 – Nunca*
       - *2 - Raramente (1 vez)*
       - *3 - Algumas vezes (2 vezes)*
       - *4 - Frequentemente (3 ou 4 vezes)*
       - *5 - Muito frequentemente (5 ou mais vezes)*
    c) *Já alguma vez disse a alguém que iria suicidar-se ou que poderia vir a suicidar-se? (resposta única)*
       - *1 – Não*
       - *2a - Sim, uma vez, mas não queria realmente morrer*
       - *2b - Sim, uma vez, e queria realmente morrer*
       - *3a - Sim, mais do que uma vez, mas não queria fazê-lo*
       - *3b - Sim, mais do que uma vez, e queria realmente fazê-lo*
    d) *Qual a probabilidade de poder vir a tentar suicidar-se um dia? (resposta única)*
       - *0 – Nunca*
       - *1 - Nenhuma possibilidade*

- *2 - Bastante improvável*
- *3 – Improvável*
- *4 – Provável*
- *5 - Bastante provável*
- *6 - Muito provável*

23. *Utilização de recursos de apoio psicológico: Em baixo encontrará uma lista de recursos de apoio psicológico que poderá ter usufruído. Assinale se em algum dado momento, desde o ingresso na universidade, procurou ajuda por parte de algum destes recursos. (resposta múltipla)*
    a) *Médica/o de família*
    b) *Psicóloga/o*
    c) *Psiquiatra*
    d) *Outra/o profissional de apoio em saúde mental*
24. *Dados de saúde: Assinale com um x, se desde o ingresso na universidade, alguma das situações abaixo se adequa a si.*
    a) *Tem alguma doença mental? (resposta única)*
        - *Sim*
        - *Não*
    b) *Toma medicação decorrente de alguma doença mental? (resposta única)*
        - *Sim*
        - *Não*
    c) *Tem ou já teve consultas de psicoterapia decorrentes da sua doença? (resposta única)*
        - *Sim*
        - *Não*

Annex III - Approval from the Ethics Committee of the University of Beira Interior

Comissão de Ética
Universidade da Beira Interior

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Convento de Santo António
6201-001 Covilhã | Portugal

Parecer relativo ao processo n.º CE-UBI-Pj-2024-027-ID2226

Na sua reunião de 21 de maio de 2024, a Comissão de Ética apreciou a documentação submetida referente ao pedido de parecer do projeto **"Suicidal Ideation among Medical Students of Portugal - A Nationwide Study",** do proponente **Rodrigo Martins,** a que atribuiu o código n.º CE-UBI-Pj-2024-027.

Na sua análise não identificou matéria que ofenda os princípios éticos e morais, pelo que esta Comissão de Ética emite um parecer **favorável** à realização do projeto, nos moldes descritos naquela documentação.

Covilhã e UBI

A Presidente da Comissão de Ética

Assinado por : **AMÉLIA MARIA MONTEIRO FERNANDES NUNES**
Num. de Identificação: BI102417849
Data: 2024.05.30 10:07:25+01'00'

CARTÃO DE CIDADÃO

(Professora Doutora Amélia Maria Monteiro Fernandes Nunes)

(Professora Auxiliar)

A CE-UBI e a UBI não se responsabilizam por danos ou outros atos ilícitos que possam vir a ser praticados no âmbito do estudo. As opiniões e conclusões contidas nos documentos resultantes desta investigação são da exclusiva responsabilidade dos autores do projeto.