

Research Article

Psychological Distress Among General Medicine Students at the Faculty of Health Sciences of Brazzaville

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Abstract

Introduction: Psychological distress (PD) refers to a unique and uncomfortable emotional state experienced by an individual in response to a specific stressor. **Objective:** To assess psychological distress among general medicine students (GMS) at the Faculty of Health Sciences (FSSA) of Marien NGOUABI University in Brazzaville. **Patients and methods:** This was a cross-sectional analytical study. It was carried out over a period of 4 months at the FSSA. It focused on GMSs from the first to the seventh year of medicine who consented to participate in the study (653). The variables studied were sociodemographic, academic, related to lifestyle and the medical educational environment, related to psychological distress and related to the need for psychological help and stress management. **Results:** The prevalence of psychological distress among medical students was 63.4%. The average age of medical students was 21.5 ± 2.8 years and the sex ratio was 0.6 in favor of women. Regular physical activity concerned 22.05% of GMSs and sleep duration was insufficient for 92.04% of them. The overall perception of the educational environment was satisfactory for 62.9% of EMGs and poor for 9.3% of them. The need for psychological help concerned 63.1%. **Conclusion:** The high prevalence of psychological distress among GMSs at the Faculty of Health Sciences in Brazzaville represents a real public health problem. Awareness-raising in this area appears to be necessary, and reforms would be important.

Keywords

Psychological Distress, Stress, Students, General Medicine, Congo

1. Introduction

Psychological distress (PD) is defined as a range of symptoms and experiences in a person's internal life that are commonly considered disturbing, confusing, or out of the

ordinary [1]. It is a negative emotional state, resulting from prolonged exposure to a stressor or an accumulation of environmental stressors [2].

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The manifestations of PD are numerous. They include physical, cognitive, emotional, and behavioral symptoms [3]. Generally, five main characteristics are attributed to it: sadness, irritability, discouragement, self-deprecation, and anxiety [2]. The prevalence of PD varies between 5 and 27% in the general population, and university students constitute a particularly vulnerable population [4, 5]. In America, the prevalence of PD has been estimated at 30% among students at several Canadian universities [6]. In Congo, no studies addressing PD among students in general and specifically general medicine students (GMS) have been found. In order to contribute to the improvement of mental health of GMSs, this study was conducted, with the general objective of evaluating PD among GMSs at the Faculty of Health Sciences (FSSA) of Marien NGOUABI University (UMNG) in Brazzaville.

2. Patients and Methods

This was a cross-sectional and analytical study, with prospective data collection, conducted from March 1 to July 1, 2021, a period of 4 months, at the Faculty of Health Sciences (FSSA) of the Marien NGOUABI University (UMNG) in Brazzaville. The teaching process within the FSSA is carried out according to the LMD system with a particularity for medical training. Indeed, there is no intermediate diploma for the latter. The sampling was exhaustive.

EMGs from the first to seventh year of medicine who consented to participate in the study were included. Those awaiting defense, absent from the FSSA or the hospital internship location during the entire survey period; having a psychiatric pathology or a personal psychiatric history were excluded.

Data were collected using a pre-established questionnaire including:

- 1) Sociodemographic variables: age, gender, marital status of the student (single, married, in a relationship), number of children.
- 2) Variables related to living conditions: housing (family home, university campus), transport (journey time between place of residence and place of university activities), vital status of parents (living, deceased), marital status of parents (married; divorced, widowed), source of financing for study-related expenses.
- 3) Academic variables: level of study, completion of a hospital internship at the time of the survey.
- 4) Variables related to lifestyle: duration of sleep, regular physical activity.
- 5) Variables related to the educational environment: The educational environment was assessed using the Dundee Ready Education Environment Measure (DREEM). It was done in two stages:

The first phase assessed the educational environment in general:

- 1) DREEM score ≤ 100 : poor perception;
- 2) DREEM score >100 : good perception.

The second time evaluated each subgroup:

- 1) Perception of teaching: 0-24 (poor perception), 25-38 (more positive perception)
- 2) Teacher perception: 0-22 (poor perception), 23-44 (good perception)
- 3) Perception of academic performance: 9-16 (many negative aspects), 17-32 (more positive view)
- 4) Perception of the educational atmosphere: 0-24 (terrible environment), 25-48 (more positive outlook)
- 5) Social perception of the educational environment: 0-21 (miserable), 22-28 (very good)

Variables related to psychological distress: assess using the K6, when K6 score ≤ 7 : no psychological distress; and K6 score > 7 : psychological distress.

Microsoft Excel 2016 software was used to build the database. Statistical analysis was performed using R (core team) version 4.0.3 software.

The study was conducted with respect for the anonymity and privacy of the participants. The information was confidential, coded, and identified by a number. The digitized data was protected by a password, kept secret by the research team.

3. Results

3.1. Socio-Demographic Characteristics

Among the 653 GMS included, 409 had PD, representing a prevalence of 63.4%. The study population consisted of 244 (37.4%) men and 409 (62.6%) women, representing a *sex ratio* of 0.6. The mean age was 21.5 ± 2.8 years with extremes of 16 and 32 years. Sixteen (6.5%) GMS reported having children, 524 (80.2%) were single, 3 (0.5%) were married, and 126 (19.3%) were living with a partner.

The study levels of the GMSs were: 1st^{year} of medicine 153 (23.4%), 2nd^{year} of medicine 108 (16.5%), 3rd year of medicine 96 (14.7%), 4th year of medicine 109 (16.4%), 5th year of medicine 95 (14.6%), 6th year of medicine 52 (8%), 7th year of medicine 40 (6.1%).

Among the GMSs included, 487 (74.6%) were completing a hospital internship and 166 (25.4%) were not. Those who were not completing the hospital internship were 63.9% (106) first-year GMSs whose scheduling had not been taken into account in the various allocated centers and 36.1% (60) first-year repeaters who had validated their hospital internship.

Five hundred eighty-seven (89.9%) GMS lived in a family home and 66 (10.1%) lived on a university campus. Three hundred fifty (53.6%) GMS lived near the university activities venue with a travel time of less than one hour and 303 (46.4%) needed more than one hour to reach the university activities venue.

The distribution of GMSs according to regular physical activity and sleep duration of EMGs is shown in Table 1.

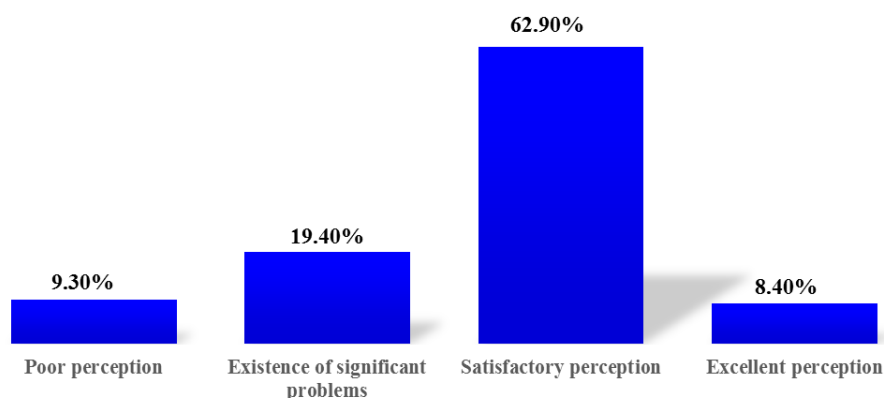
Table 1. Distribution of GMSs according to lifestyle.

	Effective	Percentage (%)
Regular practice of physical activity		
No	509	77.95
Yes	144	22.05
Sleep duration		
Insufficient	601	92.04
Sufficient	52	7.96

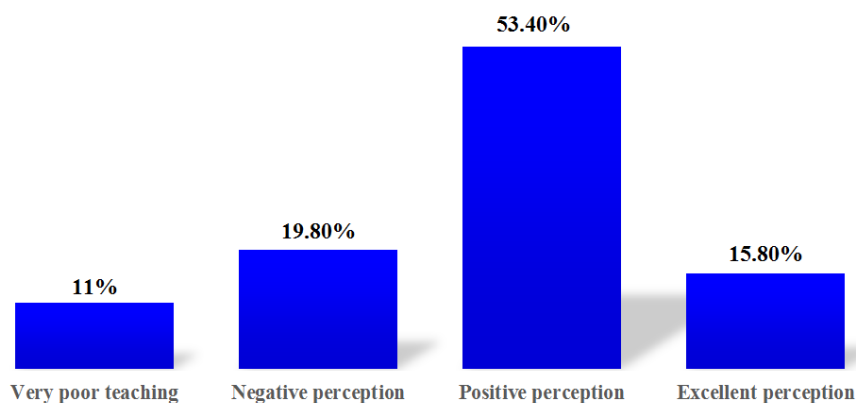
GMS: general medicine student

3.2. GMS Educational Environment

The mean of the overall assessment of the educational environment was 111 ± 35 . [Figure 1](#) illustrates the overall assessment of the educational environment by GMS.

**Figure 1.** Distribution of GMSs according to the overall DREEM score.

The mean of the perception of teaching was 27 ± 10 . [Figure 2](#) represents the perception of teaching by EMG.

**Figure 2.** Distribution of GMSs according to the teaching perception score.

The average teacher perception was 23 ± 8 . It was: poor perception (12.3%), need for adjustment (30%), teachers on the right track (49%) and model teachers (8.7%).

The average social perception of the educational environment was 14.3 ± 5.4 . These were: miserable perception (13.9%), bad perception (32.9%), rather positive perception (46.1%) and good perception (7.1%).

3.3. Psychological Help

During the survey, 133 (20.37%) GMSs had already used psychological support before starting medical training and 520 (79.63%) GMSs had not used them. Two hundred and thirty-one (35.38%) GMSs reported using psychological support during medical training and 422 (64.62%) reported not using them.

Figure 3 shows the psychological support methods used by GMSs before and after the start of medical training.

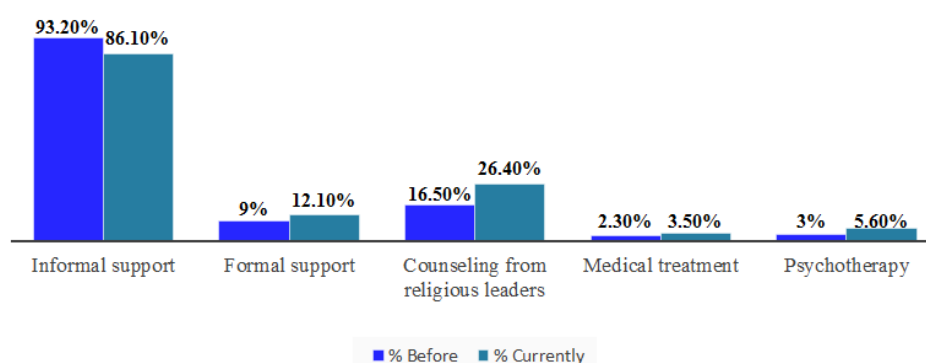


Figure 3. Distribution of psychological support methods used by GMSs before and after the start of medical training.

Among the 653 GMSs included in our study, 412 (63.1%) reported needing psychological help and 241 (36.9%) did not. The reason for needing psychological help is shown in Figure 4.

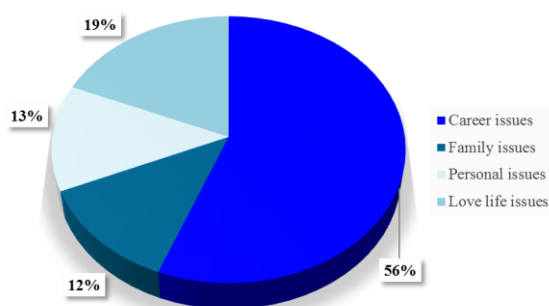


Figure 4. Distribution of GMSs according to the reason for needing psychological help.

Of the 653 GMSs included in the study, 336 (51.45%) reported repeatedly using a stress management method.

4. Discussion

4.1. Prevalence of Psychological Distress

The prevalence of PD among GMSs in the present study was high, at 63.4%. Literature data report a low prevalence of

PD among medical students ranging from 29.9% to 58% [7, 8]. The low prevalence obtained in these studies may be related to a difference in methodology; all these studies used the GHQ to assess PD. Labra et al. in Canada, at the beginning of the COVID 2019 pandemic, reported a prevalence of 77.4% among university students [9]. A study conducted before the start of the pandemic in Canada reported a lower prevalence of 21% in the general population [10]. The high prevalence found in the Canadian study was associated with the COVID 19 pandemic, which generated an anxious climate in the general population and particularly among GMSs [9].

4.2. Socio-Demographic Aspects

The average age of the GMSs was 21.5 ± 2.8 years, with extremes of 16 and 32 years. The average age of obtaining the baccalaureate and entering university is around 18 years, coupled with this seven (7) years of medical training or even more for repeaters, which could justify the results obtained. Ossou-Nguet PM et al. [11] reported a similar average age of 22 ± 3.7 years. On the other hand, Hsairi et al. [12] reported a higher average age of 25.01 ± 1.45 years. This difference can be explained by the fact that their study only concerned GMSs at the end of training.

The most represented age group was 20 to 25 years with 60.8% of cases of PD. Early adulthood is a period marked by unpredictability, uncertainty, experimentation and diversity of choices making this period particularly stressful which could

explain why this age group is more exposed to PD [13].

A female predominance of 62.6% with a sex ratio of 0.6 was noted. The inversion of the sex ratio in the present study is consistent with the global trend of feminization of the medical profession [14]. Farajpour et al. [15] and Vaughan et al. [16] reported the same results.

On the other hand, Bambara et al. [17] in Burkina Faso reported a male predominance. The difficulties observed in female education in Burkina Faso could be the cause; according to a survey carried out in 2018, out of 95% of girls enrolled in primary school, only 40% continue on to secondary education and 4% to higher education [18].

The highest rate of PD (25.6%) was found among first-year GMSs. First-year students are subject to stress caused by the transition to higher education, difficulties adapting to university and new responsibilities as young adults [19]. Verger *et al.* [20] in France reported similar results; at the end of their study, 25.7% of first-year students had PD.

Hospital internship practice is an integral part of medical training. In our series, GMSs who did not complete a hospital internship were more exposed to PD. Performing a hospital internship strengthens the bonds between team members, improves the quality of the student's relationship with peers, allows the acquisition of knowledge necessary for good medical practice and helps reduce the stress inherent in the practice of the medical profession. Not performing a hospital internship could therefore expose EMGs to PD. Sleep is essential for physical and mental well-being; in adults, the average recommended sleep duration is on average 7 hours and 30 minutes per night [21]; however, in the present study, more than one-third of GMSs (92.04%) had insufficient sleep duration. PD was more prevalent in this category. Faculty time volume and workload may induce a reduction in sleep duration in GMSs. Also, it is accepted that sleep deprivation is accompanied by rapidly apparent alterations in mood and cognitive performance that can lead to a disturbance in mental health [21].

Regular physical activity helps reduce stress and promotes improvement in somatic symptoms. In this series, 77.95% of GMSs reported not practicing regular physical activity; PD was more prevalent in the latter. Not practicing regular physical activity exposes them to several consequences, including impaired mental health.

4.3. Medical Educational Environment

The perception of the educational environment was satisfactory for 62.9% of the GMSs; the overall mean score was 111 ± 35 . These results are similar to those obtained by Youssef et al [22] in Egypt and Roff et al. [23] in Nigeria who reported a respective overall mean score of 113.8 and 130 corresponding to a satisfactory perception of the educational environment. However, Bulent et al. [24] in Turkey reported an excellent perception of the educational environment with an overall score of 156.91. The better study conditions, the

development of research, the quality of academic structures and the quality of teaching in Turkey compared to Africa could explain this disparity.

GMSs who did not use psychological support were more exposed to PD. The need for psychological support concerned most GMSs, whether in PD or not; this need for help mainly concerned career issues.

Providing psychological help could help reduce stress through the social support they provide. According to the stress mitigation model, social support would play a mediating role in the relationship between the stressful event and mental health; it would act positively on the individual's perceptions of their environment and on the perception of their ability to cope with stressful events [25].

5. Conclusion

PD is a health concern among general medicine students (GMS) at the FSSA in Brazzaville. Its prevalence is 63.4%; it is of interest to GMS aged 20 to 25 years, with a female predominance. The use of methods to manage stress concerns half of the GMS; the need for psychological help was expressed by (63.1%) of the GMS.

Abbreviations

PD	Psychological Distress
GMS	General Medicine Students
FSSA	Health Sciences
UMNG	Marien NGOUABI University
DREEM	Dundee Ready Education Environment Measure

Conflicts of Interest

The authors declare no conflicts of interest.

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