

# Factors Associated with Depressive Disorders Among Medical Students in Bangui

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**Abstract:** *Introduction:* Depression is a common mental disorder. It is estimated that 3.8% of the population is affected, including 5% of adults and 5.7% of people over the age of 60. Numerous studies have shown that rates of depression among college students are higher than those found in the general population. It is in this context that our study proposes to determine the proportion of students of the Faculty of Health Sciences (FACSS) of the University of Bangui who presented symptoms of depression and to analyze the determinants. *Materials and methods:* This was a descriptive and analytical cross-sectional survey. The study population consisted of all FACSS students regularly registered for the 2021-2022 academic year. Two questionnaires were used; BECK's abstract to assess the level of depression and another questionnaire to study its determinants. Data were analyzed using Epi info software. *Results:* The average age of the students was 21 ( $\pm$  2.5 years), with extremes ranging from 16 and 31 years. The majority of students were from urban areas (81.8%) and lived with parents/guardians (70.5%). The prevalence of depression among college students was 52.6%. The main subjective depressive symptoms were fatigue (63.5%), the need for extra physical effort to work (61.4%) and sadness (52.6%). Housing difficulties, lack of a scholarship and pressure from parents/guardians were the main factors associated with the onset of depression. *Conclusion:* The high prevalence of depression among students at the FACSS should challenge academic officials to set up a device for detecting students showing signs of depression in order to offer them psychosocial support.

**Keywords:** Depressive Disorders, Students, Bangui

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## 1. Introduction

Depression is a common illness around the world. It is estimated that 3.8% of the population is affected, including 5% of adults and 5.7% of people over the age of 60 [1]. Worldwide, approximately 280 million people suffer from depression [1]. It is characterized by persistent sadness, loss of interest, depression, increased fatigue or loss of pleasure energy. It can also result in other symptoms such as lack of sleep and appetite, fatigue and difficulty concentrating etc. [2]. When it is recurrent and of moderate or severe intensity, depression can become a serious illness. It can cause great

suffering and alter the professional, school and family life of the person affected. In the worst case,

Depression is caused by complex interactions between genetic and environmental factors. Psychosocial factors also seem to be involved. Indeed, major life stresses, in particular separations or losses, school or professional failures, frequently precede episodes of depression; but these events usually do not lead to lasting and severe depression, except in the patient predisposed to a mood disorder [3]. According to the results of numerous studies, the rate of occurrence of depression among students is very high. In sub-Saharan Africa, the rate varies between 32% to 60.8%, depending on

the study [4-11]. In the Central African Republic, no data is available on the extent of depressive disorders among students. It is in this context that our study proposes to determine the proportion of students of the Faculty of Health Sciences (FACSS) of the University of Bangui who presented symptoms of depression and to analyze the determinants.

## 2. Materials and Methods

This was a descriptive and analytical cross-sectional survey. The study population consisted of all medical students regularly registered at the FACSS for the 2021-2022 academic year. Included were students who had spent at least one academic year at FACSS and who had agreed to participate in the study. 6th graders and students awaiting thesis defense were not included, as they were not available during the study period. We conducted an exhaustive survey, all students meeting the inclusion criteria were selected. Recruitment was done on a voluntary basis. All students who participated in the survey were informed of the purpose of the study and the anonymity of the information. In each class, we had organized an information and awareness session for students. Then, two self-administered questionnaires were given to each consenting student. The first included socio-demographic variables, academic characteristics and the clinical profile of the students. The second is BECK's abbreviated questionnaire, also called the Beck Depression Inventory (BDI). This is a scale to assess the level of depression. The questionnaire comprises 13 series of 4 propositions rated from 0 to 3. The different severity thresholds used by Beck are: (i) 0-4: no depression, (ii) 4-7: mild depression, (iii) 8- 15: moderate depression and (iv) 16 and over: severe depression. two self-administered questionnaires were given to each consenting student. The first included socio-demographic variables, academic characteristics and the clinical profile of the students. The

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The variable of interest is the presence of depression rated at 1 if the person presents with a depressive syndrome whatever the form and 0 if he does not present any sign of depressive syndrome. Data were collected and analyzed using Epi info version 7 software.

## 3. Results

### 3.1. Sociodemographic Characteristics

Of the 445 students to whom questionnaires were given, 285 returned them, representing a participation rate of 64%. Undergraduate students (1st to 3rd year) were the most numerous (76.1%). Male subjects accounted for 56.1%, a ratio of 1.3. The average age of the subjects surveyed was 21 years  $\pm$  2.5, with extremes ranging from 16 to 31 years.

Single students numbered 228 (80%) and those living in a couple numbered 57 (20%). The majority of students (70.5%) lived with their parents/guardians, 17.5% lived on the university campus and 12% in a rental house. They were 233 (81.8%) from Bangui the capital and 52 (18.2%) from provincial towns. From an economic point of view, 132 (46.3%) were recipients of a scholarship versus 153 students (53.7%) who were not scholarship recipients (Table 1).

**Table 1.** Characteristics of the Students who Participated in the Survey.

Sociodemographic variables	Frequency (n=285)	(%)
Sex		
Male	160	56.1
Feminine	125	43.9
Marital status		
Wedded life	57	80.0
Old free	228	20.0
Residential modality		
Parents/Guardians	201	70.5
University campus	50	17.5
Rental house	34	12.0
University cycle		

Sociodemographic variables	Frequency (n=285)	(%)
1st cycle	217	76.1
2nd cycle	68	23.9
Origin		
Bangui	233	81.8
Province	52	18.2
Scholarship		
Yes	132	46.3
No	153	53.7

**Table 2.** Felt and Painful Experiences of Students.

Variables	Frequency (n=285)	(%)
School failure		
Yes	129	45.3
No	156	54.7
Stress		
Yes	173	60.7
No	112	39.3
Moral pressure		
Yes	88	30.8
No	197	69.2
Love disappointment		
Yes	28	9.8
No	157	90.2
Conflicts with parents/guardians		
Yes	31	10.9
No	254	89.1
Death of parent		
Yes	11	3.9
No	274	96.1

**Table 3.** Factors Associated with Failure of Medical Students in the Faculty of Health Sciences.

Factors associated with failure	Depression (+)	Depression (-)	OR (95% CI)	p	ORa (95% CI)	p adjusted
University cycle						
1st cycle	123	94	1	0.014	1	0.011
2nd cycle	27	41	1.99 [1.14-3.46]		2.04 [1.81-2.79]	
Sex						
Male	88	72	1	0.365		
Feminine	62	63	1.24 [0.78-1.99]			
Marital status						
Wedded life	42	15	1	0.000	1	0.091
Free life	108	120	3.1 [1.63-5.93]		1.47 [0.15-2.49]	
Parental pressure						
Yes	60	28	1	0.000	1	0.003
No	90	107	2.54 [1.50-4.32]		2.02 [1.13-4.17]	
Scholarship						
Yes	43	89	1	0.000	1	0.000
No	107	46	0.21 [0.13-0.34]		0.19 [0.15-0.28]	
Residential modality						
Parents/Guardians	103	98	1	-	1	-
University campus	23	27	1.23 [0.66-2.39]	0.506	1.47 [0.82-2.27]	0.478
Rental house	24	10	0.44 [0.20-0.96]	0.036	0.42 [0.26-0.78]	0.031
Stress						
Yes	110	63	1	0.000	1	0.000
No	40	72	3.14 [1.91-5.16]		3.47 [2.11-5.99]	
Love disappointment						
Yes	15	13	1	0.916		
No	135	122	1.04 [0.48-2.28]			
Conflicts with parents						
Yes	11	20	1	0.043	1	0.112
No	139	115	0.46 [0.21-0.99]		0.32 [0.08-1.15]	
Death of relatives						
Yes	5	6	1	0.627		
No	145	129	0.74 [0.22-2.49]			

### 3.2. Feelings and Painful Experiences of Students

Of the 285 students surveyed, 129 (45.3%) experienced at least one failure during their university course and 9% had expressed the desire to abandon medical studies. According to the organization of the training, 180 (63.1%) students felt that the courses were very dense and 173 (60.7%) said they had stress managing the time devoted to learning. Finally, about 88 students (30.8%) said they had been morally pressured by their parents/guardians to succeed.

The main painful situations experienced by students during their course were disappointment in love (9.8%), conflicts with parents/guardians (10.9%) and the death of one or more parents (3.9 %).

### 3.3. Prevalence of Depressive Disorders

Of the 285 students questioned, 150 (52.6%) presented with a depressive syndrome whatever the form. According to Beck's classification, of the 150 students, 123 (82%) had mild depression, 25 (16.7%) had moderate depression, and 2 (1.3%) had severe depression. The main subjective depressive symptoms were fatigue (63.5%), need for extra physical effort to work (61.4%), sadness (52.6%), lack of appetite (43.5%), indecision/hesitation (20.7%) and suicidal thoughts (7.4%). The main factors associated with depressive syndromes were housing problems, lack of a scholarship, pressure from parents/guardians and stress related to time management and university level (Table 3).

## 4. Discussion

The present study was carried out to determine the proportion of students who presented a depressive syndrome and to analyze the associated factors. In this study, 52.6% of the students presented a depressive syndrome, ranging from the mild form (82%) to the severe form (1.3%) passing through the moderate form (16.7%) according to the Beck Depression Inventory (BDI). The results of several studies have shown that the BDI has a high diagnostic accuracy and suggest that it can be used for the detection of major depression in primary care [2]. This high rate of depressive syndrome in our cohort corroborates the results of several studies with some variations [7-11], probably due to the tools used to screen for depression or the socio-cultural and economic context of each country. In our study, the mild form of depression was the most dominant. This result is similar to those of several authors [4-10]. Severe forms of depression generally occur in people prone to mood disorders or chronically stressed [3].

The main factors associated with depressive syndromes were housing problems, lack of a scholarship, pressure from parents/guardians and stress related to time management and undergraduate studies. Social problems (economic, housing etc.) are a frequent cause of depression both among students and in the general population. These two factors have been highlighted by several studies [4, 6, 8, 11]. The Faculty of Health Sciences of the University of Bangui is the only

institution that trains doctors in the Central African Republic. It also receives high school graduates from Bangui, the capital, and those from schools in the provinces with varying socio-economic levels. Some students from the provinces experience housing difficulties. Moreover,

Pressure from parents or difficulty adapting most often leads to stress. As long as an episode of stress remains short-lived, it can be considered positive and stimulating. But when it becomes chronic, there is an increase in the level of stress hormones in the brain, which can promote depression [12].

Difficulties adapting to university are much more common among students newly admitted to the faculty. In our cohort, undergraduate students presented significantly depressive syndromes compared to those of the 2nd cycle. This observation was made by Othieno in Kenya [8] and Berrewarts in Belgium [9]. However, it differs from that of Wahed in Egypt where students in the advanced classes were more affected than those in the 1st cycle [11].

In the literature, several studies have established a link between female gender and the occurrence of depressive syndromes [7, 8, 10, 13]. Our study did not find a significant link between gender and depression. This result corroborates that of Karagou in India [14] among medical students and Rancans in Latvia [15] in the general population.

Marital status, origin, conflicts in love or with parents are not associated with depression in our cohort.

## 5. Conclusion

The present study highlighted a high prevalence of depressive syndrome among FACSS students. The identification of the associated factors through a broader study bringing together clinicians, anthropologists and specialists in teaching sciences will allow the authorities of the faculty to set up a program for monitoring and supporting students and particularly those who are newly enrolled. Students are also encouraged to set up self-support groups to support their colleagues who are having difficulty adapting.

## Conflict of Interest

The authors declare that they have no competing interests.

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