

Assessment of the risk of eating disorders among medical students in Antananarivo, Madagascar

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Abstract

Introduction: Eating Disorder (ED) is a serious pathology that frequently affects young adolescents, young adults and medical students.

Method: This is a descriptive, cross-sectional, single-center study which was carried out over 6 months among students and interns in human medicine using an anonymous self-questionnaire Eating Attitude Test (EAT) in March 2021.

Results: During the study period, 31 cases were identified among the 225 students who were selected. The average age of the participants was 22.14 years and the sex ratio was 0.77. The risk of ED was around 13.78%. These EDs are significantly more common among female students, who live alone, and those who do not have children in their care.

Conclusion: The risk of ED is high among human medicine students at the Faculty of Medicine of Antananarivo.

Keywords: Anorexia; Antananarivo; Bulimia; Eating Disorders; Medical Students

1. Introduction

Eating disorder refers to all the complex attitudes, behaviors and strategies associated with a permanent preoccupation with weight and body aesthetics [1]. It causes significant morbidity and excess mortality, associated with significant suffering and social disability [2].

In a recent study, a significant prevalence of eating disorders among academics student of around 11% was found among medical students in Sfax in Tunisia [3].

In the United States, according to the study by Swanson et al in 2011 cited in the literature review by Smik et al in 2012 using a modified version of the Composite International Diagnostic Interview (CIDI), the lifetime prevalence in a population aged 13 to 18 is 0.3% for anorexia nervosa; 0.9% for bulimia nervosa and 1.6% for hyperphagia [4].

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In South Africa, according to the study by Gitau et al among adolescents aged 13 to 17, the risk of eating disorder (ED) is 11% at 13 years and 13.1% at 17 years [5].

In Madagascar, few data exist to describe and understand the epidemiology of eating disorders, particularly among university populations. Thus, this study is carried out to better have scientific data and information on this medico-psychological disorder. The main objectives of this study are to determine the prevalence of eating disorder risk among medical students and to describe the socio-demographic characteristics of this population. The specific objective is to describe the distribution of eating disorder risk according to sociodemographic parameters.

2. Methods

It is an observational, descriptive, transversal and monocentric study which took place between January 2, 2021 and June 30, 2021. Data collection was carried out during the collection days of student scholarships and salaries of medical interns from the Faculty of Medicine of the University of Antananarivo, capital of Madagascar and cosmopolitan city.

Consenting medical students and interns are included in this study, regardless of age and gender. Those who provided incomplete and ambiguous information are excluded from this study.

The variables studied are socio-demographic variables (gender, age, marital status, mode of cohabitation, presence or not of a child in care, level of study); as well as the clinical assessment of the risk of an eating disorder: the presence of the risk of an eating disorder was screened by the "Eating attitudes Test" score (EAT-26) in its French version. This is a questionnaire that includes 26 items to assess the symptomatology and concerns characteristic of EDs, developed in 1982 by Garner and then validated in French [10, 11]. Each participant responded to the 26 items using a 6-point Likert-type scale ranging from 1 (always) to 6 (never), a total score obtained greater than or equal to 20 indicates the presence of the risk of an eating disorder [10,11].

- Simple random sampling was used in this study.
- According to the WHO it is a sampling process in which each sampling unit has the same probability of appearing in the sample and/or all samples of the same size have identical chances of being chosen [17].
- The data was collected using a form while respecting the anonymity of the participants. The questionnaires were not translated into Malagasy because the students are able to understand the French language.
- The data were processed using Microsoft® Excel software. Data analysis was carried out using the Statistical Analysis System software from SAS Software® in its University version, ninth version.
- The Chi2 and Fisher statistical tests were used to evaluate a correlation between two variables with a significance threshold set for an added value (p) less than 0.05.
- This study was carried out after receiving authorization from the Dean of the Faculty of Medicine of Antananarivo while respecting confidentiality and human rights.

3. Results

In total, 225 participants were included in this study. This is a predominantly female study population with a sex ratio of 0.77. The ages of the participants range from 17 to 34 years old with an average age of 22.14 years old. In this study 211 (93.33%) were single subjects; 126 (56%) participants live with their parent; 212 (94.22%) of the population do not have dependent children and 104 (46.22%) of the participants have completed undergraduate studies.

Table 1 Socio-demographic characteristics of the study population

Parameters	Value (n)	Percentage (%)
Gender		
Male	98	43.56
Female	127	56.44
Age (in year)		
<20	28	12.44
[20-25]	164	78.89

≥25	33	14.67
Marital status		
Single	211	93.33
In union	14	6.22
Living arrangements		
Lives alone	85	37.78
Lives with parents	126	56
Lives with family outside the parents	10	4.44
Lives with spouse	4	1.78
Study level		
First cycle	104	46.22
Second cycle	53	23.56
Third cycle	68	30.22
Presence of dependent children		
Yes	13	5.78
No	212	94.22

Among 225 students included in this study, 31 students (13.78%) presented the risk of eating disorder.

In this study: 77.42% of subjects at risk of eating disorders are female (n = 24). This female predominance is statistically significant.

Compared to the age group, the risk of eating disorders is relatively common among students in the 20 to 25 age group, but not statistically significant (Table II).

The risk of an eating disorder was observed in: 12.79% of single people (n = 27) and 28.57% of subjects in a union (n = 4).

Eating disorders are statistically significantly more common among students who live alone. This disorder was found in: 23.53% of participants who live alone; 40% of subjects who live with their family apart from parents and 5.56% of students who live with parents. The risk of eating disorders was not found in subjects who live with their spouses.

In relation to the presence or absence of a child in their care, the eating disorder was observed in: 12.90% (n=4) of subjects at risk who have one or more children in their care; and 87.10% (n=27) of subjects at risk who do not have children.

Regarding the level of study, among those at risk of an eating disorder: 16.13% (n=5) are graduate students; 45.16% (n=14) are undergraduate students, and 38.71% (n=12) are from postgraduate studies. The distribution of the prevalence of ED risk is homogeneous with respect to the level of study.

Table 2 Distribution of eating disorder risk according to sociodemographic variables

	Population at risk of eating disorders		(p)
	YES	NO	
Gender			
Female	24	103	0.0112
Male	7	91	
Age range			
< 20 ans	3	25	0.4007
[20-25[21	143	
≥ 25 ans	7	26	
Marital status			
Single	27	184	0.109
In union	4	10	
Living arrangements			
Lives alone	20	65	0.0001
Lives with parents	7	119	
Lives with family outside parents	4	6	
Lives with spouse	0	4	
Dependent children			
No child	27	185	0.0826
With children	4	9	
Study level			
First cycle	14	104	0.4258
Second cycle	5	48	
Third cycle	12	56	

4. Discussion

This study is a first Malagasy study on the risk of eating disorders in a university population. It was carried out in a cosmopolitan city, capital of Madagascar, with an internationally valid measurement scale. But it is a single-center study, and the result only reflects part of the epidemiology of the risk of ED in a university environment in Madagascar.

In this study a prevalence of 13.78% of the risk of eating disorders was found. Higher prevalences have been found in other studies:

- 32.8% in a study carried out among medical students in Morocco, according to the SCOFF-F scale [8].
- 22.6% in a study carried out among school adolescents in the city of Fez, according to the AET-26 scale [11].
- -22.9% in a study carried out among high school students in the city of Antananarivo, according to the AET-26 scale [12].

On the other hand, lower prevalence data were found in certain studies:

- -11% in a study carried out among medical students in Sfax in Tunisia, according to the EAT-40 scale [3].

These results show that the prevalence of eating disorder risk differs from one study population to another and from one methodology to another. And in Madagascar, the figures remain alarming.

This study reveals that female students living alone are especially at risk of developing an eating disorder, in a statistically significant manner. This result is consistent with literature data which reports that young women are much more affected by eating disorders [18]. Moreover, other studies have reported a similar finding:

- A Tunisian study found a prevalence of ED of 28.9% in female subjects compared to 9% in male subjects [19].
- a study which was carried out among 1744 students from Haute-Normandie in 2007, showed much higher prevalence of thinness among women. [20].
- In Canada, approximately 2.5% of women and 0.5% of men suffer from an eating disorder (ED), including anorexia nervosa, bulimia nervosa, and binge eating disorder [21].
- A Preti et al study in 2009 on the prevalence of ED in the general population in six European countries (Belgium, France, Germany, Italy, Netherlands and Spain) showed that ED are three to eight times higher in women [22]. The general population prevalence of anorexia nervosa is 0.5 to 3.7% in women and 0.2 to 0.3% in men and episodes of uncontrolled hyperphagia can affect up to 28% women and 20% men [22].
- Likewise a study by the Office of Public Health in Switzerland which was carried out in 2010 in a population aged 15 to 60, the results show that 35% of the Swiss population suffers or has suffered of one or more forms of eating disorder in their lives and this study also shows that women are much more affected [23]. This female predominance could be explained by the fact that women seek to improve their physical appearance where body image plays an important role in their lives, causing an increase in anorexia nervosa [24, 25]. . Furthermore, being fat is the cause of teasing at school [23].

Eating disorder is statistically significantly more common among students who live alone and who live with family apart from parents. Many theories postulate that anorexia nervosa could find its origin in relational dysfunctions with loved ones, thus, there are families described as overprotective, rigid and avoiding any conflict. Eating deviance would then be a way for young people to avoid this family constriction and a possible difficulty in identifying or expressing their emotions [26, 27]. A significant part of the role of the family is then attributable to the onset of this disorder and its chronicization, particularly anorexia nervosa [28,29]. But multiple factors are at the origin of the development of the eating disorder which are biological, psychological, social, cultural, behavioral, environmental [30 – 34]. In some parts of the world, people do not eat enough to get the calories [35].

5. Conclusion

This is the first Malagasy study on the risk of ED in a university population. We now have relevant epidemiological data on this medico-psychological disorder in a student population. They will thus serve as a data base for subsequent studies on ED. A significant frequency of ED risk among future doctors has thus been observed, particularly among young girls and single people. Some people at risk have children in their care. Multisectoral treatment measures must be applied to better control this disorder. Children of subjects at risk of ED deserve specific care. But this study is single-center and was only carried out among future doctors. Other studies on other sites and other academic disciplines are then desirable to complete the data.

Compliance with ethical standards

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Disclosure of conflict of interest

The authors declare no conflict of interest.

Statement of ethical approval

The present research work does not contain any studies performed on animals/humans subjects by any of the authors. Permission to conduct the study was obtained from Faculty of Medicine in Antananarivo, Madagascar.

Statement of informed consent

Informed consent was obtained from the patient included in the study. The patient information was been kept confidential during and after study period

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