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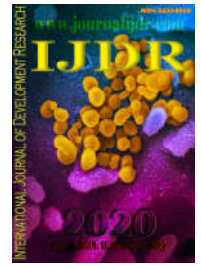
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RESEARCH ARTICLE

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LES DÉTERMINANTS DE LA DÉPRESSION CHEZ LES INTERNES 7^{ème} et 8^{ème} ANNÉE DE LA FACULTÉ DE MÉDECINE D'ANTANANARIVO

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ABSTRACT

Background: Depression, a public health problem, affects all ages even the student population. The aim of the study was to determine the prevalence of depression among medical interns in order to identify the determinants of this disorder. **Methods:** A cross-sectional and analytical study was carried out among 176 medical interns at the Faculty of Antananarivo from December 2017 to June 2018. **Results:** The prevalence of depression among medical interns was 14.77%. The presence of anxiety was a risk factor for the onset of depression with adjusted OR: 16.5 (95% CI: 3.2-302.98), and group membership protected residents from this disorder, adjusted OR: 0.35 (95% CI: 0.12-0.90). Other parameters such as gender, age, marital status, drug intake were not retained as determining factors for depression. **Conclusion:** The prevalence of depression among medical interns in Antananarivo is high, a psychological evaluation would be necessary to improve their health.

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INTRODUCTION

Depression is a common illness worldwide, according to the World Health Organization, it affects more than 300 million peoples and may cause great suffering, altering the work, school and family life of the concerned person (OMS, 2017). Depression is a disease that affects all ages, included medical students in training. The prevalence of depression in this population varies from country to country and from study to study (Jadoon, 2010; Joules, 2014; Ying Mao, 2019). While it represents one of the most common mental health problems among medical students worldwide due to the high intensity of training (Moir, 2018), in Madagascar, few studies have been done to assess the prevalence of this psychopathological disorder, and among medical intern student this is a first study. Thus, the aims of this study were to determine the prevalence of depression and to identify the determinants of this disorder in medical intern student in the Faculty of Medicine in Antananarivo.

MATERIALS AND METHODS

Analytical and cross-sectional study was performed from December 2017 to June 2018 at the University Hospital Center Joseph Raseta Befelatanana in Antananarivo. Four hundred and ten medical students in grades 7 and 8 were enrolled in the Antananarivo Faculty of Medicine during the 2017-2018 academic year.

The sample size was obtained using the formula: $n = Z^2 \times p \times (1-p) / e^2$

Where, n: sample size

p: prevalence of depression among students at 27.2% (6)

Z: the standard normal deviate, corresponding to a significance criterion of 0.05 (95), = 1.960

e: amount of error we will tolerate = +/- 5%

In order to adjust the n value according to the general population, the formula $n_2 = (N \times n) / (N + n)$ was used with n_2 :

the adjusted number of the sample size and N: the size of the studied population which was 410. The n2 value was 175. Thus, 210 individuals were needed for the study taking into account the potential refusal of 20%. So, the selected interns were asked to complete a questionnaire containing demographic characteristics, lifestyle, psychiatric personal history, suicidal ideation, relationship quality, toxic intake and addiction which was assessed by using the Alcohol Use Disorders Identification Test (AUDIT) scale for alcohol and Cannabis Abuse Screening Test (CAST) for cannabis, and the Hospital Anxiety and Depression Scale (HADS) has been used for screening of anxiety and depressive symptoms. The study included interns who are registered in the Faculty of Medicine of Antananarivo during the study period and who properly completed the distributed questionnaire. Statistical analysis was done by using R software version 3.5.1. In univariate analysis, the significance threshold for the p value is set at 0.05; and in multivariate analysis, the confidence interval is set at 95% for the calculation of the Odds Ratio.

RESULTS

A total of 210 questionnaires were handed out and 176 returned with a response rate about 83.80%. The sex ratio H/F was 0.83. The age ranged from 21 to 30 years old with a mean age of $25.38 \pm 1,48$ years. Thirty-three interns (18.75%) were legally married, and 79 (44.8%) lived together. Nearly 14% of the study population had at least one child in care. Regarding of the career choice, 157 interns (or 89.20%) said that they had voluntarily chosen to enroll in the Faculty of Medicine. According to the result of the HAD scale, in 42.62% of interns, anxiety symptoms was confirmed and 14.77% had a depressive symptomatology (Table 1). Among interns with a depressive symptomatology, the female gender was predominant, and interns who did not yet have children were the most numerous (Table 2). A weight variation was observed in 18 depressed interns. Almost all interns with depressive symptomatology did not consume cigarettes, but in the case of alcohol, ten interns had already developed risky drinking (risk

Table 1. Anxio-depressive symptomatology presented by interns according to HADs

HAD scale	Symptomatology		
	Absent n (%)	Suspect n (%)	Certain n (%)
Anxiety	48 (27,27%)	53 (30,11%)	75 (42,62%)
Depression	98 (55,68%)	52 (29,55%)	26 (14,77%)

Table 2. Sociodemographic parameters and Depression

Studied parameters	Symptomatology of depression		p-value
	No N=150 (%)	Yes N=26 (%)	
Gender :			
• Male	71 (40,34)	9 (5,11)	0,322
• Female	79 (44,89)	17 (9,66)	
Marital status:			
• Married	28 (15,91)	5 (2,84)	0,96
• Cohabiting	68 (38,64)	11 (6,25)	
• Single	54 (30,68)	10 (5,68)	
Number of child :			
• None	129 (73,30)	22 (12,50)	0,77
• One or two	21 (11,93)	4 (2,27)	
Living alone			
• Yes	37 (21,02)	3 (1,70)	0,205
• No	113 (64,20)	23 (13,07)	

Table 3. Lifestyle and Depression in Interns

Variables studied	Symptomatology of depression		p-value
	No N= 150 (%)	Yes N= 26 (%)	
Weight variation:			0,69
• Loss of ≥ 2 kg	55 (31,25)	12 (6,82)	
• Gain of ≥ 2 kg	31 (17,61)	6 (3,41)	
• Stable	37 (21,02)	4 (2,27)	
• Non observed	27 (15,34)	4 (2,27)	
Smoking status :			1
• Nonsmoker	139 (78,98)	24 (13,64)	
• Smoker	11 (6,25)	2 (1,14)	
Alcohol			0,0097
• Don't drink	71 (40,34)	14 (7,95)	
• Drinking without misuse	47 (26,70)	2 (1,14)	
• Risk of abuse	11 (6,25)	6 (3,41)	
• Misuse	13 (7,39)	4 (2,27)	
• Dependence	8 (4,55)	0	
Cannabis :			0,68
• Cannabis smoking	144 (81,82)	25 (14,20)	
• Without risky consumption	3 (1,70)	1 (0,57)	
• Risky consumption	3 (1,70)	0	
Anxiolytics :			0,26
• No	138 (78,41)	22 (12,50)	
• Yes	12 (6,82)	4 (2,27)	
Hypnotics :			0,04
• No	144 (81,82)	22 (12,50)	
• Yes	6 (3,41)	4 (2,27)	

Table 4. Relationship Quality, Mental Health and Depression

Parameters studied	Symptomatology of depression		p-value
	No N=150 (%)	Yes N=26 (%)	
Relationship with the team's service:			
• No	30 (17,05)	7 (3,98)	0,59
• Yes	120 (68,18)	19 (10,80)	
Friends and family support			
• No	16 (9,09)	3 (1,70)	1
• Yes	134 (76,14)	23 (13,07)	
Away from loved ones			
• Too far	34 (19,32)	17 (9,66)	9,19.10 ⁻⁵
• A little far	87 (49,43)	6 (3,41)	
• Not far away	29 (16,48)	3 (1,70)	
Membership in a group:			
• No	78 (44,32)	20 (11,36)	0,032
• Yes	72 (40,91)	6 (3,41)	
Having friends :			
• No	2 (1,14)	0	1
• Yes	148 (84,09)	26 (14,77)	
Hobbies frequency:			
• ≥ 1 per week	34 (19,32)	2 (1,14)	0,045
• 4 per month	26 (14,77)	1 (0,57)	
• 1 per month	39 (22,16)	10 (5,68)	
• < 1 per month	51 (28,98)	13 (7,39)	
Personal antecedent of depression :			
• No	47 (26,70)	2 (1,14)	0,025
• Yes	103 (58,52)	24 (13,64)	
Antecedent of suicidal ideation:			
• No	130 (73,86)	18 (10,23)	0,039
• Yes	20 (11,36)	8 (4,55)	
Antecedent of suicidal attempt:			
• No	145 (82,39)	25 (14,20)	1
• Yes	5 (2,84)	1 (0,57)	
Anxiety :			
• Non anxiety	47 (26,70)	1 (0,57)	0,004
• Suspected anxiety	48 (27,27)	5 (2,84)	
• Certain anxiety	55 (31,25)	20 (11,36)	

Table 5. Determinants of Depressive Symptomatology

Variables	OR Brut	IC à 95%	OR ajusté	IC à 95%
Membership in a group:				
• No	Reference	-	Reference	-
• Yes	0,33	0,11-0,8	0,35	0,12-0,90
Symptomatology of anxiety :				
• Without anxiety	Reference	-	Reference	-
• Suspected anxiety	4,9	0,75-95,7	5,04	0,77-98,90
• Certain anxiety	17,1	3,36-312,5	16,5	3,2-302,98

of abuse and misuse). Twenty-two of the depressed interns had taken neither anxiolytic nor hypnotic (Table 3). Table 4 summarizes the quality of the relationship maintained within interns and the service team, and also with their neighbors. Membership in a group, having friends, and the frequency of the hobbies allocated by interns are also included in this table. The majority of interns who suffered from depression had a previous depressive episode (n=24) and among the 26 depressed interns, an intern had already attempt to suicide. Anxiety was present in 20 depressed interns. Group membership and anxiety symptomatology were studied in multivariate analysis (Table 5).

DISCUSSION

Our findings demonstrate a prevalence of depression at 14.77%, but this prevalence varies from study to study because a meta-analytic survey conducted by JAMA in 2016 showed a prevalence of 27.20% (Rotenstein, 2006) and two others in Germany found prevalence at 1.4% and 2.5% (Prinz, 2012; Volmer, 2012), respectively.

Nevertheless, a national survey conducted at 4 high schools in Antananarivo during the school year 2017-2018 found that one in four high school students suffered from mild to severe depression (Raobelle, 2019). The sample size, the study year level of the students included in these studies could explain this difference. In addition, this study shows that the existence of anxiety symptomatology and group membership were the determinants of depression in medical interns. In fact, the presence of suspected anxiety symptomatology increased the risk of developing depression by 5.4 times and certain anxiety increased the risk of developing certain depression by 16.5 times. Moreover, the literature affirms this association (Ibrahim, 2013; Watson, 1988; Pelisso, 2011). Anxiety is known as a risk factor for depressive disorder, so it would make sense to take appropriate measures to prevent it. These preventions will focus not only on stress management and coping strategy, but also improving the quality of life and working conditions of interns, good communication between teams, valuing their function, in order to reduce the risk of burnout and depression. On the other hand, group membership was a protective factor in the onset of depression (OR: 0.35; IC

95%: 0.12-0.90). Social engagement and being a member of a group not only reduce the risk of depression in a healthy individual, but also reduce the risk of relapse in an individual who has had a history of depressive episodes (Cruwys, 2013). Even though there was no significant correlation between gender and depression, it was found that women were much more affected than men, as reported in the literature (15, 16). Just as neither marital status, nor having children, nor living alone were not factors conducive to the onset or not of depression in this study, because we did not find a significant link between these different parameters and the occurrence of depression. This study also showed that the majority of interns with depression did not use a toxic substance such as tobacco, alcohol, cannabis, anxiolytic or hypnotic. This would protect our interns from developing the appearance of other disorders such as addiction (Arango-Lievano, 2015). Finally, the existence of a history of depression, and a history of suicidal ideation was significantly correlated to the onset of depression. It is therefore important to pay attention to this history in order to prevent the onset of depression and a psychological assessment would be required during medical visits for medical students.

Conclusion

Depression among medical students in Madagascar is still under-diagnosed, under-evaluated and therefore untreated, whereas this study revealed a high prevalence. That is why it is important to integrate the mental health assessment of each student during the annual medical visits.

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REFERENCES

- Arango-Lievano M, Kaplitt MG. 2015. Comorbidité entre la dépression et l'addiction: Vers une cible moléculaire commune? *Medecine/Sciences*. 31 :546-50.
- Brenneisen Mayer F, Souza Santos I, Silveira PSP, Itaquí Lopes MH, Souza ARND, Campos EP, et al. 2016. Factors associated to depression and anxiety in medical students : a multicenter study. *BMC Med Educ*. 16:282.
- Cruwys T, Dingle GA, Haslam C, Haslam SA, Jetten J, Morton TA. 2013. Social group memberships protect against future depression, alleviate depression symptoms and prevent depression relapse. *Soc Sci Med.*, 98:179-86.
- Ibrahim N, Al-Kharboush D, El-Khatib L, Al-Habib A, Asali D. 2013. Prevalence and predictors of anxiety and depression among female medical students in King Abdulaziz University, Jeddah, Saudi Arabia. *Iran J Public Health*. 42:726-36.
- Jadoon NA, Yaqoob R, Raza A, Shehzad MA, Choudhry ZS. 2010. Anxiety and depression among medical students: A cross-sectional study. *J Pak Med Assoc.*, 60: 699-702.
- Joules N, Williams DM, Thompson AW. 2014. Depression in Resident Physicians: A Systematic Review. *Open Journal Depression.*, 03:89-100
- Moir F, Yelder J, Sanson J, Chen Y. 2018. Depression in medical students: current insights. *Adv Med Educ Pract.*, 9: 323-33.
- OMS. Journée mondiale de la Santé 2017 : dépression : parlons-en. Genève : Organisation Mondiale de la Santé ; 2014
- Pelisso A. 2011. Balance émotionnelle dans les troubles anxieux et dépressifs. *Ann Med Psychol.*, 169 :124-7.
- Prinz P, Hertrich K, Hirschferder U, De Zwaan M. Burnout, depression and depersonalisation : psychological factors and coping strategies in dental and medical students. *GMS Z Med Ausbild*. 2012; 29:1-14.
- Raobelle E, Rasolofotsialonina N, Ratobimanankasina H, Raharivelo A, Rajaonarison B. 2019. Determinants of depression among high school student in Antananarivo. *International Journal of Current Research*. 11, (02), 1661-4.
- Rotenstein LS, Ramos MA, Torre M, Bradley SJ, Peluso MJ, Guille C, et al. 2006. Prevalence of depression, depressive symptoms, and suicidal ideation among medical students a systematic review and meta-analysis. *J Am Med Assoc.*, 316: 2214-36
- Volmer E, Kötter T, Spahn C. 2012. Perceived medical school stress and the development of behavior and experience patterns in German medical students. *Med Teach.*, 34:840-7.
- Watson D, Clark LA, Carey G. 1988. Positive and Negative affectivity and their relation to anxiety and depressive disorders. *J Abnorm Psychol*. 97:346-53.
- Ying Mao, Ning Zhang, Jinlin Liu, Bin Zhu, Rongxin He, Xue Wang. 2019. A systematic review of depression and anxiety in medical students in China. *BMC Med Educ*. 19: 327. doi: 10.1186/s12909-019-1744-2
- Yousaf M, Daud S, Shafique MM. 2016. Gender difference in depression and suicidal ideation of medical students. *Pakistan Journal of Medical and Health Science.*, 10:1053-6.
- Zigmond AS, Snaith RP. 1983. The Hospital Anxiety and Depression Scale. *Acta Psychiatr. Scand.*, 67, 361-370
