Research Article

Factors Associated To the Onset of Mental Depression among Young Adults at the Yaounde Central Hospital

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Abstract:

Introduction: Mental depression is the most common mental health illness. The burden related to this condition is very important worldwide. Depression represents a highly prevalent public health concern in Cameroon, particularly within the city Yaounde. Young adults aged 20-40 years, searching for life stability, and consulting general medical practitioners are vulnerable. This study was to analyze factors associated to the onset of depression among young adults at the Yaounde Central Hospital (YCH).

Materials and methods: A cross-sectional, quantitative, and descriptive study was conducted among 124 participants aged 20-40 years at the YCH. Data was collected through two questionnaires between October and November 2019. Chi-square tests and logistic polytomous regression were performed using CSPRO 7.3, SPSS.25, STATA & SPAD softwares.

Results: The mean age was 33.19 ±6.19, with 54.8% women and 45.2% men. Moderate depression was the most represented (53.2%). Depression's onset was significantly associated to educational level (P=0.016), the experience of work-related sexual harassment (P=0.003), having suffered from a chronic illness (P=0.022) and social isolation (P=0.000). Individuals with a not higher than primary educational level were 3.18 (P=0.003; 95% C.I. 0.52-32.67) times more prone to develop severe rather than moderate depression, compared to their highly educated counterparts. The risk for severe depression was 10.31 (95% C.I 5.22-12.60) times greatly increased among those that reported work-related sexual harassment.

Conclusion: A focus should therefore be placed on strategies ensuring young adults' mental wellbeing within the social, academic, professional and clinical spheres.

Keywords: Factors associated, mental depression, young adults, Yaounde Central Hospital.

Résumé:

Introduction: la dépression mentale représente l'affection de santé mentale la plus commune. Le fardeau lié à cette maladie est très important dans le monde. C'est un problème de santé publique très prévalent au Cameroun, particulièrement dans la capitale yaoundé. Les jeunes adultes âgés entre 20 et 40 ans, recherchant une stabilité de vie et consultant des médecins généralistes en sont très vulnérables. Cette étude vise à analyser les facteurs associés à la survenue de la dépression chez les jeunes adultes à l'hôpital central de yaoundé (hcy).

 Matériels et méthodes: une étude transversale, quantitative et descriptive a été menée sur 124 participants âgés entre 20-40 ans recrutés dans les services de médecine générale de l'hcy. Les données ont été collectées entre octobre et novembre 2019 à l'aide de deux questionnaires. Les tests de khi-deux et la régression logistique multinomiale ont été réalisés à l'aide des logiciels cspro 7.3, spss.25, stata & spad.

Résultats: l'âge moyen des répondants était de 33.19±6.19, avec 54.8% de femmes et 45.2% d'hommes. La dépression modérée était la plus représentée (53.2%). La survenue de la dépression était significativement associée au niveau d'éducation (p=0.016), à l'expérience du harcèlement sexuel au travail (p=0 .003), au fait d'avoir des antécédents personnels de maladies chroniques ainsi qu'à l'isolement social (p=0.000). Les participants ayant un niveau

d'éducation d'au plus primaire étaient 3.18 fois (p=0.003 ; 95% c.i. 0.52-32.67) plus susceptibles de faire une dépression sévère que modérée, comparativement à leurs homologues au niveau d'éducation élevé. Le risque de dépression sévère était 10.31 fois (95% c.i 5.22- 12.60) plus élevé chez ceux ayant été sexuellement harcelés au travail.

Conclusion: Un accent devrait être porté sur des stratégies qui garantiraient le bien-être mental des jeunes adultes, dans les sphères sociale, académique, professionnelle et clinique.

Mots clés: facteurs associés, dépression mentale, jeunes adultes, hôpital central de Yaoundé.

Introduction:

Mental health illnesses remain one of the most critical public health concerns the world has been battling against. Current data from the who (2020) report that 1 in 4 people are affected by mental health conditions and over 450 million individuals suffer from such debilitating illnesses. Depression has consistently been reported as the most prevalent mental health disease with over 300 million of individuals affected at the global level (who, 2018) up to 800 000 cases of suicides have equally been associated to depression every year (who, 2018). In addition, mental depression is accompanied by considerable morbidity and mortality rates across countries.In spite of these alarming facts; evidence suggests that this condition remains neglected with regards to mental healthcare. Among the most observed behavioral differences portrayed towards the depressive are social discrimination, stigma and isolation (fritz et *al.,* 2012). Issues surrounding the provision of adequate care and help are more noticeable in Africa for instance, where less than 1% of the overall healthcare budget is allocated to mental healthcare (fritz et *al.,* 2012). With every age category being affected by depression, young adults aged 20-40 have been consistently reported to be more prone to experiencing the condition (talukder et *al.,* 2014). Their vulnerability is explained by multiple facts notably the search of overall life stability and equilibrium. Moreover, reports have highlighted that those visiting general practitioners with chronic medical illnesses are often highly depressive (onana, 2017).

This reality appears to be shared within the Cameroonian context, where the number of young adults affected by mental depression is on the rise.

This phenomenon is becoming noticeable as more depressed individuals can be seen roaming the streets of the capital city, Yaounde. In particular, within this framework, mental depression remains associated to concerns related to spirituality, superstition and witch crafting. With regards to these intriguing facts, the need to investigate factors that can explain the reality concerning the onset of depression among the young adults in Yaounde appears to be necessary. Research and investigations previously done in this sense have mostly considered specific target groups, including mentally-challenged patients recruited within mental healthcare structures like the Yaounde jamot hospital.

It is within this perspective that we have chosen to orientate our research on a study that would portray the situation in a healthcare structure without a primary focus on mental healthcare. We have therefore conducted a study with the aim of determining factors associated to the onset of depression among young adults at the Yaounde central hospital. The ultimate goal will be to make some suggestions on areas that should be more improved, to ensure a good mental health to all the youths in Cameroon.

Methodology:

We conducted a cross-sectional, quantitative and descriptive study at the Yaounde central hospital. Data was collected from October to November 2019. The target population was constituted by young adults aged 20-40 years, admitted or consulting within the general medicine unit. We recruited 124 young adults via a non-probabilistic sampling method by convenience. Two questionnaires were administered to participants. The patient health questionnaire-9 (phq-9) to assess for depression's severity as well as a quantitative questionnaire including questions on sociodemographic, socioeconomic, environmental and psychological variables. Interviews were conducted in both English and french, based on participants' preferences. The study protocol has been described with further details in the following sections.

Measures:

Depression presence and severity

A sample of respondents aged 20 to 40 years, completed the patient health questionnaire-9 (phq-9) initially developed for a quick depression assessment (kroenke et *al.,* 2001). We scored each

of its 09 dsm-iv criteria as "0" (not at all) to "3" (nearly every day) to measure the frequency at which the participant had experienced each situation during the last two weeks. The interview therefore yielded data on scores for depression severity for each participant. Minimal depression was given by the score 1-4, mild depression (5-9), moderate depression, (10-14), moderately severe depression (15-19) and severe depression (20-27). Subsequently in the analyses presented here, depression levels of severity were recoded into three modalities: weak depression (score 0-4), moderate depression (scores 5-9 & 10-14) and severe depression (scores 15-19 & 20-27).

Independent variables:

The independent variables considered in this study have allowed to study factors associated to depression. Sociodemographic, socioeconomic, environmental and psychological variables were studied. Concerning sociodemographic variables, we have included age, gender, educational level, marital status and the participant's recruitment service. Age was spread into four categories (20-24; 25-29; 30-34 & 35-40 years). Gender was measured as a dichotomous variable (male/female). Educational level was given as no education, primary, secondary and higher. Marital status was given as single, married, divorced and widowed. The participant's recruitment service either involved the day care hospital for HIV patients and the external consultations services for stroke, cancer, hypertensive and diabetic patients. With regards to socioeconomic variables, the respondent's profession was considered as dichotomous (college/university student and other statuses); accommodation status was given as lodged, tenant and owner. Environmental variables were spread into family, academic and professional environment. The family environment included the household size (less than 03 people, 03-06 people, more than 06 people), living with parents (none/one or both) and the number of children the respondent had (none, 01-02, more than 02). We included the payment of studies fees, nature of the relationships with fellow peers and the experience of academic failure in the academic environment. With regards to the professional environment, we considered variables such as being under employment (yes/no), the number of hours worked per day (maximum 8h/more than 8h), the nature of

relationships with colleagues (harmonious/conflictual) and having been a victim of sexual harassment (yes/no) all taken as dichotomous variables. Psychological variables included having been affected by a chronic condition (yes/no), having a closed relative affected by a chronic condition (yes/no), the loss of a dear one (yes/no), feeling socially isolated (yes/no) and the type of psychoactive substances consumed (alcohol, tobacco/cigarette/drugs).

Data analysis:

Logistic multinomial regression models were used to determine factors that were associated to depression's onset among the young adults. In this model, depression's onset was given by depression severity. In univariate analyses, percentages determining the sample's distribution for each variable were presented. The variable "autonomy of rent payment" was excluded from analyses due the high percentage of low response rates obtained when collecting data. Likewise, we excluded factors related to the academic environment, as this was applicable to only 21% of respondents. With regards to bivariate analyses, probabilities associated to chi-square tests results were used to indicate the statistical significance of the relationship between depression's onset and each independent variable. We considered the threshold probability for a statistically significant association at 5%. Thus all independent variables with a p-value < 0.05 were considered to have a statistically significant association with the onset of depressive episodes. To measure the strength of the association between each independent variable that was significantly associated to depression's onset, we conducted cramer's v statistics (cramer's v value ranging from 0 to 1; $v < 0.10$ = null intensity, $0.10 \leq v \leq 0.20$ = weak intensity; $0.20 \leq v \leq 0.30$ = average intensity; $v \geq 0.30$ = strong intensity). We equally tested for the presence of interdependence relationships among all independent variables, using the factorial analysis of multiple correspondences to highlight individuals with a lower or greater susceptibility for mental depression.

To examine the association between depression's onset and each category of factors (sociodemographic, socioeconomic, environmental & psychological), we conducted a series of polytomous logistic regression analyses. As defined above, depression's severity level was

entered as the dependent variable for depression's onset while each component of the sociodemographic, socioeconomic, environmental and psychological factors was entered as the independent variable. Moderate depression was considered as the reference modality for the dependent variable (depression's onset) as respondents with moderate depression were the most represented.

We excluded from the multivariate analysis, the psychological variable "loss of a dear one", given its low representativity within the sample. We equally recoded the variables age, educational level, marital status, residing with one or both parents & the nature of relationships with relatives. Due to the correlation between the variables "respondent's profession" and "having a relative affected by a chronic illness", they were equally excluded from the polytomous regression model.

All analyses were conducted using the statistical softwares cspro 7.3, spss.25, stata and spad.

Results:

Modalities on depression severity

Figure i show that cases of moderate depression were the most recorded (about 53.2%) within the studied sample of young adults. This being said, the proportion of young adults presenting with weak and severe depression were non-negligible, respectively 24.2% and 22.6%.

Figure i: Degree of severity of depression among young adults
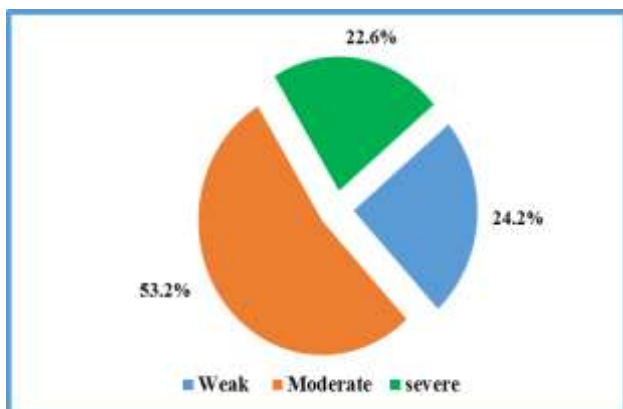
Sociodemographic characteristics of participants

Of the 124 young adults included in our sample, 54.8% were females and 45.2% males. The majority (46%) was aged 35-40 years old. Most young adults had a higher educational attainment

(47.6%). About 50.8% reported being single while 25% were married. 62.1% were recruited from the external consultations unit whereas 37.9% were taken from the day care hospital for HIV care. (Table i)

Table i: Distribution of young adults according to sociodemographic characteristics

Sociodemographic characteristics of young adults	Frequencies (n=124)	Percentage (p= 100%)
Gender		
Male	56	45.2
Female	68	54.8
Age		
20 – 24	9	7.3
25 – 29	32	25.8
30 – 34	21	16.9
35 – 40	57	46.0
Nd*	5	4.0
Educational level		
No education	7	5.6
Primary	9	7.3
Secondary	49	39.5
Higher	59	47.6
Marital status		
Single	63	50.8
Free union	18	14.5
Married	31	25.0
Divorced	12	9.7
Participant's recruitment service		
Day care hospital (hiv)	47	37.9
External consultations (stroke, cancer, hypertension ; diabetology & neurosurgery)	77	62.1

Nd* not declared

Measure of the association between sociodemographic factors and depression's onset

The following table ii highlights that the educational level was the only variable with a statistically significant association with depression's onset among young adults (p=0.016). We equally noted a disparate tendency between categories within the educational level, when considering the severe modality for depression. More precisely, young adults with an educational level not higher than primary (50.0%) tended to experience the onset of a depressive episode in contrast to their other counterparts with secondary

(26.5%) and superior (11.9%) levels.

Table ii: Association between depression and sociodemographic characteristics of young adults

Sociodemographic characteristics	Mental depression's onset				P- value
	Weak/mild n (%)	**Moderate n (%)**	**Severe n (%)**	**Total n (%)**	
Gender					
Male	17 (30.4)	28 (50.0)	11 (19.6)	56 (100.0)	
Female	13 (19.1)	38 (55.9)	17 (25.0)	68 (100.0)	0.334
Total	**30 (24.2)**	**66 (53.2)**	**28 (22.6)**	**124 (100.0)**	
Age					
20 - 29	8 (19.5)	22 (53.7)	11 (26.8)	41 (100.0)	
30 et plus	21 (26.5)	40 (51.3)	17 (21.8)	78 (100.0)	0.630
Total	**29 (24.4)**	**62 (53.2)**	**28 (23.5)**	**119 (100.0)**	
Educational level					
Not higher than primary	4 (25.0)	4 (25.0)	8 (50.0)	16 (100.0)	
Secondary	11 (22.4)	25 (51.0)	13 (26.5)	49 (100.0)	**0.016****
Higher	15 (25.4)	37 (62.7)	7 (11.9)	59 (100.0)	
Total	**30 (24.2)**	**66 (53.2)**	**28 (22.6)**	**119 (100.0)**	
Marital status					
Single	13 (20,6)	37 (58,7)	13 (20,6)	63 (100,0)	0,446
Married/divorced/separated	17 (27,9)	29 (47,5)	15 (24,6)	61 (100,0)	
Total	**30 (24,2)**	**66 (53,2)**	**28 (22,6)**	**124 (100,0)**	
Recruitment service					
Day care hospital (hiv)	12 (25,5)	22 (46,8)	13 (27,7)	47 (100,0)	0,471
External consultations	18 (23,4)	44 (57,1)	15 (19,5)	77 (100,0)	
Total	**30 (24,2)**	**66 (53,2)**	**28 (22,6)**	**124 (100,0)**	

Significant at 1%; ** significant at 5%; ** significant at 10%

Measure of the association between socioeconomic factors and depression's onset: Results from table iii show that there was no statistically significant association between socioeconomic characteristics and the likeliness of falling into mental depression among young adults. The said variables (accommodation status and the profession) did not discriminate on a group's risk of experiencing weak or severe depression, rather than moderate.

Table iii: Association between depression and socioeconomic characteristics of young adults

Socioeconomic characteristics	Mental depression's onset				P- value
	Weak n (%)	**Moderate n (%)**	**Severe n (%)**	**Total n (%)**	
Status of accomodation					
Tenant	15 (23.8)	32 (50.8)	16 (25.4)	63 (100.0)	
Owner	12 (30.0)	21 (52.5)	7 (17.5)	40 (100.0)	0.649
Lodged	3 (14.3)	13 (61.9)	5 (23.8)	21 (100.0)	
Total	**30 (24.2)**	**66 (53.2)**	**28 (22.6)**	**124 (100.0)**	
Profession					
University student	2 (7.7)	17 (65.4)	7 (26.9)	26 (100.0)	
Other statuses	28 (28.6)	49 (50.0)	21 (21.4)	98 (100.0)	0.630
Total	**30 (24.2)**	**66 (53.2)**	**28 (22.6)**	**124 (100.0)**	

*** Significant at 1%; ** significant at 5%; * significant at 10%

Measure of the association between environmental factors and depression's onset:
With regards to environmental factors, we have found no statistically significant association between characteristics related to the family environment (table IV). However, concerning factors related to the professional environment, we have noted that there was a significant association between the experience of work-related sexual

harassment and the onset of mental depression (p=0.003) (table v) . More specifically, young adults that are victims of sexual harassment within professional settings tended to be more prone to fall into a severe depressive episode (32%) or moderate (64.0%) in comparison to those that have not been in a similar situation 13.3% for severe depression, 48.3% of moderate depression and 38.3% weak depression.

Table iv: Association between depression and characteristics related to the family environment

Characteristics related to the family environment	Mental depression's onset				P- value
	Weak n (%)	Moderate n (%)	Severe n (%)	Total n (%)	
Household size					
Less than 3 people	16 (27.6)	30 (51.7)	12 (20.7)	58 (100.0)	
3 to 6 people	7 (20.6)	16 (47.1)	11 (32.4)	34 (100.0)	0.473
More than 6 people	7 (21.9)	20 (62.5)	5 (15.6)	32 (100.0)	
Total	**30 (24.2)**	**66 (53.2)**	**28 (22.6)**	**124 (100.0)**	
Living with parents					
No	27 (26.5)	50 (49.0)	25 (24.5)	102 (100.0)	
One or both	3 (13.6)	16 (72.7)	3 (13.6)	22 (100.0)	0.129
Total	**30 (24.2)**	**66 (53.2)**	**28 (22.6)**	**124 (100.0)**	
Number of children the respondent has					
None	7 (18.4)	25 (65.8)	6 (15.8)	38 (100.0)	
One to two	16 (32.0)	22 (44.0)	12 (24.0)	50 (100.0)	0.258
More than 2	7 (19.4)	19 (52.8)	10 (27.8)	36 (100.0)	
Total	**30 (24.2)**	**66 (53.2)**	**28 (22.6)**	**124 (100.0)**	

*** *Significant at 1%; ** significant at 5%; * significant at 10%*

Table v: Association between depression and characteristics related to the professional environment

Characteristics related to professional environment	**Mental depression's onset**				**P- value**
	Weak n (%)	Moderate n (%)	Severe n (%)	Total n (%)	
Being under employment					
Yes	24 (28.2)	45 (52.9)	16 (18.8)	85 (100.0)	0.172
No	6 (15.4)	21 (53.8)	12 (30.8)	39 (100.0)	
Total	**30 (24.2)**	**66 (53.2)**	**28 (22.6)**	**124 (100.0)**	
Number of hours worked per day					
Maximum 8 h	14 (31.1)	24 (53.3)	7 (15.6)	45 (100.0)	
More than 8 h	9 (32.1)	14 (50.0)	5 (17.9)	28 (100.0)	0.952
Total	**23 (31.5)**	**38 (52.1)**	**12 (16.4)**	**73 (100.0)**	
Nature of relationships with colleagues					
Harmonious	19 (35.2)	29 (53.7)	6 (11.1)	54 (100.0)	0.141
Conflictual	1 (10.0)	6 (60.0)	3 (30.0)	10 (100.0)	
Total	**20 (31.3)**	**35 (54.7)**	**9 (14.1)**	**64 (100.0)**	
Having been a victim of sexual harassment					
Yes	1 (4.0)	16 (64.0)	8 (32.0)	8 (32.0)	**0.003***

| No | 23 (38.3) | 29 (48.3) | 8 (13.3) | 16 (18.8) | |
| Total | 24 (28.2) | 45 (52.9) | 16 (18.8) | 85 (100.0) | |

*** Significant at 1%; ** significant at 5%; * significant at 10%*

Measure of the association between psychological factors and depression's onset:
Results from table VI show that among the four (04) psychological variables considered in this study, three (03) were significantly associated to the onset of depression. These are having been affected by a chronic illness (p=0.022), social isolation (p=0.000) and the type of substance consumed (p=0.045). More specifically,

participants that reported having suffered from a long-lasting condition tended to be more prone to developing a moderate depression (43.9%) than severe (31.8%). Social isolation predisposes respondents to a moderate depression (51.0%) to severe (43.1%). Those who do not feel socially isolated mostly presented with a weak depression. A high consumption of tobacco exposes 29% of participants to a risk for severe depression.

Table vi: Association between depression and psychological characteristics of young adults

Psychological characteristics	Mental depression's onset				P- value
	Weak n (%)	**Moderate n (%)**	**Severe n (%)**	**Total n (%)**	
Having been affected by a serious chronic illness					
Yes	16 (24.2)	29 (43.9)	21 (31.8)	66 (100.0)	
No	14 (24.1)	37 (63.8)	7 (12.1)	58 (100.0)	**0.022****
Total	**30 (24.2)**	**66 (53.2)**	**28 (22.6)**	**124 (100.0)**	
Having a family relative affected by a chronic illness					
Yes	20 (23.3)	45 (52.3)	21 (24.4)	86 (100.0)	
No	10 (26.3)	21 (55.3)	7 (18.4)	38 (100.0%)	0.754
Total	**30 (24.2)**	**66 (53.2)**	**28 (22.6)**	**124 (100.0)**	
Social isolation					
Yes	3 (5.9)	26 (51.0)	22 (43.1)	51 (100.0)	
No	27 (37.0)	40 (54.8)	6 (8.2)	73 (100.0)	**0.000*****
Total	**30 (24.2)**	**66 (53.2)**	**28 (100.0)**	**124 (100.0)**	
Type of psychoactive substance consumed					
Alcohol	18 (32.7)	29 (52.7)	8 (14.5)	55 (100.0)	
Tobacco/cigarette/drugs	**12 (17.4)**	**37 (53.6)**	**20(29.0)**	**69 (100.0)**	**0.045****
Total	**30 (24.2)**	**66 (53.2)**	**28 (22.6)**	**124 (100.0)**	

*** Significant at 1%; ** significant at 5%; * significant at 10%*

Factors associated to the onset of depressions among young adults:
Results from the multinomial logistic regression (table vii   ) depict that among all our studied variables, five (05) were associated with the onset of depression among young adults at the ych. These were the gender, the educational level, living with parents, the nature of the relationships with fellow colleagues at work and the experience of sexual harassment at work. We note that males were 13.47 times (p=0.038; 95% c.i.1.17–15.44) more susceptible to fall into weak than moderate depression, when compared to females. Those with a not higher than primary educational level were 3.18 times (p=0.003; 95% c.i.0.52-2.67)

more likely to experience severe rather than moderate depression. Individuals that live with one or both parents were 68% (p=0.020; 95% c.i.2.80-5.09) less susceptible of getting into severe than moderate depression, contrarily to those living alone. Young adults that have conflictual relationships with colleagues were 5.80 times (p=0.027; 95% c.i.1.54-8.30) more prone to experiencing severe than moderate depression, compared to those that have good relationships. Lastly, those that have been victims of sexual harassment at work were 10.31 times (p=0.028; 95% c.i.5.22-12.60) more susceptible to get severe depression than moderate.

Table vii: Multinomial logistic regression

Characteristics (variables)	Depression's onset among young adults					
	Moderate (reference category)					
	Weak			Severe		
	Relative Risk	C.i. (95%)	P-Value	Relative Risk	C.i. (95%)	P-Value
Gender						
Male	13.47	1.17-15.44	**0.038****	0.36	1.27-1.94	0.963
Female	1			1		
Educational level						
Not higher than primary	1.14	0.15-3.27	0.951	3.18	0.52-2.67	**0.003*****
Secondary	0.15	0.44-2.92	0.210	2.99	0.32-3.09	0.990
Higher	1			1		
Living with parents						
One parent or both	2.17	0.13-2.30	0.347	0.32	2.80-5.09	**0.020****
Alone or none	1			1		
Nature of the relationships with fellow colleagues						
Bad/conflictual	0.80	0.20-2.30	0.066	5.80	1.54-8.30	**0.027****
Good/harmonious	1					
Having been a victim of sexual harassment						
Yes	0.24	0.03 – 0.27	**0.043****	10.31	5.22-12.60	**0.028****
No	1			1		

***significant at 1%; ** significant at 5%; * significant at 10%

Discussion:

Our study's main objective was to analyze factors that are associated to the onset of depression among young adults at the Yaounde central hospital. With regards to this, our results have shown that the majority of respondents had moderate depression (53.2%; n=66) meanwhile severe depression was the least represented. The data collection tool used in this study to assess depression's severity level was the phq9. Beck and colleagues (2011) also found similar results using the same tool, with those having moderate depression being the most represented whereas those with severe depression were the least represented.

We have found that 50% of young adults with a not higher than primary educational level are more susceptible to fall into a severe depressive episode, contrarily to 26.5% with secondary level and 11.9% with higher educational level (p=0.016). These results are in line with those from talukder et *al.,* (2014) who found that low educational attainment could predict depression's onset. This can be explained by the fact being

sufficiently educated opens up opportunities for knowledge and information. As such those that are highly educated can benefit from a deeper understanding of what mental illnesses such as depression entails, and thus, how one's thinking pattern can favor or prevent them. As anticipated, our results have depicted that about 32% and 64.0% (p=0.003) of young adults that have been victims of work-related sexual harassment were more at risk for severe and moderate depression respectively. In contrast only 13.3% and 48.3% of those that have not experienced work-related sexual harassment can fall into severe and moderate depression respectively. This result is similar to that from Hansen (2006), who found that sexual harassment may be a risk factor for mental depression. This can be explained by the fact that being a victim of such harassment can be traumatizing and frustrating to the individual. Plus, a person with an already negative cognitive style can refer themselves and their environment as the cause of the situation, according to beck's theory. This thinking style will further increase their risk of falling into depression. In our study,

we equally found that young adults that have reported having been affected by a chronic condition tended to be more prone to developing a moderate depression (43.9%) than severe (31.8%) (p=0.022). Our findings corroborate with those from rudisch & nemeroff (2003) who reported that about 23% of patients that had suffered from a myocardial infarction later experienced severe depressive episodes. This result can be comprehended by the fact that suffering from a chronic illness can equally be mentally debilitating; the pains felt from a chronic disease can be psychogenic and therefore alter the mental affect. In people that are already pessimistic, being chronically-ill can result into thinking the situation is uncontrollable, and therefore lead to depression. Social isolation and depression's onset were significantly associated in our study (p=0.000). 51% of young adults that reported feeling socially isolated were severely depressed whereas 43.1% were moderately depressed. This has also been highlighted by Matthews et *al.,* (2016) who found a positive correlation between social isolation and mental depression. Hammig (2019) also found that 11% of youngsters aged 15-24 had moderate or major depression. This is explained by the fact that socially isolated individuals can feel worthless and this in turn can affect their mental wellbeing, leading to a depressive state. Findings from our study show that there was a significant association between the consumption of psychoactive drugs and depression (p=0.045). Consuming psychoactive substances, in particular tobacco exposes 29% of participants to severe depression. This result corroborates with that of Fernandez et *al.,* (2016) who revealed that 10.4% of psychiatric hospitalizations were related to the abusive intake of psychoactive substances. Due to their psychoactive nature, substances such as alcohol and tobacco can produce detrimental effects on individuals with an already negative thinking style.

According to our study's results, many factors are associated to the onset of mental depression among young adults. One of these factors is the gender; specifically, males are 13.47 times (p=0.026; 95% c.i. 1.17 – 15.44) more susceptible to experience weak than moderate depression, compared to females. The available literature is consistent with the fact that women tend to be more severely depressed than men. Van de velde et *al.,* (2010) have shown that women are more subjected to various life stressors emanating from their homes, families and professional environment. Plus, they are more likely to open up about their feelings and mental state, as opposed to men in a society where they must never show any sign of emotional weakness. This could explain our results. The second factor associated to depression is the educational level, with those with a not higher than primary educational level being 3.18 times (p=0.003; 95% c.i.0.52-2.67) more at risk of getting severe than moderate depression. Mihai et *al.,* (2014) found corroborating results with a greater risk for depression among those with a poor educational attainment. In contrast, the study of njim et *al.,* (2019) in Cameroon reported that depression rates were very high among medical students. This shows that the association between depression and education is not clear-cut. We have also found that living with parents is associated to the onset of depressive episodes. Young adults living with one parent or both have a 68% (p=0.020: 95% c.i.2.80-5.09) reduced risk of experiencing severe than moderate depression. These results do not align with those from honjo et *al.,* (2018) who found that living with parents was a predictor of depressive episodes. This feature can be explained by the fact that returning home with parents can be difficult, after one has already experienced independence. Our study has also found that the type of relationships with colleagues was associated to depression's onset. Specifically, those that have conflictual relationships at work are 5.80 times (p=0.027; 95% c.i.1.54-8.30) more likely to get severe than moderate depression. Wieclaw et *al.,* (2006) found that unstable socioprofessional relationships at work could affect both males rr 1.48 ci 1.18 to 1.86) and females (rr 1.45 ci 1.27 to 1.65). Lastly, we have found that having experienced sexual harassment at work is equally linked to depression's onset. According to our results, victims of work-related sexual harassment are 10.31 times (p=0.028; 95% c.i.5.22-12.60) more prone to suffering from a depressive episode. Aduse-poku & jahanfar (2019) found similar results as the risk for depression was 0.39 times greater among victims of sexual harassment. We acknowledge certain limitations presented by this study. First, the

cross-sectional nature of this research does not allow concluding on causal inferences, regarding outcomes relationship between depression's onset and the independent variables studied. Second, our study design only considered a quantitative approach. We therefore could not look at individual perceptions on factors associated to mental depression. Third, we solely included participants aged 20-40 in our interviews. Thus, we could not visualize the burden of depressive disorders among other age categories. Future longitudinal studies looking at the qualitative aspects of these data are therefore warranted. Moreover, such studies may equally benefit from integrating a broader spectrum of age categories into their approaches.

Conclusion:

Mental depression remains a serious public health concern in Cameroon, likewise in other countries worldwide. Our study has revealed that the gender, the educational level, living with parents, having conflictual relationships with colleagues at work and having experienced work-related sexual harassment represent factors that are associated to the onset of depression among young adults at the ych. Some of the main issues noted from our findings are the considerable number of cases of depression, the late utilization of mental healthcare services and the discrimination done against the mentally-challenged individuals. As such, we have suggested to include systematic mental healthcare screening services and tools when consulting chronically-ill patients, to refer the mentally-ill to relevant facilities for the continuity of care, to capacitate healthcare personnel on mental care, to integrate support programs to reinforce mental capacities of those affected as well as to educate the community as a whole on the existence of mental depression and the necessity for precociously diagnosing it. The implementation of such measures requires the participation of key players and stakeholders at all levels of the social pyramid to ensure a better mental wellbeing for all in Cameroon, in particular the youths and young adults.

Conflicts of interests:

The authors declare that there is no conflict of interest.

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