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Depression among general outpatient department attendees in selected hospitals in Somalia: magnitude and associated factors

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Abstract

Background Depressive disorders are among the common mental health conditions in the general outpatient setting and affect patients' load and treatment outcomes. People who suffer from depression frequently consult general practitioners and prefer to attribute their symptoms to physical illness rather than mental illness. Little is known about the magnitude and associated factors of depression among patients attending general outpatient services in Somalia. The study aimed at determining the prevalence and associated factors of depression among them.

Methods This is an institution-based cross-sectional study among randomly selected 422 patients who attended general outpatient services of two hospitals in Mogadishu. We applied three standardized instruments, such as the Somali version of the Patient Health Questionnaire (PHQ-9), the Oslo Social Support Scale (OSSS-3), and the Perceived Stress Scale-10 (PSS-10). We analyzed data using the statistical software SPSS version 29. We calculated prevalence and its 95% Confidence Interval (CI) and identified associated factors by bivariate and Multivariate analysis. We considered the association significant when p value is < 0.05.

Results The prevalence of depression symptoms was found to be 55% (95% CI 50–60%). The result also showed that 55.0% were females, 50.7% were aged between 26 and 44 years, 44.3% were single, 29.9% achieved tertiary education, and 44.3% were unemployed. Multivariate analysis established that age of between 26 and 44 years (aOR = 2.86, 95%CI:1.30–6.29, p = 0.009), being separated/divorced (aOR = 2.37, 95%CI: 1.16–4.82, p = 0.018), income level of ≤$100 (aOR = 3.71, 95% CI:1.36–10.09, p = 0.010), and high stress levels (aOR = 20.06, 95%CI:7.33–54.94, p < 0.001) were independent factors that significantly associated with depressive symptoms.

Conclusion This study found high levels of depression among patients attending outpatient clinics, with age, marital status, education level, income level, family history of psychiatry disorder, and stress level being key predictors. Regular screening among patients in outpatient clinics and proper referral are crucial in ensuring that those at high risk of depression are managed effectively.

Keywords Depression, Prevalence, Outpatient clinics, Somalia, Mental Health

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Background

Depression is a major public health concern due to its detrimental impact on individual function and increased use of medical services [1]. The World Health Organization (WHO) estimated that depression alone accounts for 4.3% of the global burden of disease and is the largest single cause of disability worldwide. About 11% of all years lived with disability globally is accounted for depression [2]. Around half of patients with depression visit general hospitals because of somatic complaints [3]. People who suffer from depression frequently consult general practitioners and medical specialists and prefer to attribute their symptoms to physical illness rather than mental illness because either of unawareness or stigma [4]. Complaints like chronic fatigue, a lack of energy, a lack of motivation, and somatic pain are among the typical signs of depression that can coexist with those of other diseases. When patients report mostly physical symptoms, clinicians might not have enough time, attitude, or expertise to accurately assess the illness [5]. In clinical practice, high rates of unrecognized depression have been reported, which in turn increases unnecessary utilization of already strained general health services and worsens the prognosis of the disease and suffering of the patients [6–8].

Studies have shown that when depression is comorbid with medical conditions, it can lead to longer hospital stays, heightened physical symptoms, decreased adherence to medical treatment, and increased medical expenses [9]. This emphasizes the importance of identifying psychiatric conditions early and managing them appropriately [10].

The literature has extensively documented the impact of war on mental health, with common war-related conditions including post-traumatic stress disorder (PTSD), and depression was found to be rampant in conflict-affected populations [11–13]. A variety of studies conducted worldwide have shown that the prevalence of depression is higher in clinical settings than in community settings: 58% in Afghanistan, 40% in Kenya, and 30% in Malawi [10, 14, 15].

In Somalia, there are approximately a handful of psychiatrists serving a population of around 15 million, and mental health services are not among the government's priorities. Most people with mental disorders rely on family and community support and go to traditional and faith healers for treatments [16, 17].

There is evidence that depressive symptoms are related to sociodemographic factors such as age, gender, education, and employment and medical conditions such as diabetes, hypertension, asthma and rheumatoid arthritis [18–23]. However, there is a dearth of information in Somalia, especially on the burden of depression and its associated factors among medical outpatients. This study is meant to measure magnitude of depression to plan effective mental health services and associated factors to structure promotive and preventive strategies for depression.

Study design and study population

This hospital-based cross-sectional study was conducted between 10th August to 9th October 2023 in Kalkaal and Aden Abdulle Hospital. Both hospitals are located in Mogadishu, a tertiary referral hospitals which receive patients from all over Somalia. These hospitals provide state-of-the-art medical care and serve as crucial centers in medical training and research.

The target population was all adult patients who attended the outpatient departments of the selected hospitals. We included all those who were willing to participate in the study and excluded those who were seriously ill, unable to communicate, or had known cases of depression.

The sample

Fischer's formula was used to calculate the sample size. The assumptions that were considered.

included, z = the standard normal deviate, usually set at 1.96 at 95% level, p = proportion of.

population, where prevalence of Depression is unknown, hence assumed 50%, q = 1- p, d = the degree of accuracy level considered as 5.00%, which assumes 0.05, yielding sample size of 384, when a 10% attrition rate was also considered giving a final sample size of 422.

Sampling technique

A systematic random sampling technique was used to select the study participants for the study. The average number of patients was calculated based on previous monthly visits; around 9000 clients attend the general outpatient clinic monthly for both hospitals. The sampling fraction (K) was obtained by dividing the monthly average number of patients attending the general outpatient department by the sample size, which is 21. The first individual was selected randomly, and then every 21st individual was selected from the sampling frame following the systematic random sampling method.

Data collection tool

We collected data using a questionnaire to capture socio-demographic characteristics, Patient Health Questionnaire-9 (PHQ-9) to detect depression, Oslo Social Support Scale (OSSS-3) and Perceived Stress Scale (PSS-10) for assessing perceived social support and stress of the participants, respectively. The PHQ-9 consists of nine questions and was first validated in 1999 [24]. Several follow-up studies supported its validity in outpatient adult settings, both as an initial screening tool as well as

a follow-up instrument to monitor treatment response. The Somali version of PHQ-9 demonstrated good reliability, homogeneity, and internal consistency [25], Oslo Social Support Scale (OSSS-3) for the assessment of perceptions of the social support of the participants [26]. The PSS-10 consists of ten distinct items for the evaluation of participants' perceived stress levels [27].

Data collection process

We approached the patients at outpatient clinics' waiting areas, and participants were briefed on the study's nature. Participants were then screened using the inclusion and exclusion criteria. Those willing to participate the study were required to sign the informed consent form. Ten final-year medical students from Benadir University collected data through face-to-face interviews. The data collectors were trained on study tools and interviewing skills for two days.

Ethical approval

The study was approved by Benadir University Research and Ethical Committee (BU/PSG/02/23) and performed in accordance with the Helsinki Declaration. Participants were required to give informed written consent. We maintained the participants' anonymity and kept the collected information confidential.

Statistical analysis

We used SPSS version 29 for analysis. We tested for normality using the Shapiro-Wilk test and described continuous data with means when the distribution was normal and medians when not normal. We illustrated the categorical data in frequencies, proportions and 95% CI with the prevalence of depression was investigated using the PHQ-9 tool with scores of ≥5 considered for depression in order not to miss participants with mild depression. We carried out bivariate analysis using logistic regression to calculate crude odds ratio (cOR) and p-value for statistical significance. We included variables with $p \leq 0.2$ in our multivariate analysis to calculate the adjusted odds ratio (aOR) and determined statistically significant variables associated with depression. We set the level of statistical significance at less than 5% ($p < 0.05$) for the models.

Results

Sociodemographic characteristics

Table 1 presents the socio-demographic characteristics of the respondents. The majority of the participants were young females. A total of 232 out of 422 respondents were females (55.0%), and 214 out of 422 (50.7%) were aged between 26 and 44. In addition, 187 (44.3%) were single, 137(32.5%) were married, 19.2% (81) were divorced, and 17(4%) were widowed.

Prevalence of depression

The prevalence of probable depression among patients visiting general outpatient service were 55% (95% CI). Of those participants who screened positive for depression, 11.6% had mild depression, 37% had moderate depression, and 37% had moderate to severe depression, while 14% had severe depression (Table 2).

Demographic and clinical factors associated with depression

We found from the bivariate analysis that gender, age, marital status, education level, employment status, income, and family history of psychiatry disorder were significantly associated with depression (Table 3).

Psychosocial factors

There is a dose-response relationship between the level of stress and social support. During bivariable analysis, we found that those with moderate stress levels were seven times (95% CI:3.17–14.87, $p < 0.001$) and those who have high-stress levels were 21 times (95% CI: 8.91–50.97, $p < 0.001$), more likely to have depression compared to those with low-stress level (Table 4). This significant association was even maintained in multivariable analysis (Table 5).

Multivariate analysis of factors associated with depression

This study revealed that individuals aged 26–44 years were three times more likely to have depressive disorder compared to those aged 18–25 years (95% CI: 1.30–6.29, $p = 0.009$). Those who were separated/divorced compared to those who were single were more than two times (95%CI: 1.16–4.82, $p = 0.018$) more likely to have depression. Those with secondary level education were 22% less likely to have depression compared to those without formal education (95%CI: 2 -44%, $p = 0.001$). Those who were earning ≥$100 (95%CI:1.36–10.09, $p = 0.010$) and those between $200–300 (95%CI:1.78–12.02, $p = 0.002$) were more likely to be associated with depression when compared to those earning more than $500. Patients with a family history of psychiatric disorder were two times (95%CI:1.42–4.08, $p = 0.001$) more likely to have depression compared to those without a family history of psychiatric disorder (Table 5).

Discussion

We found that the probable prevalence of depression among patients in outpatient clinics was 55.2%, although around half (48.6%) had mild to moderate depression. This finding is comparable to a studies conducted in Nigeria 54.9%, [28], Rwanda 47% [29], France 56.7% [30]. However, the current finding is higher in studies done in Ethiopia 15.9% [6, 31], India 30% [32], Korea 13.9% [33]. The variations might be due to differences in

Table 1 Sociodemographic characteristics of the patients attending outpatient clinics

Category	Frequency (%)	95% CI (Rounded)
Gender		
Male	190 (45)	40–50%
Female	232 (55)	50–60%
Age		
18__25	131 (31)	27–36%
26__44	214 (50.7)	46–55%
>45	77 (18.2)	15–22%
Marital status		
Single	187 (44.3)	40–49%
Married	137 (32.5)	28–37%
Divorced	81 (19.2)	16–23%
Widowed	17 (4)	3–6%
Highest education level		
None	74 (17.5)	14–21%
Quranic	113 (26.8)	23–31%
Primary	46 (10.9)	8–14%
Secondary	63 (14.9)	12–19%
Tertiary	126 (29.9)	26–34%
Employment status		
Employed	142 (33.6)	29–38%
Unemployed	187 (44.3)	40–49%
Student	93 (22)	18–26%
Monthly income ($)		
≥100	212 (50.2)	45–55%
101–300	94 (22.3)	19–26%
301–500	76 (18)	15–22%
>500	40 (9.5)	7–13%
Family history of psychiatric history		
Yes	189 (44.8)	40–50%
No	233 (55.2)	50–60%

Table 2 Severity of depression

Measure	Frequency (%)	95% CI
Mild depression	27 (11.6)	8–16%
Moderate depression	87 (37.3)	31–44%
Moderate to severe depression	86 (36.9)	31–43%
Severe depression	33 (14.2)	10–19%-

study tools, sociocultural background, and study methods [34]. We found participants aged between 26 and 44 years were three times likely to have depression, which is comparable to the findings from a study in Sri Lanka, in which those aged between 35 and 49 years had six times higher risk of developing depression [35]. It is an established fact that there is an association between age and depression [36, 37]. This could be due to transitions in life, and people often experience significant life changes, such as starting a family, career challenges, relationship changes, or financial pressures [38]. These transitions can be stressful and contribute to the development of depression. Further, many in this age group may be balancing the demands of raising a family, which can be challenging and emotionally taxing. The responsibilities of

parenthood, coupled with societal expectations, can contribute further to stress and depressive symptoms [39].

The present findings revealed that there was no association between gender and depression. However, the finding is not consistent with those from previous studies which found that female patients were more likely to be significantly associated with depression [36, 40, 41]. The relationship between gender and depression may be influenced by interactions with other variables. In a multivariable analysis, the effects of gender may be mitigated or amplified by the presence of other factors, such as age, socioeconomic status, or the presence of comorbid medical conditions.

The current study also established that those who are separated/divorced were more likely to have depression

Table 3 Bivariate analysis of factors associated with depression

Characteristics	Total n(%)	Depression		cOR(95%CI)	P-value
		Yes n(%)	No n(%)		
Gender					
Male	190(45.0)	116(49.8)	74(39.2)	1.54(1.04–2.27)	0.031
Female	232(55.0)	117(50.2)	115(60.8)	Ref	
Age					
18–25	131(31.0)	39(16.7)	92(48.7)	Ref	
26–44	214(50.7)	144(61.8)	70(37.0)	4.37(2.40–7.96)	< 0.001
Above 44	77(18.2)	50(21.5)	27(14.3)	0.90(0.52–1.56)	0.707
Marital status					
Single	187(44.3)	75(32.2)	112(59.3)	Ref	
Married	137(32.5)	86(36.9)	51(27.0)	1.64(0.93–2.89)	0.086
Separated/divorced	98(23.2)	72(30.9)	26(13.8)	4.14(2.42–7.06)	< 0.001
Education level					
None	74(17.5)	50(21.5)	24(12.7)	Ref	
Quranic	113(26.8)	74(31.8)	39(20.6)	1.21(0.61–2.40)	0.581
Primary	46(10.9)	19(8.2)	27(14.3)	0.83(0.45–1.51)	0.537
Secondary	63(14.9)	32(13.7)	31(16.4)	0.41(0.23–0.75)	0.004
Tertiary	126(29.9)	58(24.9)	68(36.0)	0.45(0.27–0.76)	0.003
Employment status					
Employed	142(33.6)	104(44.6)	38(20.1)	Ref	
Unemployed	187(44.3)	94(40.3)	93(49.2)	0.22(0.13–0.38)	< 0.001
Student	93(22.0)	35(15.0)	58(30.7)	0.60(0.36–0.99)	0.047
Income level					
0–100$	212(50.2)	139(59.7)	73(38.6)	2.42(1.10–5.31)	0.028
200–300$	94(22.3)	38(16.3)	56(29.6)	2.46(1.15–5.26)	0.021
400–500$	76(18.0)	31(13.3)	45(23.8)	0.88(0.44–1.76)	0.709
500+$	40(9.5)	25(10.7)	15(7.9)	Ref	
Family history of psychiatry disorder					
Yes	189(44.8)	135(57.9)	54(28.6)	3.44(2.29–5.18)	< 0.001
No	233(55.2)	98(42.1)	135(71.4)	Ref	

Table 4 Psychosocial factors associated with depression

Characteristics	Total n(%)	Depression		cOR(95%CI)	P-value
		Yes n(%)	No n(%)		
Stress level					
Low	86(20.4)	24(10.3)	62(32.8)	Ref	
Moderate	262(62.1)	143(61.4)	119(63.0)	6.87(3.17–14.87)	< 0.001
High	74(17.5)	66(28.3)	8(4.2)	21.31(8.91–50.97)	< 0.001
Social support					
Poor social support	372(88.2)	209(89.7)	163(86.2)	1.39(0.77–2.51)	0.292
Moderate social support	50(11.8)	24(10.3)	26(13.8)	Ref	

among patients seeking primary care. The finding is consistent with that of Bulloch et al. who found that exposure to depression doubled the proportion of transitions from common-law or married to separated or divorced status [42]. This finding is consistent with another cross-sectional study in China by Pan et al. which the association between marital status and depressive symptoms was statistically significant [43]. The significant association between major depression and divorce or separation can be causal in two ways: first, those who suffer from major depression have a higher risk of experiencing marital problems, and second, people who have experienced divorce or separation have a higher risk of suffering from this condition [44]. The detrimental effects that serious depression has on marital relationships and vice versa should be brought to the attention of clinicians as well as the general population.

We found that those with secondary-level education were less likely to have depression. The finding is consistent with a study in Indonesia, which found that educational attainment has longitudinal effects on depression. Therefore, expanding the policies surrounding

Table 5 Multivariate analysis of factors associated with depression

Characteristics	aOR(95%CI)	*P*-value
Gender		
Male	1.19(0.70–2.02)	0.528
Female	Ref	
Age		
18–25	Ref	
26–44	2.86(1.30–6.29)	**0.009**
Above 44	0.77(0.40–1.50)	0.446
Marital status		
Single	Ref	
Married	1.43(0.73–2.82)	0.299
Separated/divorced	2.37(1.16–4.82)	**0.018**
Education level		
None	Ref	
Quranic	0.85(0.39–1.86)	0.678
Primary	1.35(0.71–2.93)	0.307
Secondary	0.78(0.56–0.98)	**0.001**
Tertiary	1.54(0.71–3.36)	0.272
Employment status		
Employed	Ref	
Unemployed	1.02(0.47–2.22)	0.967
Student	1.72(0.86–3.42)	0.125
Income level		
0–100$	3.71(1.36–10.09)	**0.010**
200–300$	4.62(1.78–12.02)	**0.002**
400–500$	1.56(0.67–3.67)	0.306
500+$	Ref	
Family history of psychiatry disorder		
Yes	2.40(1.42–4.08)	**0.001**
No	Ref	
Stress level		
Low	Ref	
Moderate	6.94(2.87–16.78)	**< 0.001**
High	20.06(7.33–54.94)	**< 0.001**

educational opportunities may prevent the onset of depression [45]. However, it is different from the findings by Cohen [46], which identified that low education aspirations were not associated with depression. The relationship between education attainment and depression is complex and influenced by a combination of socioeconomic, familial support, psychological, and cultural factors [47]. Understanding these nuances is essential for developing targeted interventions and support systems to address mental health disparities across different education levels.

The current study also established that lower income level was associated with an increased risk of depression among patients seeking care. These findings align with those from other studies across different settings, including greater impacts of income inequality among women and low-income populations [48–50]. Higher income levels can provide individuals with greater access to healthcare, mental health services, and resources that support

well-being. Moreover, people with higher income levels are less likely to experience job insecurity, work in high-stress environments, or have jobs with limited benefits. Work-related stressors can contribute to the development or exacerbation of depression [51].

We found that a positive family history of psychiatric disorder was significantly associated with an increased risk of depression, which is consistent with the findings of previous studies [36, 37, 52]. This association suggests a potential genetic or hereditary component in the vulnerability. In addition to genetic factors, individuals with a family history of psychiatric disorders may also share certain environmental factors that may contribute to an increased risk of depression.

Our finding that those with low and moderate social support were more likely to have depression compared to those with high social support was in line with those from a cross-sectional study in Lebanon, which found that the risk for depression was 63% lower compared to

those with low perceived social support [53]. A systematic review of studies done in Western countries revealed that sources of support varied across life periods, with the parental backing being most important among children and adolescents, whereas adults and older adults relied more on spouses, followed by family and then friends [54]. Knowing that there are people who care and are willing to listen can contribute to emotional well-being and resilience. For individuals experiencing depression, building and maintaining a supportive social network, as well as seeking professional help, can be crucial components of a comprehensive treatment plan.

Limitations of the study

The current study has some important limitations. First, we used a self-report questionnaire to assess symptoms of depression, which is not equivalent to well-structured clinical assessments. Second, this study was conducted in health facilities; hence, the findings might not adequately reflect the depression in the entire community. The cross-sectional nature of the study design does not confirm a definitive causal relationship.

Conclusion

Our findings show a high burden of depression among patients attending outpatient clinics. The prevalence has been significantly high among those aged 26–44 years, those who were separated/ divorced or widowed, low education level, family history of psychiatry disorder, and high stress levels. Thus, regular screening among outpatient attendees would be integral in identifying unresolved mental issues that could have a detrimental influence on patient well-being for immediate management. This will reduce the patient load in the outpatient department and the suffering of patients who present with physical complaints and undergo unnecessary investigation. Hence, we recommend implementing capacity-building and training programs for healthcare providers working in the medical outpatient department to recognize and manage psychiatric morbidities like depression accordingly.

Further studies with disease explanatory models and help-seeking behaviors of patients with depression in Somalia should be considered.

Supplementary Information

The online version contains supplementary material available at https://doi.org/10.1186/s12888-024-06020-7.

Supplementary Material 1

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