

The prevalence and associated factors of common mental disorders among residents of south Gondar zone, northwest Ethiopia: A community-based, cross-sectional study

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Research

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Abstract

Background: Common mental disorders such as depression, anxiety and somatic symptoms are a public health concern. It has physical health, psychological and economic consequences. These illness is an emerging issue in Ethiopia. Therefore, this study aimed to assess the prevalence of common mental disorders and associated factors among residents of south Gondar zone 2018.

Methods: In this cross-sectional study, 731 respondents were recruited for interviews using a systematic random sampling technique. The self reporting questionnaire was used to assess common mental disorders. List of Threatening Experiences, and the Oslo social support instruments were used to assess the factors. We computed bivariate and multivariable binary logistic regressions to assess factors associated with common mental disorders. Statistical significance was declared at P-value <0.05.

Result: A total of 731 participants were interviewed, with a response rate of 98.5%. The prevalence of common mental disorders was 29.7% with (95% CI: 26.4-33.1). In the multivariate logistic regression, female sex (adjusted odds ratio (AOR)= 2.47, 95% CI : 1.68, 3.62), poor social support (AOR =2.34, 95% CI:1.50, 3.64), family history of mental illness (AOR =2.15, 95% CI:1.32-3.51), current use of khat (AOR =1.69, 95% CI: 1 .07, 2.64) and tobacco (AOR=1.71, 95% CI:1.04-2.84), and rural residence (AOR=2.01, 95% CI: 1.35, 3.01) were factors significantly associated with CMDs.

Conclusion and recommendations: The prevalence of common mental disorders was found to be high. Female sex, current substance use (khat chewing (leaves) and tobacco smoking), unemployment, rural residence, family history mental illness, and poor social support were significantly associated with common mental disorder. Therefore; it is necessary to give emphasis to individuals with family history of mental illness, women, and history of mental illness.

Introduction

Mental disorder are a public health concern and globally, 29.2% of respondents were experienced common mental disorders (CMDs) in their lifetime. The 2017 WHO report showed, 4.4% and 3.6% of the global population was suffering from depressive disorder and anxiety disorders respectively. Different studies showed that the global prevalence of common mental disorders varied across the world. For example, 3.6% in the western Pacific region to 5.4% in the African region for depression and 2.9% in the western Pacific region to 5.8% in the region of the America for anxiety (1). Another study in Africa showed higher prevalence of common mental disorder among community from 10.3% in Kenya (2) to 27% in South Africa (3). Mental and substance use disorders were the leading cause of YLDs worldwide (4). About 32.4% of years lived with disability (YLDs) and 13.0% of disability adjusted life years (DALYs) were accounted by mental illness (5, 6). The burden of mental disorders is high in low and middle income countries because of low mental health attention. Mental disorders account 11.1% of the total burden of disease in low and middle income countries (7). Low monthly income, poor living condition, presence of chronic diseases (8), and female sex, smokers, low in education, , unemployment, widowed and separated

were moderating and risk factors to have common mental disorders(9, 10).In sub-Saharan Africa, mental and substance use disorders estimated to increase by 130% and approximately 20 million YLDs to 45 million YLDs could be experienced by 2050. This estimation significantly affected health and productivity in sub-Saharan Africa(11). Though common mental disorder is high similar to other developing countries, the health service to those who are suffering from mental health problem at the primary health care setting is too low. Most people in Ethiopia use traditional methods for treating mental illness and seek help from their families (local communities) for their problem. Therefore, assessing the prevalence of common mental disorders and associated factors among community participants in this study is important for early intervention and the reduction of the burden of CMDs and to improve the victims' quality of life.

Objective

This study aimed to assess the prevalence of common mental disorders and associated factors among residents of south Gondar zone,Ethiopia.

Methods And Materials

A community based, cross-sectional study was conducted at south Gondar zone betweenMay and June 2018.

Sampling

We used the multistage sampling technique to select 731 participants. From 15 districts we randomly select 3 districts. After selecting the districts, we further select kebel(wards).To reach householdsof each kebele, the simple random sampling was employed.In each of the areas, household lists were obtained from the kebeles/wards/ offices and health extension workers.We proportionally allocated the sample size toeach district and further to each kebel(wards).Members of the selected households were further sorted for interviews. In case of more than one eligible participant in a household, the lottery method was used to choose one.The study included participants aged 18 years and above during data collection in the area.Individuals seriously ill and unable to communicate were excluded.

We determined the sample size by using the single population proportion formula with the assumptions of 32.4%prevalence ofCMDs from studies conducted in Kombolcha town, Ethiopia(12), 0.32 P,1.96 Z (standard normal distribution), 95% CI, $\alpha=0.05$, and a 10% non-response rate .Accordingly, a representative/probabilistic sample was calculated to be 337. After considering design effect, the total sample was 742.

Measurement

CMDs were measured using SRQ-20 and participants who scored ≥ 6 had CMDs (13).

Social support was measured using Oslo 3-items, social support scale and with scores ranging between 3 and 14: 3–8=poor social support; 9–11=intermediate social support; and 12–14=strong social support(14).

Individual stress levels were measured using the List of Threatening Experiences (LTE).The questions in this scale ask about their threatening experiences during the last 6 month(15).

Substance use history. To examine substance use history, respondents were asked: “Have you ever use any substance in the last three months or in lifetime?” and the responses were yes/no

*History of mental illness:*To examine history of mental illness, respondents were asked: “Have you ever been diagnose with mental illness and treated previously” and responses were yes/no.

Family history of mental illness: To examine family history of mental illness, respondents were asked: “Do you know a family member who had experienced a mental illness?”

Data collection

Data were collected via a face-to-face interviews using semi structured questionnaire by trained data collectors, which contained socio-demographic, social support, clinical factors, and substance related factors.

Data processing and analysis

Data were entered in to Epi-info after checking completeness and consistency and then exported to SPSS - version 20 for analysis.Factors associated with CMDs were selected during bivariate analysis with a value of $p \leq 0.05$. In multivariable regression analysis variables with P-value less than 0.05 at 95% confidence interval with its adjusted odds ratio were considered as statistically significant.

Ethical consideration

Ethical approval was obtained ethical review board ofDebre Tabor University. Ethical clearance was obtained from joint ethical review committees of the University. Permission was obtained from the respective district administration. We took written informed consent from study participants after explaining purpose of the study. Confidentiality was maintained by omitting their personal identification.

Results

A total of 731 respondents took part with a response rate of 98.5%. The majority of the respondents, 386(52.8%) were male; 242(33.1%) were in the age range of 28-37 years; 400(54.7%) were married; 268(36.7%) were grade 9-12; half (50.6%) were reside in urban; 693(94.8%) were Orthodox Christian, and 718(98.2%) Amhara by ethnicity. Regarding occupation, more than half (73.6%) were employed (**table1**).

Of the respondents, 100(13.7%) had family history of mental,65(8.9%) had comorbid medical/surgical illness. Regarding social support, nearly one third (31.9%) had poor social support and 311(42.5%) had strong social support (**table2**).

Regarding substance-related factors, more than three fourths(78.8%)consumed alcohol, and 576(78.7%) doing that at the moment; 121(16.6%) were using khat (leaves); and 107(3.4%)were smoking (**fig1**).

Prevalence of common mental disorders

The prevalence of common mental disorder among participants was 29.7% (95% CI 26.4, 33.1).

Factors associated with common mental disorders

To determine the association of independent variables with CMDs, bivariate and multivariate binary logistic regression analyses were carried out. In the bivariate analysis factors associated with CMDs at a P-value less than 0.05 were entered into the multivariable logistic regression model to control confounding effects.

The result of the multivariate analysis showed that female sex, current use of khat (chewing leaves), rural residence, social support, and current use of smoking and family history of mental illness were significantly associated with common mental disorders at a p-value less than 0.05.

Individuals who uses khat currently were 1.7 times more likely to have common mental disorders than individuals who didn't use khat currently (AOR =1.69, 95% CI: 1 .07, 2.64). Respondents who had poor social support were 2.3 times more likely to develop CMDs compared with those who had strong social support(AOR =2.34, 95% CI:1.50, 3.64). The likelihood of developing CMDs was 2.1 times higher among respondents who had family history of mental illness compared with those who had no family history of mental illness (AOR =2.15, 95% CI:1.32-3.51). Female sex was 2.4 times more likely to develop CMDs compared with male sex (AOR= 2.47, 95% CI (1.68, 3.62)).Participants residing in rural were 2.0 times high likely to have CMDs than participants in urban (AOR=2.01, 95% CI: 1.35, 3.01).Participants smoking at the moment were 1.7 times high likely for CMDs compared to ever use of tobacco(smoking) (AOR=1.71, 95% CI:1.04-2.84)(**table3**).

Discussion

Common mental illness are a public health problems, with detrimental physical health, psychosocial and economic consequences. In this finding the prevalence of common mental disorders was found to be to be 29.7% (95% CI: 26.4, 33.1).This finding was consistentwith reports from other studies. For example,32.4% in Kombolcha, Ethiopia (12),27% in South Africa(16),29.9% in Brazil(9),26.7% in Santiago, Chile(10), and 27.2% in Great Britain(17).Conversely, our 29.7% was higher than results of various countries, such as 22.7% in Jimma, Ethiopia (18), 11.7% in Addis Ababa, Ethiopia (19), 17.2% in Butajera, Ethiopia (20) and 14.9% in Harari, Ethiopia(21), 10.3%,10.8% in Kenya (2, 22), 4.1% in Tanzania (23), 23.8% in Taiwan (17), 24.6% in southeast London(24), and 24.6%inScotland and Wales, England(25).

Conversely, this finding was lower than the 33.6% noted in Jimma town, Southwest Ethiopia(26), 33.9% in India (27), 52.5% in rural Bangladesh (28),and 34.4%in china (8). The possible reason for this difference might be the use of different instruments and cutoff points to measure common mental disorder. That is, the other study used revised clinical interview schedule (CIS-R),Kessler 10 item questionnaire, and general health questionnaire (GHQ-12),while we utilized SRQ-20. The other variation might be number of participants in the study. That is, in southern India 327, in rural Bangladesh 2425, southeast London 1968, China 3031participants were included.

Female sex was 2.4 times more likely to develop CMDs compared with male sex. Possibly because of women's greater vulnerability to psychological distress due to difference hypotheses involving hormonal differences, the effects of childbirth, psychosocial stressors (high household responsibility), as a result of physically abuse and behavioral models of learned helplessness.In addition to this low socio-economic status of females might have predispose them to higher risk for common mental disorders. This finding was supported by studies conducted in India (24), Brazil(29), Chile(10), rural Bangladesh(28), South Africa(3), Kenya (2), Jimma(26), Butajera(20), and Kombolcha(12).

There was statically significant association between common mental disorders and current tobacco use (smoking). Smoking has its own influence on physical and psychological functioning. The effect of smoking can lead to addiction, stigma and behavioral influence and reduce the socio-economic status of individual. This finding was supported by a study conducted in Brazil(29), and Kombolcha town(12).

Common mental disorders were significantly associated with unemployment.The significant association between unemployment and CMDs in the present study was similarly reported in other community based studies conducted in other parts of Ethiopia, (18, 30) Chile(10) Taiwan,(17) Tanzania(23) and South Africa (16). In the present study, participants with poor social support more likely to have common mental disorders when compare with participants with strong social support. This finding was consistent with a study conducted in other parts of Ethiopia (30). The possible reason might be due to lack of experience in social relationship, social and psychological support from their neighborhood and relatives can lead to common mental disorders.

Participants who live in rural areawere 2 times high likely to have common mental disorderscompared with individuals who live in urban area. The finding is in line with other studies in china(31) and Nigeria(32). Common mental disorders were significantly higher among those who reported currently chewing khat as compared to those who didn't chewing khat currently. This might be due to the effect of khat on physical and psychological function. The psychosocial effect of khat chewing depends on its capacity to lead to dependency or addiction and to the specific physical and behavioral effect including socio economic effect for individuals might be lead to common mental disorders. This finding is supported by other studies (21, 26, 33)

Family history of mental illness were significantly associated with common mental disorders.Parental history of mental illnessmight increase the risk of CMDs in the offspring through different reasons like transmission of genetic factors.This finding is similar with studies of other part of Ethiopia(18–20, 30).

Limitation of the study

The cross-sectional design of the study prevented us from concluding the casual relationships of the associations we found.

Social desirability and recall bias might also be the other limitations. Since the data collection method was a face-to-face interview which might lead individuals to respond in socially acceptable ways during the process, especially in cases of substance-related questions.

Conclusion

The prevalence of common mental disorders was found to be high. Female sex, current substance use (khat chewing (leaves) and tobacco smoking), unemployment, rural residence, family history mental illness, and poor social support were significantly associated with common mental disorder. Therefore; we recommend a common mental disorders (depression, anxiety and somatic symptom) focused early regular screening by trained health professionals and linkage with mental health service providers. It is necessary to give emphasis to individuals with family history of mental illness, women, and history of mental illness.

Abbreviations

CMD=Common Mental Disorders, CIS–R=Clinical Interview Schedule – Revised, DALYs=Disability Adjusted Life Years, GHQ =General Health Questionnaire, IPV=Intimate Partner Violence, PHQ =Patient Health Questionnaire, SRQ=Self-Reporting Questionnaire, DTU=Debre Tabor University, WHO=World Health Organization, YLD=Years Lived with Disability

Declarations

Ethical approval and consent to participate: Ethical approval was obtained ethical review board of Debre Tabor University. Ethical clearance was obtained from joint ethical review committees of the University. Permission was obtained from the respective district administration. We took written informed consent from study participants after explaining purpose of the study. Confidentiality was maintained by omitting their personal identification.

Consent to publication: Not applicable

Availability of data and materials: No extra data, all the data are included in the manuscript

Competing interests: The authors have no any competing interest

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Authors' contribution: GL,AB,GM,SA developed the proposal, supervised the data collection, analyzed the data and wrote the draft manuscript. SS, check data analysis, revised and approved the manuscript.

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Tables

Table1: Socio-demographic characteristics of respondents in south Gondar zone, northwest Ethiopia, 2018.

variable	category	frequency	Percentage
Age	18-27	233	31.9%
	28-37	242	33.1%
	38-47	91	12.4%
	48-57	77	10.5%
	>=58	88	12.1%
Sex	Male	386	52.8%
	Female	345	47.2%
Ethnicity	Amhara	719	98.4%
	other	12	1.6%
Educational status	Unable to read and write	98	13.4%
	1-8 grade	203	27.8%
	9-12 grade	268	36.7%
	Diploma & above	162	22.1%
Religion	Orthodox	693	94.8%
	Muslim	38	5.2%
Marital status	Single	262	35.8%
	Married & living together	400	54.7%
	Separated	20	2.7%
	Divorced	30	4.1%
	Widowed	19	2.6%
Residence	Rural	361	49.4%
	Urban	538	50.6%
Job status	Jobless	193	26.4%
	Has job	342	73.6%

Table 2: Psychosocial, family history of mental illness and comorbid illness of respondents in south Gondar zone, northwest Ethiopia, 2018

variable	category	frequency	percentage
social support	poor	233	31.9
	moderate	187	25.6
	strong	311	42.5
Family history of mental illness	yes	100	13.7
	no	631	86.3
Co-morbid medical/surgical illness	yes	65	8.9
	no	666	91.1

Table-3: Bivariate and Multivariate analysis of common mental disorders among respondents in south Gondar zone, northwest Ethiopia, 2018

Variables	Category	Common mental disorders		COR with 95% CI	AOR with 95% CI
		No	Yes		
Sex	Male	295	91	1	1
	Female	219	126	1.87(1.35-2.57)	2.47(1.68-3.62)*
Social support	Strong	244	67	1	1
	Moderate	140	47	1.22(0.80-1.87)	1.32(0.83-2.10)
	Poor	130	103	2.34(1.99-4.19)	1.54(1.50-3.64)*
Current use of khat	No	442	168	1	1
	Yes	72	49	1.79(1.20-2.68)	1.69(1.09-2.64)*
Current use tobacco (smoking)	No	454	170	1	1
	Yes	60	47	2.09(1.37-3.19)	1.71(1.04-2.84)*
Family history of mental illness	No	463	168	1	1
	Yes	51	49	2.65(1.72-4.07)	2.15(1.32-3.51)*
Residence	Urban	278	92	1	1
	Rural	236	125	1.60(1.16-2.21)	2.01(1.35-3.01)*

Note: * P<0.05, COR=Crude Odds Ratio, AOR=Adjusted Odds Ratio

Figures

Substance use characteristics

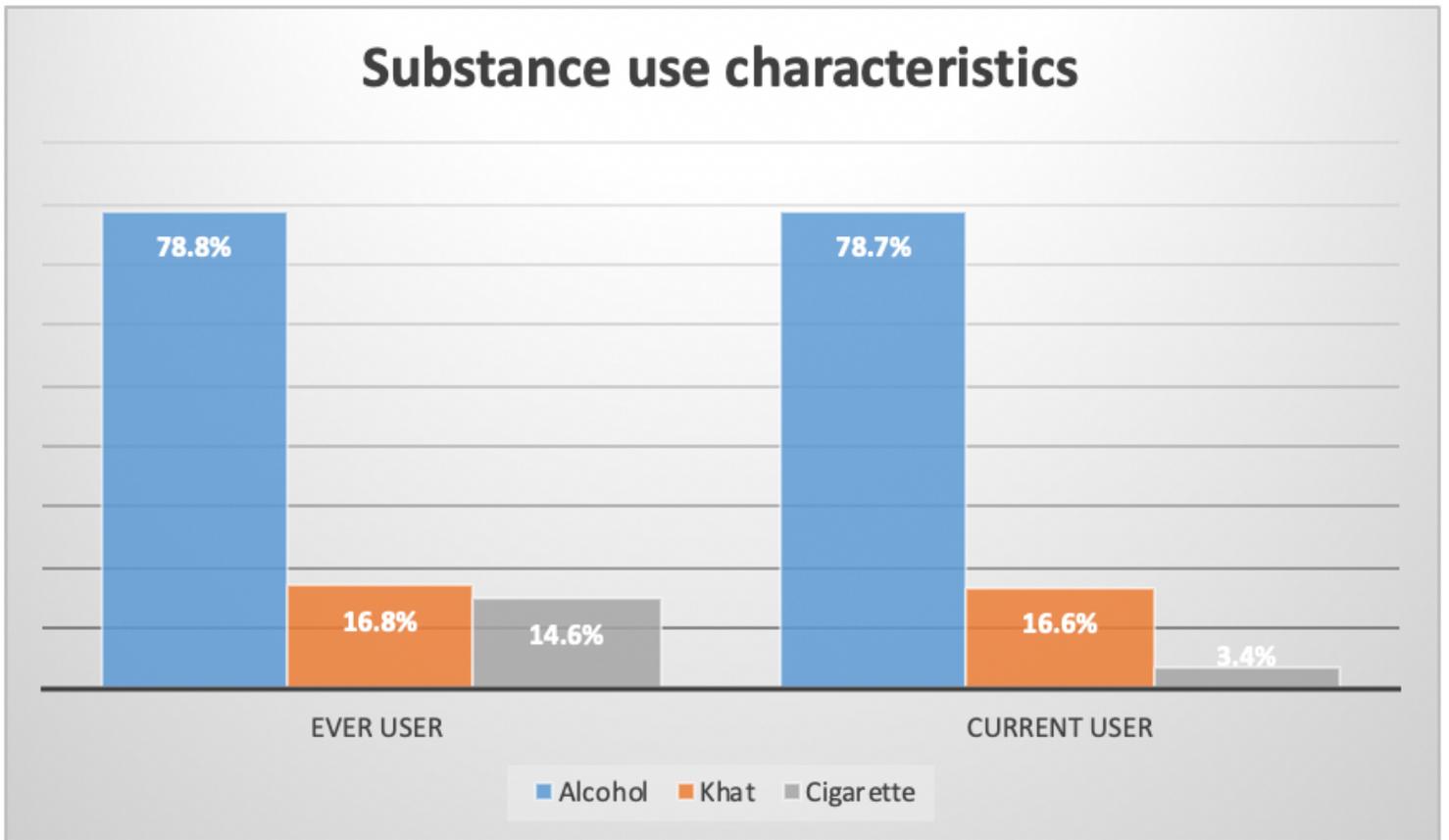


Figure 1

Substance use characteristics among residents of South Gondar Zone, northwest Ethiopia, 2018