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Mental Distress among Patients Admitted in Gondar University Hospital: A Cross Sectional Institution Based Study

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Abstract

Background: Mental distress is a state that manifests from anxiety, depression or unexplained somatic symptoms and is typically encountered in community and health care settings.

Methods: Institution based, cross-sectional study was conducted among 418 hospital patients at Gondar University Hospital from April 15 to May 15 in 2013. Participants were selected using a systematic random-sampling technique. Semi-structured questionnaires were used to collect social, demographic and clinical data. Mental distress was measured with a Self-Reporting Questionnaire (SRQ-25). Binary logistic regression analysis was performed to identify factors associated with distress.

Results: Prevalence of mental distress was 58.6% among hospital admitted patients. In the group, 237 (56.7%) were male. Individuals with a history of previous hospital admission, we used an adjusted odds ratio (AOR) and a confidence interval (CI) [AOR=1.7, 95% CI (1.11, 2.73)]. These patients also tended to be female [AOR=2, 95% CI (1.26, 3.12)] and were more likely to have distress (than those without previous hospital admissions). Widowers [AOR=2.8, 95% CI (1.1, 7.20)] who used tobacco [AOR=4, 95% CI (1.1, 15.28)], alcohol [AOR=3, 95% CI (1.82, 4.69)] or had hospital stays of one to two weeks [AOR=2.3, 95% CI (1.4, 3.8)] also had more distress. When hospital stays three to four weeks [AOR=2, 95% CI (1.18, 3.93)], distress levels significantly increased compared to those who were single (and did not use tobacco or alcohol or have shorter hospital stays, lasting less than a week). Patients who went to primary school [AOR=0.5, 95% CI (0.26, 0.93)] and secondary school [AOR=0.4, 95% CI (0.26, 0.85)] were less likely to experience distress than those unable to read and write.

Conclusion: Prevalence of mental distress was quite high among patients admitted to a hospital. Factors included being female, being widowed and having a history of previous hospital admissions. Individuals who were illiterate, had substance abuse, or concerned about the length of their hospital stay encountered even greater distress levels.

Keywords: Mental distress; Mental illness; Mental disorder; Psychiatric disorder

Abbreviations: AOR: Adjusted Odds Ratio; COR: Crude Odds Ratio; OR: Odds; SPSS: Statistical Package for Social Science's-IV; DSM: Diagnostic and Statistical Manual, Fourth; ICD: International Classification of Disease; SRQ: Self Reporting Questionnaire; SRQ-E: Self Reporting Questionnaire for Ethiopians; WHO: World Health Organization

Introduction

Mental disorder is a specific diagnosis of a condition or type of mental illness that is made by a trained mental health professional after formal psychiatric assessment or interview [1].

The impact of mental health problem is raising globally [2]. The world health organization has drawn attention to the growing global burden of mental disorders. Current estimation comprised 12% of the Global Burden of Disease and it will rise to 15% by the year 2020 which would then make them the second leading cause of health disability in the world. This burden is thought to be worse in low income countries where poverty and other communicable diseases abounds [2]. It is gradually recognized that mental illnesses become public health problems throughout the world [3].

Mental distress was more common in medical settings than in community settings and some studies reported that up to 40 % of the patients in general medical and surgical wards were depressed and required treatment [4]. Close to 450 million people worldwide suffered from mental and neurological disorders [2]. Lifetime prevalence ranged from 12.2%–48.6% and one year prevalence became between 8.4% and 29.1%. Fourteen percent of the global burden of disease can be attributed to neuropsychiatric disorder 75% of which occurred in developing countries [5].

The burden of mental disorder is likely to have been underestimated because of inadequate appreciation of the connectedness between mental illness and other health conditions and increases risk for communicable and non-communicable diseases and contribute to unintentional and

intentional injury [6]. Substantial numbers of studies have shown that in contrast to physicians' beliefs most of the patients who are assumed to just be worried at the arrival commonly and suffer from anxiety and depression [7]. As many as 30-60% of hospital patients may have diagnosable psychiatric disorders [8]. The most common psychiatric disorder in patients who are hospitalized in emergency wards is anxiety, while patients admitted in wards most of the time suffer from depression [9]. In addition several disorders especially the chronic ones result in psychiatric problems due to their distressing experience and side effects [10].

Patients with depressive disorder are twice as likely to use emergency department services as those without depression [11]. In diabetes, total health expenditure is four and half times higher for individuals with depression than for those without depression [12]. In chronic heart disease depressed patients have higher rates of complications and are more likely to undergo invasive procedures [13,14]. People with chronic obstructive pulmonary disease are also depressed and are stayed longer time at hospital and increasingly shown symptom of burden [15]. So far the magnitude of mental distress among hospitalized patients has not been investigated in Ethiopia. Thus the main purpose of this study was to assess the prevalence of mental distress and associated factors among hospitalized patients.

Methods and Materials

Study design

An institution based cross-sectional study design was used.

Study area and period

The study was conducted from April 15 to May 15, 2013 at Gondar University Hospital, Ethiopia. Gondar University has one governmental hospital, which has 579 health professionals, 262 Nurses, 123 physicians, and the rest of them are other professionals. There are around seventeen wards which have 500 beds, 260 of them for medical and surgical cases (100 for surgical and 160 for medical cases), and there is one psychiatry clinic which runs by three psychiatric nurses and two Msc psychiatric professionals.

Participants

The participants of this study were individuals who were admitted in Gondar University Hospital Medical and Surgical wards. Single population proportion formula (with the assumption of 5% margin of error, 95% confidence level and 50% proportion) was used to calculate sample size; and the sample was 423 (including 10% non-response rate). The total number of patients who was admitted the hospital for the last 12 months were taken from patient records and then the average number of patients admitted per day calculated. Participants were selected by systematic random sampling technique. All individuals who were admitted within an age greater than or equal to 18 years were included. Patients who

were unable to communicate with chronic illnesses, both physically and mentally were excluded.

Instrument

Structured questionnaires were employed to collect data on socio-demographic and clinical information. For the assessment of mental distress, self-reporting questionnaire (SRQ) is used to interviewing for developing countries. Quantitative data collected by face-to-face interviewing with a structured self-reporting questionnaire which is translated in Amharic version was used. SRQ has 25 questions and the score of all questions were combined, with cut-off point 8. A probable case of Mental Distress is defined as a cut-off point greater than or equal to 8 during SRQ-25 screening. The Self-Reporting Questionnaire for Ethiopians (SRQ-E) was based on the original 24-question SRQ in its Amharic version. From these, 20 items indicate non psychotic mental disorders and the remaining four items indicate psychosis [16]. At the cut-off point of 8, the SRQ-25 had a sensitivity and specificity of 86% and 84% respectively to diagnose mental distress and Cronbach's $\alpha=0.92$ [16,17].

Data processing and analysis

Data were entered into EPI Info version 3.5.3 and imported to SPSS version 20 software package for data analysis. Bivariate and multivariate logistic regression and odds ratio with 95% confidence interval were used to identify the associated factors with mental distress. Variables with p-value ($p<0.05$) were used as the cut-off point.

Results

A total of 418 participants participated in this study with a 98.8% response rate.

Socio demographic characteristics of study participants

Out of 418 respondents 237 (56.7%) were male. Almost half (52%) of them were rural residents and orthodox Christian by religion (83.3%). Out of the total 193 (46.2%) were married, concerning educational status 176 (42.1%) they cannot read and write. Two third of respondents (61.7%) had got less than 653 Birr per monthly [18]. Nineteen (4.5%) of the respondents was using tobacco products in their lifetime, 178 (42.6%) of the respondents were using alcohol in lifetime, and 48 (11.5%) of them had chewed Khat in a life time. Among respondents 7 (1.7%) were used lifetime cannabis. Twenty one participants (5%) had known previous psychiatric disorder (Table 1).

Table 1 Socio-demographic and clinical characteristics of patients in Gondar University Hospital April 15-May 15, 2013 GC (n=418).

Variables	Character	Numbers (%)
Sex	Male	237 (56.7)

	Female	181 (43.3)
Age	18-24	97 (23.2)
	25-34	112 (26.8)
	35-44	89 (21.3)
	45-54	44 (10.5)
	55-64	49 (11.7)
	65+	27 (6.5)
Religion	Orthodox	348 (83.3)
	Islam	57 (13.6)
	Others	13 (3.1)
Marital status	Married	128 (30.6)
	Single	193 (46.2)
	Divorced	56 (13.4)
	Widowed	41 (9.8)
Educational status	Cannot read and write	176 (42.1)
	Read and write	54 (12.9)
	Primary school	64 (15.3)
	Secondary school	73 (17.3)
	Higher education	51 (12.2)
Occupation	Governmental worker	63 (15.1)
	Private employee	40 (9.6)
	Merchant	52 (12.4)
	Farmers	123 (29.4)
	Housewives	74 (17.7)
	Day laborers	26 (6.2)
	No jobs	40 (9.6)
Ethnicity	Amahara	391 (93.5)
	Tigre	20 (4.8)
	Others	7 (1.7)
Residence	Urban	200 (47.8)
	Rural	218 (52.2)
Income	Low	258 (61.7)
	High	160 (38.3)
Lifetime Tobacco Use	Yes	19 (4.5)
	No	399 (95.5)
Lifetime Alcohol Use	Yes	178 (42.6)
	No	240 (57.4)
Previous psychiatric history	Yes	21 (5)
	No	397 (95)
Psychiatric history after admission	Yes	14 (3.3)

	No	404 (96)
Psychiatric consultation	Yes	12 (2.9)
	No	2 (0.5%)
Family history of psychiatric illness	Yes	34 (8.1)
	No	384 (91.9)
Previous hospital admission	Yes	171 (40.9)
	No	247 (59.1)
The ward patient admitted	Medical	263 (62.9)
	Surgical	155 (37.1)
Length of hospital stay in weeks	Less than a week	230 (55)
	One to two weeks	115 (27.5)
	Three to four weeks	73 (17.5)

Prevalence of mental distress

Overall, the prevalence of Mental Distress was found to be 58.6%.

Factors associated with mental distress

In the Multivariate logistic regression analysis, it was shown that females, being widowed, educational status, lifetime tobacco use, and lifetime alcohol use, previous hospital admission and length of hospital stays were significantly associated with mental distress.

It was an almost twofold increase in mental distress among female individuals compared to males with an odds ratio of [AOR=1.9, 95% CI (1.26, 3.12)]. The odds of having mental distress to female individuals were two times more likely than the odds of male. Widower were three fold more likely the odds of having mental distress than individuals with single marital status in [AOR=2.8, 95% CI (1.12, 7.20)]. Mental distress and Patients who went to primary school has significant association in [AOR=0.5, 95% CI (0.26, 0.93)]. Went to primary and secondary school is protective factor for mental distress, patients who were literate to primary school had fifty percent times less likely having the odds of distress than individuals who cannot read and write, and went to secondary school had [AOR=0.4, 95% CI (0.26, 0.85)] sixty percent less likely having the odds of mental distress than individuals who were unable to read and write. Patients who used tobacco and mental distress had significantly associated at [AOR=4, 95% CI (1.1, 15.28)]. The odds of having mental distress among who used tobacco were four times more likely than the odds of nonusers. Among patients who used alcohol in their lifetime had significant association with mental distress in [AOR=2.9, 95% CI (1.82, 4.69)]. The odds of having mental distress to alcoholic patients were three times more likely than the odds of non-alcoholic. Regarding previous hospital admission those who had admitted previously in the hospital were more likely to have the odds of mental distress than non-admitted patients in the previous time at [AOR=1.7, 95% CI (1.15, 2.73)]. Concerning the length of hospital stays, patients

who had hospital stays of one to two weeks have more than two times more likely than the odds of acquiring mental distress to those who stayed less than one week at [AOR=2.3, 95% CI (1.4, 3.81)] and, When hospital stays were three to four

weeks have more than two times more likely than the odds of having mental distress to those hospital stays less than one week at [AOR=2.1, 95% CI (1.18, 3.93)] (Table 2).

Table 2 Logistic regression of socio demographic, clinical and mental distress among patients admitted in Gondar University hospital April 15-May 15, 2013.

Variables	Character	CMD (YES)	CMD (NO)	Crude OR (95% CI)	Adjusted OR (95% CI)
Age	18-24	46	51	1	1
	25-34	66	46	1.6 (0.9, 12.75)	1.07 (0.57, 1.98)
	35-44	52	37	1.5 (0.87, 2.78)	0.8 (0.4, 1.73)
	45-54	27	17	1.7 (0.85, 3.63)	0.7 (0.27, 1.72)
	55-64	34	15	2.5 (1.21, 5.19)*	1.2 (0.48, 2.99)
	65+	20	7	3.1 (1.22, 8.17)*	1.2 (0.38, 3.93)
Sex	Male	132	68	1	1
	Female	113	105	1.32 (0.89, 1.96)	1.9 (1.26, 3.12)*
Residence	Rural	136	82	1	1
	Urban	109	91	0.7 (0.48, 1.06)	0.8 (0.58, 1.41)
Marital status	Single	62	66	1	1
	Married	115	78	1.56 (1.0, 2.46)*	1.2 (0.72, 1.99)
	Divorced	35	21	1.7 (0.93, 3.37)	1 (0.51, 2.19)
	Widowed	33	8	4.3 (1.88, 10.23)*	2.8 (1.12, 7.20)*
Educational Status	Cannot read and write	113	63	1	1
	Read and write	37	17	1.2 (0.63, 2.32)	1.2 (0.60, 2.50)
	Primary school	33	31	0.6 (0.34, 1.09)	0.5 (0.26, 0.93)*
	Sec. School	37	36	0.5 (0.32, 0.96)	0.4 (0.26, 0.85)*
	Higher education	25	26	0.5 (0.28, 1.006)	0.5 (0.26, 1.01)
Monthly Income	Low	159	99	1	1
	High	86	74	0.7 (0.92, 2.06)	1.2 (0.78, 1.95)
Lifetime tobacco use	Yes	16	3	3.9 (1.1, 13.8)*	4 (1.1, 15.28)*
	No	229	170	1	1
Lifetime Alcohol use	Yes	123	55	2.1 (1.4, 3.2)*	2.9 (1.82, 4.69) *
	No	122	118	1	1
Family history of psychiatry illness	Yes	24	10	1.7 (0.82, 3.8)	2 (0.4, 10.65)
	No	221	163	1	1
Previous hospital admission	Yes	113	58	1.6 (1.13, 2.54)*	1.7 (1.15, 2.73)*
	No	132	115	1	1
The ward admitted	Medical wards	164	99	1.5 (1.01, 2.26)*	1.1 (0.73, 1.84)
	Surgical wards	81	74	1	1
Longer of hospital stays	Less than a week	119	111	1	1
	1-2weeks	76	39	1.8 (1.14, 2.89)*	2.3 (1.4, 3.81)*

	3-4weeks	50	23	2 (1.16, 3.54)*	2.1 (1.18, 3.93)*
*statistically significant (P<0.05)					

Discussion

The aims of this cross-sectional study were to assess the prevalence of mental distress and associated factors in the University of Gondar Referral Hospital medical and surgical ward admitted patients. The finding of this study showed that prevalence of mental distress among hospital admitted patients was high (58.6%; 95% CI: 53%, 63.3%). This result is similar to other studies conducted in Ethiopia (63.7%), Austria (51%), Uganda (60.9%) [19-21]. It was slightly higher than studies conducted in Canada acutely ill medical inpatients (27.2), Austria at admission the prevalence of psychiatric disorder (46%), Vienna and Tyrol medical, surgical and gynecological wards (28.1%), Germany general hospital inpatients range from (41.3%-46.5%), seven medical and surgical wards of Verona Italy (28.7%), in Kuwait medical and surgical in patients (41.4%), elderly patients admitted to non-psychiatric wards of Nigeria (45.3%), in Uganda (42.2%), Ethiopia Tb patients' non co infected with HIV/AIDS (46.7%). This difference may be chronic medical illnesses and trauma patients included in our study, differences in both screening and diagnostic tools, population studied also other factors [19-29].

This result is lower than among tuberculosis patients in low-resource settings in South Africa using the Kessler-10 item scale using a cut-off score of ≥ 16 , (81%). The difference is the study periods, the diagnostic tools and population being studied can account for the inequality in prevalence rates [30].

It was found to be highest in medical departments 62%, followed by surgical departments 52.3%. These proportions were almost identical to those researches that had been done in different countries of patients attending medical and surgical wards; for example, studies conducted in Austria, Verona, Italy, in Denmark, Brazilian university hospital, in Nigeria, psychiatric morbidity rates were increased among medical than surgical wards [24,27,31-33].

Another factor associated significantly with mental distress was gender differences, being female were two times more likely to have mental distress than male. It was similar to other studies conducted in Uganda that women had a higher rate of psychiatric illness than men; in Nigeria and Denmark, there was a higher prevalence of cases that were found among females. This increased prevalence of mental distress may be due to increased responsibilities such as child care, care of other family members, other hormonal or biological factors, the traditional role of women in societies exposes females to greater stresses as well as making them less able to change their stressful environment, the high rate of domestic and sexual violence to which women are exposed [27,31,33,34].

Being widowed was about three times more likely to have mental distress than single. This may be the issue of adverse life events of losing someone they like most, including both

economic and social losses that follows. That is consistent with studies conducted in Austria, South Africa and Uganda [20,25,30,34]. Patients who were educated to primary school are fifty percent times less vulnerable to mental distress than those who cannot read and write. This could be patients who are literate, have good awareness; poor socioeconomic status, exposed to stress, may develop depression and anxiety. This finding is in line with the study conducted in South Africa [30].

In the study regarding substance use, lifetime alcohol and tobacco use had significantly associated with mental distress. Patients who took alcohol in their lifetime were three times more likely to have mental distress than non-alcoholic patients, tobacco users were also found significantly associated with mental distress. Patients took tobacco products in their lifetime had four times more likely to get mental distress than non-users. This reason could be people with alcohol use related problem meets diagnostic criteria for major depressive disorder some time in their life, and people with alcohol related disorder meet criteria for anxiety. This finding is also similar to the findings investigated in South Africa, in Germany and Austria [25,30].

Patients who had previous hospital admission were more than one and half times more likely to develop mental distress as compared to patients no previous hospital admission. It also supported the idea that more previous non psychiatric treatment and admission predicted the presence of psychiatric disorder in Austria [23]. Patients who stayed three to four weeks in the hospital were more than two times more likely having mental distress than those stayed less than one week. It was similar to studies conducted in Austria investigated the course of illness in patients staying in the hospital for more than four weeks prevalence of all psychiatric disorders increased [23].

As many as 30-60% of hospital patients may have diagnosable psychiatric disorders, but only a tenth of cases has got a psychiatric consultation requested [8]. In our study prevalence of common mental distress is 58.6%, but only 3.3% of cases detected by health professionals and 2.9% had gotten psychiatric consultation over 90% were not recognized by staff on these wards. This finding is in line with the studies done in Germany and Austria only 2-3% got psychiatric consultation, likewise in Nigeria physicians recognized only 2.8% of the mental disorders, and in Uganda only 2.8% were referred for treatment [20,25,29].

This finding of consultation liaison was slightly lower than others; for example, in Verona, Italy 23.1% of cases were referred to the liaison psychiatric service, and in Denmark about 20% were in mental health treatment, whereas in Kuwait only 10.7% of patients having psychiatric morbidity were referred for psychiatric consultation. The difference may be professionals or individual knowledge about mental disorder and Lack of awareness, Lack of specialists and general

health workers with the knowledge and skills to manage disorders [27,28,31]. In this study there was no association found on income, occupation, residence, the ward patient admitted and mental distress as other studies found out [21,23,24,30].

Conclusion

Prevalence of Co-morbid mental distress was quite high among patients admitted to a hospital. Factors included being female, being widowed and those with previous hospital admissions. In addition, individuals who were illiterate, substance abuse or who felt concerned about the length of their hospital stays - encountered even greater distress levels. This finding added as important evidence to the existing situations in Ethiopia and other developing countries. However, additional researches with qualitative and quantitative studies have been suggested. Patients who were treated in medical and surgical wards should be screened for mental distress.

Limitations of the Study

Some symptoms listed in SRQ can be attributed to the physical illness from which the patient is suffering that is why the prevalence is high and cross-sectional nature of the research did not show cause and effect relationships.

Declarations

Ethics approval and consent to participate: Ethical clearance was obtained from University of Gondar College of Medicine and Health science, ethical review board and submitted to the respective wards. Confidentiality of respondents was maintained, written and Verbal consent was also obtained. During the study period, participants were informed as they have the right to withdraw from the study at any time if they wish.

Consent for publishing

Not applicable.

Availability of data and materials

Available upon request to the first author Wondale Getinet:
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Competing interests

The authors declare that they have no competing interests.

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Authors' contributions

WG: Carried out the manuscript from its conception, analysis and interpretation of data and drafted the manuscript; YD: participated in data analysis and review of the manuscript; BB: participated in data analysis and review of the manuscript.

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References

1. Sadock BJ, Sadock VA (2007) Synopsis of psychiatry: Behavioral sciences/clinical psychiatry. Lippincott Williams & Wilkins. p: 10.
2. WHO (2001) Mental health, New understanding, new hope. The World Health Report.
3. Desjarlais R, Eisenberg L, Good B (1995) World mental health: Problems and properties in low-income countries. Oxford University Press Inc.
4. Sim K, Rajasooriya C, SinFaiLam KN, Chew LS, Chan YH (2001) High prevalence of psychiatric morbidity in a medical intensive care unit. Singapore Med J 42: 522-525.
5. Mental Health Gap Action Programme (mhGAP) (2008) Scaling up care for mental, neurological and substance use disorders. World Health Organization.
6. Prince M, Patel V, Saxena S, Maj M, Maselko J, et al. (2007) Global Mental Health 1: No health without mental health. Lancet 370: 859-877.
7. Tabatabaei S, Bordbar M, Lotfi M (2004) Prevalence of physical signs in major depressive disorder patients. Quarterly J Fundamental Mental Health 6: 29-35.
8. Strange (1982) Needs for psychiatry in the general hospital. Hosp Community Psychiatry 33: 996-1002.
9. Marchesi C, Brusamonti E, Borghi C (2004) Anxiety and depressive disorders in an emergency department ward of a general hospital a control study. Emerg Med J 21: 175-179.
10. Navidian A, Arbabi S, Kikhai A (2006) Frequency of mental disturbances, in hemo dialysis patients referred to hemodialysis ward of Khatam-Al-Anbia Hospital in Zahedan. Medical faculty Journal of Gilan's University of Medical Sciences 58: 61-67.
11. Himelhoch S, Weller W, Wu AW, Anderson GF, Cooper LA (2004) Chronic medical illness, depression and use of acute medical services among medicare beneficiaries. Med Care 42: 512-521.
12. Egede L, Zheng D, Simpson K (2002) Comorbid depression is associated with increased health care use and expenditures in individuals with diabetes. Diabetes Care 25: 464-470.

13. Lauzon C, Beck CA, Huynh T, Dion D, Racine N, et al. (2003) Depression and prognosis following hospital admission because of acute myocardial infarction. *Can Med Assoc J* 168: 547-552.
14. Van Melle J, De Jonge P, Spijkerman T, Tijssen J, Ormel J, et al. (2004) Prognostic association of depression following myocardial infarction with mortality and cardiovascular events: a meta-analysis. *Psychosom Med* 66: 814-822.
15. Ng T, Niti M, Tan W, Cao Z, Ong K, et al. (2007) Depressive symptoms and chronic obstructive pulmonary disease: Effect on mortality, hospital readmission, symptom burden, functional status and quality of life. *Arch Intern Med* 167: 60-67.
16. Youngmann R, Zilber N, Workneh F, Giel R (2008) Adapting the SRQ for Ethiopian populations: A culturally-sensitive psychiatric screening instrument transcultural psychiatry.
17. Hanlona C, Medhin G, Alem A, Araya M, Abdulahi A, et al. (2008) Detecting perinatal common mental disorders in Ethiopia: Validation of the self-reporting questionnaire and Edinburgh Postnatal Depression Scale. *J Affect Disord* 108: 251-262.
18. UNICEF (2010) Economic indicator for Ethiopian consulted.
19. Wancata J, Benda N, Hajji M (1998) Prevalence and follow-up of psychiatric diseases in internal medicine departments. *Universitätsklinik für Psychiatrie* 110: 597-603.
20. Rukundo ZG, Musisi S, Nakasujja N (2013) Psychiatric morbidity among physically ill patients in a Ugandan Regional Referral Hospital. *Afr Health Sci* 13: 87-93.
21. Deribew A, Tesfaye Y, Hailmichael Y, Apers L, Abebe G, et al. (2010) Common mental disorders in TB/HIV co-infected patients in Ethiopia. *BMC Infect Dis* 10: 201.
22. Silverstone PH (1996) Prevalence of psychiatric disorders in medical inpatients. *J Nerv Ment Dis* 184: 43-51.
23. Wancata J, Benda N, Meise U, Windhaber J (1999) Does psychiatric comorbidity increase length of stay in medical, surgical and gynecological departments. *Nervenarzt* 99: 810-816.
24. Wancata J, Benda N, Hajji M, Lesch OM, Müller C (1996) Psychiatric disorders in gynaecological, surgical and medical departments of general hospitals in an urban and a rural area of Austria. *Soc Psychiatry Psychiatr Epidemiol* 31: 220-226.
25. Rothenhäusler HB (2006) Mental disorders in general hospital patients. *Psychiatr Danub* 18: 183-192.
26. Arolt V, Driessen M, Bangert-Verleger A, Eubauer H, Schürmann A, et al. (1995) Psychiatric disorders in hospitalized internal medicine and surgical patients. Prevalence and need for treatment. *Nervenarzt* 66: 670-677.
27. Vaccari L, Tansella M (1999) Psychiatry morbidity in general hospital: From the Instituto di Psichiatria Università di Verona, Verona and Cattedra di Psichiatria. DPMSC, Università di Udine 29: 4.
28. Mustafa M, Fawzy A (2009) Psychiatric morbidity and consultations among medical and surgical in patients in a general hospital in Kuwait. *J Psychiatric* 20: 87-108.
29. Uwakwe R (2000) Psychiatric morbidity in elderly patients admitted to non-psychiatric wards in a general/teaching hospital in Nigeria. *Int J Geriatr Psychiatry* 15: 346-354.
30. Peltzer K, Naidoo P, Matseke G, Louw J, Mchunu G, et al. (2012) Prevalence of psychological distress and associated factors in tuberculosis patients in public primary care clinics in South Africa. *BMC Psychiatry* 12: 89.
31. Morten S, Per F, Morten F (2001) Mental disorders among internal medical inpatients in Denmark. *J Psychosom Res* 50: 199-204.
32. Botega NJ, Pereira WAB, Bio MR, Garcia C, Zomignani MA (1995) Psychiatric morbidity among medical in-patients. *Soc Psychiatry Psychiatr Epidemiol* 30: 127-131.
33. Abiodun OA, Ogunremi OO (1990) Psychiatric morbidity in medical and surgical wards of a Nigerian general hospital. *J Psychosomatic Med Res* 34: 409-414.
34. Nakasujja N, Musisi S, Walugembe J, Wallace D (2007) Psychiatric disorders among the elderly on non-psychiatric wards in an African setting. *Int Psychogeriatr* 19: 691-704.