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Research Article

Mental Health in Primary Care, Khartoum State: Doctors Awareness

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Abstract

One in every four people develops one or more mental or behavioral disorders at some stage in life, mental health problems are common and the prevalence of these problems presenting to the primary care is found to be high, despite the high; prevalence of mental health problems, these frequently pass unrecognized in PHC settings, Unfortunately failure to treat these problems in primary care is high as well, many factors are thought to be associated with this under recognition and under treatment.

High level of Ability to recognize and treat these problems at primary care level is vitally important in order to reduce not only the suffering of individuals but also the futile consumption of public.

Aims: This study aims to assess the ability of PHC doctors in Khartoum state to recognize and treat mental health problems and also aims to determine the factors associated with the level of good and poor recognition and treatment of mental health problems at primary level.

Methods: Descriptive cross sectional study included 110 randomly selected primary care doctors. The study was held in Khartoum state during the period from February 2013 to May 2013.

A Questionnaire contains two sections was developed and used, section one to assess socio demographic, educational background, psychiatric training and work experience variables and section two Contains five clinical scenarios which were inspired from hospital records and presented in the form of MCQs to address the diagnosis and treatment of five of the commonly seen mental disorders in primary care (Depression, Alcohol dependence, GAD, Somatization disorders and Schizophrenia).

Data was analyzed using SPSS version 18.0 with general outputs of relevant cross tabulation and graphs. Relevant statistical tests were done, different associations were investigated and P value of 0.05 and less was considered to be significant.

Results: The average rate of recognition was found to be low (59.8%) and doctors were more able to detect; Depression (73.6% of doctors), Somatization disorders (64.5% of doctors), and Alcohol dependence (62.7% of doctors) than Schizophrenia (50.9% of doctors) and GAD (47.3% of doctors).

The average rate of knowledge of treatment line was low (47.1%) and doctors were more able to know the line of management of; Schizophrenia (58.2% of doctors), Depression (58.2% of doctors), and alcohol (56.4% of doctors), than GAD (34.5% of doctors), and Somatization disorders (28.2% of doctors).

Duration of undergraduate psychiatric training significantly positively associated with PHC doctors' ability to recognize and treat mental health problems, last medical degree obtained by PHC doctors had significant positive association with their ability to recognize mental health problems and experience with psychiatric training or work showed significant positive association with treatment ability.

Conclusions: The rate of recognition and treatment of mental disorders at primary care I slow with considerable variation between doctors' ability to identify and treat different mental disorders.

The duration of undergraduate psychiatric training positively significantly associated with the recognition and treatment ability. While qualifications obtained by doctors positively affect the recognition, existence of psychiatric training or work is positively associated with treatment ability.

Keywords: *Mental Health; Primary Care; Schizophrenia; Depression; GAD; Somatization Disorders*

Background

One in every four people, or 25% of individuals, develops one or more mental or behavioral disorders at some stage in life, both in developed and developing countries. These disorders can now be diagnosed as reliably and accurately as most of the common physical disorders. Some disorders can be prevented; all can be successfully managed and treated [1].

Mental health problems are common and the prevalence of these problems presenting to the primary care is found to be high, The joint WHO and Won ca Report published in 2008 considers the prevalence of mental health problems presenting to primary health care (PHC) to be as high as 60% [2].

Despite the high; prevalence of mental health (MH) problems, these frequently pass unrecognized in PHC settings [3-5].

Unfortunately failure to treat these problems in primary care is high as well [3,6,7].

Studies in many parts of the world uncover several factors that affect the recognition of mental health problems by primary health doctors [4], these factors, on the other hand, are thought to affect the quality of care as well [8,9].

High level of Ability to recognize and treat these problems at primary care level is vitally important in order to reduce not only the suffering of individuals but also the futile consumption of public [2].

Rationale

- PHC doctor's knowledge and skills to recognize and treat mental health problems and the determinant factors associated with PHC doctor's ability to detect and treat these problems are not well studied in Sudan.
- Studying the mental health knowledge and skills of the primary health doctors in Khartoum state and the factors associated with the level of the knowledge and skills, will contribute to better understanding, identification, and management of mental health problems at primary care level.

Objectives

General Objective: To study the primary care doctors knowledge and skills of mental health problems in Khartoum state, Sudan.

Specific Objectives

1. To assess the primary health doctors ability to identify mental health problems in Khartoum state, Sudan.
2. To assess the primary health doctors ability to treat mental health problems in Khartoum state, Sudan.
3. To determine the factors associated with the level of good and poor recognition and treatment of mental health problems by Primary health doctors in Khartoum state, Sudan.

Methodology

Study design: Descriptive cross sectional study.

Study area: Primary health care units in Khartoum state, including governmental, private, insurance and mixed units.

Khartoum state

The triangular capital of Sudan consists of Khartoum, Omdurman and Khartoum North. The average altitude of the city is Around 380 meters and it is situated at the confluence of the Blue and White Niles. The Sudanese capital is a relatively new city, beginning its

development only in 1830. The Sudanese population is highly diverse, consisting of about 19 different ethnic groups and almost 600 subgroups. Most of the inhabitants are of black African origin (52 percent), 39 percent are Arabs, 6 percent Beja, and 3 percent foreigners and other small national groups. And all these groups were represented to different degrees in the capital. The population is relatively young: while 45 percent are younger than 14 years old, only about 2 percent are older than 65 [10].

Primary health care units in Khartoum state

Khartoum state is covered by 625 primary health care units. The majority of the units are governmental and the rest are private, insurance or mixed units. The units distributed between the three major cities as follows [11]:
Omdurman: 275 units
Khartoum north: 223 units
Khartoum: 127 units

Study Population: Target groups were; doctors working at primary health care units in Khartoum state.

Study Duration: The study was held during the period from February 2013 to May 2013.

Sampling technique

(City based Stratified random sampling technique) Random stratified samples of 110 primary health doctors were selected to represent the 3 major cities of Khartoum state (KH, KHN, and Omdurman) as follows:
Omdurman: 44% of the sample
Khartoum north: 35.6% of the sample
Khartoum: 18.8% of the sample

Sample size: 110 primary health doctors.

Instruments

Data collection tool

A comprehensive well-structured close ended questionnaire was used.

This questionnaire contains two sections

Sampling technique

- Personal data
- Qualifications
- Information of candidate medical school
- Duration of experience in psychiatry
- Duration of undergraduate psychiatric training
- Duration of postgraduate psychiatric training
- Direct relation with mental health providers
- Information of current PHC unit
- Attitude towards referring and treating mental health problems

Section two: Contains five clinical scenarios in the form of MCQs, the questions address diagnosis and treatment, the scenarios were inspired from hospital records and they represent five of the commonly seen mental health disorders in primary care, they were:

- Depression
- Alcohol dependence
- GAD
- Somatization disorders
- Schizophrenia

Collection of Data: After obtaining consent, each participant was asked to fill all sections.

Data Analysis

Data was analyzed using SPSS version 18.0 with general outputs of relevant cross tabulation and graphs. Relevant statistical tests were done, different associations were investigated and P value of 0.05 and less was considered to be significant.

Ethical consideration

Ethical clearance was obtained from SMSB ethical committee in addition to written formal consent from the study units (doctors).

Results

Descriptive analysis

Socio demographic data

One hundred and ten of primary health doctors were selected from the 625 health care units serving population of Khartoum state. Among them, 60.9% of cases were females and 39.1% were males see table 2, 60% were single 38.2% were married 1.85% were divorced and none of them was widowed see table 3. Their age ranges from; less than 30 year 60%, between 30 and 40 years 35.5% and more than 40 years 4.5% see table 4. Among the units selected 45.5% were based in Omdurman, 31.8% in Khartoum north and 22.7% in Khartoum see table 1, Data was collected and results analyses were as follows:

Universities of graduation: 81.8% of participants were graduated from governmental universities, 14.5% from private universities and 3.6% of them from external universities. See table 5.

Period since graduation: Forty percent of doctors graduated less than 5 years back, 55.5% graduated between 5 to 10 years ago while 4.5% of participants graduated more than 10 years ago. See table 6.

Last medical degree obtained: 68.2% of participants obtained MMBS as their last medical degree, 2.7% obtained Diploma, 12.7% Master degree, 14.5% medical doctorate, 1.8% fellowship and none of the participants obtained any subspecialty. See table 7.

Current post: 60% of participants were medical doctors, 36.4% were registrars, and 3.6% were specialists. See table 8.

Experience with psychiatry: 75.5% of participants have no work experience in psychiatry and 24.5% of them have work experience in psychiatry. See table 9.

Duration of undergraduate training in psychiatry: 15.5% of doctors had no undergraduate training in psychiatry, 10% had 1 to 3 weeks of undergraduate training in psychiatry and 73.6% had 4 or more weeks of under graduate training in psychiatry. See table 10.

Duration of postgraduate training in psychiatry: 90% of participants had no postgraduate training in psychiatry and 10% had postgraduate training in psychiatry. See table 11.

Existence of direct relation or contact with a person works in psychiatry: 54.5% of participants had no direct relation or contact with a person works in psychiatry while 45.5% of participants had direct relation or contact with a person works in psychiatry. See table 12.

Experiencing psychiatric problems with relative or friend: 51.8% of participants had experience with relative or friend psychiatric problem, while 48.2% had no experience with relative or friend psychiatric problem. See table 13.

Type of health facility: Governmental units represent 32% of the sample, private were 40%, insurance were 12.7% and mixed units were 14.5%. See table 14.

Duration of work in health facility: While 88.2% of participants have been working in their health facility for less than 5 years, 11.8% have been working for more than 5 years. See table 15.

Average number of patient seen per week: 45.5% of doctors see 1 - 50 patients per week, 34.5% see 51 - 100 and 20% see more than 100 patients per week. See table 16.

Choice between treating and referring the psychiatric patient: While 91.8% of doctors preferred to refer any patient with mental health problem regard less of their knowledge of the line of treatment, 8.25% preferred to treat the case. See table 17.

Doctor's recognition of psychiatric disorders: Doctors were more able to detect; Depression (73.6% of doctors) and Somatization disorders (64.5% of doctors), than Alcohol dependence (62.7% of doctors) Schizophrenia (50.9% of doctors) and GAD (47.3% of doctors). The average rate of recognition is low (59.8%). See table 18.

Doctor's knowledge of line of management: Doctors were more able to know the line of management of; Schizophrenia (58.2% of doctors), Depression (58.2% of doctors), and alcohol (56.4% of doctors), than GAD (34.5% of doctors), and Somatization disorders (28.2% of doctors). See table 19.

The average rate of knowledge of treatment line was low (47.1%). See table 19.

Analytical results

When primary health doctors ability to diagnose and treat mental health problems tested in relation to duration of undergraduate psychiatric training, duration of postgraduate psychiatric training, last medical degree obtained, Experience with psychiatric training or work, period since graduation and duration of work in the health facility, some variables showed significant associations.

Duration of undergraduate psychiatric training: Duration of undergraduate psychiatric training was significantly associated with ability to recognize ($Chi^2 = 20.0685$; $P < 0.001$) and to know the line of treatment ($Chi^2 = 10.8878$; $P = 0.004$) of mental health problems. See table 22 and 23.

Last medical degree obtained: Last medical degree obtained was significantly associated with ability to recognize mental health problems ($Chi^2 = 20.0685$; $P < 0.001$). See table 20.

Experience with psychiatric training or work: Experience with psychiatric training or work was significantly associated with ability to treat mental health problems ($Chi^2 = 7.0991$; P value = 0.008). See table 21.

Duration of work in the health facility: Duration of work in the health facility was significantly associated with ability to recognize ($Chi^2 = 6.4399$; $P = 0.011$) and to know the line of treatment ($Chi^2 = 4.8776$; $P = 0.027$) of mental health problems. See table 24 and 25.

Descriptive analysis

Area	Frequency	Percentage
Khartoum	25	22.7
Omdurman	50	45.5
Khartoum north (*Bahry*)	35	31.8
Total	110	100.0

Table 1: *Geographical distribution of health facilities.*

Gender	Frequency	Percentage
Male	43	39.1
Female	67	60.9
Total	110	100

Table 2: *Gender of participants.*

Marital status	Frequency	Percentage
Single	66	60.0
Married	42	38.2
Divorced	2	1.8
Widowed	0	0.0
Total	110.0	100.0

Table 3: *Marital status of participants.*

Age group	Frequency	Percentage
less than 30yrs	66	60.0
30 - 40 yrs	39	35.5
More than 40 yrs	5	4.5
Total	110.0	100.0

Table 4: *Age of participants.*

University	Frequency	Percentage
Governmental university	90	81.8
Private university	16	14.5
External university	4	3.6
Total	110	100.0

Table 5: *Universities of graduation.*

Duration since graduation	Frequency	Percentage
less than 5 years	44	40.0
5 - 10 years	61	55.5
More than 10 years	5	4.5
Total	110	100.0

Table 6: *Period since graduation.*

Last medical degree	Frequency	Percentage
MBBS	75	68.2
Diploma	3	2.7
Master	14	12.7
Medical doctorate	16	14.5
Fellowship	2	1.8
Sub specialty	0	0.0
Total	110	100.0

Table 7: *Last medical degree obtained by participants.*

Current medical job	Frequency	Percentage
Medical doctor	66	60.0
Registrar	40	36.4
Specialist	4	3.6
Total	110	100.0

Table 8: *Current post.*

Psychiatric work or training	Frequency	Percentage
Yes	27	24.5
No	83	75.5
Total	110	100.0

Table 9: *Experience of participants in psychiatry.*

Undergraduate training in psychiatry	Frequency	Percentage
No training	17	15.5
1 - 3 weeks	12	10.9
4 weeks or more	81	73.6
Total	110	100.0

Table 10: *Duration of undergraduate training in psychiatry.*

Postgraduate training in psychiatry	Frequency	Percentage
No	99	90.0
Yes	11	10.0
Total	110	100.0

Table 11: *Post graduate training in psychiatry.*

Contact with the person in the field of psychiatry	Frequency	Percentage
Yes	50	45.5
No	60	54.5
Total	110	100.0

Table 12: *Existence of direct relation or contact with person works in psychiatry.*

Psychiatric problems with relative or friend	Frequency	Percentage
Yes	57	51.8
No	53	48.2
Total	110	100.0

Table 13*: Experiencing psychiatric problem with relative or friend.*

Type of health facility	Frequency	Percentage
Governmental	36	32.7
Private	44	40.0
Insurance	14	12.7
Mixed	16	14.5
Total	110	100.0

Table 14: *Type of health facility.*

Duration	Frequency	Percentage
Less than 5 years	97	88.2
5 years or more	13	11.8
Total	110	100.0

Table 15*: Duration of work in health facility.*

Number of cases seen in a week	Frequency	Percentage
1 - 50	50	45.5
51 - 100 cases/week	38	34.5
More than 100 cases/week	22	20.0
Total	110	100.0

Table 16: *Average number of patients seen per week.*

Decision	Frequency	Percentage
Treating the case	9	8.2
Referring the case	101	91.8
Total	110	100.0

Table 17: *Choice of doctors between treating and referring psychiatric patient.*

Diagnosis scenarios	Frequency	Percentage
Schizophrenia	56	50.9
GAD	52	47.3
Somatization	71	64.5
Alcohol dependence	69	62.7
Depression	81	73.6
Average	65.8	59.8

Table 18: *Doctors' recognition of psychiatric disorders.*

Diagnosis scenarios	Frequency	Percentage
Schizophrenia	64	58.2
GAD	38	34.5
Somatization	31	28.2
Alcohol dependence	62	56.4
Depression	64	58.2
Average	51.8	47.1

Table 19: *Doctors' knowledge of line of management.*

Bi- variable analysis

Last medical degree	Diagnosis knowledge				Total	
	Knowledge score 60% or more		Knowledge score less than 60%			
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
MBBS	45	65.2	30	73.2	75	68.2
Diploma	2	2.9	1	2.4	3	2.7
Master	10	14.5	4	9.8	14	12.7
Medical doctorate	12	17.4	4	9.8	16	14.5
Fellowship	0	0.0	2	4.9	2	1.8
Total	69	100.0	41	100.0	110	100.0

Table 20: *Relation between last medical degree and ability to recognize psychiatric disorders.*

$Chi^2 = 21.082; P < 0.001$

Experience with psychiatric training or work	Treatment knowledge				Total	
	Knowledge score 60% or more		Knowledge score less than 60%			
	Frequency	Percentage	Frequency	Percentage		
No	21	30.4	6	14.6	27	24.5
Yes	48	69.6	35	85.4	83	75.5
Total	69	100.0	41	100.0	110	100.0

Table 21: *Relation between the experience with psychiatric training or work and level of knowledge regarding treatment of psychiatric disorders.*

$Chi^2 = 7.0991$; P value = 0.008

Undergraduate training	Diagnosis knowledge				Total	
	Knowledge score 60% or more		Knowledge score less than 60%			
	Frequency	Percentage	Frequency	Percentage		
4 weeks or more	60	87.0	21	51.2	81	73.6
1 - 3 weeks	6	8.7	6	14.6	12	10.9
No training	3	4.3	14	34.1	17	15.5
Total	69	100.0	41	100.0	110	100.0

Table 22: *Relation between undergraduate training and level of knowledge regarding diagnosis of psychiatric disorders.*

$Chi^2 = 20.0685$; $P < 0.001$

Undergraduate training	Treatment knowledge				Total	
	Knowledge score 60% or more		Knowledge score less than 60%			
	Frequency	Percentage	Frequency	Percentage		
4 weeks or more	49	86.0	32	60.4	81	73.6
1 - 3 weeks	5	8.8	7	13.2	12	10.9
No training	3	5.3	14	26.4	17	15.5
Total	57	100.0	53	100.0	110	100.0

Table 23: *Relation between undergraduate training and level of knowledge regarding treatment of psychiatric disorders.*

$Chi^2 = 10.8878$; $P = 0.004$

Duration of work in the health facility	Treatment knowledge				Total	
	Knowledge score 60% or more		Knowledge score less than 60%			
	Frequency	Percentage	Frequency	Percentage		
5 years or more	3	5.3	10	18.9	13	11.8
Less than 5 years	54	94.7	43	81.1	97	88.2
Total	57	100.0	53	100.0	110	100.0

Table 24: *Relation between the duration of work in health facility and level of knowledge regarding treatment of psychiatric disorders.*

$Chi^2 = 4.8776$; $P = 0.027$

Duration of work in the health facility	Diagnosis knowledge				Total	
	Knowledge score 60% or more		Knowledge score less than 60%			
	Frequency	Percentage	Frequency	Percentage		
5 years or more	4	5.8	9	22.0	13	11.8
Less than 5 years	65	94.2	32	78.0	97	88.2
Total	69	100.0	41	100.0	110	100.0

Table 25: *Relation between duration of work in the health facility and level of knowledge regarding diagnosis of psychiatric disorders.*

$Chi^2 = 6.4399$; P = 0.011

Referral of psychiatric cases	Diagnosis knowledge				Total	
	Knowledge score 60% or more		Knowledge score less than 60%			
	Frequency	Percentage	Frequency	Percentage		
Treating the case	5	7.2	4	9.8	9	8.2
Referral	64	92.8	37	90.2	101	91.8
Total	69	100.0	41	100.0	110	100.0

Table 26: *Relation between referral preference and level of knowledge regarding diagnosis of psychiatric disorders.*

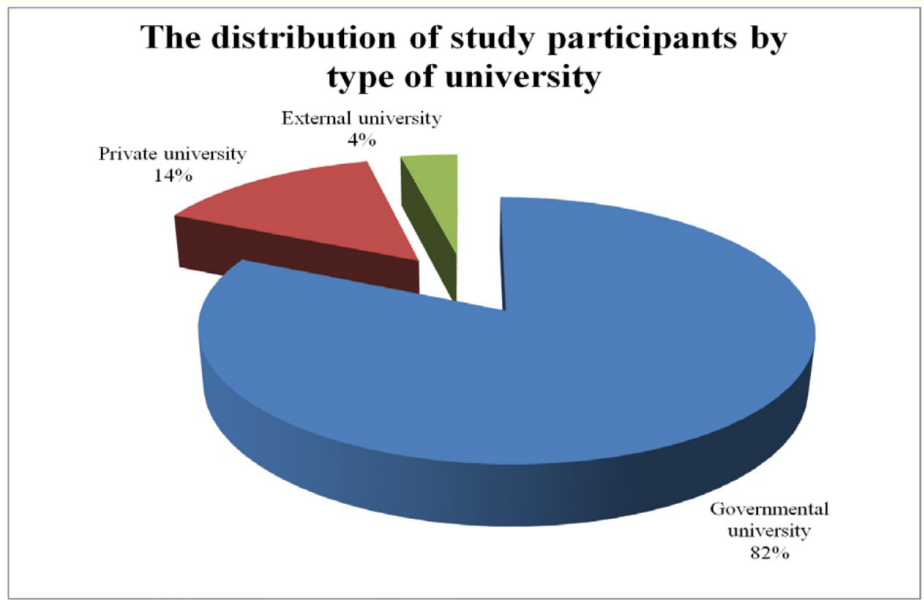

Figure 1: *Universities of graduation.*

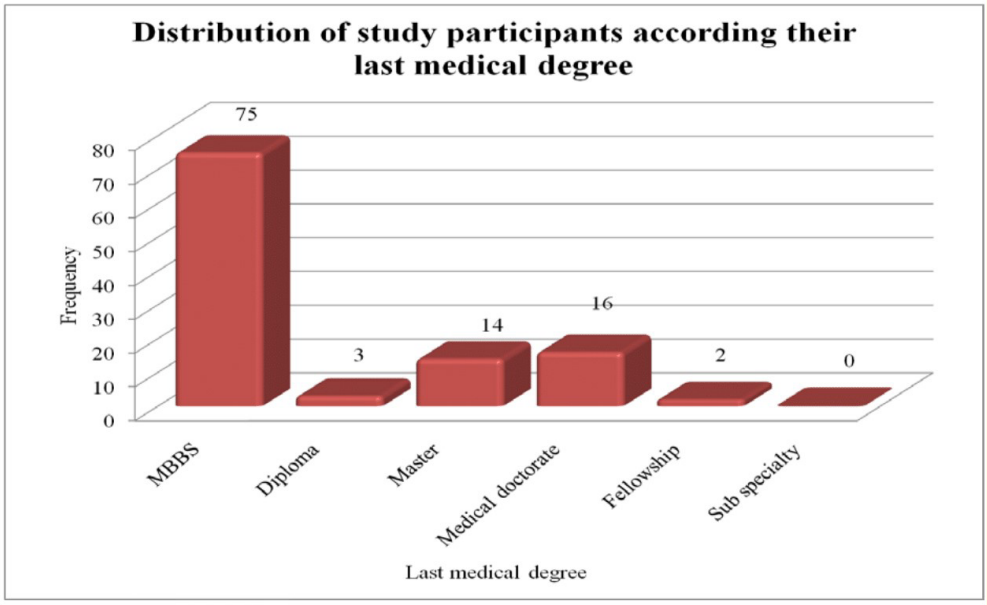

Figure 2: *Last medical degree of participants.*

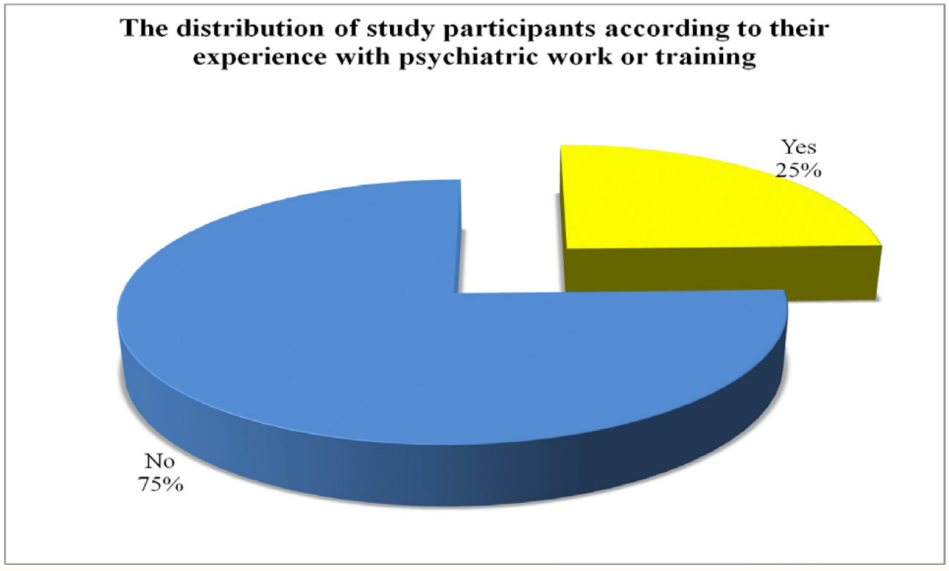

Figure 3: *Experience with psychiatric work or training.*

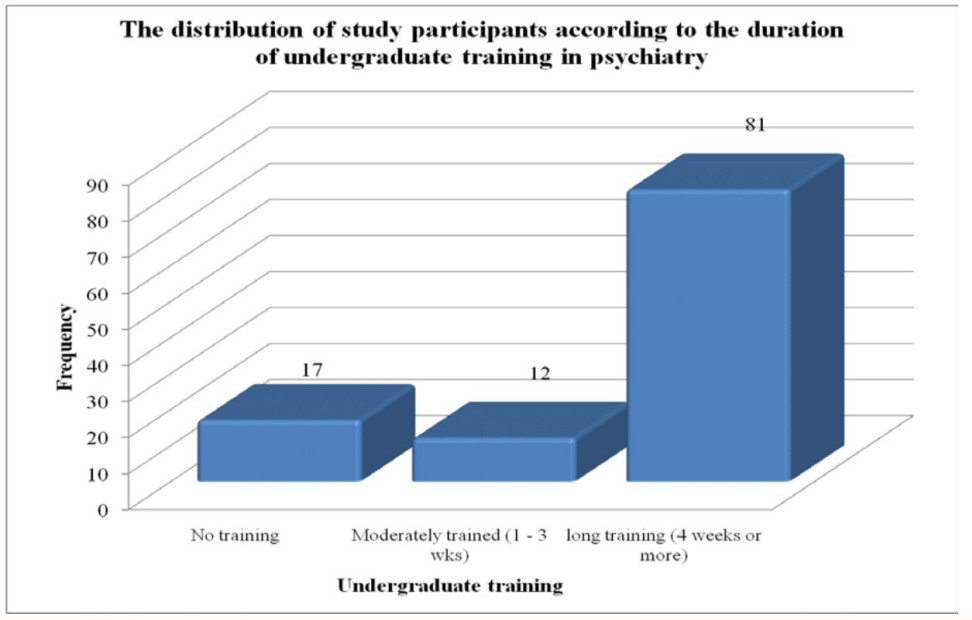

Figure 4: *Duration of undergraduate training.*

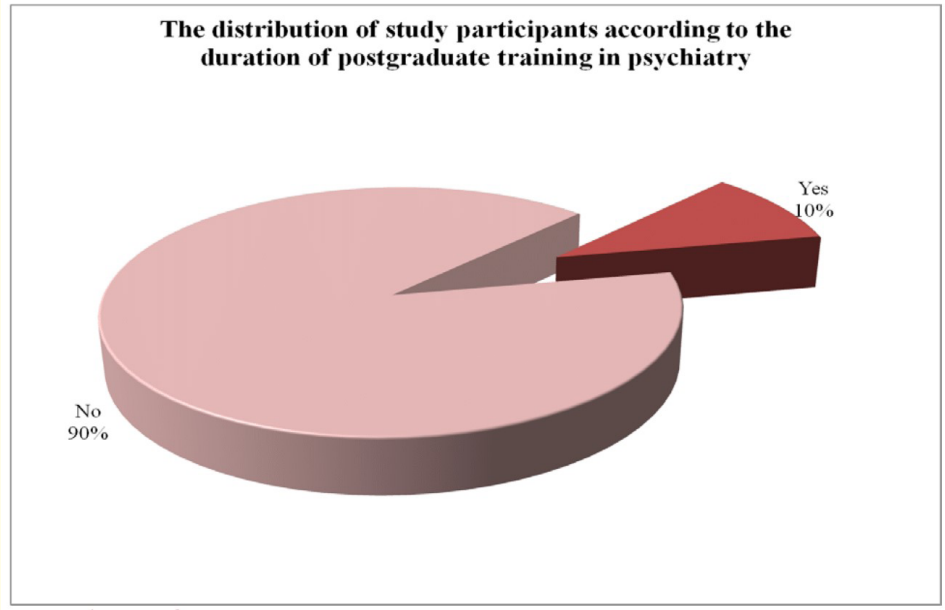

Figure 5: *Postgraduate training.*

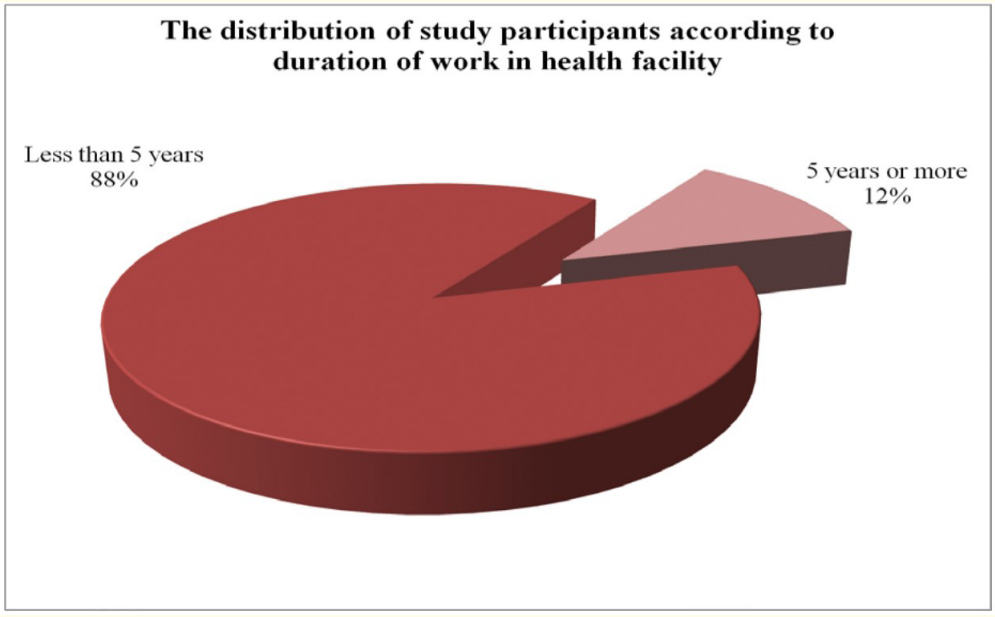

Figure 6: *Duration of work in health facility.*

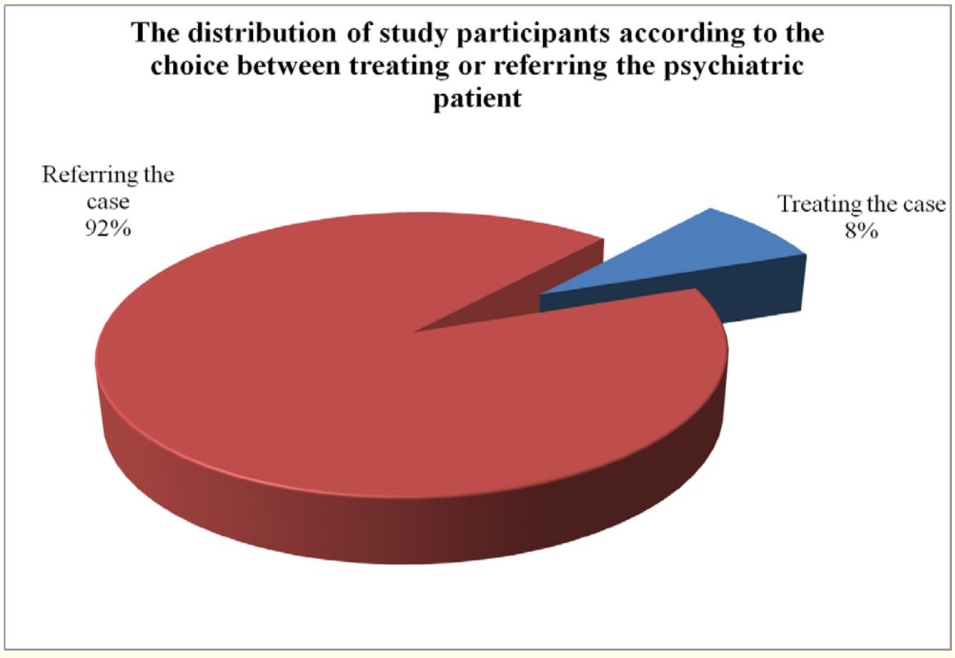

Figure 7: *Choice of participants between treating and referring the psychiatric patient.*

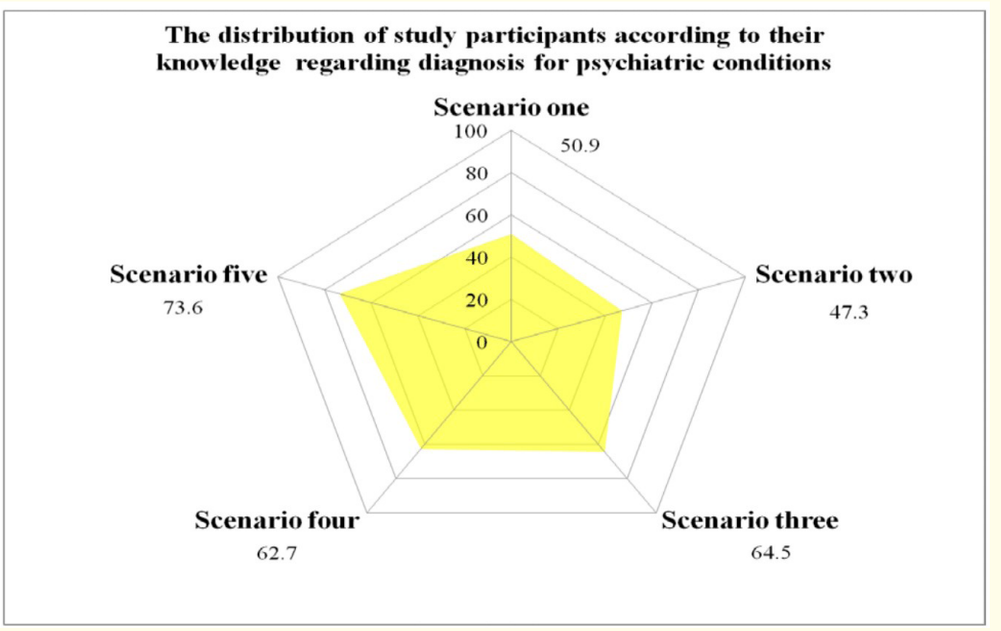

Figure 8: *Participants knowledge of psychiatric disorders.*
Scenario one: schizophrenia; Scenario two: GAD; Scenario three: somatization; Scenario four: alcohol dependence; Scenario five: major depression.

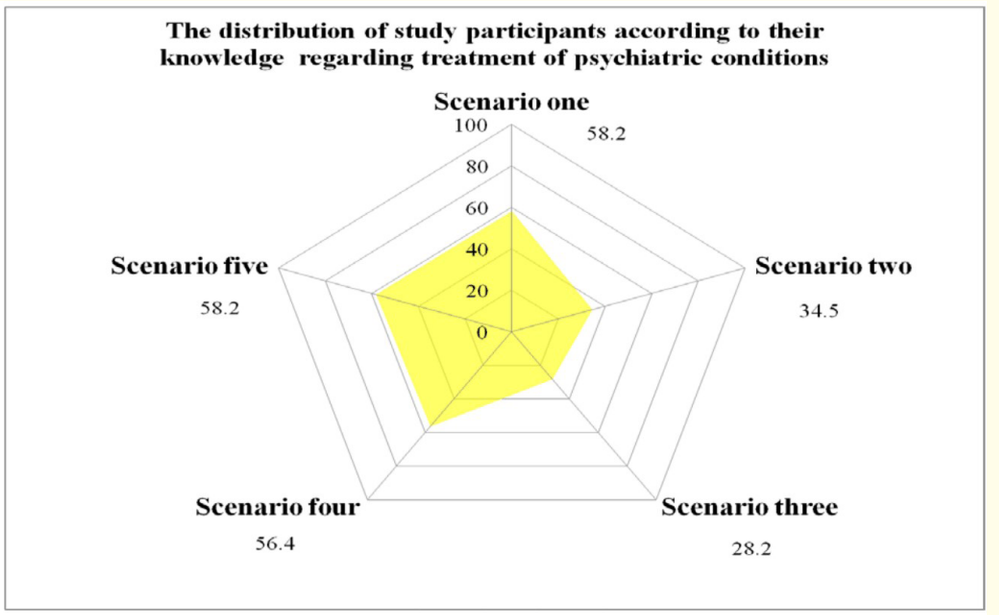

Figure 9: *Participants knowledge of treatment of psychiatric disorders.*
Scenario 1: schizophrenia; Scenario 2: GAD; Scenario 3: somatization; Scenario 4: depression; Scenario 5: alcohol dependence

Discussion

The researcher expected the results of this research to show the ability of primary health doctors to diagnose and treat some of commonly seen mental health problems in primary care and to show the factors associated with these abilities in Khartoum state.

Strength

- This research studied PHC doctors knowledge of mental health problems which reported by international researches to be the commonly seen problems at primary levels, in addition to psychotic disorders which considered to be, although, not of high prevalence as other problems, of great importance in terms of supposed low level of detection and treatment at primary level.
- This research had studied most of factors studied in different previous researches in addition to other factors assumed to be associated with doctors' level of knowledge of mental health problems at primary care level.
- Reasonable sample size.
- The sample was well stratified.
- The data was well analyzed statistically.

Main findings

110 of primary health doctors were selected from the 625 health care units serving population of Khartoum state. Among them, 60.9% were females and 39.1% were males. See table 2.

1. The average rate of recognition is low (59.8%). See table 18.
2. While doctors were more able to detect; Depression (73.6% of doctors), Somatization disorders (64.5% of doctors), than Alcohol dependence (62.7% of doctors), Schizophrenia (50.9% of doctors) and GAD (47.3% of doctors).
3. The average rate of knowledge of treatment line was low (47.1%). See table 19.
4. While doctors were more able to know the line of management of; Schizophrenia (58.2% of doctors), Depression (58.2% of doctors), and alcohol (56.4% of doctors), they were less able to know the line of management of; GAD (34.5% of doctors), and Somatization disorders (28.2% of doctors). See table 19.
5. There were significant positive association between Duration of undergraduate psychiatric training, and PHC doctors' ability to recognize and treat mental health problems.
6. Last medical degree obtained by PHC doctors had significant positive association with their ability to recognize mental health problems.
7. There were significant positive association between Experience with psychiatric training or work and the PHC doctors' knowledge of mental health problems line of management.

Doctors' recognition of mental disorders

The rate of recognition of mental health problems by PHC doctors was low (59.8%), this is goes with the international researches; in a research conducted in Netherlands by Ormel J and others the recognition rate was found to be as low as 47% [3], in another Finnish study, the recognition rate was found to be low and varies greatly among general practitioners in primary health care. Higgins ES Indicated that approximately half of the patients with a psychiatric disorder were not recognized as having a mental illness by their primary care physician [5].

An international study held by Üstün TB and Sartorius N indicated a considerable variation across countries, with the proportion of mental disorders detected by treating physicians varying between 10% and 75% [12]. On the other hand, doctors were more able to detect; Depression (73.6% of doctors), Somatization disorders (64.5% of doctors) than generalized anxiety (47.3% of doctors) or alcohol dependence (62.7% of doctors), these results are strikingly similar to the international studies, the WHO stated that; Physicians are more

likely to identify somatization disorder and depression than generalized anxiety or harmful use of alcohol [13]. The similarity in findings across different countries with different doctors training, different health systems and different cultures, may show that the variation between doctors in being more or less able to detect some mental disorders than others is greatly dependent on the nature of the disorder itself (patient factors) rather than other factors known to affect this ability (doctors factors, health system factors and societal factors), but I believe that this may be good reason to pay more attention to the disorders with low recognition rate.

Ability by doctors to identify schizophrenia was also low (50.9% of doctors). No literature was found in this issue, however, perhaps if a broader category was used (psychosis) it would have produced higher recognition rate.

Doctors' ability to treat mental disorders

The average rate of knowledge of treatment line was low (47.1%), a Finding consistent with the literature, according to the WHO; Even if a disorder is accurately diagnosed; provision of evidence-based treatment is far from assured [13].

Doctors were more able to know the line of management of; Schizophrenia (58.2% of doctors), Depression (58.2% of doctors), and alcohol dependence (56.4% of doctors), they were less able to know the line of management of; GAD (34.5% of doctors), and Somatization disorders (28.2% of doctors).

A primary care-based depression study from six countries showed that the proportion of people receiving any potentially effective treatment ranged from a high of 40% in Seattle, USA, to a low of 1% in St. Petersburg, Russian Federation [14].

Üstün TB and Sartorius N reported that few people with major depression in developing countries are receiving antidepressants or other evidence-based treatments [12].

The variation between doctors treatment abilities toward different mental disorders may reflect the areas of weakness in psychiatric training and the tendency of the doctors to under treat psychiatric disorders with more prominent physical manifestations (GAD and somatization), and to concentrate on the physical side of the illness instead.

Factors associated doctors' ability to recognize and treat mental health problems:

1. **Duration of undergraduate psychiatric training:** The duration of undergraduate training in psychiatry showed positive significant association with the doctors' ability to identify and treat mental disorders, the result is similar to many international studies; the WHO considers inadequate training on mental health issues as one of several reasons for under detection and undertreatment of mental health problems at primary care level [13].

   Abdullah Dukhail Al-Khathami,), Abdallah M Mangoud, Idris A Rahim, and Mahdi S Abu Madini in their study which held in Dammam Sector of the Eastern Province, Saudi Arabia found that The duration of undergraduate psychiatric training was significantly positively associated with the PHC physicians' knowledge and attitudes toward mental illnesses [15].

2. **Last medical degree obtained by PHC doctors:** Last medical degree obtained by PHC doctors had significant positive association with their ability to recognize mental health problems. This is repeating the finding of Joukamaa M, Lehtinen V and Karlsson H who found that; good recognition ability was found to be associated with the qualifications obtained by the doctors [4].

3. **Experience with psychiatric training or work:** Experience with psychiatric training or work positively associated with the doctors ability to treat mental disorders, no significant association was found with the ability to recognize mental disorders, although one study by Joukamaa M, Lehtinen V and Karlsson H indicated a positive association between a good recognition ability and the post graduate training [4], the study does not indicate any relation between postgraduate training or work experience and recognition ability [16-25].

Limitation

- The research was limited to Khartoum State; though most of Sudanese ethnic groups were represented to some extent in the Capital, geographical generalization cannot be possible to whole country.
- The research only studied the length of undergraduate and post graduate training and did not address the quality of training.
- Societal and environmental factors, patient factors and health system factors were not assessed.

Conclusion

The rate of recognition and treatment of mental disorders at primary care is low with considerable variation between doctors' ability to identify and treat different mental disorders.

The duration of undergraduate psychiatric training positively significantly associated with the recognition and treatment ability. While qualifications obtained by doctors positively affect the recognition, existence of psychiatric training or work is positively associated with treatment ability.

Recommendations

- More researches are needed for better understanding of the recognition and treatment of mental health problems at primary care and for identification of reasons of under recognition and under treatment, which will contribute to improvement and promotion of mental health at primary care.
- Revising undergraduate curriculum of psychiatry with more efforts toward longer, broader and deeper undergraduate training.
- Promotion of postgraduate psychiatric training and development of policies aiming to offer adequate and continuous psychiatric training for primary care doctors.
- To encourage primary care doctors to obtain postgraduate qualifications as general practitioners.

Sudan Medical Specialization Board

Psychiatry Council

Questionnaire to Assess the Current Knowledge of Doctors in Khartoum state Primary Health Care Units of Psychiatric disorders Diagnosis and Management

Identity will be anonymous and information will be used for research purposes only

Section One. Kindly, fill the following questions:

City (*put a* √) Khartoum ☐ Omdurman ☐ Khartoum Bahry ☐	**Gender** Male ☐ Female ☐	**Marital status (*put a* √)** Single ☐ Married ☐ Divorce ☐ Widowed ☐
Age (*years*) ☐ **University that you graduated from** ☐ **Year of grad** ☐		
Last medical degree MBBS ☐ Diploma ☐ Master ☐ Medical Doctorate (MD) ☐ Fellowship ☐ Sub-specialty ☐	**Current Medical Job** Medical doctor ☐ Registrar ☐ Specialist ☐ Specialty (*if applicable*)	**Have you ever experience with any psychiatric training/work?** Yes ☐ No ☐ ***if yes*** When? ☐ For how long ☐ Where? ☐
Duration of ***undergraduate*** study/training in psychiatry: *(If any)* ☐ Weeks	Duration of ***postgraduate*** study/training in psychiatry: *(If any)* ☐ Weeks	Do you have any direct relation or contact with a person who work in psychiatry field: Yes ☐ No ☐
Have you directly experienced any psychiatric troubles/problems with one of your relatives/close friends? Yes ☐ No ☐	Type of health facility Governmental ☐ Private ☐ Insurance ☐ Mixed ☐	Duration of work in current health facility ☐ *years* Average number of patients seen weekly: ☐ *patients*
In your routine practice, if you realized that your current patient was a psychiatric case. Then, you think that you know the diagnosis and the line of management perfectly, do you prefer to: Treat the case ☐ Refer the case ☐		

Table 27

***Scenario One*:** A 19-year-old man is noted by his college roommate to be acting in strange way for the past 6 month, talking to people who are not there, walking around the room naked, and accusing the roommate of calling secret police to have him monitored. The patient's vital signs are all within normal limits and the neurologic examination shows no deficits or abnormalities

The most likely diagnosis..	What is the best therapy?
(A) Major depression	(A) Psychotherapy
(B) Delusional disorder	(B) Antipsychotics
(C) Anxiety disorder Answer ( )	(C) Antidepressants Answer ( )
(D) Schizophrenia	(D) Anxiolytics
(E) No mental disorder	(E) Observation

***Scenario Two*:** A 28 year old patient presents with long history of excessive worries, these include worrying about a host of problem that are not specific to any one category, her physical symptoms include muscle tension, insomnia, restlessness, and difficulty concentrating at work.

The most likely diagnosis ..	What is the best therapy?
(A) No mental disorder	(A) Psychotherapy Answer ( )
(B) Obsessive compulsive disorder	(B) Antipsychotics
(C) Depression	(C) Antidepressants + short course of Anxiolytics
(D) Social anxiety disorder Answer ( )	(D) Anxiolytics for long time
(E) Generalized anxiety disorder	(E) Observation

***Scenario Three*:** A 44-year-old woman presents to her primary care doctor with multiple complaints, including weakness in her lower extremities, bloating, headaches, intermittent loss of appetite, and back pain. A careful review of symptoms reveals many other vague symptoms. Her complaints date back to adolescence and she has seen many doctors. Thorough workups, including an exploratory laparotomy, have failed to uncover any clear, organic cause

The most likely diagnosis ..	What is the best approach to this patient?
(A) Irritable bowel syndrome	(A) Tell her any physical workup is unnecessary. Answer ( )
(B) Depression	(B) Antipsychotics.
(C) Somatization disorder Answer ( )	(C) Tactfully ask her why she is inventing symptoms.
(D) Panic disorder	(D) Regular scheduled visits.
(E) Generalized anxiety disorder	(E) Initiate a physical workup and arrange for follow-up in a year's time

***Scenario Four*:** A 45 year old driver has been drinking in secret for several years. he started with one or two glasses per night to help his sleep, but, over time, his nightly intake has increased to four to five shots of hard liquor. Now he needs a few glasses of aragi in the early afternoon to prevent shakiness and anxiety. During the past year, he could not take part in several important family events, because he did not want to miss his nightly drinking. He has tried to limit his alcohol intake but without success.

The most likely diagnosis ..	What is the best therapy?
(A) Alcohol abuse	(A) Psychotherapy
(B) Addictive personality disorder	(B) Antipsychotics Answer ( )
(C) No mental disorder Answer ( )	(C) Antidepressants
(D) Alcohol dependence	(D) Anxiolytics
(E) Generalized anxiety disorder	(E) Observation

***Scenario Five*:** A 35 year old woman comes with a chief complaint of low mood for 3 months, his mother died 3 month ago, and since that time he has been very tearful, he has difficulty concentrating, has lost 10 k.g, and not sleeping well.

The most likely diagnosis ..	What is the best therapy?
(A) Normal bereavement	(A) Mood stabilizers
(B) Major depression Answer ( )	(B) Antipsychotics
(C) No mental disorder	(C) Antidepressants Answer ( )
(D) Psychotic disorder	(D) Anxiolytics
(E) Anxiety disorder	(E) Observation

Table 28

Bibliography

1. WHO Fact Sheet: The World Health Report (2001).

2. WHO/Wonca Joint Report Integrating Mental Health into Primary Care: a global perspective (2008).

3. Ormel J., *et al*. "Recognition, management, and course of anxiety and depression in general practice". *Archives of General Psychiatry* 48.8 (1991): 700-706.

4. Joukamaa M., *et al*. "The ability of general practitioners to detect mental disorders in primary health care". *Acta Psychiatrica Scandanavica* 91.1 (1995): 52-56.

5. Higgins E. "A review of unrecognized mental illness in primary care. Prevalence, natural history, and efforts to change the course". *Archives of Family Medicine* 3.10 (1994): 908-917.

6. WHO. Declaration of Alma-Ata. Adopted at the International Conference on Primary Health Care, Alma-Ata, USSR (1978).

7. Department of Health, Provincial Government of the Western Cape. Mental Health Primary Health Care (PHC) Services (2011).

8. Friedberg., *et al*. "Does Affiliation of Physician Groups with One Another Produce Higher Quality Primary Care?" *Journal of General Internal Medicine* 22.10 (2007): 1385-1392.

9. Abdullah Salman Alsalman and Abdullah Elsadig Ali. "Population estimation from high resolution satellite imagery: a case study from Khartoum". *Emirates Journal for Engineering Research* 16.1 (2011): 63-69.

10. Cathy Schoen., *et al*. "On the Front Lines of Care: Primary Care Doctors' Office Systems, Experiences, And Views in Seven Countries". *Health Affairs* 25.6 (2006): w555-w571.

11. Murray CJ and Lopez AD. "Alternative projections of mortality and disability by cause 1990-2020: Global Burden of Disease Study [comment]". Lancet 349.9064 (1997): 1498-1504.

12. WHO Revised Global Burden of Disease (GBD) 2002 estimates. Geneva, (2004).

13. WHO World Health Report. Shaping the future. Geneva (2003).

14. WHO. "Mental Health: Strengthening Our Response (Fact sheet N°220)" (2007).

15. Khartoum state ministry of health. Primary health care in Khartoum state, annual report (2010): 12.

16. Üstün TB and Sartorius N. "Mental illness in general health care: an international study". Chichester, Wiley, (1995).

17. Simon GE., *et al*. "Prevalence and predictors of depression treatment in an international primary care study". *American Journal of Psychiatry* 161.9 (2004): 1626-1634.

18. Das A., *et al*. "Depression in African Americans: breaking barriers to detection and treatment". *The Journal of Family Practice* 55 (2006): 30-39.

19. Abas M., *et al*. "Common mental disorders and primary health care: current practice in low-income countries". *Harvard Review of Psychiatry* 11.3 (2003): 166-173.

20. Kohn R., *et al*. "The treatment gap in mental health care". *Bulletin of the World Health Organization* 82.11 (2004): 858-866.

21. Williams DR., *et al*. "12-month mental disorders in South Africa: prevalence, service use and demographic correlates in the population-based South African Stress and Health Survey". *Psychological Medicine* 38.2 (2008): 211-220.

22. Hirschfield R., *et al*. "The National Depressive and Manic-Depressive Association Consensus Statement on the undertreatment of depression". *Journal of the American Medical Association* 277.4 (1997): 333-340.

23. Sareen J., *et al*. "Perceived barriers to mental health service utilization in the United States, Ontario, and the Netherlands". *Psychiatric Services* 58.3 (2007): 357-364.

24. WHO, Mental health atlas. Geneva (2005).

25. Abdallah M., *et al*. "Traditional mental health training's effect on primary care physicians in Saudi Arabia". *Mental Health in Family Medicine* 8.1 (2011): 3-5.

Volume 6 Issue 1 November 2017