UNIVERSITY OF KHARTOUM

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Mental Disorders in Primary Health Care Centers in Khartoum State

By

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Dedication

To the soul of my father

To my mother

With gratitude and love

To the mentally ill

&

To the poor every where

With understanding

Amel.

Acknowledgements

ABBREVIATIONS

BPAD   Bipolar Affective Disorder

CMD   Common Mental Disorders

DALYs   Disability Adjusted Life Years

DSM IV   Diagnostic and Statistical Manual of Mental Disorders 4th edition

GBD   Global Burden of Disease

GP   General Practicitioner

HIV/AIDS   Human Immunodeficiency Virus/ Acquired Immunodeficiency Syndrome

MD   Mental Disorder

MDD   Major Depressive Disorder

PHC   Primary Health Care

Schz   Schizophrenia

SCID-1   Structured Clinical Interview for DSM IV axis 1 disorders

SCID-CV   Clinical Version of SCID-1

SRQ-20   Self Reporting Questionnaire – 20 item

St.d   Standard deviation

YLD   Years Lived with Disability

ABSTRACT

This is a descriptive study carried out at four primary health centers (PHC) in Khartoum State. Aiming to provide epidemiological data on mental disorders in primary health care settings and to validate the use of the Self Reporting Questionnaire – 20 (SRQ-20).

A total of 220 primary health care attenders, aged 18 years and above were interviewed using the SRQ-20, in-depth clinical examination was conducted using the Structured Clinical Interview for DSM IV axis 1 disorders (SCID-1). Sociodemographic data and help seeking behaviour were also reported.

The prevalence of mental disorders among PHC attenders was found to be 60%. Statistically significant association was found between mental disorder and the following: sex: 65.6% of the females qualified a diagnosis of mental disorder compared to 47.8% of the males (P = 0.017); age group 18-47 years compared to age group 48 years and above (P = 0.017); below and above average standard of living as compared to the average standard of living (P = 0.042); use of traditional medicine (P = 0.035); eight or more visits to health facilities per year (P=0.027) and; quoting three or more complaints (P=0.007).

Major depressive disorder was diagnosed in 32 attenders (14.6%), adjustment disorder in 24 attenders (10.9%), generalized anxiety disorder in 16 attenders (7.3%). Schizophrenia was diagnosed in 6 attenders (2.7%).

More than four-fifth of the mental disorders encountered fell in three main categories. These were: mood disorders (34.5%), anxiety disorders (32.4%) and adjustment disorders (17.3%).

Of the 132 (60%) attenders who qualified a diagnosis of mental disorders only one case was detected by PHC providers.

The cut-off point 4/5 on the SRQ-20 provided a balanced sensitivity and specificity 90.9% and 86.36%, respectively. The estimated prevalence of mental disorders at cut-off point 4/5 was equal to the prevalence detected clinically.

The prevalence of mental disorders among PHC attenders in Khartoum State is high. Primary mental health care is almost completely overlooked. The SRQ-20 is a valid tool for screening in PHC.

There is an urgent need for a national mental health policy in Sudan.

ملخص الأطروحة

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48   .   .

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32   (14.6%)

24   (10.9%)   16   (7.3%)   6   (2.7%).

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%34.5)   (32.4%)   (17.3%).

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INTRODUCTION

Estimates of the prevalence of psychiatric disorders in general practice world wide ranged from 25% to 70 %.[1]

The main contributor to the mental ill-health burden is depression, which along with anxiety and somatic complaints, affects one in three people within their lifetime.[2]

Although mental health problems can often be successfully treated, many people do not get the care they needed because of the associated stigma, a lack of resources (personal finance and/or medical system wide) and a lack of national mental health care policies[3]. Therefore, a person seeking professional help is more likely to turn to a primary care physician than to the psychiatrist. [4]

In Africa and the Western Pacific region, only 48% of countries have mental health policies. One of the World Health Organization's (WHO) goals is to promote mental health policy at a country level. Access to prevalence data is critical to the success of these programmes, to the formulation of cogent national mental health policies and to the assurance of specific annual budget allocation to mental health.[3] In making choices for health funding in low-income countries, policy-makers, and donor agencies are

guided by epidemiological evidence that indicates the burden of disease on the poor.[5]

In Sudan, the available data on mental disorders in Primary health care (PHC) dates to three decades back. A study conducted by the WHO in Shagara Jebel Awlia, Khartoum Province estimated the prevalence of mental disorders (MD) among patients attending PHC facilities to be 10.6%.[6]

The study also concluded that existing staff at PHC stations lacked basic training in mental health care and this was associated with failure to recognize mental health problems. Furthermore, a follow up study conducted about two years later showed that only 50% of the health staff who received training in Shagara Jebel Awlia in the previous study was still working in the area. This was considered important because it implied the commitment of the health authorities to maintain the assignment of these trained workers. [7]

Bearing in mind the easier access to PHC facilities which now relies more on doctors rather than simply trained community health workers, specially, in cities, and the effort put by health authorities on the control of infectious and communicable diseases, it would obviously be a mistake to assume that the same results would exist nowadays.

On the other hand, the negative impact of conflicts and civil war in South, East and more recently West of the Sudan on health in general and mental health in particular can not be overlooked.

The United Nations, World Food Programme reported that civil war in Darfur region (West Sudan) has left two million people sheltering in camps in Sudan and W. Chad. Insecurity is frustrating the WFP to reach the hungry. Even before the crisis, an estimated 18% of Sudanese people suffered from natural malnutrition. This figure went up to 26% afterwards.[8]

It is estimated that between a third and half of all the affected persons in areas of conflicts and disasters suffer from mental distress.[2] There is evidence that the impact of war and conflicts extends far beyond the hot areas.

A study on the effects of rapid urbanization on child behaviour and health in Khartoum – Sudan, showed an increase of behaviour problems of boys aged 7-15. The older children of newcomers, specially, with low-income showed the highest frequencies. The study also showed a strong connection between poor somatic health and high rates of behavioural deviances. [9]

Another study conducted in connection with mass movement of Wadi Halfa people in 1963, following the construction

of the High Dam in Egypt found an out-burst of a conversion disorder among girls.[10]

In conclusion, it should surprise no one that the recommendation of the Alma-Ata conference emphasized that the promotion of good mental health should be a component of PHC.[11]

It is therefore, essential to know the answers to the following: What is the prevalence, types and distribution of mental disorder among patients coming for PHC? What proportion is detected by the health workers? Which type(s) of help sought by the patients is/are commonly associated with mental disorder?

This study is an endeavour to provide the answers to these questions in Khartoum and Khartoum North provinces.

JUSTIFICATIONS:

- Mental and behavioural disorders are common among patients attending PHC settings accounting for about 24% of all patients.[2]

- Global Burden of Disease 2000(GBD) estimates show that mental and neurological conditions account for 30.8% of all years lived with disability (YLD) in the world.[2]

- Mental disorders impose a huge economic burden on individuals, families and communities.[2]

- Valuable resources are often wasted through failure to recognize mental problems which are therefore, dealt with inadequately. This leads to patient's dissatisfaction, chronicity and further wastage of resources.[11]

- The most important requirement is for the assessing doctors to have a high "index of suspicion" based on an awareness of the prevalence and risk factors for psychiatric disorders.[12]

- Most of the psychiatric disorders in general practice attenders can be treated successfully in primary care. Only 5-10% of patients need referral to psychiatrist.[13]

- Availability of treatments for acute and chronic mental disorders enable the use of a variety of levels of care for mentally ill patients.[14]

LITERATURE REVIEW

The importance of mental health has been recognized by the World Health Organization (WHO) since its origin, and is reflected by the definition of health in the WHO constitution as "not merely the absence of disease or infirmity", but rather, "a state of complete physical, mental and social well being". In recent years this definition has been given sharper focus by many huge advances in the biological and behavioural sciences. These in turn have broadened our understanding of mental functioning, and of the profound relationship between mental, physical and social health.[11]

Good mental health should enable individuals to develop to the maximum both their physical and mental potentials, and to live social and economically productive lives in harmony with their environment.[15] Unfortunately, in most parts of the world, mental and mental disorders are not regarded as any thing like the same importance as physical health. Instead they have been largely ignored or neglected. [2]

In developing countries, most individuals with severe mental disorders are left to cope as best as they can with their private burdens such as depression, dementia, schizophrenia and

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substance dependence. Globally, many individuals re victimized for their illness and become the target of stigma and discrimination.[2] Most existing health systems ignore the mental aspect of human life. They usually fail to take into account the impact of emotion and behaviour on health.[11]

1.1. The magnitude of mental disorders:

Today, about 450 million people suffer from a mental or behavioural disorder. According to the WHO's Global Burden of Disease 2001 (GBD), 33% of the years lived with disability (YLD) are due to neuropsychiatric disorders, a further 2.1% to intentional injuries. Unipolar depressive disorders alone lead to 12.15% of YLD, and rank as the third leading contributors to the GBD. Four of the six leading causes of YLD are due to neuropsychiatric disorders (depression, alcohol-use disorders, Schizophrenia (SZP) and bipolar disorder). Neuropsychiatric conditions account for 13% of disability adjusted life years (DALYs), Intentional injuries for 3.3% and HIV/AIDS for another 6%.[16]

Nutritional deficiencies 2%
Perinatal conditions 7%
Maternal conditions 2%
Respiratory infections 6%
Malaria 3%
Childhood diseases 3%
Diarrhoeal diseases 4%
HIV/AIDS 6%
Tuberculosis 2%
Other CD causes 6%
Injuries 12%
Congenital abnormalities 2%
Musculoskeletal diseases 2%

Other NCDs 1%
Malignant neoplasms 5%
Diabetes 1%
Neuropsychiatric disorders 13%
Sense organ disorders 3%
Cardiovascular diseases 10%
Respiratory diseases 4%
Digestive diseases 3%
Diseases of the genitourinary system 1%

Burden of disease worldwide: Disability adjusted life years (DALYs), 2001.[17]

The latter two have a behavioural components linked to mental health. Moreover, behind these oft-repeated figures lies enormous human suffering.

- More than 150 million persons suffer from depression at any point in time;

- Nearly one million commit suicide every year;

- About 25 million suffer from schizophrenia.

- 38 million suffer from epilepsy; and

- More than 90 million suffer from an alcohol-or drug-use disorder.

The number of individuals with disorders is likely increased further in view of the ageing of the population, worsening social problems and civil unrest.

The growing burden amounts to a huge cost in terms of human misery, disability and economic loss. Among the 10 leading risk factors for the GBD measured in DALYs, as identified in the World Health Report (2002), three were mental/behavioural (unsafe sex, tobacco use, alcohol use) and three others were significantly affected by mental/behavioural factors (overweight, blood pressure and cholesterol).[16]

1.2. Mental health problems: the undefined and hidden burden:

The *undefined burden* of mental problems refers to the economic and social burden for families, communities and countries.

The *hidden burden* refers to the burden associated with stigma and violations of human rights freedoms.[18]

1.2.1. Undefined burden:

Mental illness affects the functioning and thinking process of the individuals greatly diminishing his/her social role and productivity in the community. Some of the specific economic and social costs include:

- Lost production from premature deaths caused by suicide (generally equivalent to, and in some countries greater, than deaths from road traffic accidents);

- Lost production from people with mental illness who are unable to work;

- Lost productivity from family members caring for the mentally-ill person;

- Cost of accidents by people who are psychologically disturbed;

- Direct and indirect financial costs for families caring for the mentally-ill person;

- Unemployment, alienation, and crime in young people whose childhood problems, were not sufficiently well addressed for them to benefit from the education available;

- Emotional burden and diminished quality of life for family members.

The overall economic burden of mental disorders[16]

	Care costs	**Productivity costs**	**Other costs**
Sufferers	Treatment and service fees/payments	Work disability; Lost earnings	Anguish/suffering; Treatment side-effects; suicide
Family and friends	Informal care-giving	Time off work	Anguish; isolation stigma
Employers	Contribution to treatment and care	Reduced productivity	-
Society	Provision of mental health care and general medical care (taxation/Insurance)	Reduced productivity	Loss of lives; Untreated illnesses (unmet needs); social exclusion

1.2.2. Mental health problems in childhood:

An important characteristics of MDs is that mortality is relatively low, onset often occurs at a young age, and the indirect costs derived from lost or reduced productivity in the work place are high.

The cost of childhood disorders can be both large and largely hidden. Early onset of MDs disrupts education and early careers. The consequences in adulthood can be enormous if effective treatment is not provided. Knapp shows that children with conduct disorders generate substantial additional costs from ages 10-27 years. These are not mainly related to health, as one would expect, but to education and criminal justice, creating a serious challenge for the social capital as a whole.[16]

1.2.3. The hidden burden:

Stigma can be defined as a mark of shame, disgrace or disapproval, which results in an individual shunned or rejected by others. Because of stigma, persons suffering from a mental illness are: -

- Often rejected by friends, relatives, neighbours and employers leading to aggravated rejection, loneliness and depression;

- Often denied equal participation in family life, normal social networks, and productive employment;

- Stigma has a detrimental effects on a mentally ill person's recovery, ability to find access to services, the type of treatment and level of support received and acceptance in the community;

- Rejection of people with mental illness also affects the families and caretakers and leads to isolation and humiliation;

- A major cause of stigma associated with mental illness are the myths, misconceptions, negative stereotypes about mental illness held by many people in the community.[18]

1.2.4. Human rights violation:

Persons experiencing mental problems are more vulnerable than others in their social dealings and as a result, are at a relatively higher risk to have their human rights and freedoms violated. These include:

- The right not to be discriminated against (e.g. in access to health care, social services and employment);

- The right to integrity of the person (e.g., not be unduly subjected to mental or physical violations);

- The right to liberty (e.g., not to have restrictions automatically imposed on freedom through detention);

- The right to control one's own resources. [18]

1.2.5. Violations in psychiatric institutes are rife:

Many psychiatric institutions have inadequate, degrading and even harmful care and treatment practices, as well as, unhygienic and inhuman living conditions. For example, there have been documented cases of people being tied to logs far away from their communities for extensive periods of time and with inadequate food, shelter or clothing. Furthermore, often people are admitted to and treated in mental health facilities against their will. Issues concerning consent for admission and treatment are often ignored, and independent assessments of capacity are not undertaken.[16]

1.3. Determinants of mental and behavioural disorders:

A variety of factors determine the prevalence, onset and course of mental and behavioural disorders. These include social and economic factors, demographic factors such as sex and age, serious threats such as conflicts and disasters, the presence of major physical diseases and the family environment, which are briefly described here to illustrate their impact on mental health.

1.3.1. Poverty:

The dimensions of poverty as highlighted by the poor people: [19]

- Lack of incomes and assets to attain basic necessities-food, shelter, clothing, and acceptable levels of health and education;

- Sense of voicelessness and powerlessness in the institutions of state and society;

- Vulnerability to adverse shocks, linked to an inability to copes with them.

Poverty and associated conditions of unemployment, low educational levels, deprivation and homelessness are not only widespread in poor countries, but also affect a sizable minority of rich countries. Data from cross-national surveys in Brazil, Chile, India and Zimbabwe show that common mental disorders are about twice as frequent among the poor as among the rich. In the United States, children from the poorest families were found to be at increased risk of disorders in the ratio of 2:1 for behavioural disorders and 3:1 for co-morbid conditions. There is also evidence that, the course of disorders is determined by the socioeconomic status of the individual. This may be a result of service-related variables, including barriers to accessing care. Poor countries have few resources for mental health care and these resources are often unavailable to the poorer segments of society. Even in rich countries, poverty and associated factors such as lack of insurance coverage, lower levels of education, unemployment, and racial, ethnic and language minority status create insurmountable barriers to care. The treatment gap for most mental disorders is large, but

for the poor population it is massive. In addition poor people often raise mental health concerns when seeking treatment for physical problems.

The relationship between mental and behavioural disorders, including those related to alcohol use, and the economic development of communities and countries has not been explored in a systematic way. It appears, however, that the vicious cycle of poverty and mental disorders at the family level (Fig. 1.2) may well be operative at the community and country levels.[19]
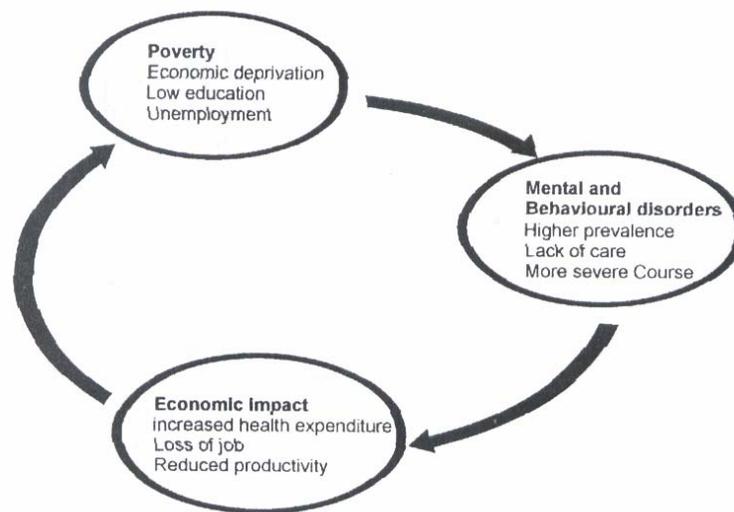
Vicious cycle of poverty and mental disorders[2]

1.3.2. Sex:

There has been an increasing focus on sex differences in studying the prevalence of, causation and course of mental and behavioural disorders. Recent community studies have revealed

that the overall prevalence of mental and behavioural disorders does not seem to show sex differences.[2] However, female gender is associated with higher prevalence rates for common mental disorders (CMD) in adults.[20] The usual ration being between 1.5: 1 and 2:1 for anxiety and depressive disorders respectively, while substance use disorders and antisocial personality disorders are more common among men. Severe MDs such as schizophrenia (Schz) and bipolar affective disorder (BPAD) do not show any clear sex differences of incidence or prevalence.[2] However, regarding admission rates a study in Kingdom of Saudi Arabia found that, males were more frequently admitted for Schz, while females for mood and anxiety disorders.[21] Co-morbidity is more common in women than men.

Many reasons for the higher prevalence of CMD among women have been proposed. Genetic and biological factors certainly play some role.[2]

Another reason for the sex differences in CMDs is that women, in many societies and specially in developing countries, bear the brunt of the adversities associated with poverty: less access to school, physical abuse from husbands, forced marriages, sexual trafficking, fewer job opportunities and in some societies, limitation of their participation outside the home.[5]

1.3.3. Age:

The overall prevalence of mental and behavioural disorders among children varies considerably between studies ranging between 10%-20%.[2] A community study in Sudan concluded that, in certain rural areas one child out of ten showed pronounced psychiatric symptoms which may call for medical consultations,[22] however, only those with serious disturbances report for treatment.[23]A possible explanation is that childhood and adolescence being developmental phases, it is difficult to draw clear boundaries between phenomena that are part of normal development and others that are abnormal.[2]

A high prevalence of MDs is also seen in old ages. A community survey in rural Punjab concluded that the level of emotional distress increases with age in both genders. [24]

Overall, the prevalence of some disorders tends to rise with age. Predominant among these is depression. Depression is more common among older people with physically disabling disorders. Depression further increases the disability among this population.[2]

1.3.4 Conflicts and disasters:

Conflicts including wars and civil strife affect a large number of people and result in mental problems. Such situations take a heavy toll on the mental health of the people involved; most

of whom live in developing countries, where capacity to take care of these problems is extremely limited.

Between a third and a half of all the affected persons suffer from mental distress. The most prevalent diagnosis made is post-traumatic stress disorder, often along with depressive and anxiety disorders. In addition most individuals report psychological symptoms that do not account to disorders. Studies on victims of natural disasters have shown that post-disaster support was effective in the improvement of wellbeing.

1.3.5. Physical illness:

The psychological problems of physical illness form a substantial part of psychiatric practice in general hospitals.

Five major categories of meaning of illness have been described:

I. ***Threat;*** the perception of threat is greatest immediately following acute illness or when an established illness takes an unusual course with the development of new and unexpected symptoms. Anxiety is the commonest emotional accompaniment.

II. ***Loss;*** whether an anatomical or symbolic loss. An illness may be perceived as punishment, and hence, is accompanied by self-blame, guilt and depression. Or on the other hand perception of

punishment may be accompanied by resentment and accusation and the patient may become overtly paranoid.

III. *Gain or relief;* indicates that the patient is aware of certain advantages arising from the illness namely, primary gain which refers to resolution of psychodynamic conflicts, and secondary gain when the patient is able to avoid unpleasant domestic or occupational tasks or gain attention and sympathy through being seen as sick.

IV. *Challenge;* if illness is perceived as challenge it leads to active and rational illness behaviour.

V. Insignificance; refers to relative lack of subjected meaning resulting from a constitutional tendency to minimize threat or from a relative lack of information.

It is important to realize that the patient's perception of the illness is not fixed; it varies with time, in response to both environmental and personal psychological changes.

There is only indirect evidence to suggest that certain types of illness are more likely to be followed by pathological psychological reactions. Feldman et al (1987) found that the highest prevalence of affective disorder occurred in patients with haematological malignancy, ischemic heart disease and chest disease. High rates of psychiatric morbidity in association with

malignancy have also been reported by other authors. These observations are not surprising given the public attitudes to malignant disease and also the unpleasant nature of the treatment required. It has been suggested that some illnesses, such as cancer, tuberculosis, epilepsy and venereal diseases are stigmatized in most societies and patients tend to be shunned by relatives and friends. To this list can now be added the acquired immunodeficiency syndrome (AIDS).[25]

1.3.6. Family and environmental factors:

A variety of social factors, influence the onset, course and outcome of MDs.

People go through a series of events in life, minor as well as major. This may be desirable (such as promotion at work) or undesirable (e.g., bereavement or business failure). It has been observed that there is an accumulation of life events immediately before the onset of MDs. This effect is not limited to MDs and has also been demonstrated to be associated with a number of physical diseases, e.g. myocardial infarction.[2]

Much research has been carried out to show how life events influence psychiatric illness. The onset of depressive illnesses often seems to relate to life events, although it may be that the event brings forwards an episode that was insidiously

imminent. Also patients may exaggerate the importance of life events, seeking causation where none exists.

Stressors are well known to have wide spread, subtle and often profound effects in the body, especially on the neuroendocrine system. [26]

The social and emotional environment within the family also plays a role in MDs. They have clearly been correlated with relapses in Schz, but not necessarily with the onset of the disorder.

A large number of studies from all regions of the world have demonstrated that expressed emotionality can predict the course of Schz, including relapses. There is also evidence that changing the emotional environmental within families can have an additive effect on prevention of relapses by antipsychotic drugs. [2]

1.4. Characteristics of psychiatric disorders in medical settings:

Patients seen in non-psychiatric medical services who nonetheless merit psychiatric attention are likely to differ from those seen in specialist psychiatric service in their presentation, in the occurrence of co-existing medical conditions and in the type of psychiatric diagnosis they are likely to receive.[12]

1.4.1. Presentation:

Patients seen in medical services who required psychiatric attention are, perhaps not surprisingly, more likely to present with somatic than with psychological symptoms; for example, the patient who meets the criteria for depressive disorders may have presented with bodily pain.[12] Somatic presentation of psychiatric disorders is said to be more dominant among patients in Africa and other developing countries. But despite their florid presence in people with depression the diagnostic weight of somatic symptoms was minimized by some authors,[27] who considered them as secondary to the core depressive symptoms. And therefore, concluded that, rating scales for depression in African cultures should continue to emphasize the core depressive symptoms, as in other cultures, in addition to the somatic symptoms.

Alternatively, patients may have presented with a problem in medical treatment such as poorly controlled insulin-dependent diabetes mellitus.[12] It has been shown that depressed patients are three times less likely to comply with medical regimens than non-depressed patients.[17] Finally, they may present with behaviourally induced medical conditions; for example the effect of excess alcohol intake or other forms of self-harm. In all these cases, the

presence of features of psychiatric diagnosis may not be obvious, unless they are specifically sought.[12]

1.4.2. Co-existence of medical conditions:

Medical/psychiatric co-morbidity has important implications for how we understand the etiology of the patient's psychiatric disorder and how we manage it.[12] It is becoming increasingly clear that mental functioning is fundamentally interconnected with physical and social functioning and health outcomes. For example, depression is a risk factor for cancer and heart diseases Research support the view that a number of a mental disorders (e.g. depression, anxiety, substance abuse) occur in people suffering from both non-communicable and communicable diseases more often than would be expected by chance.

Rates of suicide are higher among people with physical disorders than among other people.[16]

1.4.3. Aetiology of comorbidity:

There are four possible reasons for the co-morbidity:

- Coincidence;

- Common causation;

- The psychiatric disorder caused the medical condition;

- The medical condition caused the psychiatric disorder.[12]
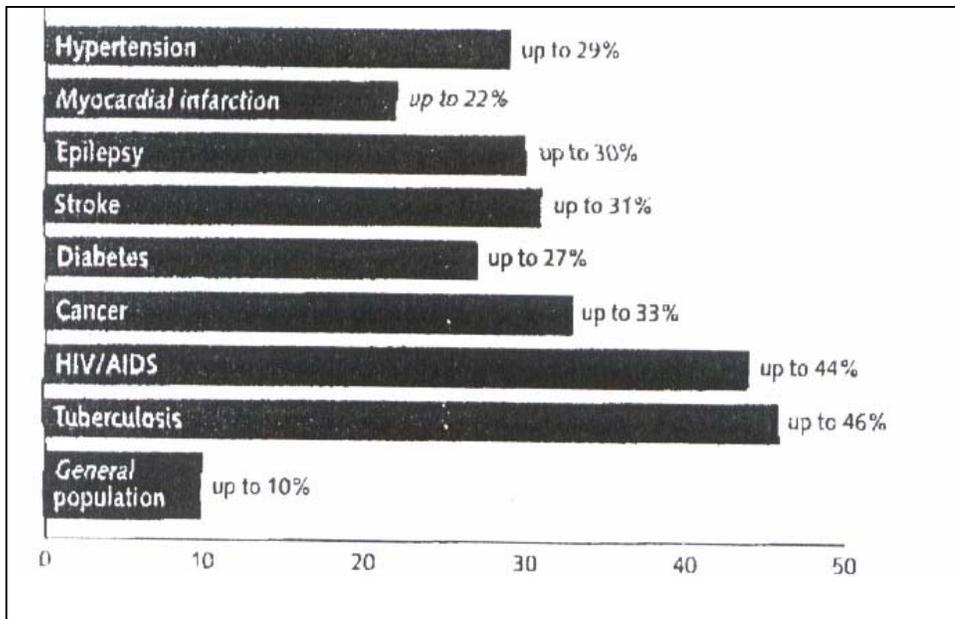
Prevalence of major depression in patients with physical illnesses [16]

1.5. Psychiatric diagnoses prevalent in medical settings:

The relative prevalence of the various types of psychiatric diagnosis encountered in medical settings is different from that seen in those attending specialist psychiatric services. Adjustment disorders, depression, anxiety, somatoform disorders and alcohol problems are the psychiatric diagnoses most commonly made in primary care and in medical outpatient services; while acute organic psychiatric disorders, especially delirium, are particularly common among medical and surgical in patients. Conversely, the functional psychosis of Schz and BPAD, which form such a large

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part of specialist psychiatric work, and relatively uncommon in medical settings.[12]

1.6. Weakness of general practice:

1.6.1. Missed diagnoses:

General practice diagnosis rates do not match illness rates from community surveys, even when allowing for the fact that many of the emotionally ill do not consult. The consistent short fall implies under-diagnosis. Freeling et al, confirm that in London practices general practitioners (GPs) missed abut half of all the patients with depression, particularly those with significant chronic physical disease. Galberg and Bridges showed that GPs were much worse than questionnaire in detecting depression, and Coyne et al showed the same in United States of America.[28]

1.6.2. Suicide rates:

Mortality rates remain an objective measure. Suicide is important as one measure of   the efficiency of general practice in diagnosing treating depression. Suicide rates are a cause of concern and represent one important target for further reduction, in that they must be partially preventable.

Many patients committing suicide have consulted a GP within the previous few weeks. While some suicides can never be

prevented, the implications must be that at least some of these consultations represented a (cry for help).[28]

1.6.3. Attempts at suicide:

The majority of those arriving at hospital after an attempt have seen a GP within four weeks. Prospective controlled studies are needed to determine the optimum form of GP care.[28]

1.6.4. Dearth of publications:

There is a remarkable dearth of publication from general practice on emotional illness, and specially publications on depression, which are strikingly rare considering this is one of the commonest conditions seen in practice.[28]

1.6.5. Lack of information and audit:

The rarity with which a diagnostic register is kept for depression and the rarity with which care of depression is audited in general practice compared with conditions like asthma, diabetes and hypertension which are all less common, implies substantially less interest and less systematic care for the condition.[28]

1.7. Consultation and liaison psychiatry:

Psychiatric services for general hospitals are widely referred to as consultation-liaison (C-L) services. The two components of this term refer to two separate ways of conducting psychiatric work in a general hospital.

In *consultation* work, the psychiatrist is available to give opinions on patients referred by physicians and surgeons. In *liaison* work, the psychiatrist is a member of a medical or surgical team, and offers advice about any patient to whose care he feels able to contribute.[13]

C-L psychiatry is associated with all the diagnostic, therapeutic, research and teaching services that psychiatrists perform in the general hospital and serves as a bridge between psychiatry and other specialties.[29]

1.7.1. Diagnosis:

Knowledge of psychiatric diagnosis is essential to C-L psychiatrist. C-L psychiatrists must be aware of the many medical illnesses that can have psychiatric symptoms. interviews and serial clinical observations are the C-L psychiatrist's tools for diagnosis. The purposes of the diagnosis are to identify mental disorders and psychological responses to physical illness, identify patients' personality features, and identify patients' characteristic coping techniques to recommend the most appropriate therapeutic intervention for patients' needs.[29]

1.7.2. Treatment:

In discussing the treatment plan, C-L psychiatrists provide their patient assessment to non-psychiatric health professionals.

Psychiatrists' recommendation should be clear, concrete guidelines for action. C-L psychiatrists may recommend a specific therapy, suggest areas for further medical inquiry, inform doctors and nurses of their roles in the patient's psychological care, recommend a transfer to a psychiatric facility for long term psychiatric treatment, or suggest or undertake brief psychotherapy with the patient in the medical ward.

One of the most critical areas for C-L psychiatrists involves knowing the interaction of medical and psychiatric drugs [29]

1.8. The importance of a national mental health policy:

A strong mental health programme is an essential component of any effective health care system. Where a mental health policy and related mental health programme are lacking, high priority must be given to their development as an integral part of the overall national health program. This may require a positive and concreted act of political will if the stigma that so often attaches to the subject of mental illness is to be overcome. Ideally a governmental, rather than ministerial, statement of national mental health policy should be issued, stressing the need for involvement of other sectors as well as health in its implementation. Only coordinated action by a range   of governmental   bodies   and

non-governmental organizations can produce a comprehensive mental health care programme.[11]

1.8.1. Examples of policy statements:

The precise details of any national mental health policy will vary according to the philosophies, ideals and circumstances of the particular country. In general, however, policies that have proved to be valuable include such commitments as the following:[11]

- At all levels, mental health services should be integrated as far as possible with general health services.

- Comprehensive coverage of population demands that delivery of mental health care be firmly established in the primary health care setting and promoted by those who are not mental health specialists.

- Appropriate training in mental health and psychosocial skills is essential for all health personnel, and also for many working in other sectors, for example education, community development, social well fare, and police forces.

- Steps should be taken to promote healthy attitudes in young people that will prevent aberrant behavior with adverse consequences for health.

- Management of health problems associated with alcohol and drug abuse should be an integral component of the national mental health policy.

- Individuals suffering from mental disorders should be treated within or as close as possible to their own communities, using local resources.

1.8.2. Important principles for decentralized and integrated mental health care:

Decentralized mental health care should be an integral part of a comprehensive health system and, where relevant, should also involve sectors other than health. Activities at secondary and tertiary levels of care should support primary personnel assuming supervising roles. To achieve this, supervisory staff will need access to adequate resources, such as training manuals, mental health education materials and reliable supplies of essential drugs.

Mental health activities at the primary health care level should be within the competence of general health workers where this is the case, it will be possible to avoid isolation and thus stigmatizing patients with mental and behavioral-as opposed to physical-disorders, and to preserve a degree of confidentiality.

The type of mental health problems that can be adequately and confidently undertaken by primary health care workers is a

matter for local discussion and decision. Health workers should be trained in appropriate management technique, and the circumstance in which a supervisor must be consulted or a patient referred to a higher level of care must be clarified.[11]

1.8.3. Psychiatric screening scales and casernes in primary health care settings:

The every concept of mental disorder may be quite different in widely divergent cultures. Many scales have been devised to assess the clinical characteristics of certain mental disorders. These scales have been universally used in research with little consideration to their content or to how they relate to accepted definitions of the mental disorder in question. These scales are often arbitrarily selected and used on the assumption that all measure the same construct. The item analysis of a number of the most widely used depression scales reveals a variation in the area of psychopathology.[30]

Psychiatric screening in PHC is unique because of the suspicion that some of the identified psychiatric disturbances are the result of temporary transient distress, rather than formal psychiatric illness. This confirms the need for a multiaxial evaluation, including the course of disturbances and other relevant information. Some scales like the General Health Questionnaire

(GHQ) detect current emotional disturbances, and would miss patients with chronic illness. It should be decided whether only current disturbances are to be estimated or whether the aim is to identify all types of psychiatric disorders, active or in remission, and in which case a different type of screening instrument would be indicated.

Co-morbidity of physical and psychiatric illness complicates the criteria of "caseness" (that which constitutes a psychiatric case) in PHC. Anxiety and depression state commonly accompany physical diseases, which make it difficult to identify which is primary and which is secondary. In many situations such emotional symptoms are either missed or their contribution to the patient's suffering is underestimated. It has been reported that there is a group of easily identifiable cases of psychiatric disorders that fit with the known psychiatric classification system, but there is also a group of psychiatric disorders which can not easily be identified. Patients with such disorders usually present with definite psychiatric symptoms, often mixed anxiety and depressive symptoms, with some functional impairment and usually the clinical picture does not meant the criteria for specific psychiatric disorders according to the formal psychiatric classification system.

In choosing a screening scale for PHC, one should be cautious of the effect of unreliability of the positive predictive value of some psychiatric instruments. Several authors have drawn attention to the methodological weakness of psychiatric caseness being determined by clinical judgment alone and to the need to use standardized procedures linked to operational criteria. There are discrepancies in the ways the symptoms are elicited, in the instruments used to identify and measure them and in the cut-off thresholds by which caseness is defined.[31]

OBJECTIVES

General objective:

To provide basic data on mental disorders at Primary Health Care (PHC) settings in Khartoum State in the period from March to May 2005, which can be used in planning, implementing and monitoring of primary mental health care.

Specific objectives:

1. To measure the prevalence rate of psychiatric morbidity in PHC in Khartoum State.

2. To identify the socio-demographic correlates of MDs among patients attending PHC centers.

3. To identify the types of mental disorders in PHC.

4. To identify the proportion of patients with mental disorders recognized by the PHC providers.

5. To describe the relationship between MD and the help seeking behaviour of patients at PHC setting regarding: -

   a. Number of complaints.

   b. Frequency of utilization of health facilities per year.

   c. Use of traditional medicine.

6. To validate the Self Reporting Questionnaire 20 items in PHC settings.

METHODOLOGY

2.1. Study design:

A descriptive cross-sectional study.

2.2. Study area:

Khartoum State – Sudan.

2.3. Period of study:

From March to May 2005.

2.4. Study population:

All adult patients aged 18 and older attending Primary Health Care (PHC) centers.

2.4.1. Exclusion criteria:

- Patients who were too ill to participate in the screening procedure.

2.5. Sampling:

Khartoum State is administratively divided into eight provinces. Khartoum and Khartoum North Provinces were randomly selected.

A list of PHCs with two-shift duty was obtained (Appendix 1) and two centers in each province were randomly selected. These were Al-Kadaroo and Al-Shabeya PHCs in Khartoum North

Province and Al-Sajanah and AlSalamabi PHCs in Khartoum Province.

The patients sample was a total coverage sample.

2.5.1. Sample size:

Was calculated from the equation:

$$n = \frac{Z^2 Pq}{d^2}$$

Where:

n: sample size

z: critical value for 95% confidence interval (=1.96)

p: proportion with MD

q: proportion without MD (=1-p)

P: was regarded to be 0.50 because of lack of recent estimates for the prevalence of MD in PHC in the Sudan.

d: margin of error (=0.02)

The calculated sample size was 240. The number of patients interviewed in each PHC was determined in proportion to the previous month attendance rate.

The number of patients per shift was also determined in proportion to the previous month attendance rates per shift.

2.6. Data collection techniques:

All patients were subjected to a two-stage screening procedure using the self-reporting questionnaire -20 (SRQ-20) (Appendix 2) and the Structured Clinical Interview for DSM-IV Axis

1 Disorders (SCID-1). Screening procedure was carried out in each PHC in turn in consecutive days till the quota was reached for each PHC. Successive patients were approached starting with the first patient to attend.

2.6.1. First-stage screening process:

The SRQ-20:

The SRQ-20 is derived from 4 psychiatric morbidity instruments from a wide variety of cultural backgrounds. It was developed by Harding et al (1980) for a WHO collaborative study to screen for common MDs in PHC. The WHO formally recommends the SRQ- 20 in its 1994 manual.[3]

The English version of the SRQ-20 was translated by the researcher and back translated by a bilingual sociologist who was blind to the English version. The order of some of the items was changed to what was believed to be more suitable to Sudanese culture, e.g. the question about suicide was put at the bottom because of the sensitivity of the issue.

Approval on the adapted Arabic version was obtained from two psychiatrists. These were Professor Taha Baasher and Dr. Abdullah Abdelrahman. The SRQ-20 was validated at different cut-off points starting from the previously validated cut-off point, for non-case/possible case, in Shagara Jabel Awlia -Sudan at ¾.

The scoring for the scale was set to be one for a "Yes" response and zero a "No" response.

All the 240 patients were screened using the SRQ-20. Because of low level literacy most of the patients were helped to complete the interview.

2.6.2 Second-Stage screening process:

All the respondents in the above screening process were subjected to in-depth clinical examination using the clinical version of the SCID-I (SCID-CV).

The SCID-1 is a semi-structured interview for making the major DSM-IV Axis 1 diagnoses (American Psychiatric Association, 1994). The SCID-CV represents a further refinement and adaptation of the SCID to facilitate its use in clinical settings.[32]

One of the ways the SCID-CV is designed to be used in, is that the clinician does his/her usual interview and then use a portion of the SCID-CV to confirm and document a suspected DSM-IV diagnosis, this was the way adopted in the present study.

At the end of the examination the participant was labeled as either true positive: mental illness was detected and the participant had reached or exceeded the determined cut-off point on the SRQ-20. Or true negative: no mental disorder was detected and the score on the SRQ-20 was below the cut-off point. False negative:

mental disorder detected while score on the SRQ-20 was below the cut-off point. False positive: no mental disorders detected while the score on the SRQ-20 has reached or exceeded the cut-off point. The above mentioned labelling was carried out starting from cut-off point 3/4 - 6/7.

Socio-demographic data for each patient screened was collected (Appendix 3). A question about subjective evaluation of the standard of living was also included.

Three questions were added to identify the help seeking behavior by the patient:

1. A question why the patient presented to the PHC (number of complaints).

2. Number of visits to health facilities during the previous year.

3. Patients were asked whether they used any non-medical treatment for the presenting complaint and the type of non-medical treatment identified.

The two-stage screening process was carried out independently of the usual consultation/treatment process carried out by the health care providers at PHC. The diagnosis given to each patient by the PHC health provider was collected from a prescription notes and the statistical records of the PHCs.[33,34,35,36]

2.7. Primary Health Care Centers included in the study:

Al-Sajanah and AlSalamabi PHCs together with another 12 PHCs constituted the Khartoum (A) health team. Together they cover a catchment area of a population of 219895.

Al-Shabeya PHCs is one of 6 PHCs in Khartoum North health team. They cover a catchment area of a population of 303298.

Al-Kadaroo PHC is one of 7 PHCs in Northern Khartoum North health team. They cover a catchment area of a population of 230343.[33,34,35,36]

In the four centers included in this study, primary health care was largely provided by medical officers and general medical assistants. Support facilities were also available like laboratory, maternal and child health. All PHCs with the exception of Al-Shaabeya had a visiting obstetric and gynaecology specialists once per week and dental clinics. Al-Shaabeya PHC was the only center which provided ophthalmology clinic run by a medical assistant.

RESULTS

3.1. Response Rate:

Of the 240 PHC attenders approached, 20 failed to complete the two-stage screening process and, hence, 220 attenders were recruited in the present study. Yielding a response rate of 91.7%.

3.2. Sociodemographic Characteristics of the Sample Population:

3.2.1 Sex:

The sample showed a female preponderance, out of the 220 attenders 151 (68.6%) were females and 69 (31.4%) were males (**Fig.1**).

3.2.2 Age:

The age of the sample ranged between 18 and 76 years, with a mean age of 39.75 (St.d. 14.58). Nearly three quarters of the sample aged 47 years or less. A small proportion (15.5%) aged 58 years and above (**Table 1**).

3.2.3 Marital status:

The majority of the sample population were married accounting to (63.3%), 24.1% were single and a small minority were separated (1.8%) (**Fig. 2**).

3.2.4 Occupation:

The house wife category constituted 40% of the sample, governmental employees 29.1%, unemployed 3.2% and a small minority (1.4%) was retired. When grouped together; the economically inactive category constituted more than half the sample (52.7%). This included housewives, students and the unemployed (**Table 2**).

3.2.5 Education:

The majority (43.6%) of the participants had primary or secondary school education, 31% were illiterate and a quarter had university or post graduate qualifications (**Fig. 3**).

3.2.6 Standard of Living:

Figure 4 shows that of the 220 participants, 146 (66.4%) evaluated their standard of living as average, another 62 (28.2%) evaluated their standard of living as below average and a minority 12 (5.4%), as above average.

3.3. The help seeking behaviour of the study population:

3.3.1. Use of traditional medicine:

Table 3 shows the pattern of traditional treatment received by the PHC attenders. The majority of the attenders 70% did not report use of any traditional treatment for their presenting complaints. Fourty-five attender (20.5%) used traditional spiritual treatment, 14 (6.4%) used traditional herbal medicine and a small minority used a combination of herbal and spiritual treatment.

3.3.2. Number of complaints/reasons for attendance:

The mean number of complaints/reasons for attendance quoted by the PHC attenders was 1.82 (st.d. 1.07). More than three quarters of the attenders quoted less than 3 complaints while a minority quoted three or more complaints, 78.2% versus 21.8%, respectively.

3.3.3. Frequency of utilization of health facilities by PHC attenders during past year:

The mean number of visits to health facilities during past year was 7.32 (st.d. 7.51). The majority of the attenders 123 (55.9%) reported 1-8 visits, about one third reported more than 8 visits and a slightly less than 10% reported no visit to health facilities during past year.

3.4. Structured Clinical Interview DSM IV axis I (SCID.1) - based Mental Disorders among Primary Health Care attenders:

3.4.1. Prevalence SCID.1- based MDs among PHC attenders:

Out of the 220 PHC attenders recruited in the present study 132 (60%) qualified a diagnosis of MD (**Fig. 5**).

3.4.2. Diagnoses:

Major Depressive Disorder (MDD) with variable degrees of severity was the most commonly encountered diagnosis; it was diagnosed in 32 patients accounting to 14.6% of all the attenders. Two cases (0.9%) were severe with psychosis and three (1.4%) had MDD co-morbid with generalized anxiety disorder (GAD). Next in order of frequency was adjustment disorder (Adj.D.), diagnosed in 24 attenders (10.9%) followed by (GAD) in 16 (7.3). Specific phobia and Bipolar affective disorder (BAD) were diagnosed in 13 patients each (5.9%).

Schizophrenia accounted to 2.7% of all the attenders being diagnosed in 6 participants.

Seven patients showed co-morbidity of MDs. Three of whom (42.8%) qualified the diagnosis of MDD co-morbid with GAD. (**Fig. 6**).

Figure 7 shows the categorical classification of MDs diagnosed among the PHC attenders (n = 139). More than four fifth of the MDs encountered were caused by three main diagnostic categories. These were mood disorders, anxiety disorders and

adjustment disorders. Accounting for 34.5%, 32.4% and 17.3% of all, mental disorders, respectively.

Primary psychotic disorders were diagnosed in 7 patients accounting for 5% of all MDs.

3.5. Determinant of MDs among PHC attenders:

3.5.1. Sex:

Nearly two thirds of the females included in the present study qualified a diagnosis of MD compared with less than half of the males, 65.6% versus 47.8%, respectively. There was about one and half chance for females to suffer MDs more commonly than males. Female : Male ratio was 1.4 : 1 (**Table 4**).

The association of MD with the sex of the patient was statistically significant (P = 0.017).

3.5.2. Age:

Figure 8 shows the association of mental disorder with age. The age groups 18 -27 and 28 -37 showed similar prevalence of mental disorders; around 63%. There was a significant rise in the prevalence at age group 38 – 47 (72.3%), followed by a steady decline to reach lowest prevalence at age group 58 years or more.

The overall prevalence among those aged 18 - 47 years was found be 65.9%, while the prevalence for those aged 48 years and above was 46.9%.

The association of MDs with age was found to be significant. (P = 0.017).

3.5.3. Standard of living:

Figure 9 shows the relationship between the standard of living and MDs. There was a statistically significant higher rate of MDs among the above average and below average standard of living categories compared to the average standard of living category, 75%, 71% and 54.1% respectively (P = 0.042).

3.5.4. Education:

The majority (62.5%) of the attenders who had university or past graduate degrees qualified a psychiatric diagnosis. A slightly lower rate of MD (57.4%) was detected among the illiterate. **Table 5** illustrates that there was no statistically significant association between MDs and education (P = 0.839).

3.5.5. Marital Status:

Table 6 represents the prevalence of MD among the different categories of marital status. Of the 4 separated attenders 3 (75%) had MDs. The lowest rate was detected among the married group 56.1%, followed by the widowed 61.1%, the divorced and the single groups exhibited similar proportions of MDs (approximately 67%). No statistically significant association was found between marital status and mental disorder (P = 0.599).

3.5.6. Occupation:

Table 7 shows that the rates of MD was highest among those running big business, followed by students and housewives, 71.4% and 64.8%, respectively. Governmental employees and the unemployed showed similar prevalence of mental disorders among them (57%). Laborers and retired people showed comparatively low rates of MD, 37.5% and 33.3%, respectively.

No significant association was detected between occupation and MD (P = 0.151).

3.6. Help seeking behaviour in relation to MD:

3.6.1. Traditional medicine:

Although more than 90% of those who used spiritual traditional medicine, for their presenting complaints had a diagnosable psychiatric disorder, no specific type of traditional medicine showed a statistically significant association with mental disorder (P = 0.220). But when grouped together; there was a significantly higher rate of MDs among traditional medicine users compared to non users, 71.2% versus 55.2%, respectively (P = 0.035) (**Table 3 and Fig. 10**).

3.6.2. Frequency of utilization of health facilities during past year:

Figure 11 shows the relationship between MD and the number of visits to health facilities during past year by PHC attenders. There was a direct relationship between the frequency of utilizations of health facilities and the presence of MDs. The association was found to be statistically significant, (P = 0.027).

3.6.3 Number of complaints/reasons for attendance to PHC:

Figure 12 illustrates the association between the number of complaints/reasons for attendance to PHC, and the presence of a diagnosable MD by SCID-I. More than three quarters of the participants quoting 3 or more complaints received a diagnosis of MD. They were nearly one and a half times more commonly affected by MDs than those quoting less than 3 complaints, P = 0.007.

3.7. The proportion diagnosed as MD by PHC providers:

Of the 220 PHC attenders included in the present study, only one participant (0.45%) was diagnosed by the PHC, personnel as a "psychiatric problem".

3.8. Validity of the Self Reporting Questionnaire-20:

Tables 8, 9 illustrate the validity of the SRQ-20 against the SCID-1 among PHC attenders. At cut-off point 3/4, the probable

prevalence of MD estimated by the SRQ.20 among PHC attenders was 65% with specifity and sensitivity tested against the SCID-1 of 77.27% and 94.69% respectively.

The cut-off point 4/5 provided a more balanced specifity (86.36%) and sensitivity (90.9%), and the 60% probable prevalence of MDs estimated at which, was the exact match with the prevalence obtained by the SCID-1. Lower prevalence rates were estimated at higher cut-off points.

Table 1: Primary health care attenders by age (n = 220)

Age (in years)	No. of attenders	Percentage (%)
18 – 27	54	24.5
28 – 37	56	25.5
38 – 47	47	21.4
48 – 57	29	13.2
$\geq$ 58	34	15.4
Total	**220**	**100.0**

Table 2: Primary health care attenders by occupation (n=220)

Occupation	No. of attenders	Percentage (%)
Government employee	64	29.1
Housewife	88	40
Student	21	9.5
Labourer	24	10.9
Running big business	7	3.2
Running small business	6	2.7
Retired	3	1.4
Unemployed	7	3.2
Total	**220**	**100.0**

Table 3: Pattern of traditional medicine received by PHC attenders in relation to MD (n=220)

Mental disorder Traditional medicine	Yes		No		Total	
	n	(%)	n	(%)	n	(%)
Herbal	29	(64.4%)	16	(35.6%)	45	(20.5%)
Spiritual	12	(92.3%)	1	(7.7%)	13	(5.9%)
Herbal and spiritual	6	(76.0%)	2	(25.0%)	8	(3.6%)
Non	85	(55.2%)	69	(44.8%)	154	(70%)
Total	**132**	**(60.0%)**	**88**	**(40.0%)**	**220**	**(100.0%)**

P = 0.220

Table 4: SCID-1 - based mental disorder among PHC

attenders by sex (n = 220)

Mental disorder	Yes		No		Total	
Sex	**n**	**(%)**	**n**	**(%)**	**n**	**(%)**
Male	33	(47.8%)	36	(52.2%)	69	(31.4%)
Female	99	(65.6%)	52	(34.4%)	151	(68.6%)
Total	**132**	**(60.0%)**	**88**	**(40.0%)**	**220**	**(100.0%)**

P = 0.017

Table 5: Relationship between education and mental disorder

detected by SCID-1 (n = 220)

Mental disorder	Yes		No		Total	
Education	**n**	**(%)**	**n**	**(%)**	**n**	**(%)**
Illiterate	39	(57.4%)	29	(42.6%)	68	(30.9%)
Primary/ secondary school	58	(60.4%)	38	(39.6%)	96	(43.6%)
University/postgraduate	35	(62.5%)	21	(37.5%)	56	(25.5%)
Total	**132**	**(60.0%)**	**88**	**(40.0%)**	**220**	**(100.0%)**

P = 0.839

Table 6:   Relationship between marital status and mental disorder detected by SCID-1 among PHC attenders (n = 220)

Marital Status	Mental Disorder				Total	
	Yes		No		n	(%)
	n	(%)	n	(%)		
Married	78	(56.1)	61	(43.9)	139	(63.2)
Single	36	(67.9)	17	(32.1)	53	(24.1)
Divorced	4	(66.7)	2	(33.3)	6	(2.7)
Widowed	11	(61.1)	7	(38.9)	18	(8.2)
Separated	3	(75.0)	1	(25.0)	4	(1.8)
Total	**132**	**(60.0)**	**88**	(40.0)	**220**	**(100.0)**

P = 0.599

Table 7: SCID-1 based mental disorders in relation to

occupation among PHC attenders (n = 220)

Mental disorder Occupation	Yes n (%)	No n (%)	Total n (%)
Governmental employee	37 (57.8%)	27 (42.2%)	64 (29.1%)
Student	15 (71.4%)	6 (28.6%)	21 (9.5%)
Labourer	9 (37.5%)	15 (62.5%)	24 (10.9%)
Running big business	6 (85.7%)	1 (14.3%)	7 (3.2%)
Running small business	3 (50.0%)	3 (50.0%)	6 (2.7%)
Unemployed	4 (57.1%)	3 (42.9%)	7 (3.2%)
House-wife	57 (64.8%)	31 (35.2%)	88 (40.0%)
Retire	1 (33.3%)	2 (66.7%)	3 (1.4%)
Total	**132 (60.0%)**	**88 (40.0%)**	**220 (100.0%)**

$P = 0.151$

Table 8: The Validity of the SRQ-20 against the SCID-1 at different cut-off points in PHC settings (n = 220)

Cut-off point	Sensitivity (%)	Specifity (%)	Prevalence of mental disorder (%)
3/4	94.69	77.27	65.9
4/5	90.90	86.36	60
5/6	84.09	93.18	53.18
6/7	77.27	98.86	46.81

Table 9: Results of SRQ-20 against SCID-1 (cut-off point 4/5) among PHC attenders

Mental disorder by SRQ-20	Positive	Negative	Total
Mental disorder by SCID-1			
Positive	120	12	132
Negative	12	76	88
Total	**132**	**88**	**220**

DISCUSSION

The very considerable and previously under estimated burden that mental disorders impose on individuals, communities and health system services globally,[37,38] has prompted the present study aiming at providing epidemiological data on mental disorders in PHC settings in Khartoum, Sudan.

Epidemiological studies on PHC settings have been based on identification of MDs by the use of screening instruments, or clinical diagnosis by primary care professionals or by psychiatric diagnostic interviews.[2] The screening instrument was used in the present study to validate its use in PHC settings, against a structured clinical interview, the structured clinical interview for DSM IV axis I disorder (SCID-1).

4.1. Study limitations:

This study was conducted in PHC centers within the Capital of the Sudan, and its results may not be generalized to the whole country. Especially to the still hot conflict areas and post conflict areas.

Also, the study did not use operational criteria to assess the standard of living. It depended on subjective evaluation by the

PHC attenders, and possible bias arising from their psychological conditions, cannot be avoided.

4.2. Study strength:

The diagnosis of MDs was based on a structured clinical interview and the prevalence of MDs which was identified by the screening questionnaire, the SQR-20, matched exactly with the clinical interview finding.

4.3. Prevalence of mental disorders:

A cross-cultural study conducted by the WHO,[11] found that the prevalence of MDs varied considerably across the 14 sites studied, ranging from as low as 7.3% in Shanghi, China to as high as 52.5% in Santiago, Chile.

The prevalence of MDs in Sudan was previously studied by Harding et al (1980).[6] The study was conducted in Shagara Jabel Awlya an agricultural zone in Khartoum province. It concluded that the prevalence of MDs was 10.6%. A community based survey by Rahim and Cederablad (1989), in a newly urbanized area in Khartoum, showed that the prevalence of MDs among age group 22-35 years was 16.6% and 40.3% had at least one psychiatric symptom.[11,39]

The prevalence of MDs obtained in this study, is much higher than the rates obtained in the previous two studies in Sudan. The difference could, in part, be attributed to the increased availability of PHC services and easier accessibility, which encouraged people to seek help for less acute physical problems.

Also, the conflict situation, through which the Sudan is currently going, no doubt, has a negative impact on the mental health of the population.

High prevalence of MDs has been documented in areas of conflicts and disasters. [2]

The prevalence rate in this study is comparable to a national, population based study in Afghanistan, which found that symptoms of depression were detected in 67.7% of respondents, symptoms of anxiety in 72.2%, and post-traumatic stress disorder in 42%.[40]

Another, possible contributing factor to the high prevalence of MDs in our study is poverty. Although, the assessment of the standard of living was based on subjective evaluations by the PHC attenders, as either average, below average or above average. The vast majority of the sample was in our view point, poor. Because, what is average in a low income country is, by definition, low.

There is a large body of evidence from industrialized as well as, developing countries demonstrating the association between poverty and risk for common mental disorders (CMD).[2,5]

To further support this point, two community-based studies in Pakistan, a low income developing country, found the prevalence of depression and anxiety to be 66% for women and 25% for men in one study. An overall prevalence of 44% was obtained in the other study.[22,41]Higher prevalence rates are expected in PHC settings.

4.4. Diagnoses of MDs in PHC settings:

According to the WHO in its world health report (WHR 2001), the most common diagnoses in PHC settings are depression, anxiety and substance abuse disorders.[2]

The present study is consistent with the WHR 2001 in that the most common diagnoses were anxiety disorders and MDD. Adjustment disorder was also common in the present study. But in a striking contrast to the World Health Report (2001), no case of substance abuse was reported.

The rarity of substance abuse in Sudanese studies was previously recognized by S I Rahim and M Cederblad, who found that alcohol abuse, was very rare (0.4%) in an epidemiological

study on MDs among young adults in a newly urbanized area in Khartoum. [39]

This result is not surprising because, in most parts of Sudan, alcohol and other substance use is socially unacceptable and, more importantly is prohibited by Islamic religion and by Sharea laws. Added to this is the relative unavailability of illicit drug and their high cost.

4.5. Socio-demographic risk factors for MDs:

Socioeconomic status is a complex concept that has been borrowed by medical researchers, often without due regards to its sociological inheritance. For example, income changes through out life while education remains comparatively "frozen" after early adulthood and educational attainments can have different meanings in different places. [42]

Lower socioeconomic category is considered by several studies as a consistent risk factor for MDs. The explanation given for that is the greater barrier to accessing mental health facilities by lower socioeconomic categories, and the believe that poor people, often, raise mental health concerns when seeking treatment for physical problems. [2]

Consistent with the above mentioned explanation for the associations of MDs with lower socioeconomic categories, the

present study did not find a significant association between MDs and education or occupation. In Sudan, with the very limited mental health resources, the availability of mental health care is not expected to differ significantly between the different socioeconomic categories.

On the other hand, the concept of mental health which shapes the help seeking behaviour by the patients and their caregivers is not also believed to differ significantly. Although, the concept of mental illness is out of the scope of this study, but it worth mentioning that a study in Saudi Arabia found that most patients believed that auditory hallucination was caused by Satan or magic and they believed that religious assistance would be most effective. There believes about etiology and treatment were not related to educational attainment.[43]

Both the above average and below average standard of living categories, showed a significant association with MDs in the present study. It seems that it is the sense of inequality that acted as a stressor, rather than the low standard of living alone.

This assumption finds support from some studies in industrialized countries which emphasized the association of low income and living in unequal income status with depression in women.[5] Another study in Britain showed a higher risk for MDs in

persons in the upper income group if they lived in unequal area [44].

In the same context, a study from Chile, Santiago did not find a statistically significant association between income and common MD after adjusting for other socioeconomic variable, but the same study found a robust statistically significant association between "recent income decrease" and an increased prevalence of common MDs. The study assumed that the association between financial strain and common MDs seems to be more consistent across countries, [42] than low income by itself.

Nevertheless, the weak methodology adopted for the identification of the standard of living in the present study precludes us from reaching conclusions on the association between MDs and economic status.

An alarming finding in the present study is that MDs were found to affect people at their most productive period of life (young adult and middle age groups) at a significantly higher rate than old age group. Our finding contradicts with several studies, which demonstrated that levels of emotional distress increased with age.[2,22]

A possible explanation for our finding is that young people are the ones who are required to face the fast pace of live, while elderly people, in the Sudanese society, enjoy the privilege of being

looked after by younger family members. This explanation finds support from a study in rural Punjab which concluded that women living in unitary households reported more distress than those living in extended or joint families [22].

Perhaps the most consistent finding in psychiatric epidemiology is that women suffer much higher rates of common MDs, especially depression, this is confirmed by several surveys from the developing world.[45]Consistent with these studies, the present study found a statistically significant association of female sex with MDs.

Apart from the possible role of biological factors, which may explain why there is a consistent sex difference in risks for CMDs in all societies, it is possible that gender factors the considerable stresses faced by women may also play a role.[5]

4.6. Help seeking behaviour of patients with MDs in PHC setting:

In a WHO collaborative study on strategies for extending mental health care, conducted in four developing countries including Sudan, the authors, although had not provided data on attendance rates, had the impression that patients with neurotic conditions presenting with somatic symptoms tend to consult

primary care facilities on successive occasions, to seek help elsewhere, and to be given inappropriate somatic treatment.[6]

The present study confirmed all the above hypotheses. A statistically significant association was found between the frequency of attendance to health facilities and MDs. Interestingly, a linear dose-response relationship was demonstrated.

A comparable finding was also recognized in a Tanzanian study which found that patients with MD were more likely to have consulted previously with 4 or more practitioners for the same complaint. [46]

The prevalence of MDs in our study was found to be significantly higher among traditional medicine users regardless of the type of traditional medicine used. But, the vast majority of those who used spiritual traditional medicine were found positive for MDs. This reflects the religious and supernatural concept of MD.

The fact that these patients had presented to PHC afterwards, could indicate their dissatisfaction with traditional medicine and/or improved awareness on their health problem. This explanation is further strengthened by our finding that the majority of the attenders did not report any use of traditional medicine.

To further support this finding, the study from Tanzania, also found that the record among those attending a traditional

healer center in Dar-es-Salam was twice that recorded in those attending PHC clinics.[46]

Consistent with the WHO collaboration study mentioned above, the present study demonstrated a statistically significant association of MDs with quoting 3 or more somatic complaints by the PHC attenders.

A similar result was obtained in a study in India, which found that patients who cited 3 or more somatic reasons for seeking care were twice as likely to be suffering from a MD as those patients who presented with only one or two symptoms.[45]

This finding provides a simple indication on the importance of somatic symptoms as expression of psychiatric distress.

It was observed during the clinical interview in the present study that some peculiar somatic expressions might bear a psychiatric symptomatology meaning. The importance of such expressions needs to be further investigated with consideration of their socio-cultural context.

Although, attenders with MD consulted frequently with health facilities, but their mental problem was unrecognized and their mental health need remained unmet.

This was clear from the negliable proportions of PHC attenders (0.45%) who were diagnosed by PHC providers as having MD.

The under-recognition of MDs at general practice is well recognized by the WHO, which stated that: Too few doctors and nurses know how to recognize and properly treat mental disorders.[16]

The reason why mental health in our PHC setting was almost completely neglected, is hard to be solely attributed to the fact that, patients with mental disorders usually present with physical symptoms [30].

The principal reason for the neglect of mental health problems among PHC patients in the developing world is that most health symptoms do not consider MDs as a priority and, therefore, health workers do not receive the appropriate training. There is also a severe lack of mental health personnel and facilities throughout the developing world.[45]

In the vicinity of the present study, the Sudan, for a population of more than 33 million, there is less than 30 psychiatrists and only 40 psychiatric medical assistants,[47] strikingly, the ministry of health in Khartoum State has no directorate or department for mental health.[48]

It is alarming how huge the burden of MDs could be on individuals, society and health systems in general. Bearing in mind the high prevalence of MDs and the finding that MDs affected people, in our study, at their most productive time of their life, the increased utilization of health facilities by patients with MDs and the help sought elsewhere (from traditional healers).

4.7. Validity of the Self Reporting Questionnaire-20 Item:

The SRQ-20 was validated in a WHO collaborative study to screen for CMD in PHC in 4 developing countries including Sudan. The optimal cut-off point in Sudan was determined at ¾. The sensitivity of the SRQ-20 in the 4 study areas varied between 73% and 83%, while the specifity varied between 72% and 85%.[6]

The present study demonstrated that higher cut-off points at 4/5 and 5/6 provided more balanced sensitivity and specifity.

The estimated prevalence at 4/5 was 60% which is equal to the prevalence detected by in-depth clinical examination using the SCID-1 and DSM-IV criteria. This together with the higher sensitivity i.e. less patients with MD were missed at 4/5 than at 5/6 (90% versus, 84%), make us suggest the use of the cut-off point 4/5 for use in PHC settings; as well as, in situations where the estimation of the prevalence of MD is the primary aim.

The high sensitivity of the SRQ-20 in our study is partly due to the high prevalence of MD among the population studied.

The SRQ-20 can be self administered, but in low income countries it is usually administered by an interviewer.[3] In the present study because of the high level of illiteracy the SRQ-20 was administered by an interviewer in most of the cases. This was found to be beneficial because, it helped establishing a rapport with the respondent also; simple explanations to some items were readily provided.

The present study is consistent with a paper that reviewed the use of SRQ-20 in a wide range of developing countries, recommended the use of the SRQ-20 as a low cost (in terms of time and level of human resources needed) and effective (interpreted as high validity [specifity and sensitivity]) method of measuring mental health.[3]

Also, our study agrees with a similar study conducted in Al Ain, UAE which concluded that the Arabic version of the SRQ-20 was a valid instrument for detecting minor psychiatric morbidity in PHC settings.[30]

CONCLUSION

➤ The prevalence of MD in PHC settings in Khartoum, Sudan is high.

➤ Mental health in PHC settings is almost completely overlooked.

➤ Common MDs in PHC settings are mood disorders, anxiety disorders and adjustment disorders.

➤ Vulnerable groups are female sex, young adult and middle age groups and those with unequal standard of living.

➤ Mental disorders correlated significantly with increased utilization of health facilities per year, quoting three or more complaints and the use of traditional medicine.

➤ The SRQ-20 is a valid instrument for measuring MD in a cost-effective manner in PHC settings.

RECOMMENDATIONS

➢ There is an urgent need for a national mental health policy in Sudan. Not only to give better care, but also to cut wastage of resources resulting from unnecessary investigations and inappropriate and non specific treatments.

➢ Measures to improve the knowledge, attitude and practice concerning mental health by the PHC providers should be implemented.

➢ The use of the SRQ-20 is recommended to alert the PHC providers to mental disorders.

➢ The addition of mental health measures in population-based studies on general health and well being should be encouraged.

➢ Interventional studies to improve knowledge practice and attitude concerning mental health are recommended.

➢ There is a need for greater focus on the general development of the population, especially in increasing the income levels and decreasing income disparities.

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