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Knowledge and Attitude of Non Psychiatric Physicians for Management of mental Disorders

By

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A thesis Submitted in partial fulfillment for the requirement of the degree of Clinical MD in psychiatry
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supervisor
Dedication

To my family …
To my teachers …
To my colleague and friends …
To those concerned with the topic of my study ….

Saif Addin
Declaration

I hereby declare that, I personally took over all the steps done in this research, and I consulted all the literature cited in this thesis. This thesis has not been submitted to any other university.
Acknowledgement

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My thanks to the doctors who completed the lengthy questionnaire in this study and to the patients for their cooperation.
Abstract

Problem:

Referral from non psychiatric physician (N.P.P) is a major source contributing to growth of psychiatry, but there is severe under utilization of mental health services (M.H.S) and severe decrease in referral rate from (N.P.P) in spite of the extremely low coverage of (M.H.S). This descriptive study was designed in an attempt to explore the possible factors of physicians, patients and illness that contribute to the problem.

Methods:

Self administered questionnaire to assess knowledge, attitude and practice of psychiatry filled by doctors in Khartoum North Teaching Hospital (Sudan) (N = 72) and Alkwait hospital doctors (Yemen) (N = 72)

Hospital anxiety and depression scales (H.A.D.S) filled by patients attending medical, surgical, gynecological outpatient clinics in K.N.H. (N = 99)

Short questionnaire to the same patients in K.N.H. evaluating their acceptance of referral to psychiatrist, feeling of stigma and whether they need only physical care (n=99)

Estimating the percentage of patients referred from (NPP) from all new patients attending Khartoum north
psychiatric department during the period first January to the end of April of 2001 (n=385).

Results:
The study reflect the overall poor knowledge of (NPP) about psychiatry. It confirms the association between high knowledge and increased detection and referral rate of mental disorder cases to psychiatrist. Previous training course, sex of N.P.P. and years of experience of the sample were not associated with high knowledge or increase in detection rate. High knowledge is associated with place of graduation in favor of Khartoum university (P < 0.05). concept of mental disorder was more religious in Sudan sample with significant difference.

HADS positive patients was 18% (N = 99) no one is referred and only one given psychotropic drug 5%.

Feeling stigmatized by mental disorder is felt more by HADS negative patient (p=0.0002) who also don’t accept referral to psychiatrists (p=0.0019) and admit that they don’t need more than physical care .(p=0.004). Of interest that all these items show significant difference between doctors and patients in general , the P value was p<0.01 ,p<0.0001 and p<0.001 respectively.

Actually there is severe underutilization of mental health service with mean number of new cases 4/day and the cases diagnosed and referred by (NPP) in Khartoum north hospital are scarce 6% (n=23) during four month’s , and about .7.8% (n=30) from (NPP) else where in the country

Conclusion:

Patient with mental disorder frequently attend non psychiatric out patient clinics and improving knowledge of (NPP) is not enough for them to change the attitude about their role in management of mental disorders although it improve detection and referral rates.

Recommendations:
Teaching and training should be directed towards changing attitudes as well as to be oriented to general hospital psychiatry.

Mesh:

Non psychiatric - referral - liaison consultation - concept - mental - illness religious - traditional - utilization - mental health service - hospital - anxiety - depression - scale.

الملخص

مشكلة البحث:

تمتلئ في القصور الشديد في استخدام الخدمات النفسية المتاحة وشع رحالة حالة من الأطباء غير النفسيين بالرغم من أن تقليل الخدمات في عموم البلدان التي تصل إلى الصغر في مناطق واسعة من البلدان.

منهجية البحث

هذه الدراسة الرشحية تستخدم نموذج تقييم القبول على العوامل المؤثرة في ذلك متمثلا في الأطباء والممرضين.

استبان الأطباء اعتماد العلاجات والممارسات للطب النفسي في مستشفي الخطرة بحري عدد العينة = 72 ومستشفي الكويت بحري عدد العينة = 72.

استبان غالبية الأطباء لديهم مستشفى الخطرة بحري عدد العينة = 99 مستشفى الخطرة بحري.

استبان صغر المرضى لتقديم تقبلهم للإحالة واحتاجتهم للرعاية النفسية واعتبارهم للمريض النفسى كوصمة عارة مستشفى بحري حول مصدري الإمام وكان عدد العينة = 385.

نتائج:

كانت النتائج المعتادة في ممارسة الأطباء غير النفسيين عن الطب النفسي. كما أنها أكدت العلاقة بين مستوى المعرفة وقدرة على استخدام المرض النفسي. بينت الدراسة عدم وجود ارتباط بين من للأطباء التدريب في الطب النفسي وحدها 22% من العينة ومستوي المعرفة أو حتى اكتشاف الحالات النفسية بين مرضاهم.

جمعية الخطرة كانت الأفضل بالنسبة لمستوي المعرفة بفرق ذو دالة إحصائية عن بقية الجامعات.

- 18% من المرضى كانت تناجهم إيجابيا على مقياس المستشفى للقلق والاكتئاب. لم يحول أحد منهم للطب النفسي ورغم وجد أغلب إحصائية نسب 5%.

- الإحساس بوصمة عار المرضى النفسي وجد أكثر بحالة إحصائية قوية بين المرضى الذين تناجهم جيًا على المقاس كما أنهم جهد يعتقدون أنهم لا يستطيعون سماح الرعاية الإصلاحية البيئية وجد الأطباء نادر أنهم لا يحصلون سريًا رعاية الصحة البيئية الجيدة.

- ونجد غالبية الأطباء يحصلون سريًا رعاية الصحة البيئية الجيدة، ولكن أكثر بحالة صعبة وفرق ذو دالة إحصائية لذالك الأطباء عن المريض بشكل عام.

- وبالتالي نرى أن قلة استخدام الخدمات الصحية حيث أن متوسط المرضى الجدد في اليوم هو أربعة أشخاص، وكانت حالات الممارسة من أطباء مستشفى بحري تمثل 6% من جميع الحالات الجديدة، و8% من جميع الأطباء من مختلف الجماعات.

الخلاصة:

المريض با$db_1$ بالنسبة لمستوي المعرفة وتحسين المستوي المعرفي للأطباء غير النفسيين، وحدة غير كاملة في إحصاء الفرد والاستراتيجية في مقالة الاستراتيجيات النفسية لضمان اجتياز الدورات التدريبية والتدريب الجامعي يجب أن يوجه نحو تغيير الاتجاه السلبي للأطباء نحو دورهم في الخدمة.
التوصيات:

يجب تدريس الطب النفسي مستندًا إلى الحاجة ومعدل الانتشار في الرعاية الصحية الأولية وليس على نوعية المرضى في المستشفيات النفسية.

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**List of Abbreviations**

**A.I.D.S:** Acquired Immunity Deficiency Syndrome.

**B:** Thiamine.

**C.L:** Consultation Liaison.
C.M.H.C: Community Mental Health Catchments.
C.M.H: Community Mental Health.
D.A.L.Y: Disability Adjusted Life Year.
D.S.M: Diagnostic and Statistical Manual of Mental Illness.
G.H.C: General Health questionnaire.
G.P: General Practitioner.
H.A.D.S: Hospital Anxiety and Depression Scale.
K.A.P: Knowledge Attitude Practice.
K.N.H: Khartoum North Hospital.
M.D: Medical Doctorate.
M.H.S: Mental Health Services.
N.I.M.H: National Institute of Mental Health.
N: Number.
O.P.C: Out Patient Clinic.
P.H.C Primary Health Care.
P.M.H.C: Primary Mental Health Care.
U.K: United Kingdom.

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Introduction

1.1 Problem definition and identification:
The problem is the severe under utilization of mental health services in (K N H) hospital and the very low referral rate from non- psychiatric physicians (NPP).

Goldberg model about mental illness in the community stated that at the primary health care level, each year 30% of the general population have mental or addictive disorder, and a third of those do not consult their doctors about it.

Of the 20% of the population with mental disorders, who do consult their doctors, only half are recognized by the primary health care physicians. Approximately 2.5% of the general population are seen as psychiatric out patients and only 0.5% are in patient. ¹

Mean number of patients at psychiatric out patient clinic (O.P.C) in K.N.H. 1999 was 33/day, of them 6 are new cases (18.1%) while the total number of patients at all other referral (O.P.C) in K.N.H was 357/day and about 640/day seen at the causality . According to the above mentioned epidemiological model , if (NPP) detect only 50% of psychiatric cases they encounter, i.e. 10% of patients attending, that will be 100 patients, and refer only 25% of whom they detect, this will be about 25 patients, they will make 400% increase in number of new cases seen at psychiatric department, and will increase the number of neurotic, somatoform, and sexual disorder that had been seen in psychiatric O.P.C. far less than expected from their prevalence in general population and general practice, also from K.N.H. statistics the ratio of males to females seen at psychiatric (O.P.C) was 1.2:1 which is in contrast to the fact that in general practice the prevalence of mental disorder in females is three times that of males.² On the other
hand children constitute only 5%, epilepsy 20%, . Finally there is relative increase in percentage of the psychotic patients represent 45%.\textsuperscript{3} Compared to international figure of 25% in psychiatric O.P.C.\textsuperscript{4} So what is the cause for this severe decrease in referral rate from non-psychiatric physicians?

Some of the possible answers are:

1. Non-psychiatric physicians have good knowledge and practice that they did not need further management and consultation from psychiatrist.
2. Non-psychiatric physicians have very low knowledge, that the mental illness passed unnoticed.
3. Despite good or poor knowledge, they may have negative attitude toward mental illnesses or psychiatrists that affect their practice leading to severe decrease in referral rate.
4. The low availability of psychiatrists, influence the practice of the non-psychiatric physicians, leading to poor inter professional relationships and hence less referrals.

1-2 Problem justification:

1. Psychological and social difficulties are common among both medical and surgical patients, but psychiatrists are able to see a very small proportion, and so hospital doctors have the main responsibility for psychological well being of the patients, unfortunately very little is known of what they are actually doing.
2. WHO recommended one psychiatrist for 9000 of general population which is a dream and more costly for developing countries than to train non-psychiatric physicians.
3. The increase in the burden of mental disorder which is 8.1% and behavior related illnesses which 34% as measured by the disability adjusted life year (DALY), mandate that all physicians should be adequately trained and involved for management of mental illness. Of interest is to compare the percentage of DALY lost mentioned above with for example heart disease 4.4%, cancer 5.8%, maternal and prenatal 9.5%.7

4. The increasing number of mental disorders and the mental health burden will grow overtime unless adequate and immediate actions are taken. The key reasons for this expected increase include:

Increase life expectancy of those with mental disorders.

Aging of the population will increase risk of dementia.
The growing number of people reaching the age at which the risk of mental disorders increase, for example, a larger number of people reaching young adulthood, will contribute to the greater numbers of people developing schizophrenia.

5. Increase in the number of displaced persons as a result of violence, conflicts, civil wars, and distress (as indicated by study of Baasher 1964 that the incidence of psychoneurosis is about 15% amongst children in shanty dwelling areas).6

6. The increase in number of patients developing chronic heart disease, cerebrovascular illness, gastric, collagen disorder, and other chronic illness associated with secondary depressive disorder in about 20% of cases.

7. The increased usage of pharmacological agents in medicine and other specialties e.g. anti hypertensive, contraceptives, and a very long list of drugs leading to an increase in drug induced mental disorder.
The shortage in mental health services in developing countries is a major reason to the widespread usage of traditional healers, and those may be much better replaced by training of general practitioners and P.H.C workers.

Mental health services coverage is low, beside Khartoum state the services is only limited to 8 urban settlements and the services are almost absent at provincial and district levels.

People with psychiatric disorder consult other specialties of medicines until they realized that symptomatology are based on psychogenic etiology, referral to psychiatric unit is delayed.

Present resources mentioned later in a country like Sudan with an area of 2.5 million Sq. Km, 26 states, 100 provinces and about 900 districts necessitate involving of all (N.P.P) deployed every where in the country in mental disorders management.
Objectives of the study

2.1 General Objective
To study the knowledge, attitude and practice of N.P.P towards mental disorder.

2.2 Specific Objectives:
1- To estimate the percentage of referred new cases from (N.P.P) to (K.N.H) psychiatric department.

2- To estimate the prevalence of anxiety and depression in outpatients attending medical, surgical gynecological (O.P.C) in (K.N.H).

3- To assess the attitude of patients attending medical, surgical gynecological (O.P.C) in (K.N.H) towards being referred to psychiatric department.

4- To assess and compare knowledge, attitude and practice of (N.P.P) towards mental disorders in (K.N.H - Sudan) and Al Kuwait hospital - Yemen.
Literature Review

3.1 Historical development of psychiatric care:
Psychiatry has many components and each has its history. Those components are mythological medicine, mystical, neurological, social, and physiological.

We do not need to speak about each of them, as regarding what it contributes in the study of psychiatry. Instead, we may prefer just to mention the stages that psychiatric care passed through. This will be discussed in the following:

Punishment stage:
For a long time ago, the mentally ill patients were considered to be possessed by devils, and they were locked up in jail-like buildings, frequently under brutal and degrading conditions. As far as psychiatry in Britain was concerned, the unfortunate recurrent mental disorder suffered by King George III in the 18th century had the benefit of arousing much public interest and controversy. He was cared for by Francis Willis, a clergyman who had a reputation for dealing with such cases, derived from his experience in the management of a private mental home. The controversies provoked by the differences of opinion between Willis and other physicians called upon treat the king led to the decision by the house of lords to appoint a committee to institute a detailed enquiry. This provided consideration not only of the treatment of the king's illness but also of the care of the mentally ill throughout the century. The modern era of the treatment of mental disorders dates from this time, i.e., the end of 18th century. The first phase of this may be described as the period of human reform.

Humanistic stage:
The evidence of a parliamentary committee on madhouses in 1815 added impetus to a movement for humane reform begun at the end of the 18th century, and was exemplified by the founding of the retreat outside York by William Tube in 1796. Here a system of care based on the tents of the Quaker religion was practiced. In France Philippe Pinel was responsible for the unchanging of lunatics, Canolly was the first to reduce restraint to a minimum in a large country asylum in England. In Scotland in 1792 Dr Andrew Duncan, who was professor of medicine at the university of Edinburgh, sponsored an appeal for funds to establish the royal Edinburgh mental hospital, which was opened in 1813. In Germany the modern era began with Fricke, who in Brunswick in 1793 put humane medical treatment into practice and greatly reduced mechanical restraint.

**Psychological Stage:**
It’s often suggested that Freud had a great influence on general culture than on psychology. No psychologist can undertake serious clinical work without a feeling for concept of psychodynamic. There are many competing schools in the field, lively debate about the relative importance of nature versus, nurture continues. Freud went on to use this technique to develop an understanding of the psychological causes of these disorders. He proceeded to develop his own theories, which include ideas that were already to some extent current, such as the importance of childhood experience on the behavior of adults and the part played by the unconscious and irrational parts of the mind in influencing behavior, and he gave emphasis to sexual motives as determinants of symptomatology.
These theories have had a great influence on development of literature in the 20th century, and as far as psychiatry is concerned have had importance in high lighting the role of psychological factors in the causation and management of mental disorder, but Freud's psychoanalytic theories are not now considered to have provided a satisfactory explanation for most psychiatric conditions. They are not put forward in terms of scientific hypotheses which can be confirmed or refuted and are thus difficult to reconcile with the ideas of evidence based medicine.

**Medical stage:**

European academic psychiatry began in France with the work of Pinel, who published his *Traité de la manie* in 1801. This work was developed by Esquirol, whose series of lectures on psychological medicine formed the model for the course of main systematic lectures in psychiatry set up in Edinburgh in 1823 by Sir Alexander Morison. It was in Germany, however, that psychiatry first became established as a subject for academic study in universities. In 1811, Heinroth was appointed to the first chair of mental therapy in Leipzig, and this was renamed the chair of psychiatry in 1828. Griesinger was appointed first professor of psychiatry and neurology in Berlin in 1865 and developed a department for the study of mental disorders. This work involved clinical and pathophysiological research based upon the hypotheses that mental illness is somatic illness of the brain. Further chairs of psychiatry were established in Gottingen (1866), Heidelberg (1871), Leipzig (1882) and Bonn (1882), although in Britain no such post was developed until the chair of psychiatry in Edinburgh was set up in (1919).

With the development of these academic departments, the study of psychiatric disorder began to flourish in Germany. The first important theme was the natural course of mental
disorder studied by kahlbaum and kraepelin. It was largely upon the basis on these outcome studies that kraepelin developed his comprehensive classification of mental illness which is the foundation of the schemes now in use throughout the world, such as ICD-10 Classification of mental and behavioral disorders (WHO1992)

Emil Kraplien 1893 introduce the term dementia precox as chronic disorder distinct from mania, he classified the dementia precox into four subtype with single morbid process presumed organic.¹⁰

**Chemical stage:**

The 20th century has seen the resurrection of psychiatric trends already very old. We may begin with the question of pharmacy. In the1896 Liwin described the mental effect of mescaline. Much later Haffman described the psychosis of LSD-25. Alles worked on amphetamine in1940. Deniber, Labor, Delay together they applied chlorpromazine to the psychosis. Tricyclic antidepressants, has been started with Imipramine, discovered by Kuhn in 1957. Butyrophenones arrived in Belgium in the laboratory of P.Janssen. In 1960 Benzodiazepines were synthesized by Cohen in Texas.⁷

**Primary mental health care:**

The world health organization has long stressed the need for mental health care to be decentralized and integrated into P.H.C with necessary tasks carried out as far as possible by general health worker rather than by specialist in mental health. During 1970s, W.H.O. collaborative study on strategies for extending mental health care, in seven developing countries, set the pattern for this process. Following critical review of this and other recent work, it was decided that would be useful to set out the practical steps necessary to introduce a mental health component into P.H.C. To achieve this W.H.O. brought together a number of experts at the W.H.O. collaborating center for research and training in mental
health in Corningen the Netherlands, in December 1985. The first draft of that meeting was circulated widely, and many people made suggestions for improvement. During 1980s, W.H.O. has work to introduce mental health care into a national health programs.\textsuperscript{11}

Where a mental health component has already been successfully integrated into primary health care, the cost has proved to be very low. Mental health care, unlike many other health area’s does not generally demand costly technology, rather it requires the sensitive deployment of personal who have been properly trained in mental heath and psychosocial skills. And then it will be possible to avoid isolation and thus stigmatizing patients with mental and behavior disorders opposed to physical disorder, and to preserve a degree of confidentiality.\textsuperscript{12}

The existing systems for delivery of health care including mental health care, have largely failed to meet the need of most of the world population. Many of the systems are centralized, hospitals based, and disease oriented, with care delivered by medical personnel in a one-to-one (doctor/patient) relationship. Such care is often inconsistent with the principle of social equity particularly in developing countries.\textsuperscript{12}

Existing training pattern for most health members particularly physicians concentrate on specific diseases neglecting the concept of people as a whole organism who in turn are an intimate parts of a much wider social environment. The human body can not be treated as a collection of organs, which may some times need repair, nor an individual can be treated in isolation from the society. Hence the definition of health state of complete physical, mental, and social well-being, with no indication that any one of these should have precedence over another. WHO has largely stressed the need for
mental health care to be decentralized and integrated into primary health care. With the necessary tasks carried out as far as possible by general health workers, rather than by specialist in mental health centers, that was also the recommendation of the Alma-Ata conference.

Although it is becoming increasingly evident that non-specialist health worker’s are capable of diagnosing and treating a wider range of mental and neurological diseases. Qualified psychiatrists are sometimes reluctant to risk what they perceive as a loss in their own status by delegating the treatment of mental illness to general health personnel.  

Psychiatrists must come to realize that their role is increasingly one of education, consultation, supervision, research, and evaluation, while their importance in the diagnosis and management of the more complex and intractable mental health problems remains undiminished.

Many existing programs of health care for the mentally ill are exceedingly wasteful of the skills and time of specialist personal, particularly where large numbers of patients are referred to centralized treating facilities and subsequently hospitalized. The specialist involved in treating these patients could be more economically and effectively deployed for the responsibility mentioned above.  

### 3.2 Situational analysis of psychiatric service in Sudan

#### 3.2.1 Provision of Services

1. Outpatients

Five outpatient units in Khartoum State- Khartoum, Omdurman and Khartoum North, Military Hospital, Kober Asylum in addition to six Urban clinics in Medani, Port Sudan, Kosti, Kassala and Gadarif.

Referrals either self, accompanied by relatives or friends, or from medical units, security and judiciary departments. All types of diseases are seen, Neuroses, Schizophrenia and other Psychosis. Acute organic syndrome,
Depression, Brain Damage and Epilepsy. In Psychiatry in Sudan, more emphasis is directed towards clinical aspects with minimal degree of Social support and Psychological help.

The therapeutic team is composed of a psychiatrist, psychologist, psychiatric social workers, and other paramedical staff.

Psychotropic drugs are provided by pharmacies attached to nearby in-patient and out-patients units.

2. In-Patient Services

Services are provided at Tigani Al-Mahi psychiatric Hospital in addition to 8 psychiatric wards attached to the general hospitals of Khartoum, Medani, Port Sudan, Kassala, Atbara, Gadaref, Kosti, El Obeid and Sennar.

Patients are usually admitted for a short stay for management and rehabilitation. Relatives are allowed to remain beside beds for family support and creation of homely atmospheres.

3. Involuntary Admission

Involuntary Custodial Care is provided at Kober, Kassala, Port Sudan Institutions and also reserved places attached to the general prisons. Admission is based on judicial order. Patients receive similar psychiatric in patient case management.

4. Forensic Psychiatry:

The Psychiatrist is likely to receive Security and Judiciary requests concerning expert opinion related to the mentally ill offenders. A national Mental Health Act and Regulation are formulated currently under consideration for final endorsement. The Gezira state issued the first mental health act in 1998.

5. Traditional Practice

Spiritual medicine is favored by both Mental Health patients and healers. The practice is common in Urban, as well as rural populations.
Spiritual therapy may require long stay with healers and may prevent early detection of disease and early medical intervention by modern Psychiatry.

However attempts have been made to promote reciprocal communication and intervention with spiritual healers (Boaster 1982).8

3.2.2 Present Resources

1. Man Power

The management of psychiatric illness is multidisciplinary. Usually the Therapeutic team consists of:

1. A Psychiatrist.
2. Psychologists.
4. Medical Registrars and medical officer.
5. especially trained nurses and psychiatric medical assistants.

2. Psychiatrists.

Khartoum State: There are 25 Psychiatrist who practice at units of:

- Ministry of Health
- Military Hospital
- Police Hospital
- Private clinics

States: 6 Psychiatrists at Urban units in Medani, Port Sudan, Kassala, Kosti, and Gadarif Qualification in Psychiatry in Sudan:

1. University of Khartoum M.D. 1995 first patch of seven qualified passed the exam.
2. 1998 second patch of four qualified passed the examination (one is a foreigner).
3. Sudan Medical Specialization Board. 1997 – fist patch nine intakes. Duration 3 years. 3 had been graduated
There is an exemplary collaboration and integration between the Ministry of Health staff and the University staff in terms of basic student teaching, postgraduate training and service delivery.

### 3. Psychologists

There are some 14 departments of psychology in different universities offering degrees in general Psychology.

56 working in Khartoum in State at units of:
- Ministry of Health
- Ministry of Interior
- Ministry of Defense

30 working in 6 States Mental health units mentioned earlier.

### 4. Psychiatric Social Workers

There are only two department offering bachelor degrees of social sciences, the post-graduation in social sciences is available only in University of Khartoum and Nilein: offering bachelor degrees in Social Sciences

* Khartoum State: 25 social workers in Khartoum State.
* Other State: 22 social workers in 6 State Units.

### 5. Psychiatric Medical Assistants

50 Medical assistants practicing in the country.

### 3.3 Conceptual issues

27
It is useful to begin our consideration of the application of psychiatric knowledge to patients attending medical services by considering what we mean by ‘psychiatric disorder’, how it differs from ‘medical conditions’ and what the implications of this distinction are.

**Body and mind**

Psychiatric disorders are, in a literal sense, simply those syndromes defined in the psychiatric diagnostic classifications of ICD – 10 (WHO 1992) and DSM – IV (APA 1994). The designation of an illness as psychiatric (as opposed to medical or surgical) simply means that it has been traditionally regarded as lying within the scope of that subspecialty of medicine. Psychiatric disorders have also been assumed to be ‘mental’ in nature. This allocation to a ‘mental’ category of illness as opposed to ‘physical’ illness was based on an absence of known bodily pathology, a tendency to present with disturbed mental states, or both. The underlying assumption that mind can be meaningfully separated from body and that mental illnesses are fundamentally different from physical ones has been called mind-body dualism, an hypotheses commonly attributed to the writings of the philosopher Descartes Cartesian dualism has exerted and continues to exert a profound influence on western medical thinking, several aspects of which are illustrated below. It is especially important that the psychiatrist working in general medical settings is aware of these.

### 3.1 Conceptual dualism

Dualistic medical thinking encourages the view that the origin of psychological symptoms lies in mental pathology and that of somatic symptoms in physical pathology. By and large this simplistic view works in day-to-day practice. Difficulties arise however when clinical problems are encountered that do not readily fit into this dichotomous view.
The two principal types of problem are shown in the following.

The first problem is posed by patients who have somatic symptoms but no evidence of bodily pathology. It is unclear whether their illness should be categorized as mental or as physical, and whether they are psychiatric patients or medical patients. As a result they are often regarded as being neither and are banished to a medical ‘no-man’s land’. They can only be regarded as mentally ill by proposing the concept of ‘somatisation’ in order to explain how mental pathology could lead to bodily symptoms. This maneuver leads to a disregard of the patient’s somatic symptoms in favor of an exploration of psychopathology.

Traditional ‘dualistic’ categories of mental and physical illness

<table>
<thead>
<tr>
<th>Mental symptoms</th>
<th>physical symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bodily Pathology</td>
<td>Co morbidity</td>
</tr>
<tr>
<td></td>
<td>medical condition</td>
</tr>
<tr>
<td>No bodily Pathology</td>
<td>Psychiatric condition</td>
</tr>
<tr>
<td></td>
<td>Somatisation</td>
</tr>
</tbody>
</table>

An approach patients often resent. They can only be accepted as physically ill if they are regarded as having actual, albeit undetected, bodily pathology. Consequently they may either be diagnosed as having a ‘functional’ medical condition or be subjected to relentless medical investigation – a process that may lead to iatrogenic harm. These opposite and often opposing approaches to medically unexplained somatic symptoms have been particularly well illustrated by the confusion, controversy and conflict that has surrounded the chronic fatigue syndrome, sometimes called myalgic encephalomyelitis.  

The second problem is posed by patients who have both prominent psychological symptoms and definite bodily pathology.
They fall into both mental and physical categories. They are consequently regarded as being both physically and mentally ill, a situation referred to as co-morbidity. While they may be accepted as both medical and psychiatric patients, their needs may not be fully met by either specialty, a focus on one aspect of their illness leading to neglect of the other. Perhaps the most prominent example of this is the widespread neglect of depression in patients with medical disease.

3.3.2 Classificatory dualism

One consequence of conceptual dualism is classificatory dualism: separate classifications for psychiatric and medical conditions consequently poorly understood. Conditions may attract either no diagnosis or diagnoses from both medical and psychiatric classification, the choice depending only on the doctor’s belief about the nature of the illness. For example, a patient with medically unexplained gastroenterological symptoms may be diagnosed as having either a ‘medical’ irritable bowel syndrome or a ‘psychiatric’ anxiety disorder, depending on the preference and theoretical orientation of the doctor.

Patients who have symptoms of both a medical condition and a psychiatric disorder also give rise to diagnostic conundrums: for example, should a given symptom be attributed to the medical condition or to the psychiatric disorder; should the mental disorder be regarded as being caused by the physical disorder (and then be called an organic mental disorder) or as a separate entity?

3.3.3 Organizational dualism

Another result of the dualistic conceptualization of illness is the division of medical services and specialties into medical/surgical and psychiatric.
services are not only professionally and organizationally distinct but often also geographically separate. Many of the practical difficulties encountered in the management of patients with psychiatric disorders in general medical settings arise from this split in medical thinking and separation of medical services.7

3.3.4 Moral dualism

Finally, it is important to be aware of the different moral connotations placed on psychiatric and medical diagnoses both by the general public and by many medical colleagues. Medical disorders are by and large regarded as unfortunate failures of the body outside the person’s control. Consequently they attract the sympathy of others. Psychiatric disorders on the other hand are regarded as illnesses of mind, that is as a failure of the faculties of reason and self-control. Consequently they carry the implication of failure of will and culpability, views that encourage fear and contempt in others, rather than eliciting care and comfort. Awareness of this stigmatizing aspect of psychiatric diagnosis and treatment may influence how a patient presents, to whom they are referred and how they are managed.7

3.3.5 Beyond dualism

The dualism hypothesis is now under attack. New knowledge, such as the demonstration of a neural basis to psychiatric disorders, is rendering dualistic thinking increasingly untenable and recent evidence for the effect of psychiatric disorder on bodily illness is making its application to medical thinking appear increasingly unhelpful. Consequently dualism is being replaced by the view that mind and brain are more appropriately regarded as two sides of the same coin – the mind/brain than as separate entities. An important implication of this modern view of medicine is that ‘psychiatric disorders’ are rendered no more distinct from medical conditions than the brain is from the rest of the
body. Consequently there have been calls to make psychiatry less ‘brain-less’ and medicine less ‘mind-less’

For the present however, the legacy of dualism continues to shape much everyday medical thinking and practice. It is important therefore that the psychiatrist working in it is aware of the resulting problems so that the clinical errors that may result are avoided. Perhaps the best way to do this is to ensure that biological, psychological and social aspects of etiology and management are considered in each and every case, always to apply the biopsychosocial approach to patient assessment and treatment.7

3.4 Weakness of General Practice

3.4.1 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 shortfall implies under-diagnosis. Freeling et al (1985) confirmed this by comparing interviews with patients in waiting rooms before consultations, with GPs’ diagnoses and awareness, and then with interviews with the same patients afterwards. In these London practices GPs missed about half of all the patients with depression, particularly those with significant chronic physical disease. Goldberg & Bridges (1987) showed that GPs were much worse than questionnaires in detecting depression, and Coyne et al (1991) showed the same in USA 13

3.4.2 Suicide rates

Mortality rates remain an objective measure. Suicide is important as one measure of the efficiency of general practice in diagnosing and treating depression. Suicide rates are a cause for concern and represent one important target for further reduction, in that they must be partially preventable. However, by international comparisons Britain comes out
well, below the Scandinavian countries, which so often have the best health statistics in the world. The reasons for this are unclear, but GPs in Britain prescribe more antidepressants than practitioners in other European countries, and these are known to be effective.

Many patients committing suicide have consulted a GP within the previous few weeks. While some suicides can never be prevented, the implication must be that some at least of those consultations represented a ‘cry for help’. Only general practice research can fully determine whether that cry was recognized or recognizable. If so, was it treated and was it treated well? How many suicides could have been prevented or are at least in theory preventable? How many of these patients were abusing alcohol or drugs, or were psychotic? 13

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.

3.4.3 Dearth of publications

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

3.4.4 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.13
3.4.5 Importance of psychiatric disorder in medical settings

Psychiatric disorder is not only a cause of suffering to medical patients but also has major implications for the prognosis and treatment of their medical condition.

Psychiatric disorder magnifies the disability resulting form medical conditions.\textsuperscript{14} Complicates medical management and leads to poorer outcome.\textsuperscript{15} Increases the consumption of general medical resources.\textsuperscript{16} It is also a common reason why non-psychiatric doctors find their patients difficult to help with the application of standard medical approaches.\textsuperscript{17}

3.5 Epidemiology of mental disorders

It can be seen that the period prevalence of mental disorders is approximately five times higher in primary care, but the distribution of the various diagnostic groups is very different. Only depressive illnesses are equally common in the two settings, and these comprise about a quarter of all cases seen. However ‘other neuroses’ (mainly anxiety disorders and somatic presentation of affective illnesses) and adjustment disorders together make up well over 60\% of the cases seen in primary care, but only 20\% of those are seen by mental health services. By contrast, about one-third of cases seen by mental health services are schizophrenia’s and dementia’s, to be compared with only 4\% in primary care: furthermore, the rates per 1000 treated by mental health services are even higher for these disorders, implying that some patients with these disorders are not in contact with their family doctors, but are treated by the specialist services.\textsuperscript{13}
Rates per 1000 population at risk per year, by diagnosis for primary care and mental illness services

<table>
<thead>
<tr>
<th>Services</th>
<th>P.H.C.</th>
<th>%</th>
<th>M.H.S.</th>
<th>All Patients %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organic, Dementia</td>
<td>2.2</td>
<td>2.2</td>
<td>2.75</td>
<td>13.2</td>
</tr>
<tr>
<td>Schizophrenia</td>
<td>2.0</td>
<td>2.0</td>
<td>4.08</td>
<td>19.6</td>
</tr>
<tr>
<td>Affective</td>
<td>3.0</td>
<td>3.0</td>
<td>1.47</td>
<td>7.0</td>
</tr>
<tr>
<td>Depression</td>
<td>28.0</td>
<td>27.6</td>
<td>5.35</td>
<td>25.6</td>
</tr>
<tr>
<td>Other Neuroses</td>
<td>35.7</td>
<td>35.2</td>
<td>2.46</td>
<td>11.8</td>
</tr>
<tr>
<td>Alcohol, Drugs</td>
<td>2.7</td>
<td>2.7</td>
<td>1.37</td>
<td>6.6</td>
</tr>
<tr>
<td>Personality Disorder</td>
<td>1.1</td>
<td>1.1</td>
<td>1.62</td>
<td>7.8</td>
</tr>
<tr>
<td>Adjustment, Other Diagnoses</td>
<td>26.7</td>
<td>26.3</td>
<td>1.74</td>
<td>8.4</td>
</tr>
<tr>
<td>All Diagnoses</td>
<td>101.4</td>
<td>100.0</td>
<td>20.87</td>
<td>100.0</td>
</tr>
</tbody>
</table>

3.6 Utilization of psychiatric healthcare services:

This has been described by Goldberg and Huxley as a series of five levels each of which equate to a stage along the route of assessment and care. Movement from one level to the next entails passing through a filter, and there are four such filters which have to be negotiated successfully in order to gain access to the final level.

3.6.1 The levels and filters are

Level 1: The community
  - **Filter**: Illness behavior prompting decision to seek help.

Level 2: General practitioner attendees.
  - **Filter 2**: Detection of disorder by general practitioner.

Level 3: Diagnosed as ill
  - **Filter 3**: Decision as to whether specialist help is needed.

Level 4: Specialist services attendees.
  - **Filter 4**: Decision to hospitalize.

Level 5: Specialist services in patient.

3.6.2 Decision as to when and how individuals move through a healthcare system are based on:
a- Characteristics of the service: funding, waiting list, geographical convenience etc

b- Nature of the disorder severity, risk to the patient and others etc

c- Social aspects of the individual: age, gender, race, status etc

3.7.1 Illness behavior:

Mechanic defined illness behavior as the ways in which given symptoms may be deferentially perceived, evaluated and acted upon.

Abnormal illness behavior has been defined by Pilowsky as the persistence of maladaptive way of experiencing, evaluating and responding to one's own health status. The illness behavior is disproportionate to the underlying disease. There is tendency for doctors caring for "real or not those with abnormal illness behavior to focus on somatic symptoms, often leading to inappropriate treatment, which may inadvertently reinforce the abnormal behavior. Variation in the perceived seriousness and disruptiveness of symptoms help explain the differences among people in their readiness to seek medical treatment. Delay can be critical because early diagnosis and quick intervention may facilitate treatment of many health problems more effective.

3.7.2 Problem behavior

The medical system in many countries is the institutionalized outlet for people unable to cope with their situation. They do so by adapting the sick role, with all the privileges and duties attached to it. The community more or less accepts the physician as the magic instrument for the appeasement of conflicts. The physician not infrequently
accepts this and in doing so helps the society to maintain its status quo.18

![Figure (1)](image)

**Figure (1)**
Overlaps between the concepts. Illness feeling, illness behavior and problem behavior. (A) Illness behavior that is also problem behavior. (B) illness behavior on the basis of illness; no problem behavior. (C) illness behavior without illness; no problem behavior. (D) problem behavior but no illness behavior. (E) illness and feeling ill, but not showing illness behavior. (F) illness without illness feeling and without illness behavior.

### 3.8.1 Psychiatry and general practice:
General practitioner (GP) are in prime position to detect and begin early treatment of psychiatric illness. 25% of GP attendees have a psychiatric element to their consultation, yet only 43% of GP have had training experience in psychiatric setting. Royal colleges of GP and psychiatrists emphasize the role of GP in multidisciplinary team.

### 3.8.2 Secondary prevention:
It is defined as the early identification and prompt treatment of illness or disorder with the goal of reducing its prevalence i.e. total number of existing cases by shortening its duration.
The recent NIMH (EC.A study USA) found that most people with defined mental disorder are not presently in treatment and those who are in treatment didn’t receive mental health care early in the course of their illness.

The need for greater access to secondary preventive mental health services become recognized as a national priority and become the corner stone of the community mental health movement.

3.9.1 Maldistribution of psychiatric manpower:

This continues to be a major problem with an insufficient number of psychiatrists in public clinical and administrative role for both state hospital and CMHC.

The new haven study (USA) found an inverse relationship between social class and prevalence and severity of mental illness and a direct relationship between social class and the type of therapy patient received, thus demonstrating that psychiatric services were least available to citizens with the greatest need for care.

3.9.2 Services in developing countries

In developing countries, the prevalence and nature of psychiatric disorders is broadly similar to that in developed countries, but there is more psychiatric morbidity associated with untreated or inadequately treated physical illness. There are also differences in the presentation of illnesses. Specialist psychiatric resources are minimal in many of these countries and it is neither possible nor appropriate to establish all the psychiatric provisions which are available in the developed world. It is essential to identify priorities and make the maximum use of local facilities.
3.10.1 Community (Public) psychiatry

Community psychiatry is responsible for the comprehensive treatment of the severely mentally ill in the community at large. All aspect of care from hospitalization, case management, and crises intervention to day treatment and supportive living arrangements, are included under the umbrella of community psychiatry. The field is also known as public psychiatry, reflecting the fact that community-based services are only part of a system that also includes hospitalization as a crucial aspect of the provision of total care for public sector patients.

Community psychiatry has been called the third psychiatry revolution. The first was the age of enlightenment, when it was decided that mental illness was not the result of witchcraft, and the second was the development of psychoanalysis by Sigmund Freud.

Community psychiatry, a dynamic and controversial discipline views the individual as part of a larger population (the community), and focuses on the social forces and systems that influence the individual's mental health and functioning within that community.

3.10.2 Allies of Community Psychiatry

- Social psychiatry, a research and theoretical discipline, uses social science and social psychological variables to predict, explain, and seek proper intervention to solve psychiatric problems.

- Community mental health catchments (CMHC) established in the early 1960s, is a multidisciplinary delivery system of public mental health services to all citizens within geographically defined areas.
Community psychiatry one of several clinical application 3 fields of social psychiatric theory, denote that subspecialty are in which psychiatrist deliver mental health services to population defined by a common work-place, activity, or geographical area of residence.

**4- Public psychiatry**

Supported by direct government funding, provides treatment for those Mentally ill citizen unable to afford private services. Public psychiatry encompasses not only CMH but also state and county mental hospitals and military mental health facilities and all other efforts by local, state and national governments to provide systems of care for the mentally ill.

**3.10.3 Concept of community mental health CMH:**

1- **Population Focus:**

Must meet the mental health need of a geographically defined population not only those who seek help.

Therefore in allocating its limited resources, must avoid utilizing all its resources on any one group of patients.

To carry out mandate learning the specific characteristics of its population, the types of people living in that community, the influence of ethnic and cultural issues on their perception and utilization of mental health services, the number of caregivers available in the community, The types and prevalence of disorders found in the community, and so on.

2- **Catchments responsibility:**

Must provide the services to citizen with a defined illness who seek help, to those with a mental disorder who do not seek care, to those with yet undefined mental disorder, and to those at risk of developing a mental disorder, and improving the mental health of remaining citizen.

3- **Prevention orientation:**
4-Community based services:

To avoid isolating the patient from his family and community in large institutions.

5-Continuity of care:

Discharge from an inpatient unit should be coordinated with follow up outpatient treatment in the community so that the patient does not get lost as often happened on discharge from the public hospital.

6-Community involvement.

7-Essential services:

Inpatient care, outpatient care, partial hospitalization, emergency care...etc.

Innovative methods used to stretch CMHC limited resources:

1- Coordination and collaboration with other care giver:

In addition to consultation, community psychiatrist can also coordinate their efforts with those of community care givers and decrease direct service demands on CMHC. Such coordination has clearly been fruitful with general physician who provide primary health care to patients. Also served by the CMHC several studies shows that primary physicians are vital case finders and treaters of patients with psychiatric Problems. Not only are the physicians among the first caregivers to whom people with problems turn in time of emotional Illness but surveys of primary Care physicians demonstrate that they spend between 20%-70% of their time dealing with their patient’s emotional problems.

National Institute of Mental Health (USA) estimates that approximately 60% of patients with a mental disorders receive all of their mental health, care in the general health care sector, where as only 20% see a public or private mental healthcare professional.
These data suggest that community psychiatrists should set a high priority on coordinating their care with that of Primary physicians in solo, group or organized practices in the community. providing mental health services In the same community setting as primary health care has many Advantages.

- Patient find it easier to seek mental health services in the general healthcare setting where they can see a mental health provider without being labeled a mental patient. 26
- They are more likely to accept referral for specialty mental health care when they are handed over from their trusted general physician to his colleague within the same service setting.

- The coordination of a patient’s mental and physical health care is also more likely to occur when caregivers can meet on a regular basis to avoid fragmented treatment plans, conflicting medication regimens and the like.
- Utilization of mental health services within primary healthcare setting is 2-5 times greater than that provided in free standing CMHCs. Which support the notion that the primary care health setting is more acceptable and accessible site for citizens to seek such care.

Finally studies suggest that improving access to specialty mental health care decreases the high utilization of general health services by patients with mental disorders.27

2- Therapists who live in the community and who feel a genuine warmth, empathy and regard for local patients study in an Italo-American neighborhood of Boston found that despite these admirable personal qualities such care giver require clinical training if they are to be successful therapists and must develop therapeutic expertise to add to their knowledge.20

3.11.1 Prevalence of psychiatric disorders in general hospital

In medicine and surgery numerous studies have found associations between physical and psychiatric disorders among
both inpatients and out patients. In medical wards, for example, surveys have shown that over a quarter of inpatients have psychiatric disorders. The frequency and nature of these disorders depend on the age and sex of the patients and on the type of ward. For example, affective and adjustment disorders are more common in younger women, whilst organic mental disorder more common in the elderly and drinking problems in younger men.

Psychological problems are frequent in certain department, notably emergency clinics, gynecological and medical outpatient Clinics, organic mental disorders are frequent in geriatric wards, and drinking problems in liver units.\textsuperscript{28}

Psychiatric disorder may interfere with recovery from physical illness as suggested by study of 1630 patients in a general hospital, he found that medical outcome seven months later was significantly worse in patients who had had the most psychiatric symptoms at the time of original illness. Psychiatric disorder in medical and surgical wards often goes undetected. Whether psychiatric treatment should be provided by specialist or non-specialist depends on the severity of the psychiatric disorder.

Severe disorders are likely to require treatment by specialist, moderate and mild disorders can usually be treated by a physician, surgeon or general practitioner with a sound basic knowledge of psychiatry.\textsuperscript{21}

However there is great a variation in the reported rates of prevalence of psychiatric disorder due to methodological problems. Mood disorders are the commonest syndromes, Mayo and Hauton(1986) reviewing previously published studies found that rates ranged from 13-61\% for inpatients, and from 14-52\% for outpatients.\textsuperscript{29}

\textbf{3-11-2Mechanisms which could explain the association between physical and psychiatric disorder}
1- Episodes of physical and psychiatric illness may occur together when an individual is experiencing stressful events. This tendency was demonstrated and is known as the cluster theory of illness, and it showed that the association between stressful life events and subsequent onset of psychiatric illness. Psychiatric illness was a mediating link between life stresses and physical illness.

2- Psychiatric illness may directly or indirectly predispose to physical illness. In certain cases the causation is obvious, for example the physical complication of alcohol and drug abuse. But there is also evidence that neurotic illnesses are associated with increase mortality even when deaths from suicide and accidents have been discounted.

3- Therapeutic drugs are responsible for much of the increased risk, psychiatric drugs have a wide range of physical complications while many drugs used in internal medicine can cause affective illnesses, acute confusional states on other behavioral disorders.

4- Physical illnesses cause organic psychiatric disorders by means of structural lesions disease or disturbance of neurotransmitters. These can also present with affective symptoms, acute confusion or behavioral change.

5- Physical illness can cause psychiatric disorder because of its emotional significance, and implications for the individual future welfare.

3.12 Consultation-Liaison Psychiatry

Psychiatry has had uneasy relationship with other medical specialties for much of its recent history. This is largely a result of its geographical separation from the rest of medicine so that the subject has been outside the mainstream of medical and scientific thought. Although doubts have been expressed about the feasibility of running comprehensive services from general hospitals there is no doubt that the pendulum has
swung back towards reintegrating psychiatry within medicine. Consequently it has been easier to provide a psychiatric service to the medical and surgical departments of general hospitals.²⁹

In consultation-Liaison (c-l) psychiatry a rapidly growing area of expertise and expanding field of concentration, it is associated with all the diagnostic, therapeutic, research, and teaching services that the psychiatrist performs in the general hospital and serve as a bridge between psychiatry and other specialties.

The c-l psychiatrist must play many roles in the medical wards of the hospital, a good psychiatrist and psychotherapist teacher and knowledgeable physician who understands the medical aspects of the case.²² Consultation and Liaison refer to two separate ways of conducting psychiatric work in a general hospital.

- In consultation approach it is implicitly assumed that the staff possess the skills of assessment and management, and psychiatrist is available to give an opinion on patients referred to him by physician and surgeon.
- In liaison work he becomes a member of a medical or surgical team, takes part in ward rounds and clinical meeting i.e one of the aims is to teach staff working in general hospitals about assessment and management.²¹

Consultation and liaison units vary considerably in their size and organization. Some are staffed entirely by psychiatrist, and other by a team of psychiatrist, nurses, social workers, and clinical psychologists. In some countries clinical psychologists provide a separate behavioral medicine services.³²

3.13 Pattern of psychiatric referral:
The establishment of a specific liaison services often results in an increased number of referrals. In study compared two different model of referrals, a traditional type in which
patients were seen in response to a written request initiated by a physician and experimental type in which the psychiatrist became an integrated member of the team and accepted referrals from nurse as well as doctors. The experimental model was associated with a three fold increase in the referral rate, much of which was due to referral of patients with unexplained physical symptoms.33 Further studies reported a similar increase in referrals particularly involving patients other than those who had attempt suicide.34 In the UK reports of successful clinical collaboration between psychiatrists and physicians began to appear in the late 1960s.

But referral rates to psychiatrists have been substantially lower than those reported from the USA, several factors account for this difference.

1- Britain has a well established network of primary care and many of the psychological problems experienced by general hospital patients have already been identified and treated by the general practitioner who occupies a central role in organizing patients health care. A hospital doctor may therefore chose to refer a patient with psychiatric problem back to general practitioner rather than psychiatrist.

2- Despite recent changes there are far fewer psychiatrists in British general hospitals a available to respond promptly to request for psychiatric opinion.

3- Psychiatric morbidity may not be detected; there is evidence that hospital doctors fail to recognize many cases of psychiatric illness.

4- There may be resistance to the idea of psychiatric referral on the part of some physicians.
General practitioner who refer patients to psychiatric service are more likely to be those who have a high detection rate for psychiatric morbidity. There is no sex difference regarding rate of referral, but it occur in urban setting more than rural, mostly by elder general practitioner, for younger male patients.

General practitioner more likely to refer chronic cases of duration more than 6 months, and more likely to diagnose females especially if divorced or unemployed, and unlikely to diagnose correctly the single young males.

Ingham and Miller (1976) indicate that patients with psychiatric symptoms are more likely to seek help than patients of physical complain. The majority of patient with psychiatric disorder do seek help from their doctor and the more articulate is most likely to press for referral.

### 3.14.1 Training for general practitioners in psychiatry:

The training received by many GP trainees during their psychiatric attachment does not necessary prepare them for their future work in primary care.

Ideally GP trainees in psychiatry should have an opportunity to learn as fast as possible to identify and manage the same range of morbidity that will see in primary care. This means that their jobs should not consist entirely of managing in-patient psychotic illness, or even outpatient chronic neurotic illness. It is of course important that the trainees feel able to recognize and manage a new episode of psychotic illness, and knows how to plan a care program for a chronic patient but this must not be all that he\she learns. Each region should attempt to meet the needs specific of its GP trainees in psychiatry.

It has been shown that GP trainees can be trained to be more accurate in detecting psychiatric illness. That improved
detection is linked to objective changes in behavior, and that such changes improve patient care.39

3.1.4.2 A model:

If members of a group always select patient to be discussed during the session, they are highly unlikely to choose patient with hidden psychiatric morbidity. Since they can not be expected to select such patient if they are unaware of their disorders.

Away around this is to ask a member of the group to make videotapes of an entire clinic. Each patient seen complete a psychiatric screening questionnaire such as the GHQ, and the teacher is presented with a list showing the names of the patients in the order in which they appear, the questionnaire, and the videotape. The trainer\facilitator views the tape before the teaching session looking only at the interviews between the trainees and the patients who are scoring high on the screening questionnaire. Teaching can then focus on these consultations, where emotional disorder is likely to have been missed by the practitioner, and can be focused both on missed cues and on the doctors behavior which may have discouraged the patient from discussing his\her problems.

This approach, combined with a brief presentation on the basic research demonstrating which patient are missed in primary care and why, can form a particularly useful workshop on improving detection of psychiatric illness.40

It is an essential part of the process that members of the group are responsible for their own learning .If the teacher constantly stops the tape and point out every thing to the group, then they will never improve their own power of observation or skills. Teacher should practice how to use a hierarchy of prompts: (why do you think I stopped the tape?) do you notice any thing happening at that point? Did you notice how her voice changed when she started talking about her husband?41
The crucial part played by the general practitioner trainer in shaping the attitudes and the skills of the trainees can not be underestimated.

It has also been demonstrated that group teaching where participant bring recording of their own consultation can appeal to and improve the psychiatric interviewing skills even of experience GPs and the skills learned persist over time. Periodic reinforcement is almost certainly required to ensure that objective gains in knowledge and skills are maintained.
Materials and Methods

4.1 study design
This is a descriptive KAP (knowledge attitude practice) study

4.2.1 Study place and period of study
   a- KNH (Sudan).
      I chose hospital doctors instead of health center doctors because in Khartoum State the referral system is not fully implemented.
      And it is very weak. Most hospital (86-7%) received all cases and most of hospital patients (86-5%) by pass the first referral system, i.e. the hospital is not really act as a tertiary level.
   b- Alkuwat hospital (Yemen)
      Also in Yemen the referral system is not established
      The study was done in the period from January to December 2001.

4.2.2 Study population and Type and sample size:-
   Non probability sample for:
   A) all patients attending medical, surgical, gynecological out patient clinic in one day. (To estimate prevalence of one day just to confirm the presence of mental disorders locally) in KNH
   B) All new cases attending psychiatric department during (1-1-2001 to 30-4-2001) of KNH. (to estimate the source of referral)
   C) All doctors in
      - KNH.
      - Alkuwait hospital.

Inclusion criteria -:
   - House officers.
   - Medical officer.
   - Registrars.
Who are not absent for any reasons.
4.3 Data collection technique:
4.3.1 Questionnaire to assess knowledge, attitude and practice of (N.P.P.)

The questions are semi structured from different sources. The knowledge and practice are assessed by questions precisely devised according to
- I C D; primary care version.
- National manuals of primary mental health care.
- Many other related textbooks.
- Opinions of specialists.
- It covers the most important aspects of general adult psychiatric disorders encountered in primary setting.

The attitude: it has been assessed by 25 items representing three components:

a) Concept of mental illness – items number (1-7-9-13-15-25)
b) Attitude toward psychiatric illness – items number   (6-12-16-17-20-21-22-23-24)
c) Attitude of (N.P.P) toward their role in management of mental disorders item number (2.3.4.5.8.10.11.14.18.19).

The items for the first component arise from the conclusion of a research done to compare the conception of mental illness between Germany and U.S.A "Biological Vis environmental." I added. 3 more items (9-13-15) to cover the religious part which I feel is most important dimension in our culture influencing the concept of mental illness and hence the pathway to psychiatric management. So the concept of mental illness assessed in this study has 3 aspects religious, biological "hereditary" and environmental.

The items for the second component mainly from a study done by the WHO about AIDS. Most items of the third component has been mentioned in a WHO publication: "The introduction of a mental health component into primary health care." which regarded as basic rules, calling the need for more appropriate and flexible
methods of health delivery after failure of existing mental health systems to meet the needs most of the world population:
- Responsibility for mental health is not an extra load for primary health care services, on the country, it increases their effectiveness.
- People need more than physical care.
- Mental illness does not always need specialist treatment.
- Severe mental illness can be managed outside hospital.

Question for general demographic data.
Suggested items for some methods to improve the (NPP) knowledge about mental disorders, these taken from previous different researches.
Questions for (NPP) about their satisfaction of theoretical and practical psychiatric teaching given in their universities.
The questionnaires are then presented in it’s primary version to 5 consultants to audit two aspects:
- Whether the intended characteristic appeared to be measured.
- Extend to which all aspects of the subject matter are assessed.
The five consultants were:
   Dr. Abdullah Abdelrahman.
   Dr. Kamil Mirghany.
   Dr. Salah Haroon.
   Dr. Atief Sayed Hamid.
   Dr. Noor Alhuda Alshafeea.
Their valuable advises were used and all modifications were done so that the final version has got face and content validly. From the group of experts mentioned above.
Pilot study was done in military hospital with 13 medical Officer and it was clear that the questions is easy understandable, accepted, but the time it took was lengthy to
some degree “30-45” min and no farther modification done after the pilot study.

4.3.2 The hospital anxiety and depressive scale (HADS)
Done by Zigmond and Sneith 1983 which was developed for use with adult medical out patients in order to aid recognition of depression and anxiety. The adaptation of the scale done by doctor Mohamed Salah Khalil to Sudan community. The latter form was used to estimate the prevalence of these disorder. The patient identified by the scale is not secondary assessed by me, only viewed for psychotropic prescription, or whether advised for referral to psychiatric department. General health questionnaire which is used in screening for psychiatric disorder in general practices has more false positive and able to identify minor transient mood disorder that may not meet clinical criteria for caseness, and its score rise in physically ill due to somatic items in the questionnaire. HADS has been careful to exclude somatic symptoms that could have increased the likelihood of false positive response in the presence of coexisting physical illness.

4.3.3 Three Short closed questions were added to HADS scale.
The questions about feeling stigma of mental illness, acceptance of referral and concern with mental

4.3.4 Questioning all new cases attending to KNH psychiatric Department
About only the source of referral. (New cases are defined as the 1st time to attend KNH psychiatric department).

Plan for data processing - :
The question about knowledge is weighted according to it’s importance and prevalence in primary care sitting, with total mark of 100 to be analyzed quantitatively using T test. See appendix.

The data was statistically analyzed using the statistical package for social sciences (SPSS) in the computer.
Tests used for data analysis:

1. Chi square test.
2. T test.
3. Anova test.
4. Mann–Whitney U.
5. Wilcoxon W.
7. Spearman rho correlation test.
Results

5.1 Referral From (NPP)
This appears to be very low 13.8% with 6% only from K.N.H out patient clinics most patients brought by their families by the advice of relatives and friends.

5.2 Anxiety and depression from O.P.C
Prevalence of anxiety and depression in patient attending medical, surgical obstetric, O.P.C. was 18.2% with other 27.3% showing only symptoms. From the 18 patients who was HADS+ve 10 was seen in medical O.P.C. 6 in surgical O.P.C. and 2 in obstetric O.P.C. male to female ratio was 1.25:1

The most appearing symptoms of anxiety regardless of its severity were feeling tensed and nervous, many worries in the mind and feeling fearful as if some things dreadful will happen.

For depression the most appearing symptoms were (didn’t enjoy things that he used to do, didn’t feel joy, can’t smile and see the positive aspect of things).

5.3 Acceptance of referral to psychiatrist
There are tremendous significant difference between HADS+ve and HADS-ve patients, HADS-ve patients show more acceptance of being referred to psychiatrists, also they feel less stigmatized by mental illness and believed that they need more than physical care. The same three items of attitude just mentioned show significant difference at P < 0.01 between patients and N.P.P. in favor of patients. In contrast to patient the N.P.P believed that patient refuse to be
referred to psychiatrists and that patient need not more than physical care.

(N.P.P) admit that they are them selves feel stigmatized if they are to see a psychiatrist for treatment of their relatives. However patients are significantly different from N.P.P regarding feeling stigmatized by mental illness.

5.4.1 Knowledge of N.P.P.
N.P.P. in Yemen sample show better knowledge with significant difference at P < 0.05 than the Sudan sample see Table (4), however both have very poor knowledge. More details are shown in figure four up to the eleventh, Khartoum University was the best regarding their graduated N.P.P. psychiatric knowledge see Table (5), there were no significant difference in level of knowledge in relation to sex, training course and experience of N.P.P. on each sample.

5.4.2 Attitude of N.P.P.
There were no significant difference in total attitude according to the place of study, sex, medical degree and training course in psychiatry between the tow sample, but there appear significant difference in three attitude items two of them clearly concerning the religious concepts of mental illness and the third may be related to it see Table (6). The concept of Sudan sample was more religious, Yemen sample appear to have more environmental concept for mental disorder, however it did not reach the statistical significant. the religious concept of mental illness relate differently to the attitude of N.P.P towards psychiatric illness and their role for management of mental disorders according to the presumed cause. for example in the religious concept when the cause is black management, and in the religious concept when the cause magic, it is negatively related mostly toward their role in is weak faith it is negatively related to psychiatric illness it self. In Yemen sample the religious concept tend to regard mental disorder
due to weak faith than to black magic, see figure 12. The most challenging attitude for implementation of P.M.H.C may be that about 90% of N.P.P believed that psychotropic drugs should not be used except by psychiatrist, see figure 14.

Lack of rapport of N.P.P with psychiatrists and poor interprofessional relationship are reflected in the belief of N.P.P that their colleagues in psychiatry can get mental disorder due to their contact with patients, see figure 15.

5-4-3 Practice of N.P.P

There were no significant difference in detection rate of mental disorder according to the place study. The three most causes of referral in the two sample were abnormal behavior, unclear diagnosis and in effective treatment respectively. Increase in detection rate will increase the referral rate to psychiatrists as it was shown in figure 16 and figure 17. Practice of psychiatry in general practice still weak even in those who appeared relatively better in the study, see figure 18 up to 20.

Both sample in Yemen and Sudan overestimate the prevalence of psychosis 38.8%, 52.7% respectively, while underestimate the prevalence of mental disorders in O.P.C. 58.3%, 69.4% respectively the three most accepted methods to improve knowledge about psychiatry in Sudan according to opinion of N.P.P. were presence of psychologist in out patient clinic, training course of one month duration reading periodicals respectively, while in Yemen they were training course of one month duration presence of psychologist and detailed consultation respectively.

The least accepted in both sample using telephone with the psychiatrist, attending case presentation in psychiatric ward, and reading manual about mental disorders respectively level of knowledge and attitude were correlated very much with aspects of practice in Sudan sample, while in Yemen sample the attitude was not correlated with the detection of mental
illness, and the level of knowledge is correlated with only
detection of mental illness and referral to psychiatrist, see
Table (8) and (9).

Also in Yemen the level of knowledge was correlated with
less number of attitude items than in Sudan sample see Table
(7), most of N.P.P. in both samples were dissatisfied with
theoretical and practical teaching studied in their
Universities especially about the time of the course, see
figure (21).

Sample size:
Table (1):

<table>
<thead>
<tr>
<th>Sample</th>
<th>Size</th>
<th>Individual not Entered the Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient attended Psychiatric Department (KNH)</td>
<td>385</td>
<td></td>
</tr>
<tr>
<td>Patients attended Medical, Surgical, Gynecological O.P.C. (KNH)</td>
<td>99</td>
<td>4 □</td>
</tr>
<tr>
<td>N.P.P Subjected to the Analysis (Sudan)</td>
<td>72</td>
<td>26 ©</td>
</tr>
<tr>
<td>N.P.P Subjected to the Analysis (Yemen)</td>
<td>72</td>
<td>20 ®</td>
</tr>
</tbody>
</table>

▫ Refused to take the questionnaire.
© Failed to return back the questionnaire (N = 17).
© Refused to take the questionnaire (N = 4).
© Excluded questionnaires (Incomplete Information) (N = 5).
© Failed to return back the questionnaire (N = 12).
© Excluded questionnaires (Incomplete Information) (N = 8).
Figure 2
N = 385

Percentage of N.P.P. referred Cases from Total New Cases Attending Psychiatric Department (KNH)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>N.P.P. (KNH)</td>
<td>6</td>
</tr>
<tr>
<td>N.P.P. (Elsewhere)</td>
<td>7.8</td>
</tr>
<tr>
<td>Others</td>
<td>86.2</td>
</tr>
</tbody>
</table>

NB: Mean number of all new cases 4.13 per day.
### Figure 3

**Prevalence of Anxiety and Depression and their Symptoms Patient Attending O.P.C. (N = 99)**

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>HADS+ve</td>
<td>54.55</td>
</tr>
<tr>
<td>HADS&gt;8</td>
<td>18.18</td>
</tr>
<tr>
<td>No Symptoms of anxiety and Depression</td>
<td>27.27</td>
</tr>
</tbody>
</table>

![Pie chart showing prevalence of anxiety and depression symptoms](image_url)
### Table (2)  
**Demographic Data**

*N = 72 for Each Sample*

<table>
<thead>
<tr>
<th></th>
<th>Sudan</th>
<th>Yemen</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>39</td>
<td>46</td>
<td>85</td>
</tr>
<tr>
<td>Female</td>
<td>33</td>
<td>26</td>
<td>59</td>
</tr>
<tr>
<td>House Officer</td>
<td>36</td>
<td>23</td>
<td>59</td>
</tr>
<tr>
<td>General Practitioner</td>
<td>30</td>
<td>44</td>
<td>74</td>
</tr>
<tr>
<td>Registrar</td>
<td>6</td>
<td>5</td>
<td>11</td>
</tr>
<tr>
<td>Training Course</td>
<td>16</td>
<td>6</td>
<td>22</td>
</tr>
<tr>
<td>Age &lt; 30</td>
<td>48</td>
<td>53</td>
<td>101</td>
</tr>
<tr>
<td>Age 30 – 40</td>
<td>24</td>
<td>18</td>
<td>42</td>
</tr>
<tr>
<td>Age 41 – 50</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Single</td>
<td>63</td>
<td>49</td>
<td>112</td>
</tr>
<tr>
<td>Married</td>
<td>8</td>
<td>22</td>
<td>30</td>
</tr>
<tr>
<td>Divorced</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Widow</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>
Figure 4
N = 72 for Each sample

N.P.P. Who show Poor Knowledge about Somatoform Disorders

<table>
<thead>
<tr>
<th>Disorder</th>
<th>Sudan</th>
<th>Yemen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Somatization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pain Disorder</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypochondriasis</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Legend:
- Sudan
- Yemen
(S/E) → Don’t know side effect of treatment.

(Dur) → Don’t know the Duration of the treatment.

(Dose) → Don’t know the Dose of anti depressant drug.

(Symp) → Don’t know 3 or more Symptoms of Depression.

(Drug) → Don’t know name of one Anti Depressant Drug.
Figure 6
N = 72 for Each sample

Knowledge of N.P.P. about Generalized Anxiety

(S/E) → Don’t know side effect of treatment.
(Dur) → Don’t know the Duration of the treatment.
(Dose) → Don’t know the Dose of Anxiolytic Drug.
(Symp) → Don’t know 2 or more Symptoms of Anxiety.
(Drug) → Don’t know name of one Anxiolytic Drug.
Figure 7

N = 72 for Each Sample

![Knowledge of N.P.P. about Panic Disorder](image)

(S/E) → Don’t know side effect of treatment.

(Dur) → Don’t know the Duration of the treatment.

(Dose) → Don’t know the Dose of anti panic Drug.

(Symp) → Don’t know 3 or more Symptoms of panic disorder

(Drug) → Don’t know name of one anti panic Drug.
(S/E) → Don’t know side effect of treatment.
(Dur) → Don’t know the Duration of the treatment.
(Dose) → Don’t know the Dose of anti Psychotic Drug.
(Symp) → Don’t know 2 or more Symptoms of Psychosis.
(Drug) → Don’t know name of one anti Psychotic Drug.
(S/E) → Don’t know side effect of treatment.
(Dur) → Don’t know the Duration of the treatment.
(Dose) → Don’t know the Dose of Mood stabilizer Drug.
(Symp) → Don’t know 2 or more Symptoms of Manic Episode.
(Drug) → Don’t know name of one Mood stabilizer Drug.
Figure 10
N = 72 for Each Sample

Knowledge of N.P.P. about Delirium

(Causes) → Don’t know one or more Causes of Delirium.
(Dose) → Don’t know the Dose of Symptomatic Drug.
(Symp) → Don’t know 1 or more Symptoms of Delirium.
(Drug) → Don’t know name of one Symptomatic Drug.
Figure 11
N = 72 for Each Sample

N.P.P. who don't Know one Anti Epileptic Drug or Prophylactic B1 in Delirium Tremens

- Anti Epileptic Drug
- B 1

Yemen  Sudan
## Table (3)

### Group Statistics

<table>
<thead>
<tr>
<th>Place of Study</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge Yemen</td>
<td>72</td>
<td>23.8507</td>
<td>17.9084</td>
<td>2.1105</td>
</tr>
<tr>
<td>Knowledge Sudan</td>
<td>72</td>
<td>16.6875</td>
<td>14.8787</td>
<td>1.7535</td>
</tr>
</tbody>
</table>

### Independent Sample Test

<table>
<thead>
<tr>
<th>Levene’s Test for Equality of Variances</th>
<th>T – Test for Quality of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
</tr>
<tr>
<td>Knowledge Equal Variances Assumed</td>
<td>3.7</td>
</tr>
<tr>
<td>Equal Variances not Assumed</td>
<td>2.611</td>
</tr>
</tbody>
</table>

**T – Test.**
**Level of Knowledge in Relation to place of Graduation**

N = 144  
Table (4)

<table>
<thead>
<tr>
<th>Place of Graduation</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error</th>
<th>95% Confidence Interval for Mean</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sana’a</td>
<td>63</td>
<td>24.2817</td>
<td>17.9376</td>
<td>2.2599</td>
<td>19.7642 28.7993 .00 61.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>9</td>
<td>20.8333</td>
<td>18.4662</td>
<td>6.1554</td>
<td>6.6390  35.0277  3.50 64.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jazera</td>
<td>14</td>
<td>10.4286</td>
<td>13.1644</td>
<td>3.5183</td>
<td>2.8277 18.0295 .00 32.50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Juba</td>
<td>8</td>
<td>4.6250</td>
<td>5.2423</td>
<td>1.8534</td>
<td>0.2423 9.0077 .00 12.50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>9</td>
<td>16.6667</td>
<td>10.2457</td>
<td>3.4157</td>
<td>8.7902 24.5432 .00 30.0</td>
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<tr>
<td>Khartoum</td>
<td>26</td>
<td>26.7692</td>
<td>15.4123</td>
<td>3.0226</td>
<td>20.5441 32.5432 .00 60.25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Omdurman</td>
<td>15</td>
<td>11.5000</td>
<td>11.1323</td>
<td>2.8744</td>
<td>5.3351 17.6649 .00 35.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>144</td>
<td>20.2691</td>
<td>16.7948</td>
<td>1.3996</td>
<td>17.5026 23.0356 .00 64.00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Anova Test**

Anova

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>DF</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>6699.655</td>
<td>6</td>
<td>1116.6609</td>
<td>4.548</td>
<td>0.000</td>
</tr>
<tr>
<td>Within Groups</td>
<td>33635.730</td>
<td>137</td>
<td>245.516</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>40335.385</td>
<td>143</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* 2 Aden 33 Ussr 2 Jordan 1 Seria 1 Cairo  
** 2 Ussr 3 Cairo 2 Libya 1 Roma
1. All mental disorder cause by socioeconomic problems.
2. All mental disorder are hereditary.
3. Most of mentally disorder patient may be recovered by drugs.
4. I know many cases in the community affected by black magic.
5. All mental disorders because of weak faith.
6. Traditional healers and healer by Holly Quran get tremendous success in treating mental disorders.
1- Mental state examination is not necessary for all cases.
2- Physical complaints can be caused by mental illness.
3- Health is possible if emotional need is neglected.
4- Some psychiatric patients may die because of their illness.
5- I may get mental disorder.
6- Mental disorder may get real threatening to the community.
7- I have no interest in improving my psychiatric knowledge.
8- Who should care for the mentally disordered after remission.

Figure 14
N = 72 for Each Sample
1- Mental disorder always need specialist care.
2- Most of psychotrophic drugs cause addiction.
3- Most psychotrophic drugs are dangerous it should not be prescribed except by psychiatrist.
4- Most mental disordered patients including insane can not be recovered by drugs.
5- My responsibility in treating mental disorders of my patients is an extra load.
6- I prefer to take my relative if they are mentally disordered secretly to psychiatrist.
7- Others than the family should purchase the drug if not available free.

Figure 15
N = 72 for Each Sample
Items of Attitude that had no Internal Consistency and Failed Statistically to Assess the Attitude

1- People don’t need more than physical care.
2- Severe mental disorders can’t be managed outside hospital.
3- Psychiatrist can get mental disorder due to their contact with patients.
4- The government should not take a serious steps for prevention of mental disorders.
The items of the attitude that show significant difference between Yemen & Sudan samples

Table 5
Ranks

<table>
<thead>
<tr>
<th>Statement</th>
<th>Place of study</th>
<th>N</th>
<th>Mean Rank</th>
<th>Sum of Ranks</th>
</tr>
</thead>
<tbody>
<tr>
<td>I know many cases in the community affected by black magic</td>
<td>Yemen</td>
<td>72</td>
<td>65.28</td>
<td>4700.00</td>
</tr>
<tr>
<td></td>
<td>Sudan</td>
<td>72</td>
<td>79.72</td>
<td>5740.00</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>144</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traditional healer get tremendous success in treating mental disorder</td>
<td>Yemen</td>
<td>72</td>
<td>62.68</td>
<td>4513.00</td>
</tr>
<tr>
<td></td>
<td>Sudan</td>
<td>72</td>
<td>82.32</td>
<td>5927.00</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>144</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others (Than the Family should care for the Severely Mentally Disordered Patient after remission), e.g. {Charitable Society, Psychiatric Centre}</td>
<td>Yemen</td>
<td>72</td>
<td>80.15</td>
<td>5770.50</td>
</tr>
<tr>
<td></td>
<td>Sudan</td>
<td>72</td>
<td>64.85</td>
<td>4669.50</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>144</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Test Statistics

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mann-Whithey U</td>
<td>2072.00</td>
<td>1885.00</td>
<td>2041.500</td>
</tr>
<tr>
<td>Wilcoxon W</td>
<td>4700.00</td>
<td>4513.00</td>
<td>4669.500</td>
</tr>
<tr>
<td>Z</td>
<td>-2.158</td>
<td>-3.019</td>
<td>-2.635</td>
</tr>
<tr>
<td>Asymp.Sig.(2-tailed)</td>
<td>.031</td>
<td>.003</td>
<td>.008</td>
</tr>
</tbody>
</table>

Percentage of N.P.P. who refer patients to Psychiatrist

Figure 16
N = 72 for Each Sample
Percentage of N.P.P. who refer patients to psychiatrist from the detectors.

Figure 17
N = 26 (Sudan).

Figure 18
N = 26 (Sudan)
N = 35 (Yemen)
1- Embarrassed on telling patient that his complain is psychogenic in origin.
2- Embarrassed on referring patient to psychiatrist.
3- Reporting that always patients don’t accept referral.
N.P.P. who believe of that simple reassurance is enough for management of mental disorders.

Figure 19

Sudan
N = 26

Yemen
N = 35

Figure 20

Follow up of Chronic Psychiatric Cases by N.P.P.
N = 72 for Each Sample

Knowledge Relationship with total attitude and the specific items of attitude that show negative relationship with level of knowledge

<table>
<thead>
<tr>
<th>Attitude</th>
<th>Knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dementia</td>
<td></td>
</tr>
<tr>
<td>Schizophrenia</td>
<td></td>
</tr>
<tr>
<td>Epilepsy</td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td></td>
</tr>
<tr>
<td>Item</td>
<td>Sudan</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>1. Total Attitude</td>
<td>-0.507 **</td>
</tr>
<tr>
<td>2. All Mental Disorders caused by Socioeconomic problem</td>
<td>-0.003</td>
</tr>
<tr>
<td>3. Mental State Examination is not Necessary for all Cases</td>
<td>-0.564 **</td>
</tr>
<tr>
<td>4. Physical Complain can not be caused by mental illness</td>
<td>-0.286 *</td>
</tr>
<tr>
<td>5. Most of Psychotropic Drugs Cause addiction</td>
<td>-0.420 **</td>
</tr>
<tr>
<td>6. I know many cases in the community affected by black magic</td>
<td>-0.433 **</td>
</tr>
<tr>
<td>7. Health is Possible if emotional need is neglected</td>
<td>-0.248 *</td>
</tr>
<tr>
<td>8. Psychiatric Patients may not die because of their Illness</td>
<td>-0.276 *</td>
</tr>
<tr>
<td>9. All Mental Disorder because of weak faith</td>
<td>-0.436 **</td>
</tr>
<tr>
<td>10. Most Psychotropic Drugs is Dangerous and should not be prescribed Except by Psychiatrist</td>
<td>-0.399 **</td>
</tr>
<tr>
<td>11. My Responsibility in Treating Mental Disorders to my Patients is Extra load</td>
<td>-0.328 **</td>
</tr>
<tr>
<td>12. I have no interest in Improvement my Psychiatric Knowledge</td>
<td>-0.240 *</td>
</tr>
<tr>
<td>13. Others (Than the Family should care for the Severely Mentally Disordered Patient after remission. e.g. {Charitable Society, Psychiatric Centre}</td>
<td>0.118</td>
</tr>
</tbody>
</table>

Test Pearson Correlation

N = 72 for Each Sample

* Correlation is Significant at < 0.05 Level (2 Tailed)
** Correlation is Significant at < 0.01 Level (2 Tailed)

---

**Relationship Between Level of Knowledge and Aspects of Practice**

Table (7)

<table>
<thead>
<tr>
<th>Item</th>
<th>Knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td>1- Detection of Mental Illness</td>
<td>Sudan (0.622 **)</td>
</tr>
<tr>
<td>2- Reference to Psychiatrist</td>
<td>Sudan (0.463 **)</td>
</tr>
<tr>
<td>3- Request to Come Back after Referral</td>
<td>Sudan (0631 **)</td>
</tr>
<tr>
<td>4- Diagnosis of Mental Illness by Exclusion of organic causes only (Not by Using Psychiatric Diagnostic Criteria)</td>
<td>Sudan (0.607 **)</td>
</tr>
<tr>
<td>5- Simple Reassurance is Enough for Mental Illness</td>
<td>Sudan (0.643 **)</td>
</tr>
<tr>
<td>6- Feeling Embarrassed to tell the Patient that his complain is</td>
<td>Sudan (0.612 **)</td>
</tr>
</tbody>
</table>

81
Psychogenic in Origin

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Feeling Embarrassed on Referring Patient to Psychiatrist</td>
<td>0.594**</td>
<td>0.173</td>
</tr>
<tr>
<td>8</td>
<td>Thinking that Patients Don’t Accept Referral to Psychiatrist</td>
<td>0.594**</td>
<td>0.173</td>
</tr>
</tbody>
</table>

Test Spearman’s rho Correlation Coefficient

N = 72 for Each Sample

* Correlation is Significant t < 0.05 Level (2 Tailed).
** Correlation is Significant at < 0.01 Level (2 Tailed)

Figure 21

N = 72 for Each Sample

N.E.P.: Not Easy Presentation.

**Relationship between total attitude and detection of mental disorder**

**Table : 8**

<table>
<thead>
<tr>
<th>Detection of mental illness</th>
<th>Total attitude</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sudan</td>
</tr>
<tr>
<td></td>
<td>-.393**</td>
</tr>
</tbody>
</table>

Pearson correlation test

** correlation is significant at the 0.01 level (2 - tailed)**
Discussion

few researches into the referral pattern of (NPP) and their knowledge, attitude and practice of psychiatry were conducted in the two countries, though these topics are worthy of research.

This study provides a detailed picture of knowledge, attitude and practice of (NPP), brief view on referral from (NPP), prevalence of HADS+ve patients in non-psychiatric (O.P.C) and utilization of mental health services. Before discussing these, it is necessary to consider any factors that might affect the extent to which the samples studied are representative of primary care setting (refer to 4.3.1 page 38). However this study has the advantage that it broaches many aspects of decreased referral from (NPP). Decrease range of the score obtained about psychiatric knowledge may affect our
interpretation to the effect of high knowledge on attitude and practice (refer to table 4), but still these limited difference reported in this study reflected in large and significant difference in ability of (NPP) to detect, manage and refer mental illness. While increased knowledge clearly improve ability of (NPP) to deal with psychiatric disorder, but their attitudes to their role in management of mental illness is still negative and remained indifferent from those of poor knowledge especially in Yemen. Improve knowledge alone of (NPP) will not solve the problem of the low coverage of mental health service, (NPP) need special and direct orientation to their role in management and the benefit of this in their effectiveness in practice.

These finding consolidate a foundation from which one can seek a better understanding of the ways and methods to convince (NPP) to activate their role in management which would maximize benefit from training courses and minimize the cost of providing mental health. Of interest also is that, while most of (NPP) agree that health is impossible if emotional need is neglected, (N.P.P) regard psychiatric drugs as serious and should not be used except by psychiatrists. It may be that they restrict the meaning of emotional need to unconditional positive regard, empathy and other communication skills with patients and need not to examine the mental state of the patients or to use psychotropic drugs.

If existing health education and practice tend to neglect the broader aspects of mental health, changes in and practice will require changes in attitude by planners health worker alike, if health care work is to be effective and resources conserved, Suggestion is made that a single routine question about the patient’s mood would sensibly improve the detection rate.51.
While in Corade 1997, a study concluded that providing psychiatric back up to family physicians by telephone is a time efficient and effective method of supporting (NPP),\textsuperscript{52} it has been shown in this study that it is the most refused method by (NPP).

It is true that there is no research done in Sudan to clearly delineate the concept of mental disorder of people in general. Whoever religious concept was encountered very much in clinical practice. Concept of mental illness is a potent determinant in help seeking behavior, and the religious concept of mental illness which was shown by the (NPP) with poor psychiatric knowledge (refer to figure 12 page 56) reflect yielding to social pressure which may be due to informational social influence. The (N.P.P) conform to group ideas and behavior outwardly and privately\textsuperscript{3}. The same result was found in study done to compare attitude of Saudi Arabian patients with those of Britain towards auditory hallucination, they found of that Saudi Arabia patients are most likely to believe that auditory hallucination is caused by Satan or due to magic and also believed that religious assistance would be most effective and the beliefs about etiology and treatment were unrelated to educational attainment while the U.K sample were more likely to cite schizophrenia or brain damage and supported medication and psychological therapy.\textsuperscript{53} The finding in this study support the finding of the previous study in Saudi Arabia and emphasize that education per se will not change the concept of mental illness in people even in medical field if psychiatric knowledge is poor. In fact this study found some evidence that high level of education or high social class represented by (NPP) is strongly associated with the stigma of mental disorder, more than general people represented by patients. However the data is not satisfactory to confirm this (refer to
5.3 page 40). Total percentage of new cases referred from (NPP) everywhere in the country was 13.8%, this is very low even if it compared with study done in India 1990 which revealed a figure of 20.2%, were the physicians referred more cases than surgeons and gynecologists. In Singapore 1997, the medical sector was the most common source of referral and it accounted for (56%) of referrals. Lack of referral from (NPP) is an unfortunate negative factor in impeding the growth of psychiatry. Regarding problems that (NPP) had experienced when seeking a psychiatric referral, (NPP) with poor knowledge has very low detection rate and less referral if any, (NPP) with accepted knowledge and who detect mental disorders admit that they were embarrassed when telling their patients that they had mental illness and had to see a psychiatrist. At the same time they said that patient refused to accept referral and that patients didn’t need more than physical care (refer to figure 18 page 62). HADS positive patients specifically show more acceptance for referral and need for more than physical care (refer to 5.3 page 40). To explain this contradictory, firstly, Need is a strong factor to appreciate the benefit of any thing. The illness behavior may not be initiated except by feeling pain which makes the need for seeking help, H.A.D.S items reflect the suffering of psychological pain which will affect the perception and the judgment of the patients about their need for psychological help, acceptance of referral and to reduce their feeling towards the stigma of psychiatric illness. (NPP) may select HADS negative patients for referral and hence refuse referral. Those HADS negative patients may be somatizer i.e. mentally ill or may reflect diagnostic problems of mental illness on part of (NPP), both of them patients with somatoform disorder or without mental illness were difficult to accept referral to the psychiatrists. Secondly there may be a
communication problem in the way that (NPP) explain to
patients the relation between mind and body and the need
for psychiatric consultation, as they already admit that
they embarrassed when telling their patients that their
complain is psychogenic in origin. Many factors stem from
prejudice, maladaptive attitude and misinformation on the
part of physician, become barriers to effective
communication and ability to convince the patients with
referral or usage of psychotropic drugs. All of these
barrier must be surmounted in the interest of enhancing
patient care.55 Optimal case management require an
awareness of individual limitation and effectiveness of
the use of a psychiatrist consultation.56 Thirdly
regarding their over all poor knowledge they may use
projection as defense mechanism to reduce anxiety of poor
knowledge, by saying that patients refuse referral and
need not more than physical care.

In interpretation of referral rate from (NPP) one
need to take into account the number of specialist as a
factor that may influence the referral behavior of
general practitioners. In study in England 1988 it was
found that for four specialties medicine, thoracic
medicine, psychiatry and dermatology the number of out
patients seen was weakly associated with the need for out
patient services, but strongly associated with the
provision of consultants in all four specialities.57 Lack
of rapport of (NPP) with psychiatrists was an important
reason against psychiatric referral. The (NPP) criticized
psychiatrists for being not readily available, remote in
thought and inclined to express opinions in a style that
alienated other doctors. The psychiatrist might improve
their consultation and referral network by addressing the
misperceptions of their (NPP) colleagues.58

Underutilization of mental health services may be
affected by range of factors e.g. cost, availability,
transport or accessibility but this study shows that the most potent factor determine utilization of mental health services is the concept of mental illness.

It is true that from experience in clinical work that most if not all, patients come to psychiatrists after they use other resources such as spiritualists or traditional healers. This will made false deduction that traditional healers don’t substitute the use of mental health services if we ignore the severe underutilization of mental health services, i.e. the tip of the ice berg come to be seen by psychiatrists.

In figure (2) page (43) we found that decrease referral from K.N.H. different O.P.C. explain the relative decrease of various anxiety and somatoform disorders in psychiatric O.P.C. This problem needs direct discussion to improve the collaborative cooperation by any means of the consultation liaison psychiatry, to establish the wholetic approach for the management of patients and to undermine the body mind dualism concept of (N.P.P).

Using H.A.D.S scale which is rapid screening test, the results it shows does not add much to the already known about the prevalence of mental disorders in O.P.C. It showed the percentage of 18% which is acceptable and lie in the vast range of results recorded elsewhere (refer to figure 3 page 44). The very important thing is that it confirms locally the presence of substantial number of psychiatric patients among the different O.P.C who need more than physical care. This necessitate the interference of psychiatrists to improve their management.

Mental disorders in O.P.C include a wide list of disorders and many of them will not appear on H.A.D.S e.g
somatoform disorders, addiction et cetera and this should be in mind when estimating the size of the problem.

It is expected that medical O.P.C may have a large number of H.A.D.S + ve patients, but the increase number of H.A.D.S + ve males is hard to interpret it by decrease usage of services by the females as they actually use it more than male. It may reflect a significant difference from western countries due to more burden on males in our countries, and to say that, it need to take a larger, random, longitudinal sample to confirm that. This is beyond the aim of this study.

This disappointing results of poor theoretical knowledge of N.P.P in both countries can not be explained by loss of knowledge achieved in undergraduate training through years because, first 73.6% of them have less than three years since graduation, second there is no difference in knowledge regarding years of experience, third clearly can not be explained by absence of training courses (refer to 5.4.1 page 40). Partial clue may be found in figure (21). Most probably they were graduated with poor and insufficient psychiatric knowledge.

Undergraduates usually think mostly to pass examinations than to get valuable knowledge for future practice, so even if enough time is given and the presentation studied extensively to be easy for them, and psychiatry remained has little marks as part of medicine the problem of low achievement will not be solved. Of interest that only about 12.5% of (NPP) in each sample had been studied abroad and the majority graduated from local universities. This make this research of greater importance to the policymaker in universities and ministries of health in both countries to utilize them in reforming training and services.
Before saying that there is a significant difference between the two samples. It may be more significant to have a look at the mean of knowledge in both samples then you will find it difficult to say that Yemen sample has better knowledge than the Sudan sample. The significant difference may have resulted from that Yemen sample mostly graduated from Sana’a university 87.3% who achieved a mean of 24.3 while the Sudan sample only 36.5% graduated from Khartoum university who achieved a mean of 26.8.

It is known that only these two universities have adequate resources “to some extent” that can facilitate teaching psychiatry. So since the Sudan sample include about tow third of it from new universities which nearly lack any resources for teaching psychiatry, this has lead to decrease of overall mean of the Sudan sample which was 16.7 see table (4).

There is no relation between previous training course in psychiatry and level of knowledge and detection rates. Suggestion is made that a single routine question about the patient’s mood would sensibly improve the detection rate.\textsuperscript{51} Quality of the training courses is of extreme necessity if it to be of any benefit (refer 3-14 page 34). The result of the training courses is expected from the previous knowledge of the content and form of the training courses given in the two countries. They are limited in time tow to three days, using lectures without any visual aids, concentrating on psychotic symptoms of patients in psychiatric words.

The failure to have significant difference in relation to year of experience reflects the absence of at least any effective continuous education program in the tow countries.
It is common sense that the same culture leads to the same attitude and that is the case, if we look to the non significant difference between total attitude in the two samples. The three items out of twenty four items constituting the total attitude which show significant difference can be believed to represent very little difference see table (6). Looking at them more deeply we can find that they are very influential as they represent an important part of the religious concept of mental illness.

Two possible factors arise to explain this, first is the difference in religious upbringing, that significant minority of Sudanese people belong to one of the different Islamic ideologies (Sofia) which have their living leaders (Sheikh), and they emotionally forced to go to them, or their substitutes when they feel psychological suffering. The sheikhs usually do or approve the practice of traditional healers.

In Yemen traditional healers working as part of the original old traditional medicine. The last 10 years which had shown an increase of those who claimed to treat by the holly Quran as any part of the Arab world.

The second factor is that Sudanese culture is not a pure Arab Islamic one, but it is in close contact with African culture which is reputed by black magic concept.

The significant difference in favor of Sudanese sample that they accept the mentally ill to be cared by his family may reflect absence of moral dualism due to belief of black magic, or more cohesion within Sudanese families.

Of interest that the items which show negative attitude most of them if not all represents the attitude of the (NPP) toward their role in management of mental
illness while they have good attitude toward psychiatric illness it self (refer to figure 14 page 58, page 36, appendix 1). This is the most important result of this research , which may explain the poor achievement of knowledge and decrease ability to detect psychiatric illness.

In the other way round there may be another good possibility , that their low achievement in knowledge lead to their negative attitude toward their role in management of mental illness. Against the latter is that the level of knowledge is negatively related with many items of the different dimensions of attitude not only with attitude toward their role in management of mental illness. These dimensions may be interrelated with each other. For example in the religious concept when the cause is black magic, it is negatively related mostly to their role in management , and when the cause is weak faith it is negatively related to psychiatric illness it self.

The difference between the number of attitude items related to the level of knowledge in the two samples, (see table (7) page 65), may be mediated through the difference in the religious concept which is related to about twelve items of attitude , while the environmental concept is negatively related to only three items. Obviously the level of knowledge is not negatively correlated with biological concept of mental illness (refer to appendix 2).

Both environmental and religious concepts of mental illness may affect the ability to detect mental illness but the problem is worse with religious concept which is shown by the negative correlation of the attitude with the detection of mental illness in the Sudan sample while not in Yemen sample, see table (9).
On practical view, the improvement of NPP knowledge will improve their practice representing in detecting and referring psychiatric patients in both samples, see table(8) and figure(18). The attitude may have more complex relationship with knowledge than does the practice.

So it is clear that the problem of the research which is decrease referral rate from NPP to psychiatrist is due to their poor knowledge.

**Conclusion**

Psychological factors play an important role in medical and surgical practice. Clinicians from different specialties need to be able to manage patients whose physical complaints are accompanied by psychiatric disorder. However the present state of poor knowledge, attitude and practice of N.P.P. are major obstacles in achieving this. Obviously they often require the assistance of psychiatrists to assess and manage the more complicated problems.
The time seems right for an expansion of liaison psychiatry beyond the rudimentary services that currently exist in many hospitals. Now psychiatric units have been established in general hospitals, and opportunities exist for closer collaboration with N.P.P.

Patients with mental disorders frequently attend non-psychiatric outpatient clinics and improving the knowledge of (NPP) is not enough for them to change the attitude about their role in management of mental disorders although it improves their detection and referral rates.

Teaching and training should be directed towards changing attitude as well as to be oriented to general hospital psychiatry.

**Recommendation**

1. Psychiatric teaching in universities and training courses in ministries of health should be restructured to improve both teaching and training.
2. Collective and comprehensive strategies, policies, plans and programs should be developed in order to improve the knowledge, attitude and practice of the general practitioner all over the country.
3. Introducing diplomas in general hospital psychiatry.
Opening an out patient clinic " psychiatry " in all hospitals and to be staffed by doctors with the diplomas, who should be oriented to their roles as liaison psychiatrist in the hospital with responsibility for all patients in various specialties in addition to their role in making good professional relationship between psychiatrists and (NPP) and hence establishing a referral system.

4. Training in psychiatry should be apart of the house - officer training period and medical officer national service.

5. There should be a greatly enhanced government commitment toward public information , education and relevant evaluative researches in social psychiatry .

6. Incorporation of a mental health component in regular teaching programs in medical schools and other health training institutes.

7. This study calls for more extensive researches in the following areas :-

- Community based study in determinant of perceived mental health status and illness behavior
- Psychiatric morbidity among patients attending non psychiatric out patient clinics using more detailed standardized procedure as DSM-IV-SCL.

- Experimental methods to detect the best way of improving detection rate and responsibility of (N.P.P) for care of mental disorders.
References


4- King MB, (1993) psychiatry in general practice (counseling consultation and chronic care). recent


24- Borus J. F and MA. Anastasi,(1971) mental health center and the private medical practitioner, psychiatry (34) 274-288
30- Hinkle L.E. Walf H.G.(1957),the nature of man’s adaptation to his total environment and the relation of this to illness ,archives of internal medicine (99)442-460
32- Lipowski Z.J.(1986),consultation liaison psychiatry the first half century, general hospital psychiatry (8) 305-315
33- Sensky etal,(1985) referral to psychiatrist in a general hospital ,journal of the royal society of medicine (78) 463-468.
43- Bowman et al (1992) Improving the psychiatric skills of the general practitioner: is the effect of training maintained? Medical education, 26,63-68.
46- W.H.O. (1989) KAP Study on AIDS: (Draft) WHO\GPA\SBR.