"PSYCHIATRIC MORBIDITY AMONG PATIENTS ATTENDING A PRIMARY HEALTH CARE CENTRE IN A DEPRIVED COMMUNITY IN NAIROBI"
This dissertation is presented as a part fulfilment for the degree of Master of Medicine (Psychiatry) - 1987 of the University of Nairobi

By

DR. D. T. M. KIIMA
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DECLARATION

This dissertation is my original work and has not been presented for a degree in any other university.

Signed

KIIMA D. T. M., M.B. Ch.B (NAIROBI)

This dissertation has been submitted for examination with my approval as the University Supervisor.

Signed

S. W. ACUDA, M.B. Ch.B, MRC PSYCH.
PROFSSOR OF PSYCHIATRY

Nairobi
DECLARATION

I, KIIMA DAVID TRUMAN MUSAU HEREBY DECLARE THAT THIS DISSERTATION IS MY ORIGINAL WORK AND HAS NOT BEEN PRESENTED FOR A DEGREE IN ANY OTHER UNIVERSITY.

NAIROBI

ACKNOWLEDGEMENTS

I would like to express my gratitude to Professor S. W. Acuda and Dr. M. Dhadhphale for their help in designing the methodology of this study and to the Department of Psychiatry for their suggestions and criticism of the study. Special thanks to Professor Acuda for his step by step supervision of the study and advice on presentation of the results.

I am grateful to the Medical Officer of Health (M.O.H.) in the Public Health Department of the City Commission for giving me permission to carry out the study in one of their health centres. Special thanks to all the staff in Kariobangi Health Centre for the co-operation and assistance they accorded to me during the study period. I especially thank the Sister-in-Charge for providing me with an interview room.

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SYNOPSIS
SYNOPSIS

Studies done in recent years have shown that previous estimates of the prevalence of psychological disorders have had to be revised upwards, the majority of this evidence emanating from the West (Reeler, 1987). Research conducted in developing countries has shown that the prevalence of psychiatric disorders is high contrary to earlier reports during colonial era (Carothers, 1947).

Gillis et al (1968) reported more psychiatric disturbance amongst people living in overcrowded conditions and those with least education. With this in mind, the author commenced this study with the aim of finding out whether the prevalence of psychiatric morbidity in a deprived community was high. The following hypotheses were tested:

(i) The prevalence of psychiatric morbidity in patients from a deprived community is substantial.

(ii) Majority of patients with psychiatric morbidity present predominantly with physical symptoms rather than psychological symptoms.

The study was set out to:
(i) Find out the prevalence of psychiatric morbidity among patients from a deprived community.

(ii) Attempt to identify any factors that may be associated with psychiatric morbidity.

(iii) To make recommendations towards integration of mental health care into existing primary health care service in the area.

(iv) To gather any other useful information about psychiatric morbidity.

The study was carried out in a city health centre (Kariobangi) in Nairobi. A sample was selected using systematic random sample method. A two-stage procedure was used to detect and confirm patients with psychiatric disorders. A locally validated version of the Self-Rating Questionnaire (SRQ) was used for screening and standardised psychiatric interview (SPI) for confirmation of the "Cases". ICD-9 was used for basing the psychiatric diagnosis.

201 patients above 15 years of age were selected randomly and interviewed. They were all physically examined, managed and disposed of appropriately. For all cases,
information on socio-demographic data, health, drug use and abuse and mental state assessment data were collected. Confirmed psychiatric cases were termed as PM (Psychiatric Morbidity). The non-psychiatric cases were designated as NPM (Non-Psychiatric Morbidity). Using the 'SLM' computer analysis the data was analysed.

The significant findings were as follows:

(i) Of the 201 patients interviewed, 90 met the pre-established criteria for psychiatric cases (PM = 44.8 per cent).

(ii) Psychoneuroses were the commonest group of disorders (41.8 per cent of total sample) and consisted of neurotic depression and anxiety neurosis.

(iii) 6 patients (3%) of the total sample had psychosis, 4 of whom had Manic-depressive psychosis (depressed) and 2 had schizophrenia.

(iv) 61.1% of the PM cases did not have any discernible organic illness.

The implications of these findings are discussed.
CHAPTER ONE

INTRODUCTION
INTRODUCTION

NAIROBI

HISTORICAL BACKGROUND

In 1899, the Uganda Railway reached Nairobi and a workshop and a depot was built. In 1908, the provincial headquarters was moved from Machakos to Nairobi. It then became the official capital of Kenya. It was granted the status of a township in 1903, that of municipality in 1919, and that of a city in 1954.

Nairobi's population reached 100,000 in the forties, 500,000 in the sixties and over 1.2 million in the early eighties. According to statistics from the City Commission, the population of Nairobi is currently over 1.5 million (1986 estimate). According to the latest National Census (1979), Nairobi had a population of 827,775 and occupied an area of 684 square km with a population density of 1210 per square kilometre. The projected population for 1986 was 1,223,803 people. Nairobi is now a landmass of about 700 square kilometres with population density of over 1,000.

Nairobi is a metropolitan as well as a cosmopolitan city where people from all walks of life come to transact govern-
ment or private business or for various other reasons. International as well as business organizations all have offices in Nairobi and all major international air carriers serve Jomo Kenyatta International Airport. Due to the prevailing atmosphere of peace, the country's political stability and the rapid development of the country as a whole, many foreigners and international business community have been attracted and ventured into many investments including industry.

The problem of rapid urbanisation, industrialisation and high birth rate has rendered the city incapable of providing its population with its increasing needs, such as health services, housing, employment, schools, roads, water supply, electricity, transport among many other needs. Slums continue to spring up with the attendant problems of overcrowding, inadequate water supply, absence of toilets, flooding, clogging of open sewer and shortage of schools.

HEALTH SERVICE FACILITIES IN NAIROBI

The health services are provided by the City Commission, private hospitals, general practitioners, mission hospitals, and Government hospitals. The City Commission provides health services through the Public Health Department. Kenyatta National Hospital is a government-owned facility which serves as a referral hospital not only for Nairobi City alone, but also for the whole country as well as the
East and Central African region.

There are 158 health institutions in the city which include 27 hospitals, 15 health centres and 116 health sub-centres and dispensaries. Among these, the City Commission owns the following health facilities:

- Curative + MCH/FP and maternity - 5
- Maternity units - 2
- Curative + MCH/FP - 10
- MCH/FP units only - 25
- Curative only - 12
- Total - 54

The bulk of the primary health care services are provided by the City Commission especially in the poor areas of the city where majority of the people live.

THE CITY COMMISSION HEALTH SERVICES

The public health department is headed by the Medical Officer of Health (MOH) who is one of the chief city officers in the Commission. He has several Assistant Medical Officers of Health (Ass. MOH) under him. The department is charged with provision of health services in the City. The City is divided into two parts, division one and two.
Division one covers the eastern part of the city which is mainly Eastlands. The division comprises of poor residential areas inhabited by poor people. There are many slum villages as well as many others springing up with the attendant problems of slum-dwellers such as overcrowding, poor sanitation and lack of health services among others. On the other hand Division two covers the western parts of the City which mainly include the part of the City west of Uhuru Highway. The area is inhabited by relatively rich people who generally go to private hospitals for health care.

The most congested health facilities include Kariobangi, Kasarani, Riruta and Lower Kabete health centres. All the health facilities refer complicated cases to Kenyatta National Hospital. The City Commission also offers emergency ambulance facilities to the city residents. The City Commission has only one hospital, Pumwani Maternity Hospital situated in Eastlands which caters for the majority of the maternity cases in Nairobi. It is the most congested hospital in the city. It receives majority of the maternity cases for delivery from the other health facilities.

THE AREA OF STUDY

Kariobangi Health Centre is situated on the eastern sector of Nairobi, about 5 km from the City Centre. It belongs
to the Division one of Nairobi City Commission's health department. Its catchment area includes one of the worst slum areas in Nairobi. These areas include New Mathari, Ngomongo, Korogocho, Grogon, Karidudu, Kasabunu, Mathari North, Marura, Huruma, Ngei I and II, Kariobangi Industry, N.C.C. Building, Gitathuru, Ngulucola, River Side, Ngunyumu and Kwa-Michael (Thayu) villages. Most of these areas are slums with the attendant problems of lack of housing, overcrowding, inadequate water supply, poor sanitation, lack of electricity, roads, street lighting, garbage collection and schools.

In fact the President recently visited the areas and was shocked at the appalling state of affairs. He expressed his concern on the condition of roads, lack of health facilities, poor sanitation and lack of water among other things. The situation was so critical that he ordered the area Member of Parliament as well as the City Commission to start work immediately to provide roads, schools and health facilities among others. He suggested that "Nyayo" wards should be built immediately through "harambee" effort.

THE SETTING OF THIS STUDY

KARIOBANGI HEALTH CENTRE

This is one of the congested health facilities among the
City Commission health facilities. It offers primary health care on outpatient basis. It offers Maternal Child Health and Family Planning (MCH/FP) services as well as curative services. The health centre has two large blocks, one used for curative services while the other is used for MCH/FP services. The Doctors' consultation room, the office of the Sister-in-charge, the records office and the pharmacy are housed together in the curative block.

The daily attendance on average is about 500 patients with average monthly attendance of about 15,000 patients. The daily attendance fluctuates markedly throughout the month. The clinics are usually heaviest on month-ends when people have enough money to travel and also when relatives from the rural areas come for treatment in Nairobi. Most of the attendances are on Mondays as well as Fridays just before the week-ends. About half of the patients attend the MCH/FP clinic.

The health centre is normally headed by a medical officer who sees the complicated cases referred by the clinical officers working under him. The nursing staff working in MCH/FP clinic also consult him on complicated cases from those clinics. There are on average 3 clinical officers deployed in the curative service unit. The clinical officers are extremely busy due to the bulk of the patients and therefore on average spend only about two minutes on each patient. This time is obviously inadequate
and may contribute to the failure to identify psychiatric patients who normally have multiple somatic complaints to be listened. The other staff include the sister-in-charge and her nursing staff, the subordinate staff; about two record clerks and a pharmaceutical technician. There are no laboratory facilities at the health centre. Patients requiring simple laboratory investigations like urinalysis and blood slides are referred to Jericho Dispensary, 3 km away. For more complicated investigations, the patients are referred to Kenyatta National Hospital, 9 km away.

About 2 years ago, a department of community psychiatry was established in Mathari Hospital. Kariobangi Health Centre was chosen to cater for a psychiatric clinic held once per week on Tuesdays and is run by a psychiatric team from Mathari Hospital headed by a Consultant Psychiatrist. The clinic caters for psychiatric referrals from the other City Commission health facilities as well as other patients who seek mental health service. The patients from this clinic were not included in the study sample.

Kariobangi Health Centre offers health services from 8.00 a.m. to 5.00 p.m. daily from Monday to Friday. On Saturday morning it caters for emergency services up to noon. The centre has two separate blocks. One block caters for curative services while the other caters for MCH/PP services. In the curative block, where the study was undertaken, male and female patients form two separate
queues outside the block. The new cases are given new cards while the Re-attenders offer their small cards and are given their clinical cards from the record office.

After getting the cards, the patients enter into the block and merge into a single queue in the corridor. The Single queue is formed by both male and female patients who sit on benches ready to be seen by the clinical officers. There are a few patient attendants who control the flow of the queue. By 9.00 a.m. patient booking closes and those who arrive late wait for the afternoon booking which starts at 1.30 p.m. By 4.00 p.m. most of the patients have been seen and gone home.
CHAPTER TWO

LITERATURE REVIEW
LITERATURE REVIEW

KENYA

Despite growing awareness of the mental health problems in Kenya, very little research has been done to confirm these observations. In fact, until recently when Dhadphale (1985) did an extensive study on the psychiatric morbidity among patients attending several district hospital out-patient clinics in Kenya, the only prevalence study ever attempted in the country was by Carothers in the late 1940s.

Carothers (1947) in a study of "insane persons" admitted to Mathari Hospital in a 5-year period between 1939 and 1943, estimated the prevalence of such persons in the country to be 0.1 per 1000 persons at risk, compared to 4 per 1000 in England and Wales at that time. When in a subsequent study he included data from district commissioners and chiefs about insane persons living at home, the prevalence figure rose to 0.37 per 1000 persons at risk. He then concluded the incidence of "insanity" among Kenyan Africans was very much lower than in Europe and North America. He drew such conclusion because his studies were based mainly on institutions thus ignoring
a large number of patients who remained non-violent and quiet at home and never came to the attention of the Police, chiefs or district commissioners.

Ndetei and Muhangi (1979) did a study on the prevalence and clinical presentation of psychiatric illness in a rural setting in Kenya. They studied one hundred and forty (140) patients attending a walk-in-walk-out general practitioner's clinic in Athi River, a sub-urban area in Kenya about 28 km south-east of Nairobi, over a period of thirty (30) days. The patients studied were first seen by the general practitioner owning the clinic who made a thorough physical examination before the patient was subjected to a formal psychiatric interview by a psychiatrist. Twenty eight (20%) patients were found to be suffering primarily from psychiatric disorders, eighty three (59.3%) were primarily physically disabled and the diagnosis of the rest (20.7%) was uncertain. It is noteworthy that none of the patients presented with psychotic symptoms.

In an attempt to find out the nature and extent of psychiatric morbidity among secondary school students in a rural school in Kenya, Acuda and Siddandi (1979) screened all the 493 students present in the school that day using a structured questionnaire designed to
elicit symptoms of mental illness. All those found to have one or more symptoms suggestive of mental disorders were subjected to a formal psychiatric interview by a psychiatrist. Fifty nine (12%) of the students were found to be mentally ill and nineteen (3.9%) of them being overtly psychotic requiring immediate treatment. The most frequent diagnosis made were anxiety states and depression.

During the same year, the department of psychiatry carried out a case study of all new referrals to the psychiatric outpatient clinic at Kenyatta National Hospital (KNH) over 12 months period. (Acuda S.W., Muhangi J., Leganger S. et al 1979). The clinic had just opened 3 months earlier. The commonest diagnosis made were depressive illness (34%) followed by anxiety state (13.8%), acute psychotic episodes (9.8%), hysteria (9%) and alcoholism (4.4%). Only 4 patients referred to the clinic were found to have no psychiatric morbidity.

Wanjiru F. (1979) carried out a household study on alcoholism in Mathari Valley, a slum overcrowded area of Nairobi City, where over 85,000 people lived crammed in a mere 490 acres of land. Upto 40% of males and 24% of females heads of households interviewed were classified as alcoholics using the WHO (1952) definition of an alcoholic.
Dhadphale M., and Ellison R.H. (1982) did a study on psychiatric morbidity among patients attending two general hospitals in Nyanza Province in Kenya. Two hundred (200) randomly selected patients attending the two (Nyanza General and Kisii) hospitals were administered a General Health Questionnaire and those who scored high on psychiatric symptomatology were subjected to a standardised psychiatric interview by a consultant psychiatrist. 32% of the patients attending the Nyanza General Hospital and 25.8% of those attending Kisii Hospital were found to have conspicuous psychiatric morbidity. The commonest diagnosis in both hospitals were psychoneurosis (anxiety and depression) forming 68%. 50% of the patients had seen a traditional healer for the same illness before coming to the hospital. In Kisii Hospital 4.8% of the patients were definite alcoholics.

Dhadphale M. (1984) did an extensive study on the prevalence of psychiatric illness in primary health care facilities in the rural districts. The author chose one district from every province in Kenya except North-Eastern, Rift Valley, Western and Nairobi Provinces. The district hospitals (Kisumu, Kisii, Meru and Voi) selected were representative of various general medical facilities offered in the country. A total of 881 patients were included in the study sample. The overall psychiatric morbidity was found to be 24.9% and
out of this, 21.1% had psychiatric morbidity with no obvious organic illness while only 3.8% had psychiatric morbidity with organic illness. Majority of the patients (31.8%) had neurotic depression. 24% had anxiety neurosis, 15.4% had manic-depression psychosis, 12.7% were alcoholics, while 6.3% were schizophrenics. Among the patients with psychiatric morbidity (57%) had neurosis.

Between 1977 and 1980, Acuda (1985) screened 2693 refugees attending a special walk-in-walk-out clinic in Nairobi set specifically to cater for refugees living in Kenya at the time. Those suspected of having psychiatric illness by a medical officer were subjected to standardised psychiatric interview by a psychiatrist. 8.7% of the refugees were found to be primarily suffering from psychiatric disorder and in about half of them (53%) their mental illness had started shortly after they had become refugees. The commonest illness were anxiety, depression and hypochondriasis.

Omolo E.O. (1985) in his study of the medical problems among Khat (miraa) users reported 50% of the entire sample to have some psychiatric symptoms. Over 31% had psychiatric illness. The majority of them had neurotic illness, but only 3% of the entire sample had some psychotic condition.
OUTSIDE KENYA

Among the first large scale studies on mental illness in the community in Africa was the one done by Giel et al (1968). The authors reported conspicuous psychiatric morbidity of 18% after assessment of 200 patients attending outpatient clinics in Addis Ababa, the capital of Ethiopia. Conspicuous psychiatric morbidity included patients with personality disorders.

Giel and Van Luijk (1969) again conducted an epidemiological study of psychiatric morbidity in a small Ethiopian town situated 450 km away from the capital Addis Ababa. The authors randomly selected 100 households from the town which had a population of 3,200 people. They found that 33 persons or 8.5% of the household-dwellers had psychiatric morbidity. At the same time, they conducted another study among outpatients at a health centre in the same town. They found the psychiatric morbidity among the patients to be nineteen per cent (19%).

Gillis et al (1968) carried out a large scale epidemiological community study in the Cape Peninsula of South Africa among its coloured people. The authors selected a random sample and interviewed five hundred (500) respondents.
The results showed that, out of the whole population, 11.8% were definitely psychiatrically disturbed and a further 11.2% had enough symptoms to be classified as probably disturbed. However, 68% showed no psychiatric disturbance. The most interesting findings were that:

(i) There were three times as many persons showing psychiatric disturbance in the lowest social class (III) as in the highest social class (I).

(ii) Conversely 80% of the persons in the highest social class (I) showed no psychiatric disturbance compared with 61% of persons in the lowest social class (III) — a significant finding at 1% level.

(iii) There were more psychiatric disturbance of all types in the lowest social class (III).

(iv) There was more psychiatric disturbance amongst people living in overcrowded conditions and those with least education.

(v) Only a small fraction of the psychiatrically disturbed people in the community were being treated. Only 1% of the residents made use of the existing health services.

German and Arya (1969) studied a student population attending the health services in Makerere University in Uganda. Out of the University student population of 1,351 at risk, approximately 1,122 (83%) attended the
health services. 121 (10.8%) of them were deemed to be suffering from a psychiatric illness.

Holmes and Speight (1975) carried out a study on medical outpatients in an urban medical practice clinic in Tanzania. From a sample of 100 male and 70 female patients, 48% had organic illnesses, 48% had non-organic illnesses and 4% had no definite diagnosis. Among the patients with organic illnesses, 20% had psychiatric illness on top of their organic illnesses.

Orley and Wing (1979) carried out a study on psychiatric disorders in two villages in Uganda. The villages, Bulemezi and Kyaddondo are 48 and 16 km respectively from Kampala, the capital city of Uganda. One hundred and twenty (120) adults were interviewed during the study. The results showed that 20% of the sample had disorders above the threshold level and a further 5% had more definite disorders.

Cox (1979) conducted a study on the psychiatric morbidity during pregnancy among semi-rural Ugandan women. The author studied two hundred and sixty three (263) pregnant women and a control group of eighty nine (89) non-pregnant, non-puerperal women. Out of the pregnant women, forty four (16.7%) had certain psychiatric morbidity and thirty seven (14.1%) had uncertain psychiatric morbidity.
OUTSIDE AFRICA

Strole et al (1962) studied a population of 172,000 in the central residential district of Manhattan in the heart of New York City. Almost ninety nine (99%) of the population were whites and belonged to various social and economic groupings. The district had a population density of 70,000 people per square mile and as many as 125 people lived in a 100x100 foot plot. 23.4% of the respondents interviewed showed significant psychiatric and social disturbance.

Lin and Standley (1962) in a paper on "mental health in the third world" reported significant correlation between social status and the prevalence and severity of mental disorder. Mental disorder was most frequent in lower social classes. Thirteen per cent (13%) were psychotic in the lower social classes compared to only four (4%) in the upper class. The findings for neurotic traits were similar, 20% and 15% respectively, and for personality defects 15% and 5% respectively. Twenty eight per cent (28%) of the lower socio-economic class were found to be severely disturbed compared to eighteen per cent (18%) of the middle class and nine per cent (9%) of the upper class. However, simple neurosis was commoner in the upper social class (43%) than in the lower class (25%). Anxiety manifested in 75% of all classes in the population.
Shepherd et al (1966) carried out a large scale survey in England to obtain reliable information on the amount and nature of psychiatric morbidity encountered in the setting of general practice. The authors chose to carry out the survey over one year period due to seasonal variations in surgery attendances. They reported a total prevalence rate of 140 per 1,000 at risk an inception rate of 52 per 1,000 at risk. There was substantially more psychiatric morbidity in women than men at a ratio of nearly 2:1.
AIMS AND OBJECTIVES

1. To find out the prevalence of psychiatric morbidity among patients from a deprived community.

2. To try to identify any factors that may be associated with psychiatric morbidity.

3. To make recommendations towards integration of mental health care into existing primary health care service in the area.

4. To gather any other useful information about PM.

HYPOTHESES

1. The prevalence of psychiatric morbidity in patients from a deprived community is substantial.

2. Majority of patients with psychiatric morbidity present predominantly with physical symptoms rather than psychological symptoms.
CHAPTER THREE

METHODOLOGY
METHODOLOGY

Prior to the actual study, the author had done a pretest with the research instruments in order to make any necessary modifications and also to assess the time needed per interview. The pretest was done at Kenyatta National Hospital male and female filter clinics (MFC and FFC). The author also visited the health centre on several days and at different times before the actual study to assess the suitability of the centre for the study and especially to observe the flow of patients, daily attendances, availability of an examination and interview room as well as to familiarise himself with the staff at the centre.

The study was carried out during 3 consecutive weeks in September when the author was on his annual leave. All the interviews were done by the author. The interviews took place everyday from Monday to Friday starting at 8 a.m. and finishing at 5 p.m. Altogether 201 subjects were interviewed for the study. The sample size was limited by the time available as well as manpower and financial constraints.
Using a systematic random sample, every tenth patient in the queue (both male and female) was chosen. The selected patients were sent into a waiting room ready for the interview. They were given marked cards for identification after which they were called one after the other for the interviews.

The subjects who came for MCH/FP services were excluded from the study. Those patients under 15 years of age were also excluded. The author had also planned to exclude those who would be severely sick with physical illness, but during the study there were no such cases in the queue as they were probably taken directly to Kenyatta Hospital from home or from the outside queue.

The majority of the interviews took between 20 and 30 minutes. Although the author had planned to use an interpreter where necessary, this became unnecessary as all the subjects could understand either English or Kiswahili or both.

INSTRUMENTS USED

1. GENERAL QUESTIONNAIRE

This questionnaire was designed by the author to
collect information on socio-demographic background, health, drug use/abuse and physical examination data. It was also used to collect other necessary information.

2. **SELF-RATING QUESTIONNAIRE (SRQ)**

For the identification of psychiatric "cases" a locally validated version of the questionnare was used (Harding et al 1980, Dhadphale 1984). The Kiswahili translation version (Dhadphale 1984) was used for patients who did not speak English language fluently. A pre-determined cut-off point for "Caseness" was $\geq 8 = \text{"Case"}$. 

3. **STANDARDISED PSYCHIATRIC INTERVIEW (SPI)**

A modified version of SPI (Goldberg et al 1970 and Dhadphale 1984) was used for the mental state assessment of those identified as "Cases" by SRQ. The translated Kiswahili version was also used whenever necessary.

4. **BRIEF MAST**

A locally adopted version (Dhadphale 1984
was used. Some questions which were irrelevant to the Kenyan situation were deleted and the appropriate ones substituted (see appendix). This instrument was administered to all patients who admitted "ever taking alcohol" in order to identify those with alcohol dependence syndrome and alcohol problems.

THE INTERVIEW

The interview took place in the Medical Officer's office. The author first obtained consent from all patients interviewed. Rapport was easily established with the patients all of whom co-operated fully.

For each patient, personal data was entered in the general questionnaire after which thorough physical examination was done. Unfortunately there were no facilities for special investigations at the health centre. Those who needed investigations were referred to Kenyatta National Hospital, but the results of the investigations were not followed up for logistic reasons.

STAGE-ONE SCREENING

The author read out the SRQ questions to the patients
either in the English version or Kiswahili version depending on the language they were most fluent on, and the responses recorded. The patients who scored above the cut-off point on the SRQ or one or more positive responses on the psychotic questions were then subjected to the second stage screening to confirm whether or not they were "Cases". Non-cases were prescribed appropriate treatment and sent away.

STAGE-TWO SCREENING

All "cases" were interviewed using SPI on which all relevant data were recorded. A diagnosis was made based on the ICD-9 (WHO 1978) and the appropriate treatment given.

BRIEF MAST

Those patients who admitted "ever taking alcohol" in the general questionnare were subjected to Brief "MAST" questions. Those who scored $\geq 5$ points were considered to have alcohol dependence syndrome and/or alcohol problems.

CONTROLS

All the sample population attending the health centre
had a common aim of getting treatment at a primary health care level. They also came from a similar and common background of that of the deprived community within Nairobi. For the purpose of this study they were divided into Psychiatric Morbidity (PM) and Non-Psychiatric Morbidity (NPM). It was therefore possible to designate the (NPM) as the control group for (PM).

STATISTICS

All data were collected on pre-coded questionnaires. The information was transferred into a computer programme. Using "SLM" computer programme, the data was analysed and the results are shown in the next chapter. The results are shown as tables, with foot-notes highlighting the important findings.

Cases detected by the screening procedure were designated Psychiatric Morbidity or PM while non-cases were indicated as NPM (Non-Psychiatric Morbidity). Comparisons between PM and NPM was done on different variables using chi-square ($X^2$) test. Results were assumed as significant when P value was less than 5% ($P<0.05$) P value up to 0.50 are displayed. (N.S. stand for not significant. H.S. stand for highly significant.)
DEFINITIONS

For the purposes of the study, the following categories of various terms and variables were used:

1. **DEPRIVED COMMUNITY**

   This is a community where there is social and economic deprivation characterised by lack of or inadequate facilities for the basic human needs like social support, food, shelter and entertainment. The people live in an environment with adverse conditions which affect them. Such conditions include poverty, overcrowding, lack of job opportunities and income, poor health, lack of or poor sanitation, lack of water or safe water, poor housing and lighting, a high rate of crime and delinquency, just to mention a few. The catchment area of this study qualifies as an area with a deprived community.

2. **AGE DISTRIBUTION**

   The age distribution was divided into five categories:
   
   (i) 15-24 years - Adolescents and young adults.
   
   (ii) 25-34 years - Mainly working group.
(iii) 35-44 years - Stable period.
(iv) 45-54 years - Investment period.
(v) 55+ years - Retirement period.

3. EMPLOYMENT

(i) Self-employed - includes hawkers and business people.
(ii) Wage-earner - employees with regular wages.
(iii) Unemployed - those without income-generating employment.
(iv) Others - housewives and casuals without regular employment.

4. INCOME

(i) Less than Kshs.500/-
(ii) Kshs.501-1,000/-
(iii) Above Kshs.1,000/-
NOTE:

All the SRQ - POSITIVE "Cases" were confirmed PM cases using SPI.
CHAPTER FOUR

RESULTS
CHAPTER FOUR

RESULTS

The results of this study are shown in tables in the following pages. Important points are summarised and appear as short notes below the respective tables. The figures in brackets denote percentages.

The tables are as follows:

1. Districts of origin.
2. Physical diagnoses.
3. Age.
4. Sex.
5. Marital status.
6. Number of children.
7. Education.
8. Religion.
9. Number of dependants.
10. Number of people in a household.
11. Duration of illness.
Table 1

DISTRICTS OF ORIGIN OF THE PATIENTS

<table>
<thead>
<tr>
<th>DISTRICT OF ORIGIN</th>
<th>NO. OF PATIENTS</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>KAKAMEGA</td>
<td>32</td>
<td>15.9</td>
</tr>
<tr>
<td>MURANGA</td>
<td>26</td>
<td>12.9</td>
</tr>
<tr>
<td>SIAYA</td>
<td>44</td>
<td>21.9</td>
</tr>
<tr>
<td>KISUMU</td>
<td>20</td>
<td>10.0</td>
</tr>
<tr>
<td>MACHAKOS AND KITUI</td>
<td>18</td>
<td>9.0</td>
</tr>
<tr>
<td>KIAMBU</td>
<td>10</td>
<td>5.0</td>
</tr>
<tr>
<td>OTHERS</td>
<td>51</td>
<td>25.3</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>201</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

N.B. Only 5 foreigners were included in the sample (4 Tanzanians and 1 Ugandan).
Table 2

PHYSICAL DIAGNOSIS OF ENTIRE SAMPLE

n = 201

<table>
<thead>
<tr>
<th>DIAGNOSIS PER BODY SYSTEM</th>
<th>NO.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>RESPIRATORY</td>
<td>58</td>
<td>28.9</td>
</tr>
<tr>
<td>GASTROINTESTINAL</td>
<td>17</td>
<td>8.5</td>
</tr>
<tr>
<td>GENITO-URINARY</td>
<td>25</td>
<td>12.4</td>
</tr>
<tr>
<td>MUSCULO-SKELETAL</td>
<td>30</td>
<td>14.9</td>
</tr>
<tr>
<td>CARDIOVASCULAR</td>
<td>10</td>
<td>5.0</td>
</tr>
<tr>
<td>OTHERS (SYSTEMS)</td>
<td>18</td>
<td>9.0</td>
</tr>
<tr>
<td>SKIN</td>
<td>6</td>
<td>3.0</td>
</tr>
<tr>
<td>ENT AND EYE</td>
<td>7</td>
<td>3.5</td>
</tr>
<tr>
<td>CENTRAL NERVOUS SYSTEM</td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td>PSYCHOLOGICAL</td>
<td>29</td>
<td>14.4</td>
</tr>
</tbody>
</table>
Table 3

AGE

N = 201

<table>
<thead>
<tr>
<th>AGE (YRS)</th>
<th>PM n (%)</th>
<th>NPM n (%)</th>
<th>TOTAL n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-24</td>
<td>39 (19.4)</td>
<td>43 (21.4)</td>
<td>82 (40.8)</td>
</tr>
<tr>
<td>25-34</td>
<td>32 (15.9)</td>
<td>28 (13.9)</td>
<td>60 (29.8)</td>
</tr>
<tr>
<td>35-44</td>
<td>9 (4.5)</td>
<td>25 (12.4)</td>
<td>34 (16.9)</td>
</tr>
<tr>
<td>45-54</td>
<td>6 (3.0)</td>
<td>6 (3.0)</td>
<td>12 (6.0)</td>
</tr>
<tr>
<td>55+</td>
<td>4 (2.0)</td>
<td>9 (4.5)</td>
<td>13 (6.5)</td>
</tr>
<tr>
<td>n</td>
<td>90 (44.8)</td>
<td>111 (55.2)</td>
<td>201 (100.0)</td>
</tr>
</tbody>
</table>

\[ X^2 = 7.8054 \quad df = 4 \quad P > 0.50 \text{ N.S.} \]

NOTE:
1. Most of the patients belonged to the youngest age-group (15-24 yrs).
2. No significance difference was observed between PM and NPM cases for age.
Table 4

SEX

N = 201

<table>
<thead>
<tr>
<th>SEX</th>
<th>PM</th>
<th>NPM</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n (%)</td>
<td>n (%)</td>
<td>n (%)</td>
</tr>
<tr>
<td>MALE</td>
<td>42 (20.9)</td>
<td>70 (34.8)</td>
<td>112 (55.7)</td>
</tr>
<tr>
<td>FEMALE</td>
<td>48 (23.9)</td>
<td>41 (20.4)</td>
<td>89 (44.3)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>90 (44.8)</td>
<td>111 (55.2)</td>
<td>201 (100.0)</td>
</tr>
</tbody>
</table>

X² = 5.4156     df = 1     P < 0.05

NOTE:
1. Significant difference was observed between PM and NPM patients for sex.
2. There were significantly higher number of Female PM cases than male PM cases.
Table 5

MARITAL STATUS

N = 201

<table>
<thead>
<tr>
<th>MARITAL STATUS</th>
<th>PM n (%)</th>
<th>NPM n (%)</th>
<th>TOTAL n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SINGLE</td>
<td>39 (19.4)</td>
<td>28 (13.9)</td>
<td>67 (33.3)</td>
</tr>
<tr>
<td>MARRIED</td>
<td>43 (21.4)</td>
<td>74 (36.8)</td>
<td>117 (58.2)</td>
</tr>
<tr>
<td>WIDOWED</td>
<td>3 (1.5)</td>
<td>3 (1.5)</td>
<td>6 (3.0)</td>
</tr>
<tr>
<td>DIVORCED</td>
<td>5 (2.5)</td>
<td>6 (3.0)</td>
<td>11 (5.5)</td>
</tr>
</tbody>
</table>

\[ x^2 = 8.0039 \quad df = 3 \quad P < 0.05 \]

NOTE:
1. There were significantly less PM cases in the married group than other groups.
Table 6

PM BY NUMBER OF CHILDREN

N = 201

<table>
<thead>
<tr>
<th>NO. OF CHILDREN</th>
<th>PM n (%)</th>
<th>NPM n (%)</th>
<th>TOTAL n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤1</td>
<td>54 (26.9)</td>
<td>46 (22.9)</td>
<td>100 (49.8)</td>
</tr>
<tr>
<td>2-4</td>
<td>19 (9.5)</td>
<td>39 (19.4)</td>
<td>58 (28.9)</td>
</tr>
<tr>
<td>5-9</td>
<td>14 (7.0)</td>
<td>25 (12.4)</td>
<td>39 (19.4)</td>
</tr>
<tr>
<td>≥10</td>
<td>3 (1.5)</td>
<td>1 (0.5)</td>
<td>4 (2.0)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>90 (44.8)</td>
<td>111 (55.2)</td>
<td>201 (100.0)</td>
</tr>
</tbody>
</table>

\[ x^2 = 9.5493 \quad df = 3 \quad P < 0.05 \]

NOTE:
There were significant higher number of PM cases with one or no child than NPM cases.
Table 7

EDUCATION

N = 201

<table>
<thead>
<tr>
<th>EDUCATION</th>
<th>PM n (%)</th>
<th>NPM n (%)</th>
<th>TOTAL n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NIL</td>
<td>19 (9.5)</td>
<td>12 (6)</td>
<td>31 (15.4)</td>
</tr>
<tr>
<td>PRIMARY</td>
<td>44 (21.9)</td>
<td>66 (32.8)</td>
<td>110 (54.7)</td>
</tr>
<tr>
<td>SECONDARY</td>
<td>25 (12.4)</td>
<td>32 (15.9)</td>
<td>57 (28.4)</td>
</tr>
<tr>
<td>OTHER</td>
<td>2 (1.0)</td>
<td>1 (0.5)</td>
<td>3 (1.5)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>90 (44.8)</td>
<td>111 (55.2)</td>
<td>201 (100.0)</td>
</tr>
</tbody>
</table>

$X^2 = 5.0346 \quad df = 3 \quad P > 0.05 \quad N.S.$

NOTE:

No significant difference was observed between PM and NPM patients for education.
Table 8

RELIGION

N = 201

<table>
<thead>
<tr>
<th>RELIGION</th>
<th>PM n (%)</th>
<th>NPM n (%)</th>
<th>TOTAL n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROTESTANT</td>
<td>38 (18.9)</td>
<td>51 (25.4)</td>
<td>89 (44.3)</td>
</tr>
<tr>
<td>CATHOLIC</td>
<td>44 (21.9)</td>
<td>56 (27.9)</td>
<td>100 (49.8)</td>
</tr>
<tr>
<td>MUSLIM</td>
<td>8 (4.0)</td>
<td>4 (2.0)</td>
<td>12 (6.0)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>90 (44.8)</td>
<td>111 (55.2)</td>
<td>201 (100.0)</td>
</tr>
</tbody>
</table>

\[ X^2 = 2.5055 \quad \text{df} = 2 \quad P > 0.05 \text{ N.S.} \]

NOTE:
1. No significant difference was observed between PM and NPM cases for religion.
### Table 9

**PM by Number of Dependents**

N = 201

<table>
<thead>
<tr>
<th>NO. OF DEPENDANTS</th>
<th>PM n (%)</th>
<th>NPM n (%)</th>
<th>TOTAL n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;1</td>
<td>51 (25.4)</td>
<td>39 (19.4)</td>
<td>90 (44.8)</td>
</tr>
<tr>
<td>2-3</td>
<td>15 (7.5 )</td>
<td>12 (6.0 )</td>
<td>27 (13.4)</td>
</tr>
<tr>
<td>4-7</td>
<td>21 (10.4)</td>
<td>37 (18.4)</td>
<td>58 (28.9)</td>
</tr>
<tr>
<td>≥8</td>
<td>3 (1.5 )</td>
<td>23 (11.4)</td>
<td>26 (12.9)</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>90 (44.8)</td>
<td>111 (55.2)</td>
<td>201 (100.0)</td>
</tr>
</tbody>
</table>

\[ X^2 = 19.7533 \quad df = 3 \quad P < 0.05 < 0.001 \ H.S. \]

**N.B.**

1. Highly significant number of PM cases had less number of dependants.
### Table 10

**PM by Number of People Living in a Household**

*N = 201*

<table>
<thead>
<tr>
<th>NO. OF PEOPLE IN HOUSEHOLD</th>
<th>PM n (%)</th>
<th>NPM n (%)</th>
<th>TOTAL n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8 (4.0)</td>
<td>23 (11.4)</td>
<td>31 (15.4)</td>
</tr>
<tr>
<td>2-4</td>
<td>56 (27.9)</td>
<td>55 (27.4)</td>
<td>111 (55.2)</td>
</tr>
<tr>
<td>5</td>
<td>26 (12.9)</td>
<td>33 (16.4)</td>
<td>59 (29.4)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>90 (44.8)</td>
<td>111 (55.2)</td>
<td>201 (100.0)</td>
</tr>
</tbody>
</table>

\[X^2 = 5.9687\quad \text{df} = 2\quad P > 0.05\]

**N.B.**

1. There was no significant difference between PM and NPM cases for the number of people living in a household.
### Table 11

**PM BY DURATION OF ILLNESS**

N = 201

<table>
<thead>
<tr>
<th>DURATION OF ILLNESS</th>
<th>PM n (%)</th>
<th>NPM n (%)</th>
<th>TOTAL n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAYS</td>
<td>26 (12.9)</td>
<td>62 (30.8)</td>
<td>88 (43.8)</td>
</tr>
<tr>
<td>WEEKS</td>
<td>11 (5.5)</td>
<td>17 (8.5)</td>
<td>28 (13.9)</td>
</tr>
<tr>
<td>MONTHS</td>
<td>17 (8.5)</td>
<td>16 (8.0)</td>
<td>33 (16.4)</td>
</tr>
<tr>
<td>YEARS</td>
<td>36 (17.9)</td>
<td>16 (8.0)</td>
<td>52 (25.9)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>90 (44.8)</td>
<td>111 (55.2)</td>
<td>201 (100.0)</td>
</tr>
</tbody>
</table>

\[ x^2 = 21.7793 \quad df = 3 \quad P < 0.05 < 0.001 \text{ H.S.} \]

**NOTE:**

1. Highly significant number of PM cases had longer duration of illness than NPM cases.
Table 12

PM BY HISTORY OF ALCOHOL INTAKE

N = 201

<table>
<thead>
<tr>
<th>TAKEN ALCOHOL LAST 6 MONTHS</th>
<th>PM n (%)</th>
<th>NPM n (%)</th>
<th>TOTAL n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEVER</td>
<td>13 (6.5)</td>
<td>15 (7.5)</td>
<td>28 (13.9)</td>
</tr>
<tr>
<td>YES</td>
<td>16 (8.0)</td>
<td>40 (19.9)</td>
<td>56 (27.9)</td>
</tr>
<tr>
<td>NO</td>
<td>61 (30.3)</td>
<td>56 (27.9)</td>
<td>117 (58.2)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>90 (44.8)</td>
<td>111 (55.2)</td>
<td>201 (100.0)</td>
</tr>
</tbody>
</table>

\[ X^2 = 8.5415 \quad df = 2 \quad P<0.05 \]

NOTE:
Significantly more NPM cases had used alcohol in the last six months.
CHAPTER FIVE

DISCUSSION
CHAPTER FIVE

DISCUSSION

1. LIMITATIONS AND RESTRAINTS

It was not an easy task to get a random sample in the small overcrowded waiting zone within the corridor of the curative block. The patients waited anxiously to be called into the treatment rooms and therefore did not understand why some of them were being picked up from the queue and given a preferential treatment in the medical officer's office. (The medical officer usually sees the referrals from the clinical officers in the office.) Although the random sample patients were given marked cards for identification, other patients would join them in the waiting room only to be discovered later on. The author normally treated such patients, but did not include them in the study. To minimise the problem, the sister-in-charge deployed one of her staff members every morning to control the flow of patients, identify those without marked cards and to direct them to the clinical officers for treatment.

The medical officer had been transferred to another health centre just before the commencement of the study, therefore the author was able to use the medical officer's office
without disturbance. The office was situated a few metres away from the clinical officers' rooms. This minimised the risk of mixing up of the patients. The office provided an examination couch and the privacy needed for the interview and physical examination.

As mentioned earlier (see methodology) there were no facilities for simple investigations such as blood-slide for malarial parasites, urinalysis, haemoglobin level etc. This presented a major problem for screening of physical illness. However, some of the patients who required investigations were referred to Kenyatta National Hospital.

There was severe limitation in both finance and time. The author had to travel about 5 km every day to the health centre to conduct the study. The period of study was also limited since the author had to complete data collection during the three weeks of his annual leave. This forced him to work over the lunch hour sometimes. The clinical officers also frequently came to him for consultation on difficult cases.

Most of the patients did not admit ever taking alcohol although some of them were smelling of alcohol at the time of the interview. This may be explained by the fact that most of the alcohol consumed in the area are the illicit
brews which are currently banned. The patients feared arrest if they volunteered such information. They also thought that they would not get proper treatment since they are most of the time rebuked by health workers whenever they admit taking alcohol. Similarly no patient admitted ever smoking bhang (cannabis) although the catchment area is well known for widespread abuse of the drug. Again this is understandable because of the legal implications and consequences of using the drug.

Most of the patients had difficulty in understanding questions 8, 12, 13, 14, 15 and 16 in the SRQ. Most of the patients were unable to discriminate between questions 11 and 15 as well as 18 and 20 in the SRQ. Eliciting psychotic symptoms was generally a problem because most of the patients needed explanation of the questions in order to understand them. In the mandatory questions on the SPI - symptoms, question 8 was not clearly understood by the patients. Many of the patients became shy on being asked questions 9 and 10. They either gave "No" answers or chose to keep quiet when asked. This was because these questions dealt with sexual libido and bewitchment which are quite sensitive in Kenya.

2. PREVALENCE OF PM

The point prevalence of PM in this study was 44.8%. This is
quite high compared with the findings of similar studies done elsewhere. This high prevalence can be explained on the basis of several factors, foremost being the fact that the other studies were done in different socio-economic set-ups with different patients populations. Relevant studies have been reviewed in chapter two. One noteworthy study, Dhadphale (1984) reported PM of 24.9% among primary health attenders in rural districts. Reviewing literature on seventy studies concerning PM, Dohrenwend and Dohrenwend (1974) found differing rates of PM ranging from 1 to 69 percent.

The psychoneuroses (anxiety and depression) formed 41.8% of the total sample (93.3% of the PM cases) while only 3% (6.6% of the PM cases) had the psychoses (2 schizophrenics and 3 MDP - depressed patients). 9 patients (4.5%) of the total sample were classified as alcoholics (10.0% of the PM cases). All of them were male alcoholics. Most of the patients with psychoneuroses had both anxiety and depression symptoms and therefore were classified under anxiety-depressive states (ICD-9 300.0, 300.4). No patients were seen with hysteria, phobic states or obsessive-compulsive neuroses.

3. AGE (Table 3)

There was no significant difference between PM and NPM for
In this study the majority of the patients were young (age group 15-24 years). It is most likely that most of them being young have been able to migrate from rural areas to look for employment in the city. The older age groups who are not likely to get employment in the city or are unwilling to leave the rural areas stayed at home. Dhadphale's sample came mainly from rural areas:

4. SEX (Table 4)

The study sample consisted of 112 males and 89 females. There was significantly high rates of psychiatric morbidity in females and males. Shepherd et al (1966) reported female cases predominating in a ratio of nearly two to one. This female preponderance is one of the most consistent finding of studies of psychiatric morbidity in general practice. Dhadphale (1984) however found no difference in the sex ratio between PM and NPM cases. There is no obvious explanation to these findings but it is possible that African females living in rural areas are less exposed to stressful situations which predispose them to mental illness. On the other hand the women living in the city are exposed to
similar stress like those to be found in London.

5. **MARITAL STATUS** (Table 5)

There was significant difference between single and married patients. The single patients had significantly higher frequency of PM than NPM cases. Again Dhadphale (1984) did not find such a difference in his study. A possible explanation is that most of the single patients were young, unsettled, recent migrants from rural areas to Nairobi in search of employment and therefore living much more stressful life than the married ones who were more settled. The single patient also might have fewer social networks and might lack support from friends or relatives. Most of the single patients were unemployed and looking for employment, while those employed were either housemaids, vegetable hawkers or bar attenders. All these factors can predispose them to mental illness compared with the married.

6. **NUMBER OF CHILDREN** (Table 6)

Patients with one or no child had significantly higher frequency of psychiatric morbidity than those with two or more children. This is understandable in our cultural context. Most of the patients came from very poor background where a child is seen as a valuable asset. The
children are expected to look after their parents when they become aged. They also provide adults in such deprived community with emotional satisfaction. Also, those patients who are infertile are increasingly becoming vulnerable to psychiatric morbidity as the social support network is breaking down. Dhadphale reported no difference between psychiatric and non-psychiatric subjects (Dhadphale 1984).

7. EDUCATION (Table 7)

15.4% of the patients had no formal education, 54.7% had primary education, 28.4% had secondary education and only 1.5% were students. No one attending this health centre had university education or diploma.

There was no significant difference between PM and NPM cases with regard to education. In another local study, Dhadphale (1984) also found that education had no influence on the occurrence of psychiatric morbidity. Giel and Van Luijk (1969) also reported similar finding in their study.

8. RELIGION (Table 8)

There was no significant difference between PM and NPM cases for religion. Most of the patients were of Christian faith (44.3% were protestants and 49.8% were catholics). Only 6% of the patients were of Muslim faith. There were no pagans.
9. **NUMBER OF DEPENDANTS** (Table 9)

There was highly significant difference between PM and NPM cases for number of dependants. The patients with less number of dependants had higher chances of having PM. This is an interesting observation which is contrary to what the author expected. The author expected to find higher PM in patients with more dependants due to the financial burden of supporting them.

A possible explanation may be that those who have no dependants have no children with the social implication of childlessness in our African society. Another possibility is a speculation that such patients simply cut their social ties with their relatives and stay socially isolated due to their psychiatric illnesses which also renders them unfit to bear the burden of dependants. A full explanation is not possible since there are no other similar studies done to compare with the present one.

10. **NUMBER OF PEOPLE IN THE HOUSEHOLD** (Table 10)

There was no significant difference between PM and NPM for number of people in a household. The patients came from an area with an acute problem of human shelter. Most of them are poor and are forced to jointly rent houses and share.
Only 15.4% of the sample lived alone in their households. No other similar studies are available for comparison.

11. **DURATION OF ILLNESS** (Table 11)

A highly significant (P < 0.001) correlation was observed in duration of illness between psychiatric and non-psychiatric patients. PM cases had been ill for a much longer duration than those physically ill. 17.9% of PM patients had been sick for one year or more as compared with only 8% of NPM. This finding is in agreement with those of several other studies done in Africa and elsewhere (Shepherd et al 1966; Otsyula and Rees 1972; Holmes and Speight 1975; Dhadphale 1984).

Shepherd and colleagues (1966) were struck by the large number of chronic PM cases among patients attending general practitioners' clinics in London. They warned the health planners on the extent of PM which makes a major contribution to the burden of chronic illness even at the level of general practice, where one mostly sees "Minor and transient psychiatric disorders". One-fifth of their study sample also manifested some degree of disability as a direct result of their sickness (PM) resulting in loss of earning apart from the hardship and distress caused by the disorder itself.
On the other hand, the present study showed that 30.8% of NPM patients had been sick for a week or less as compared to 12.9% of PM. At Muhimbili Hospital in Tanzania, Holmes and Speight (1975) came to a similar finding about duration of non-organic cases. Comparing the two groups of non-organic (presumably PM) and organic conditions, they estimate that as many as 51% in the former group had been ill for more than one year while in the latter group 70% had a shorter history of symptoms.

12. ALCOHOL INTAKE (Table 12)

Alcohol consumption is currently a rather sensitive issue in Kenya among patients seeking medical treatment because of the recent vigorous campaign by the Government against manufacture and consumption of home brew and home distilled alcoholic drinks throughout the country. Consequently there has been a strong tendency by patients to considerably minimise the amount of alcohol they consume or to deny any use of alcohol altogether when asked by a stranger or when asked in public places. Thus it was common during the study to confront a patient who denies ever using alcohol and yet was strongly smelling of alcohol at the time of the interview. For this reason the author recommends that the results of this section of the study dealing with alcohol and other drugs should be interpreted with caution. Another possible explanation for the low alcohol consumption is that
traditionally people who are sick do not take alcohol. Since a large number of the PM cases had been unwell for a year or more, they would have been expected to refrain from alcohol.

To get around this problem it is now felt that a more indirect method of enquiring about alcohol intake should have been used. In the present study, only 4.5% of the total sample could be classified as alcoholics using the "Brief Mast" instrument (10.0% of the PM cases). This seems a very low figure considering the large volume of illicit alcohol which is known to be brewed and consumed in the area.

Wanjiru (1979) in a household survey in the same area found that upto 40% of the male and 24% of the female heads of households were alcoholics by the WHO (1952) criteria for alcoholism. Dhadphale (1984) using the "CAGE" reported 12.7% of the PM cases as definite alcoholics.

13. OCCUPATION

There was no statistically significant difference between PM and NPM cases regarding employment. 75.1% of the entire sample had some kind of employment while 24.9% had no employment. However the employed group consisted of patients who held temporary types of employment such as casual manual labourers, vegetable hawkers, charcoal
dealers and housemaids. A small proportion of the permanently employed group were machine operators who mainly worked in the private sector especially in the mushrooming "Jua Kali" industry. Most of the workers in the entire sample were unskilled.

14. INCOME

With the exception of one patient, who earned more than Kshs.3,000/= per month, several other patients earned less than Kshs.1,000/= and the majority earned Kshs.500/= or less. There was no statistical significant difference between PM and NPM cases for income.

15. SOCIO-ECONOMIC STATUS

Although there are no socio-economic classes in Kenya equivalent to the ones in the Western countries, the population can be divided into three groups namely the high, middle and low social, economic status. Using such classification, the entire study sample fits in the low socio-economic status. Therefore it was not possible to perform any statistical test to the study sample since the patients belonged to one socio-economic status.

16. VISITS TO TRADITIONAL HEALER

There was no statistically significant difference between
PM and NPM regarding treatment by a traditional healer. It is a fact that patients have general fear of volunteering information about treatment by traditional healers when they present for treatment in a Western type of health care facilities. This should be considered in interpreting this finding. 8.0% of the study sample admitted ever having been treated by traditional healers (4.5% PM and 3.5% NPM). The author strongly feels that some patients deliberately denied having been treated by traditional healers.

Dhadphale (1985) reported that a significant number of psychiatric, as compared with physically ill patients had gone to traditional healers (P<0.001). However he reports no significant difference in one of the district hospitals (Voi).

17. DISTRICTS OF ORIGIN (Table 1)

The majority of the patients originated from the Western areas of Kenya. Siaya District was leading followed by Kakamega District. It is noteworthy that few patients originated from the nearby districts like Kiambu which borders Nairobi City. Only 5 foreigners were included in the entire sample.
18. PHYSICAL DIAGNOSES (Table 2)

The physical diagnoses were put in various categories as shown in the table. The diagnoses were classified using the various body systems. The commonest diagnoses were in the respiratory system which accounted for 28.9% of the entire sample. This was followed by the musculoskeletal system with 14.9%, most of which consisted of wounds. The least diagnoses (0.5%) was found in the central nervous system.

19. PRESENTATION OF PSYCHIATRIC DISORDERS

Both PM and NPM cases presented with various physical complaints. No one of them had come specifically as a psychiatric case or with psychological symptoms. 44.8% of the total sample had psychiatric morbidity. Majority of the PM had the psychoneuroses (41.8% of the total sample) which consisted of neurotic depression and anxiety neurosis. Only 3% of the total sample had psychoses (2% MDP - depression and 1% schizophrenia). 61.1% of the PM cases (27.3% of the total sample) had either no organic lesion detected or had psychosomatic illnesses such as Bronchial Asthma or Peptic Ulcers.

IMPLICATIONS AND RECOMMENDATIONS

This study has shown that the psychiatric morbidity is very
high among patients living in a deprived community in Nairobi City. Many other residents of the city live in similar circumstances. The findings of this study can therefore be generalised to other deprived communities in the City.

Unfortunately the clinical officers who provide the bulk of primary health care services in the City Commission health centres have little or no knowledge of psychiatric disorders. During the current training they hardly get any exposure to psychiatric patients and receive only few lectures in psychiatry. According to the findings of the study it is vital that a course in psychiatry should be incorporated into their curriculum so that they can at least be able to recognise the common problems presenting at the health centre and manage them properly or take appropriate actions e.g. referral. The nurses likewise need similar basic training in psychiatry so that they can identify psychiatric patients who need psychiatric care and possibly manage them at the health centres.

The health department of the City Commission does not at present supply the health centres with psychotropic drugs, probably with the mistaken notion that psychiatric morbidity does not exist among the patients presenting in these health centres. The relevant authorities should be made aware of these findings so that appropriate action is taken without
undue delay. Particularly the essential psychotropic drugs such as imipramine, diazepam, chlorpromazine and phenobarbitone should be made available all the time.

The study has shown that majority of patients with psychiatric problems had relatively "minor" disorders namely anxiety and depression. These are some of the psychiatric illnesses which are easiest to recognise and manage after relatively simple training in symptomatology recognition and counselling. Eventually the City Commission authorities should be made aware and should be encouraged to integrate mental health care in all its primary health care facilities.

FUTURE RESEARCH

1. A similar study should be repeated to include patients from a deprived community and a control group from high income residential area for comparison.

2. A similar study should be done in the same health centre on patients (children) under 15 years.

3. A study to focus on specific factors which might contribute to the high psychiatric morbidity.

4. A study on alcohol use/abuse using more indirect and culturally unbiased instruments such as the "WHO Screening Instrument", the "Dip Stick" and the objective laboratory investigations such as MCV and Gamma GT test.
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APPENDICES
APPENDIX A: RESEARCH INSTRUMENTS

I. SOCIO-DEMOGRAPHIC DATA:

Serial No. ......................................................... ( ) 1
Clinical Card No. ..................................................
District of Birth .................................................

1. Age: ............... ( ) 2
2. Sex: (1) Male ( ) 3
   (2) Female
3. Marital Status: ( ) 4
   (1) Single
   (2) Married
   (3) Widowed (Not remarried)
   (4) Divorced or Separated
   (5) Other (specify) ...................

4. Education level: ( ) 5
   (1) Nil
   (2) Primary
   (3) Secondary
   (4) University
   (5) Other (Specify) ...................

5. Religion: ( ) 6
   (1) Protestant
   (2) Catholic
   (3) Muslim
   (4) Other (Specify) .................

6. (a) What is your occupation? ................................
   (b) Are you currently employed? ( ) 7
       (1) Yes.
       (2) No.
   (c) If yes, which type of employment? ( ) 8
       (1) Self-employed
       (2) Wage-earner
       (3) Other (Specify) ............... 
   (d) If no, main reason:
7. What is your average income? ( )
   (1) Below Shs.500/=  
   (2) Shs.501 - 1,000/=  
   (3) Shs.1,001 - 1,500/=  
   (4) Shs.1,501 - 2,000/=  
   (5) Shs.2,001 - 2,500/=  
   (6) Shs.2,501 - 3,000/=  
   (7) Above Shs.3,000/=  

8. How many children do you have? ( )

9. How many people are living in your household? ( )

10. How many dependants do you support? ( )

II. HEALTH DATA:

11. How many visits have you made to this health centre in the last twelve months? ( )

12. For how long have you been unwell? ( )
   (1) Days.  
   (2) Weeks.  
   (3) Months.  
   (4) Years.

13. Have you ever been treated by a traditional healer? ( )
   (1) Yes.  
   (2) No.

14. Have you ever suffered from any psychiatric disorder? ( )
   (1) Yes.  
   (2) No.

15. Has any of your relatives suffered from any psychiatric disorder? ( )
   (1) Yes.  
   (2) No.

16. Have you ever suffered from head injury? ( )
   (1) Yes.  
   (2) No.
III. DRUG USE:

17. (a) Have you ever taken alcoholic beverages? ( ) 19
   (1) Yes.
   (2) No. (If no, skip to Q.18)

(b) If yes, have you taken it in the last six months? ( ) 20
   (1) Yes.
   (2) No. (If no, skip to Q.18)

(c) If yes, how often? ( ) 21
   (1) Daily or almost daily.
   (2) Several days a week.
   (3) Once a week.
   (4) Once a month.

(d) How much alcohol do you take on a normal drinking day?

<table>
<thead>
<tr>
<th>TYPE(S)</th>
<th>VOLUME</th>
<th>AMOUNT(mls)</th>
</tr>
</thead>
<tbody>
<tr>
<td>..........</td>
<td>..........</td>
<td>..........</td>
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<tr>
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<td>..........</td>
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<td>..........</td>
</tr>
</tbody>
</table>

18. (a) Do you take bhang? ( ) 22
   (1) Yes.
   (2) No.

(b) If yes, how often? ( ) 23
   (1) Daily.
   (2) Weekly.
   (3) Monthly.
   (4) Yearly.

19. (a) Do you chew miraa? ( ) 24
   (1) Yes.
   (2) No.

(b) If yes, how often? ( ) 25
   (1) Daily.
   (2) Weekly.
   (3) Monthly.
   (4) Yearly.

20. (a) Do you take any other drugs? ( ) 26
   (1) Yes.
   (2) No.
(b) If yes, which one ... ( ) 27
(c) How often?
   (1) Daily
   (2) Weekly
   (3) Monthly
   (4) Yearly

IV. PHYSICAL EXAMINATION

(a) General condition:
   (1) Poor
   (2) Fair
   (3) Good

(b) Vital signs:
   PR
   BP
   RR

(c) ENT

(d) (1) Pallor
   (2) Jaundice
   (3) Oedema
   (4) Lympadenopathy
   (5) Cyanosis
   (6) Finger clubbing

(e) CNS

(f) RS

(g) CVS

(h) PA

V. (a) DIAGNOSIS ... ( ) 28

(b) DISPOSAL/MEDICATION
1. Do you feel you are a normal drinker? | NO 2  | YES 0 |
2. Do friends or relatives think you are a normal drinker? | NO 2  | YES 0 |
3. Have you ever lost friends or girl-friends or boy-friends because of drinking? | NO 0  | YES 2 |
4. Have you ever got into trouble at work because of drinking? | NO 0  | YES 2 |
5. Have you ever neglected your obligations, your family or your work for two or more days in a row because you were drinking? | NO 0  | YES 2 |
6. Have you ever had severe shaking? Heard voices, or seen things that were not there after heavy drinking? | NO 0  | YES 5 |
7. Have you ever gone to anyone for help about your drinking? | NO 0  | YES 5 |
8. Have you ever been in a hospital because of drinking? | NO 0  | YES 5 |
9. Have you ever been arrested for drunken driving or misbehaving after drinking? | NO 0  | YES 2 |
10. Have you ever awakened the morning after some drinking the night before and found that you could not remember a part of the evening before? | NO 0  | YES 5 |

**TOTAL** | NO 4  | YES 28  | 32  | 29
MENTAL STATE

1. SELF RATING QUESTIONNAIRE (SRQ)

(a) Neurotic Symptoms:

(i) Do you often have headache?..........................

(ii) Is your appetite poor?.............................

(iii) Do you sleep badly?...............................  

(iv) Are you easily frightened?.......................  

(v) Do your hands shake?.............................  

(vi) Do you feel nervous, tense or worried?.....  

(vii) Is your digestion poor?.........................  

(viii) Do you have trouble thinking clearly?....  

(ix) Do you feel unhappy?............................  

(x) Do you cry more than usual?.....................  

(xi) Do you find it difficult to enjoy your daily activities?  

(xii) Do you find it difficult to make decisions?  

(xiii) Is your daily work suffering?.................  

(xiv) Are you unable to play a useful part in life?  

(xv) Have you lost interest in things?.............  

(xvi) Do you feel that you are a worthless person?  

(xvii) Has the thought of ending your life been in your mind?  

(xviii) Do you feel tired all the time?..............  

(xix) Do you have uncomfortable feelings in your stomach?  

(xx) Are you easily tired?...........................  

Sub-total
(b) **Psychotic Symptoms:**

<table>
<thead>
<tr>
<th></th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) Do you feel that somebody has been trying to harm you in some way?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(ii) Are you a much more important person that most people think?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(iii) Have you noticed any interference or anything else unusual with your thinking?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(iv) Do you ever hear voices without knowing where they come from, or which other people cannot hear?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(v) Have you ever had fits, convulsions, or falls to the ground with movements of arms and legs, biting of tongue or loss of consciousness?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Sub-total**

<p>| | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>TOTAL NEUROTIC SYMPTOMS</td>
<td>30</td>
</tr>
<tr>
<td>TOTAL PSYCHOTIC SYMPTOMS</td>
<td>31</td>
</tr>
</tbody>
</table>
STANDARDIZED PSYCHIATRIC INTERVIEW (MODIFIED)

1. Symptoms .................................................. (32)
   (i) Somatic Symptoms
   (ii) Fatigue
   (iii) Sleep Disturbance
   (iv) Irritability
   (v) Lack of Concentration
   (vi) Depression/Unhappiness
   (vii) Worry/Anxiety
   (viii) Phobia
   (ix) Disordered Libido
   (x) Bewitchment

2. Abnormalities of Behaviour ....................... (33)
   (i) Slow, lacking spontaneity
   (ii) Suspicious, defensive
   (iii) Histrionic

3. Abnormalities of Mood ............................... (34)
   (i) Depressed
   (ii) Anxious, Agitated, Tense
   (iii) Elated, Euphoric
   (iv) Flattened, Incongrous
4. Perception and Cognitive Abnormalities

(i) Excessive concern with bodily functions
(ii) Depressive thought content
(iii) Delusion, thought disorder, misinterpretations
(iv) Intellectual Impairment

Overall

MENTAL STATE

MANDATORY, QUESTIONS ON SPI - SYMPTOMS

1. Somatic Symptoms:

   (i) Have you noticed anything else wrong with your health apart from the things that you have already told me?

   (ii) In the past week, have you been troubled with headache or indigestion?

      Anything else?

2. Fatigue:

   (i) Have you noticed that you get tired easily?

   (ii) Or that you seem to be lacking in energy?
3. **Sleep Disturbance:**

   (i) What about sleep?.................................

   (ii) Have you lost sleep in the last week?..........  

   (iii) Do you have difficulty dropping off?.........

   (iv) Are you restless at night?......................

   (v) Do you wake early?...............................  

4. **Irritability:**

   (i) Do you find that you are easily upset orirritable with those around you?................

   (ii) Do you lose your temper or get angry easily?....

5. **Lack of Concentration:**

   (i) Do you find it difficult to concentrate?........

   (ii) Do you get muddled or forgetful?..............

6. **Depression/Unhappiness:**

   (i) How have you been feeling in your spirits in thepast week?.............................................

   (ii) Have you at times felt sad, unhappy ormiserable?.................................................

7. **Worry/Anxiety:**

   (i) Do you find that you get anxious or frightenedfor no obvious reason?............................

   (ii) Do you worry a lot on trivial matters?.........
8. **Phobias:**

   (i) Are you scared or frightened of certain things or situations for no good reason? ............

   (ii) When? .................................................................

       Where? .................................................................

9. **Disordered Libido:**

   (i) Do you find any change in your sexual performance, desire or frequency? ............

   (ii) Have you lost interest in marital relationship? .................................................

10. **Bewitchment:**

    (i) Do you think that bewitchment, spirits or witchcraft are responsible for your present condition or sickness? ...................

    (ii) How? .................................................................

**FINAL DIAGNOSIS (ICD 9)**

1. **PSYCHIATRIC** ................................................. ( ) 37

2. **PHYSICAL** ..................................................... ( ) 38

**TREATMENT/DISPOSAL**

1. **PSYCHOTROPIC** ..................................................

2. **PHYSICAL** .....................................................

3. **OTHER** ...........................................................

**FORMULATION** ....................................................
APPENDIX B: KISWAHILI TRANSLATIONS SRQ AND SPI

SRQ - KISWAHILI

1. Je unaumwa na kichwa mara nyingi?
2. Je tamaa yako ya chakula ni mbaya?
3. Je unapata usingizi sawasawa?
4. Je unasituka mara moja?
5. Je mikono yako inatetemeka mara kwa mara?
6. Je unajisikia uko na wasiwasi?
7. Je unapokula chakula kinaenda sawasawa?
8. Una shida yoyote kufikiria mambo sawasawa?
9. Unasikia huna furaha?
10. Je unalia sana au zaidi ya kawaida?
11. Je unaona taabu kufurahia mambo yako ya kila siku?
12. Je unaona taabu kukata shauri?
13. Je kazi yako ya kila siku inaendelea vizuri?
14. Je unajisikia uko na faida yoyote katika maisha?
15. Je unaona raha katika mambo unayoyafanya?
16. Je unajiona kama mtu asiye na faida yoyote?
17. Je umeshapata kufikiria kuyaondoa maisha yako?
18. Je unajisikia mchovu kila wakati?
19. Je hujisikia huna raha tumboni mwako?
20. Je unachoka kwa urahisi?
21. Je unafikiria kuna mtu anayetaka kukudhuru au kukuumiza kwa njia yoyote?
22. Je unafikiria kuwa wewe ni mtu muhimu sana kuliko vile watu wanavyofikiria?

23. Je umeishaona kama kuna kitu kinachoyaingilia mafikira yako au kuna kitu kisicho cha kawaida kinatendeka katika akili yako?

24. Je unasikia sauti bila ya kujua zinakotoka au ambazo watu wengine hawazisikii?

25. Je umeshapata kifafa, kutemekana sana, kuanguka chini na miguu na mikono kutemekana kujiunga ulimi na kupotewa na akili?

SPI - KISWAHILI

1. Unavyojisikia:

   (i) Je unalo jambo jingine lolote kuhusika na afya yako mbali na yale uliyoniambia?

   (ii) Katika wiki iliyopita, umeshapata kuumwa na kichwa au tumbo?

2. Uchovu:

   (i) Je umeshapata kujisikia unachoka upesi?

   (ii) Au unajiona unekosha nguvu?

3. Taabu ya usingizi:

   (i) Una jambo lolote la kunieleza juu ya usingizi wako?

   (ii) Je umeishakosa usingizi katika wiki iliyopita?
(iii) Je unapata taabu kuupata usingizi?
(iv) Je una wasiwasi wakati wa usiku?
(v) Je unaamka mapema sana?

4. Kusumbulika:
   (i) Je unajiona unakasirishwa upesi au unasumbulika na wale walio karibu nawe?
   (ii) Je unajiona unakasirika upesi?

5. Kutokuwa na makini:
   (i) Je unaona taabu kuweza kumakinika?
   (ii) Je unaona unatatizika au unasahau mara kwa mara?

6. Huzuni:
   (i) Je umejisikiaje katika roho yako katika wiki iliyopita?
   (ii) Je wakati mwingine umeshajisikia mwenye huzuni au huna raha, hata furaha au kujisikia mtu chini kabisa?

7. Wasiwasi:
   (i) Je unajiona unao wasiwasi au kuogopa bila sababu yoyote?
   (ii) Je unajiona una wasiwasi sana juu ya mambo yasio muhimu sana?

8. Kuogopa:
   (i) Je kuna jambo au vitu au mahali au wakati wowote unasikia unaogopa bila sababu yoyote?
   (ii) Mahali gani?
       Wakati gani?
9. Kutokuwa na matamanio ya kimwili:
   
   (i) Je unaona kama kuna tofauti yoyote katika tamaa ya kimwili?
   
   (ii) Je upoteza hamu ya raha katika ndoa yako?

10. Kurogwa:
   
   (i) Je unafikiri kurogwa, mashetani au uganga ndio umesababisha hali hii yako ya sasa au ugonjwa?

   (ii) Namna gani?
### VIII. ABBREVIATIONS

1. **Df** - Degrees of freedom
2. **H.S.** - Highly Significant
3. **M.O.H.** - Medical Officer of Health
4. **MCH/FP** - Maternal Child Health and Family Planning
5. **NPM** - Non Psychiatric Morbidity
6. **N.S.** - Not Significant
7. **PM** - Psychiatric Morbidity
8. "**SLM**" - Statistical Language for Microcomputers  
   by Alice G. Kalush, Raymond J. Kalush, JR.  
   Copyright August 1984
9. **SPI** - Standardised Psychiatric Interview
10. **SRQ** - Self-Rating Questionnaire
11. **$X^2$** - Chi-Square test