

**CLINICAL PROFILE AND OUTCOME OF CARE AMONG  
VAGRANT AND NON-VAGRANT MENTALLY ILL PATIENTS  
ADMITTED TO NEUROPSYCHIATRIC HOSPITAL, ARO –  
ABEOKUTA – NIGERIA**

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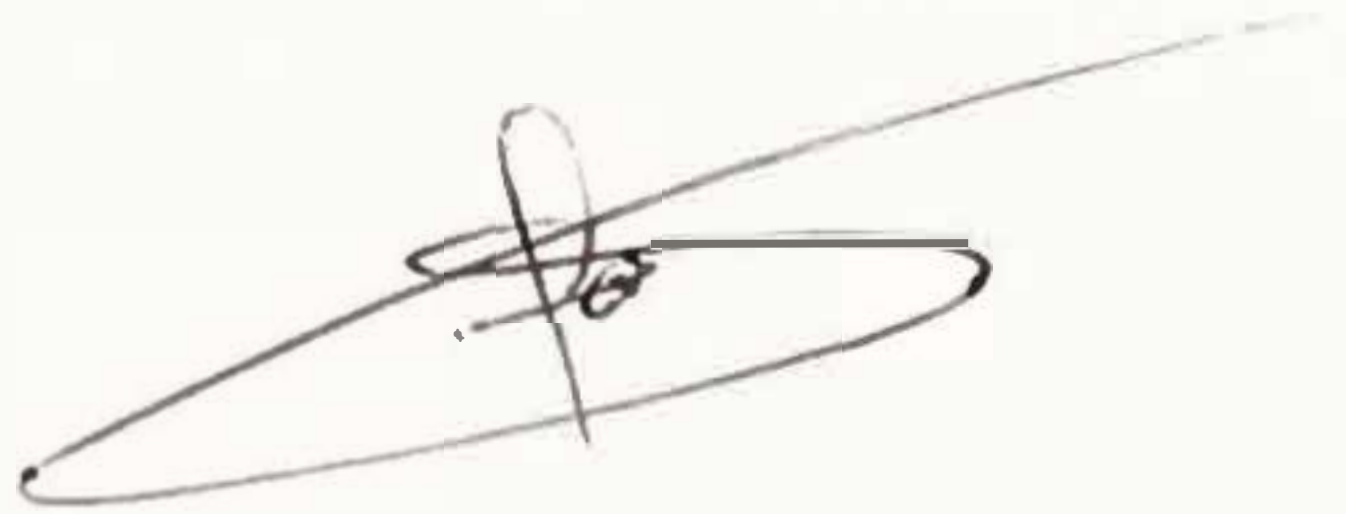
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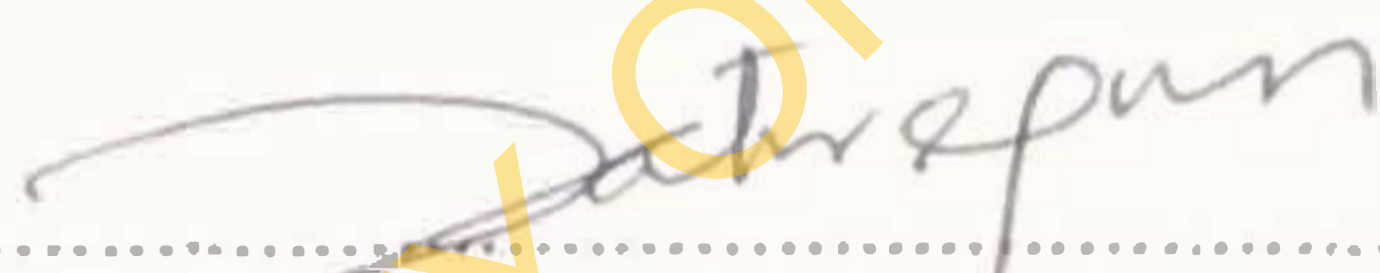


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## ABSTRACT

### **Introduction**

The vagrant mentally ill patients constitute an especially marginalised group with a scanty attention paid to them. There is a dearth of literature on this group of patients in the developing countries and most of the work done in the developed countries was community based prevalence studies.

No study has compared the clinical profile and time to improvement among vagrant and non vagrant mentally ill patients, a lacuna which this study aims to bridge.

### **Aims**

The study aims at comparing the clinical profiles and outcome of care among vagrant and non vagrant mentally ill patients admitted to Aro psychiatric hospital.

### **Methodology**

This was a retrospective review of records of all admitted vagrant and selected non vagrant mentally ill patients who fulfilled the inclusion criteria within a five year period (2004-2008). Sixty-one Vagrant and 122 non vagrant patients case files were studied.

Data was collected using a semi-structured proforma. Descriptive statistics was used to summarise socio-demographic characteristics of the patients. Statistical test of significance used to compare variables between the groups included: chi-square, fisher exact and the t- test. The time to improvement of symptoms between the groups was compared using Kaplan-Meier method of survival analysis technique for censored observations and its significance was obtained by the log rank test . Factors influencing time to improvement was modelled using the Cox' Proportional Hazard model. P value of significance was set at  $p < 0.05$ .

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## Results

One hundred and eighty –three patients' case files that satisfied the inclusion criteria were reviewed. There were 61(33.3%) vagrant and 122(66.7%) non vagrant mentally ill patients. The mean age of the patients was 40.3years and males were (59.8%). They were predominantly unemployed (68.9%), single (66.7%), low educational status (51.0%) with the diagnosis of schizophrenia (68.3%) and with a prevalence of 33.9% medical co morbid conditions. In comparison with the non vagrant group of patients, the vagrant was statistically ( $p<0.05$ ) older, more single marital status, had lower education, unemployed, more unskilled labour and lived alone

The diagnosis of schizophrenia and physical co-morbidities were statistically ( $p=0.010$ ) greater in the vagrant group. The median time to improvement among the vagrant (211.0days) was significantly ( $p<0.001$ ) longer than for the non vagrant patients (43.0days).

The factors found to prolong time to improvement at a significant level( $p<0.05$ ) were; old age, low education, being single, unemployment and the diagnoses of schizophrenia and substance use disorders.

## CONCLUSION

From the study, the clinical profile and outcome of care among the vagrant mentally ill patients is poor compared to the non vagrant mentally ill patients.

Health workers have the need for early identification of the risk factors that will help in the prevention of the mentally infirm from the pathway to vagrancy.

The public health implication of this study is that it will create the awareness on the need for a collective endeavour for the care of vagrant mentally ill persons in our community.

## CHAPTER ONE

### INTRODUCTION

In tropical African countries perhaps more than elsewhere one encounters a sizeable and striking number of apparently homeless mentally ill people wandering about the towns and cities (Asuni, T., 1971). This is particularly true for Abeokuta town where the Neuropsychiatric Hospital is located. The vagrant mentally ill persons are mentally disordered people with no established residence. They wander idly from place to place with no lawful or visible means of support. They have no means of livelihood or regular work. They live on the street, garage, market, uncompleted buildings. They hoard rubbish and are dirty in appearance (Abelargo et al, 1999).

Recently in the developed countries attention has been drawn to them and they have often been described as nuisances, public disgrace and eye sores and as such they should be provided for (Kesia et al, 2006). Homelessness is without doubt, the most serious and dramatic expression of the phenomenon of social exclusion (Caritas, 1996). It affects an ever-increasing number of persons and groups that suffer serious conditions of poverty, marginalization and abandonment.

However, relatively little is known about vagrant mentally ill persons in the developing countries with a scanty attention paid to them (Bassher et al, 1999). The problem of this group of persons involves a combination of two dimensions; those of mental health and social exclusion. They suffer double dose of disadvantages: those of mental illness and homelessness and both of these attract stigma.

The vagrant mentally ill constitutes an especially marginalized group and has given rise to considerable social concern. In the United State of America (USA), estimates of 25-50% of homeless adults suffer from severe mental illness (Lamb, 1984; Arce and Vergare, 1984). Most of the studies on vagrant mentally ill persons were carried out in developed countries (Abelargo, et al 1999; Daly, 1993, Drake, 1994, Avramon, 1996, Chris 2005, Marshal, 1992, Herman, 1989). There are rather very few studies on vagrant mentally ill persons in Africa (Asuni, 1971; Baasther, et al. 1983).

The most notable study on vagrant mentally ill persons in Nigeria was that of Asuni, 1971. In this study, a prevalence of 1 vagrant psychotic per 2570 population in Abeokuta (35 vagrant psychotics in a population of 90,000) was obtained. Over the years, the number of vagrant mentally ill persons in Abeokuta has increased partly due to the free treatment programme embarked upon by the Neuropsychiatric Hospital in the late 1990s which informed relatives in dumping mentally ill persons from all parts of the country in Abeokuta.

The vagrants mentally ill are prone to physical assault, aggressive and destructive behaviours, physical health problems and all sort of abuse.

## STATEMENT OF THE PROBLEM

Homelessness exerts a heavy toll on an individual and it is estimated that the risk of mental illness is about ten times higher in the homeless persons than in the general population (Hawthorne et al, 2000). The vagrant mentally ill constitutes an especially marginalized group and has given rise to considerable social concern (Kesia et al, 2006).

In USA estimate of 25 to 50% of homeless adults suffer from severe mental illness (Lamb 1984, Arce and Vergare, 1984). In the developing countries, relatively little is known about vagrant mentally ill with very scanty attention paid to them (Asuni, 1971).

Socio-demographic factors (Hawthorne et al, 2000) like male gender, lower social class, less than 40 years old, poor social network, black race, single and unemployed are risk factors for vagrancy among the mentally ill. Most (95%) of the vagrant mentally ill in the Nigerian study (Asuni, 1971) suffered from schizophrenia with only a minority (5%) of the patients diagnosed with schizo-affective disorder .

However in the US study (Herman, 1989), about 45% of homeless mentally ill persons were dependent on alcohol and psychoactive drugs with a high rate (65%) of criminal activities observed among them.

The Nigerian study (Asuni 1971) described a wide range of co-morbidity among these vagrants mentally ill. These include infection, infestation, fracture, deformity, peptic ulcer disease, respiratory tract infection, syphilis and leprosy. The observed co-morbidity considerably prolonged the period of admission than necessary and increased requirement of health resources for their treatment.

The hospitalization of the vagrants was also longer because of the difficulties in locating interested relatives before they were discharged to them. These consequently increased the cost of treatment.



In Nigeria the treatment of the mentally infirm is not free, however some hospital including the Aro hospital occasionally embark on free treatment for the vagrant mentally ill to tidy up the streets.

There is no adequate mental health policy and only 1% of the national health budget is devoted to mental health (Gureje and Alem 2003).

## JUSTIFICATION OF THE STUDY

There is a dearth of literature on vagrant mentally ill in the developing countries, hence the current study was designed to complement the few existing literature on vagrant mentally ill persons in Africa.

Previous studies (Daly, 1993, Caritas, 1996, Chris 2005) on vagrant mentally ill were community based prevalence studies and did not compare the clinical profiles with non vagrant mentally ill, a lacuna which this study aims to bridge.

Time to improvement among vagrants' mentally ill patients on treatment has hardly been compared with that of the non vagrant mentally ill patients in our environment using survival analysis technique for censored observation.

The only study (Asuni, 1971) on vagrant mentally ill patients in Neuropsychiatric Hospital, Aro is about four decade old, thus there is a need to carry out a comprehensive study on this group of patients taking to cognizance, the technological, social, demographic and economic changes that has taken place over this period

## **OBJECTIVE OF THE STUDY**

### **General Objective**

The present study aims at comparing the clinical profiles and outcome of care among vagrant and non-vagrant mentally ill patients admitted to Aro Psychiatric Hospital.

### **Specific Objectives are to**

1. compare the sociodemographic profiles of vagrant and non-vagrant mentally ill patients in the hospital.
2. determine the types of mental illness and associated co-morbidity diagnosed in the two groups of patients.
3. estimate time to improvement of symptoms among vagrant and non-vagrant mentally ill patients on first admission.
4. assess factors that may affect time to improvement of clinical condition among the two groups.

### **NULL HYPOTHESIS**

1. There are no differences in socio-demographic variables between vagrant and non-vagrant patients admitted to the hospital.
2. There are no differences in the clinical diagnosis and associated co-morbidity in vagrant and non-vagrant patients admitted to the hospital.
3. There is no difference in the median time to improvement among vagrant and non-vagrant patients admitted to the hospital.

## CHAPTER TWO

### LITERATURE REVIEW

#### INTRODUCTION

To the extent that we respond to the health needs of the most vulnerable (Homeless) among us, we do the most to promote the health of the Nation (David, 2007).

Homelessness remains a persistent public mental health concern. About 25%-33% of homeless persons have a serious mental illness – schizophrenia, bipolar disorder, substance use disorder. Homelessness exerts a heavy toll including; low quality of life, risk of assault, premature death, physical and mental illness (Kesia et al; 2006).

Homelessness is a state of condition of having no home; the person does not have a permanent residence, therefore the individual lives on the street, garage, market, uncompleted building etc Vagrancy comes from the Latin word 'Vagari' which means 'to wander'. A vagrant is someone who has no established residence. He wanders idly from place to place. He has no lawful or visible means of support. There is also no established means of livelihood or regular work (Asuni, 1971).

In English law, one is legally homeless when living in extremely overcrowded condition. When living where you are deprived of basic essentials or where an individual is at risk of violence or abuse at home constitutes homelessness (Kesia et al, 2006). The English law on homelessness is not applicable to Nigeria; a developing country. The literature review shall focus on the relationship between homelessness and mental illness, socio-demographic features, clinical diagnosis, length of admission and the factors influencing it.

## **WHO IS AFFECTED?**

A wide range of people are affected. These include old people, ex-prisoners, asylum seekers, refugees, people with children and those of low social economic status.

People become homeless through interaction of many events as below: being evicted by landlord, lost of job, health problems, relationship problems and those who suffered from a disaster such as flood (Kesia et al, 2006).

## **CAUSES OF HOMELESSNESS**

Homelessness emanates from interplay of complex range of experiences and events. A breakdown in family relationship as evidenced by no supporting husband, poor social network, poverty, lack of basic amenities and excess stress from in-laws.

Domestic violence from partner, family member and associate could be the pathway to homelessness. Also some unpleasant psychological experiences could lead to homelessness (Viviane Covess, 2002).

## **MENTAL ILLNESS**

Mental health is the ability to be in harmony with oneself and the environment i.e, harmonious personal and social adaptation (Campbell Psychiatric Dictionary, 2003).

The US Surgeon-General's report(2003) on Mental Health defines Mental Health as the successful performance of mental functions in terms of thoughts, mood and behavior that results in productive activities, fulfilling relationships with others and the ability to adapt to change and cope with adversity (David, 2003).

Mental illness exists whenever there is a disruption in functioning in relation to self, group and the environment, and when this is accompanied by significant impairment of the process of thinking, feeling and volition.

Mental Illness are illnesses with psychological or behavioural manifestation characterized by abnormalities in emotion, thoughts, cognitions, sensory perceptions, beliefs and behaviour. The World Health Organisation estimated that mental and Neurological disorders constitute 12.5% of all diseases globally (WHO, 2001).

Mental Disorders occur in 20-30% of the General population (WHO, 2001).

Five of the ten leading causes of disability worldwide are mental problems (major depression, schizophrenia, bipolar disorders, substance abuse and obsessive compulsive disorders). Mental disorder will become the second leading cause of global disease burden by 2020 at which time, depression alone is expected to become the second highest cause of death and disability worldwide (following ischaemic heart disease) (Murray CJL, Lopez AD, eds 1990).

In Africa, Neuropsychiatric disorders account for about 18% of Years Lived with Disability (YLD) in 2000 (WHO, 2001). Though the response to the challenges posed by the burden due to these diseases has not been adequate worldwide, it is especially so in developing countries (Gureje and Alem, 2000) from where for example about 80% of the 40 million people suffering from epilepsy worldwide come from (Jallon, 1997).

The picture in Sub-Saharan Africa is even direr and the mental and neurological complications of AIDS coupled with the rampant civil strife in the continent of Africa will in no way decrease the disease burden due to mental and neurological disorders on the continent.

Indeed, developing countries have been considered to be potentially at risk of increasing burden of mental disorders (WHO, 2001; Patel and Kleinman, 2003).

## **HOMELESSNESS AND MENTAL ILLNESS**

There has been a serious debate about the relationship between homelessness and mental illness. It is also difficult to establish which of these events precede the other.

Homelessness exerts a heavy toll on an individual and it is estimated that the risk of mental illness is about 10 times higher in the homeless persons than in the general population (Herman, 1989).

In a study at Switzerland, Chris (2005), found that about 1.6% of homeless persons had mental illness.

In a U.K.'s study, Marshal (1992), found that about 20.6% of homeless persons had mental illness.

In a USA study, Herman (1989), found that about 35% of homeless persons were mentally ill. It is also estimated that about 45% of homeless mentally ill persons were dependent on alcohol and psychoactive drugs. High rates of criminal activities were also observed among them (Herman, 1989).

In Nigeria, there are few studies on vagrant mentally ill persons. One of the earliest works was in 1958 by the Federal Ministry of Labour which carried out a survey in Lagos and found that there were 459 beggars in Lagos. Of these, 20 of them (4.4%) were mentally ill. Six years later, in 1964, when the exercise was repeated, 1182 beggars were found on the streets of Lagos. Of these, 71 (6.0%) were classified as mentally insane. (Federal Ministry of Labour Report (1964).

One of the comprehensive works on vagrant psychotics was carried out in Abeokuta (Asuni, 1971).

He identified 40 vagrant persons in Abeokuta out of which 35 (87.5%) were mentally ill. The others were blind, beggars or had other physical deformities. He picked up 25 of these vagrants for treatment. They were predominantly schizophrenic except one with schizo-affective disorder.

They were managed freely by the Hospital. Eighteen of these patients improved considerably and were integrated back to the society.

Within the space of two years, 20 new vagrants were identified. This free treatment programme informed many people to dumb mentally ill persons in Abeokuta and consequently the number of vagrant mentally ill persons in Abeokuta metropolis has increased considerably (Adamson, 2008)).

### **SOCIODEMOGRAPHIC AND CLINICAL PROFILE OF PSYCHIATRIC IN-PATIENTS**

Socio-demographic variables play an important role in the care of psychiatric patients. In a five year retrospective study of socio-demographic and medical characteristics of involuntary psychiatric in-patients in Croatia, Potkonjak & Karlovic, (2008), found equal number of males and females. Most (67%) of the patients in their study had secondary education, were living alone, were unmarried, widowed or divorced and were unemployed before hospitalization.

The study of Erauquin et al,(2009) on the socio-demographic variables of psychiatric in-patients admitted to a psychiatric facility in Spain revealed that males were 54.5% and 38.4% of their sample were in the age range of 25 and 34 while 26.3% were between 35 and 44 years old.

In a study on the correlates of length of stay among psychiatric in-patients in the psychiatric unit of the university of Ilorin teaching hospital, Nigeria. Adegunloye et al, (2009) found more females (51.8%) and majority (68.5%) of the in-patients were in the age range of 20-40years' the mean age was 30.5years.

They also found more singles (58.0%) among the study population with a majority (60.2%) were either unemployed or students.

Socio-demographic features of psychiatric patients referred to East Anatolian psychiatric hospital as reviewed by Oyekecin (2008) revealed a female preponderance of 67.4%. The mean age of the sample was 39.9 years and their mean education period was 6.06 years. The psychiatric diagnoses were mood disorders (28.1%), anxiety disorders (26.9%), somatoform disorders (15.0%), psychotic disorders (11.2%), mental retardation (2.5%), alcohol dependence (1.3%) and personality disorders (0.4%).

Erauquine et al. (2009) found schizophrenia and other psychotic disorders as the main (62.6%) psychiatric diagnosis followed by mood disorders (22.2%). Polkonjak's study revealed that schizophrenia was the main diagnosis among psychiatric in-patients admitted to Croatia psychiatric hospital. Adegunloye et al. (2009) at their study in the psychiatric unit of a teaching hospital in Nigeria found a preponderance (77.9%) of schizophrenia and related psychotic disorders followed by Affective disorders (10.8%). They also found that organic brain disorder accounted for 4.0%, substance induced disorder (3.2%) and other psychiatric disorders accounted for 4.2%.



## MEDICAL CO-MORBIDITY AMONG PSYCHIATRIC PATIENTS

There is a high prevalence of physical disorders among psychiatric patients. However, physical disorders often go unrecognized and untreated in routine psychiatric clinical practice (Green et al, 2003).

Physical disorders may coexist with psychiatric disorders or may occur as side effects of psychotropic medications. Patients suffering from psychiatric disorders have a higher rate of preventable risk factors such as smoking, alcohol consumption, poor diet and exercise (Lambert et al, 2003). On the other hand, patients with physical disorders are more likely to be non-compliant with medication and have higher dropout, morbidity and mortality rate. All major psychiatric disorders, such as depressive disorders, schizophrenia and anxiety disorders are closely associated with physical disorders.

Since physical and psychiatric co-morbidity is relatively common in general practice, these aspects should be given equal importance. Over the last 30 years, several studies conducted to determine the prevalence of medical illnesses among psychiatric patients reported prevalence rates ranging from 28% to 92% as indicated by the following researchers;

Koranji (1979, reported a point prevalence of 43% co-morbidity among psychiatric outpatients populations. Hall et al. (1981) reported a prevalence of 80% among psychiatric in-patients population in America. Summer et al. (1981) reported a prevalence of 41.3% co-morbidity among psychiatric outpatients. Bounce et al. (1982) reported a prevalence of 50% and 52% co-morbidity among psychiatric out and inpatients respectively. Koran et al. (1989) reported a point prevalence of 57% and 28% co-morbidity among psychiatric in and out patients respectively. Sheline (1990)

reported a point prevalence of 92% co-morbidity among psychiatric in-patients in her study on medical co-morbidity.

In patients suffering from schizophrenia, some medical co-morbidity are based on lifestyle factors such as poor diet, lack of exercise and cigarette smoking. It's therefore not surprising that between 50% and 90% of schizophrenia patients are cigarette dependent (Glassman, 1993).

Patients with schizophrenia are also more likely to have abnormal variations in cardiac rates and are predisposed to obesity and type -2 diabetes mellitus (Mukherjee et al, 1996) and other physical co-morbidities include irritable bowel syndrome, sleep apnea, malnutrition, osteoporosis and poor pregnancy outcome. They also have a high risk for contracting HIV infection, Hepatitis B and C infections (Secman et al, 1990). In depressive disorders, lifetime prevalence of chronic lung disease, heart disease, hypertension, arthritis and neurological diseases has been reported to be significantly higher than the general population (Glassman et al, 1998).

Some physical disorders are more prevalent in patients with anxiety disorders. Prominent among them are cardiovascular diseases, gastrointestinal diseases, .duodenal and peptic ulcer, gastritis, duodenitis and hypertension (Glassman, 1998). Lyketsos et al, (2002)' study on medical co-morbidity among patients admitted to psychiatric department of John I Hopkins college of medicine revealed that 20% had medical co-morbidities. Bridges and Goldberg (1985) reported a prevalence of 33% of medical co-morbidity in psychiatric patients in a primary care faciliy in U.K

Medical c-omorbidities in psychiatric patients have been shown to increase the number of hospital admissions and the length of hospital stay (Sloan et al, 1999).

Lyketsos et al, (2002)' study on medical co-morbidity revealed that medical co-morbidity was associated with 10%-15% increase in psychiatric symptoms and functional impairments at discharge.

## LENGTH OF ADMISSION AMONG PSYCHIATRIC IN-PATIENTS AND FACTORS INFLUENCING IT

Mental health practitioners have a need to the challenge of reducing cost of care and still maintaining a high quality of service (Huntley et al, 1998). The illness cost in psychiatry may be strongly related to the length of in-patients and sometimes this may be longer than in other specialties (Borchardt and Garfinkel, 1991).

Prolonged in-patient stay may isolate the patients from their social network, initiates maladaptive patterns in the patients and increases the burden of care on the relatives as well as their economic concerns as they may need to stay with the patients.

In practice, there has been no commonly accepted length of stay guidelines for psychiatric in-patients as this may be subject to substantial variations ( Borchardt and Garfinkel,1991) and may reflect the differences in psychiatrists' practice styles. Some authors, Kirshner (1982) and Pepper (1991) however reported that about 28days was considered as an adequate length of stay for psychiatric patients in a general hospital setting and that patients who had diagnosis of schizophrenia or affective disorder were more likely to be hospitalized beyond 30days (Mai et al, 1993).

Borroffka and Olatawura,(1976) showed that some patients may require long periods of hospitalization due to the chronic nature of their illness.

In a retrospective study by Adegunloye et al (2009), the length of patients stay was increased when the patients were single, had multiple episodes of psychiatric illness and those with poor social support.

Odejide (1982)' study on factors that affect patients length of stay found that those patients with single marital status, the diagnosis of schizophrenia, lack of post discharge residence and poor social support had prolonged period of hospitalization

The presence of medical co morbidity correlates with prolonged length of admission. The study of Lyketsos et al, (2002) on medical co-morbidity in psychiatric patients showed that medical co-morbidity prolonged the length of patients stay by about 1week.

Odejide (1982) classified patients' stay into short and long time length of admission based on a 6months cut off period. He reported that those with length of stay greater than 6months were long time stay and most of the relatives of these patients with long time stay withdrew their economic, social, emotional and physical support as the period of admission was prolonged.

### **CLINICAL PROFILES AND OUTCOME OF CARE OF VAGRANT MENTALLY ILL**

The study of Hawthorne et al, (2000) in the USA identified the following as risk factors for homelessness among the mentally ill persons; male gender, those from low social class, those under 40 years, those with poor social network, black race, unemployed, single, drugs and alcohol dependence and those with the diagnosis of schizophrenia.

Most of the studies (Daly, 1993, Chris, 2005, Kesia et al, 2006) from the developed countries on vagrant mentally ill were community based prevalence studies. The main comprehensive hospital based study on vagrant mentally ill in Nigeria, a developing country was that of Asuni, (1971) .He picked 25(12men and 13women) vagrants on the street of Abeokuta and were admitted to Aro hospital. Within a few days of admission, 3men died and 3men escaped from the hospital. Consequently, 19(6men, 13women) were available for treatment. The diagnosis of these patients revealed that about 95% had schizophrenia with only 5% accounting for schizo-affective disorder.

However in a US study (Herman, 1989), about 45% of the vagrant had Alcohol and psychoactive substance dependence as the predominant diagnosis while schizophrenia accounted for 30% and other non psychotic disorder accounted for 25%. Also antisocial personality disorder and high rates (65%) of criminality was observed in them.

Asuni (1971) also reported that the period of the illnesses before hospitalization ranged from 6 years to over 25 years.

Co-morbid conditions were described in the patients. About 62% had co-morbid physical conditions ranging from infection, infestation, fracture, deformity, peptic ulcer, respiratory tract infections, syphilis and leprosy. The period of intensive treatment and hospitalization was rather prolonged more than necessary and more resources were required in their treatment.

Also, hospitalization was longer because of difficulties in locating interested relatives to discharge the patients to and consequently, the cost of treatment was high.

### **CAUSES OF VAGRANCY AMONG MENTALLY ILL PERSONS**

The study of Hawthorne et al, (2000) in the USA identified the following as risk factors for homelessness among the mentally ill persons; male gender, those from low social class, those under 40 years, those with poor social network, black race, unemployed, single, drugs and alcohol dependence and those with the diagnosis of schizophrenia.

However, vagrancy in mentally ill persons could either be a manifestation of the symptom of mental illness or the impact of the mental illness on the individual and society.

## **Vagrancy as a Symptom of mental illness**

Vagrancy may manifest as a symptom of mental illness. Some patients suffering from schizophrenia hear voices (auditory hallucination) commanding them to move from place to place and many had wandered through long distance in response to these voices. In Bipolar affective patients with manic subtype, they are hyperactive and very restless, and they could move a long distance in view of their mental states. In Delusional disordered patients with paranoid type, they could wander from place to place in an attempt to escape from the so called persecutors.

In some organic conditions like Dementia, the individual has memory failure and may find it difficult to trace his way hence wanders about. In complex partial epilepsy, an individual could carry out automatic movement that may involve wandering about.

Intoxication with Alcohol and psychoactive drugs can lead to vagrancy. Victims of head injury with amnesic disorders could wander around. Vagrancy can also occur in some neurotic conditions like dissociative fugue and multiple personality disorder (Micheal, 2006)

## **Vagrancy as a result of Impact of the illness on the individual and society**

Vagrancy may be the manifestation of the impact of mental illness on the individual and society. Mental illness may impact on the individual in such a way that he drifts down the social class with consequent poverty (Goldberg & Morrison, 1963). In view of this drift, he may find it difficult to pay his rents hence he's evacuated by his landlords.

In the course of treatment with time, the relations get burnt out in terms of financial and economic support since treatment is not free. They withdrew financial, physical and emotional support from the patient (Odejide, 1982).

When there is high expressed emotion (Vaughn & Leff, 1980) evidenced by hostility, critical comments and emotional over-involvement by the relations, the patients and relations find it difficult to tolerate one another and this may lead to vagrancy. Studies have shown that stigmatizing attitudes towards the mentally ill correlated with the belief that they are dangerous and violent (Link et al, 1987). This has led to people keeping social distance (Adewuya & Makanjuola, 2005) in terms of accommodation, employment, marriages and social relationships. This stigmatizing attitude could be the pathway to vagrancy (Viviane Kovess, 2002).

### **CHALLENGES OF THE VAGRANT MENTALLY ILL IN NIGERIA**

The lunacy laws enacted in 1916 has inadequate provision. It has only undergone a cosmetic revision (Ogunlesi, 1984).

There is no adequate National policy on the mentally ill and homeless persons (O. Gureje; A. Alem; 2000). There is poor mental health funding. About 1% of the Health budget is spent on mental health (O. Gureje; A. Alem; 2000).

There are inadequate mental health facilities and personnel for the teeming Nigerian population.

There is no provision for residential institutions for the homeless mentally ill in Nigeria. There are no services available for pregnant mentally ill vagrant women in Nigeria (Adamson, 2008)

With over 140million (national census, 2006) people in Nigeria and the estimated 20% (WHO,

2003) of Nigerians suffering from a recognizable mental illness, there is need for the Government and relevant stakeholder to shift attention and policy towards the mentally ill.

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## CHAPTER THREE

### METHODOLOGY

**Study Centre:** The study centre is Neuropsychiatric Hospital, Aro, (WHO Collaborating Centre for Training and Research in Mental Health), Abeokuta Ogun-State – Nigeria. The Neuropsychiatric Hospital, Aro, Nigeria started at the Lantoro Annex which was a colonial local government prison until 13<sup>th</sup> April, 1944 when it was transformed into an asylum for the care of mentally ill soldiers repatriated from the second world war.

This asylum was converted to Neuropsychiatric Hospital, (526 bed-space) Aro in 1954 and was designated a WHO collaborating centre for Research and Training in Mental Health in 1976. In 2003, rehabilitation wards for male and female patients were established for the rehabilitation of long stay patients. Recently a half way home (Hope Villa) service initiative was introduced in 2009 for community re-integration of patients. The Hospital plays a strategic role in mental health care for patients from all parts of Nigeria and neighbouring countries (Adamson, 2008) .The population of Ogun State is 3.7 million and Abeokuta, the capital city has a population of 0.45 million based on the 2006 National Census. The Hospital embarked on free treatment for vagrant mentally ill in the late 90s and consequently the number of vagrants' mentally ill persons has increased rapidly due to relatives dumping their patients in Abeokuta.

**Study Design:** This was a comparative retrospective review of records of all vagrant mentally ill and selected non vagrant mentally ill admitted into Aro Neuropsychiatric Hospital for a 5 year period from 2004-2008 (both years inclusive).

## Sample Size Calculation

In Neuropsychiatric Hospital, for 5 years period (2004-2008); 3056 were total first admissions for which 68 patients were vagrants

Sample size is calculated using the Leslie-Kish formula for 2 proportions: (P1 and P2)

P1 =proportion of mentally ill patients with medical comorbidity in the hospital setting. Bridges and Goldberg (1985) put the prevalence as 33%. Hence  $p_1=0.33$

P2 is the proportion of vagrant mentally ill with medical co-morbidity. The only comprehensive study (ASUNI, 71) on Vagrant mentally ill in hospital setting put the prevalence at 62%.

Hence  $p_2 =0.62$

$$N = \frac{(Z_{1-\alpha/2} + Z_{1-\beta})^2 [P_1(1-P_1) + P_2(1-P_2)]}{(P_1 - P_2)^2}$$

N=Minimum sample size for each group

$Z_{1-\alpha/2} = 1.96$  (for 5% level of significance) standard normal deviate

$Z_{1-\beta} = 1.28$  (90% power)

$(P_1 - P_2)^2$  is the precision of the study

N = 60 subjects each in the 2 groups-this is the minimum sample size required. N = 60 subjects each in the 2 groups-this is the minimum sample size required. However for this study all the 68 cases were selected for the study. Out of the 68cases, 2 of the case files were missing and 5 Of the case files had too many missing portions. Consequently 61vagrant patients were valid for the study. 122 non-vagrant patients were selected for the study.

## Sampling Procedure and Technique

There were 3056 first admissions. 2988 were non-vagrant while 68 were vagrant patients. For the vagrant group, all the 61 valid cases were selected. For the non-vagrant comparison group, for any one vagrant selected, all case files of the non vagrant that were admitted for the first time were retrieved and numbered, then a table of random number was used to select any two etc. Consequently for the 61 vagrants, 122 non vagrants were selected at a ratio 1 vagrant: 2 non vagrants.

## Inclusion Criteria

Fulfillment of ICD 10 (International Classification of Disorders and related mental health problems - 10<sup>th</sup> edition) diagnostic criteria for mental disorders. The mental diagnoses were made by the various units Consultant psychiatrists according to ICD-10 diagnostic criteria

For the vagrancy group: History of the following was ascertained from the case files:

Being homeless and wandering about.

Sleeps in the street, market places, bush, and uncompleted buildings, under the bridge etc.

Hoard rubbish and dirty in appearance.

Case-patients' files were retrieved from the medical records department, ward managers, and records from the social welfare department on vagrant mentally ill patients. This information was meticulously searched for in the patients' folder.

Other inclusion criteria were;

First time admission

Availability of important variables in the case files such as

Time to improvement

Date of discharge

Status when last seen

### **Exclusion Criteria**

Only patients with first admissions were recruited, subsequent admissions were excluded

Vagrants patients without mental illness (blind, beggars, nomads) were excluded from the study

### **Data Collection**

Data was carefully collected from the case files from December 2009 to March 16<sup>th</sup>, 2010 using a semi-structured proforma containing the following sections:

- Socio-demographic variables
- Clinical variables
- Medical co-morbidity
- Outcome of treatment
- Rehabilitation and social reintegration
- Follow up care

The Socio-demographic variables elicit information on sex, age, tribe, state of origin, education, marital status, religion, employment status, occupation and living situation.

Clinical variables elicit information on who brought the patient to hospital, who was responsible for cost of treatment, date of admission, classification into vagrant and non-vagrant and type of mental illness.

Medical co-morbidity section elicits information on the presence of physical illnesses like; Hypertension, Diabetes mellitus, HIV/AIDS, Cellulitis/wound infection, Fractures and other types of physical conditions.

Outcome of treatment section elicits information on the possible treatment outcomes; absconded, improved, worsened, died, referred and none indicated. The time outcome was obtained was recorded and the date of discharge was also recorded.

Rehabilitation and Social reintegration section elicits information on whether patient's residential address was located, vocational training done in the hospital and also whether patient was abandoned in the hospital.

The section on Follow up elicits information on the extent of follow up care, status of patient when last seen and the date at last follow up.

Please see Appendix 1 for details.

### **Data Analysis**

The proforma was sorted out, cross-checked and coded serially. Data entering, cleaning and analysis were done using statistical package for social sciences (SPSS) version 16. Descriptive statistics was used to describe socio-demographic characteristics of the patients.

Frequency tables and cross tabulations on relevant socio-demographic, clinical and intervention variables were drawn up.

For survival analysis, the date of admission was considered the starting point. However the severity of the diagnosis was not measured by standard rating scale on admission. The desired endpoint was improvement. Time to improvement was how long from admission the patient took to improve.

Using SPSS, the date of improvement was subtracted from the date of admission to yield the time in days to improvement for all entries. Equally the duration of admission was obtained from subtracting the date of admission from the date of discharge.

Improvement was determined as the point when the consultant and the managing team found the patient mentally and clinically stable. This was the yardstick used for all the patients in the absence of standard symptoms rating scales.

Duration of admission was determined as the time from admission till when the patient was discharged home by the unit consultant psychiatrists and managing team.

Comparison was made between socio-demographic variables, mental illness and co-morbidity between the two groups.

Survival data analysis was done using Kaplan-Meier method and its significance was determined using LogRank test. This involved recoding the outcome variables into 1-improvement which is the desired event and 0-other outcomes which are the censored observations. The factors influencing time to improvement of the groups were compared using Cox's Proportional Hazard Regression. The factors that were modeled were: socio-demographic variables, Psychiatric diagnosis and medial co-morbidity and stepwise method of regression was used.

P-values of significance was set at  $P \leq 0.05$

Chi-square statistics was used to test association between categorical variables and independent student-t-test to compare the difference in the means of the two groups.

## Ethical Consideration

Approval for the study was obtained from the Ethical Committee of Neuropsychiatric Hospital, Aro before embarking on the study. Confidentiality and privacy of information was ensured. The names of the patients were not recorded and access to data is limited to the Director of community and rehabilitative psychiatry, Aro hospital.

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## CHAPTER FOUR

### RESULTS

One hundred and eighty three (183) patients' case files that satisfied the inclusion criteria were studied. There were 61 (33.3%) vagrant mentally ill patients and 122 (66.7%) non-vagrant mentally ill patients. See table 1:

**Table 1: CLASSIFICATION OF THE MENTALLY ILL PATIENTS ADMITTED**

Status	Frequency	Percentage
Vagrant mentally ill patients	61	33.3
Non-vagrant mentally ill patients	122	66.7
Total	183	110%

Distribution by year of admission showed that 2004 had most admissions (39.3%) while the least number of admissions (6.6%) was in 2008. See table 2 for details.

**Table 2: DISTRIBUTION BY YEAR OF ADMISSION – TOTAL = 183**

Year of Admission	Vagrant	Non-vagrant	Total	Total %
2004	24	48	72	39.2
2005	16	32	48	26.2
2006	10	20	30	16.4
2007	7	14	21	11.5
2008	4	8	12	6.6
Total	61	122	183	100%



## SOCIO DEMOGRAPHIC CHARACTERISTICS OF THE PATIENTS

There were 109 (59.8%) males and 74 (40.2%) females in the sample studied with the male to female ratio being 1.5 to 1.

**Table 3: SOCIO-DEMOGRAPHIC CHARACTERISTICS OF THE PATIENTS BY GENDER DISTRIBUTION – 3a**

VARIABLE	n=109 Male (%)	n=74 Female (%)	n=183 Total (%)
<i>Age Group (Years)</i>			
10-19	1 (0.9)	0	1 (0.5)
20-29	30 (27.5)	20 (24.0)	50 (27.3)
30-39	26 (23.9)	17 (23.0)	43 (23.5)
40-49	28 (25.7)	15 (20.3)	43 (23.5)
50-59	13 (11.9)	12 (16.2)	25 (13.7)
60+	11 (10.1)	10 (13.5)	21 (11.5)

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3b

<b>Tribe</b>			
Yoruba	87 (79.8)	65 (87.8)	152 (83.1)
Ibo	12 (11.0)	4 (5.4)	16 (8.7)
Hausa	2 (1.8)	2 (2.7)	4 (2.2)
Others	8 (7.3)	3 (4.1)	11 (6.0)
<b>Geopolitical Zone</b>			
South West	89 (81.7)	61 (82.4)	150 (82.0)
South South	4 (3.7)	2 (2.7)	6 (3.3)
South East	10 (9.2)	6 (8.1)	16 (8.7)
North Central	6 (5.5)	4 (5.4)	10 (5.5)
Foreigners	-	1 (1.4)	1 (0.5)

3c

<b>Employment Status</b>			
Employed	25 (22.9)	24 (32.4)	49 (26.8)
Retired	4 (3.7)	3 (4.1)	7 (3.8)
Unemployed	80 (73.4)	46 (62.2)	126 (68.9)
<b>Religion</b>			
Christianity	87 (79.8)	41 (55.4)	128 (69.9)
Islam	22 (20.2)	31 (41.9)	53 (29.0)
Traditional	-	2 (2.7)	2 (1.1)

3d

<i>Marital Status</i>			
Single	84 (77.1)	38 (51.4)	122 (66.7)
Married	13 (11.9)	19 (25.7)	32 (17.5)
Divorced	12 (11.0)	9 (12.2)	21 (11.5)
Separated	-	8 (10.8)	8 (4.4)
<i>Education</i>			
No formal	32 (29.4)	23 (31.1)	55 (31.1)
Primary School	24 (22.0)	16 (21.6)	40 (21.9)
Secondary School	27 (24.8)	18 (24.3)	45 (24.6)
Post Secondary School	6 (3.7)	9 (12.2)	15 (8.2)
University Education	20 (18.3)	8 (10.8)	28 (15.3)

3e

<i>Occupational Status</i>			
Highly Skilled I	6 (5.5)	4 (5.4)	10 (5.5)
Highly Skilled II	17 (15.6)	12 (16.2)	29 (15.8)
Semi skilled	36 (33.0)	16 (21.6)	52 (28.4)
Unskilled	50 (45.9)	42 (56.8)	92 (50.3)
<i>Living Situation</i>			
Alone	14 (12.8)	2 (2.7)	16 (8.7)
With others	87 (79.8)	52 (70.3)	139 (76.0)
No Accommodation	8 (7.3)	20 (27.0)	28 (15.3)

The mean age of the patients was  $40.3 \pm 14.8$  while the median age was 38.0 years.

The age range distribution as shown in figure 39 showed a higher proportion (74.3) of the patients within the age bracket of 20-49 years.

The tribe distribution as shown in table 36 revealed that they were mainly Yorubas (83.1%) from the South Western geopolitical zone of the country. This was followed by the Ibos (8.7%) from the South-Eastern part of the country. There were few Hausas (2.2%) and one (0.5%) foreigner.

Majority (44.3) of the subjects were indigenes of Ogun State while majority were resident in Lagos (38.8%).

Employment status as shown in tab 3c revealed that 49 (26.8%) patients were employed, 126 (68.9%) were unemployed and 7 (3.8%) were retired. The distribution by religion as in table 3c showed that 128 (69.9%) were Christians while 53 (29.0) were Muslims.

Marital status as shown in Table 3d revealed that 122 (66.7%) were single, 32 (17.5%) were married, 21 (11.5%) were divorced and 8(4.4%) were separated. Educational distribution (Tab 3d) showed that those patients with no formal education were 55 (30.1%), with only Primary School education were 40 (21.9%), those that completed Secondary School education were 45 (24.6%), those that had Post-Secondary School education were 15 (8.2%) and those that had University education were 28 (15.3%). Patients with no formal education (30.1%) were in the highest proportion.

Occupational Status of the patients as shown in the Table 3e revealed predominance (50.3%) of unskilled labour. Highly skilled professional I were the least (5.5%) represented among the patients.

The living situation of the patients as shown in Table 3e revealed that 16 (8.7%) were living alone, 139 (76.0%) were living with either their relatives or other people while 28 (15.3%) had no

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The living situation of the patients as shown in Table 3e revealed that 16 (8.7%) were living alone, 139 (76.0%) were living with either their relatives or other people while 28 (15.3%) had no

established accommodation to live in. Table 4 shows who brought the patient to the Hospital for admission. Relatives brought majority (79.8%) of the patients for admission followed by either state or local government (8.7%), and the initiative of Neuropsychiatric Hospital, Aro accounted for 6.0%. Also Non-Governmental Agencies and religious organizations were responsible for bringing 5.5% of the patients for admissions.

See Table 4 below:

**Table 4: WHO BROUGHT PATIENT FOR ADMISSION?**

Person/Agency	No. of Patients	Percent
Relatives	146	79.8
Neuropsychiatric Hospital	11	6.0
By the Authority of Government (State & Local)	16	8.7
Religious Organization	4	2.2
NGOs	6	3.3

Table 5 shows the distribution of the individual/agency responsible for the cost of treatment.

Payment for treatment was borne by majority (72.7%) of the patients relatives. However, the Neuropsychiatric hospital was responsible for the cost of treatment of 24.0% of the patients. The Government and religious organization were responsible for the cost of 3.3% of the patients. See

Table 5 below.

**Table 5: INDIVIDUAL/AGENCY RESPONSIBLE FOR TREATMENT**

Individual/Agency	No. of Patients	Percent
Relatives	133	72.7
Neuropsychiatric Hospital	44	24.0
Government (State & Local)	4	2.2
Religious Organization	2	1.1
NGOs	183	100.0

Table 6 shows the frequency distribution of the psychiatric diagnosis among these patients.

**Table 6: PSYCHIATRIC DIAGNOSIS – N=183**

Psychiatric Diagnosis	No. of Patients	Percent
Schizophrenia	125	68.3
Schizoaffective	13	7.1
Bipolar affective disorder	20	10.9
Depressive disorder	7	3.8
Delusional disorder	3	1.6
Organic brain disorder	4	2.2
Substance use disorder	31	16.9
Epilepsy with Psychosis	4	2.2
Mental retardation	4	2.2
Personality disorder	6	3.3

The Psychiatric diagnosis showed that the most common psychiatric illness the patients suffered from was schizophrenia (68.3%). This was followed by mental and behavioural disorders due to psychoactive substance use (16.3%). About 9.3% of the patients had more than one psychiatric diagnosis.

Table 7 shows the distribution of medical co-morbidity among the 183 patients studied.

**Table 7 – MEDICAL CO-MORBIDITY**

Medical Condition	No. of Patients	Percent
Hypertension	31	17.0
Stroke	1	0.5
Diabetes mellitus	3	1.6
Cancer	1	0.5
HIV/AIDS	1	0.5
Cellulitis/Wound infection	3	1.6
Tuberculosis	1	0.5
Fractures	3	1.6
Others (arthritis, asthma, skin rashes, allergy, caries, hernia, epilepsy etc.)	18	9.8
TOTAL	62	33.9%

Co-morbid medical conditions were recorded in 33.9% of the 183 patients. Hypertension was the most prominent and this was recorded in 17.0% of the patients. The extent of laboratory



investigations as shown in fig. 8 showed that 97.3% had routine investigation of full blood count, urinalysis and electrolytes and urea done during the period of admission.

Table 8: LABORATORY INVESTIGATION – N=183

Investigation	No. of Patients	Percent
Routine (FBC, Urinalysis, E & U)	178	97.3
Drug screening	4	2.2
EEG	2	1.1
HIV screening	3	1.6
Chest-x-ray	4	2.2
CT scan	1	0.5

Drug screening for psychoactive substance was done for 4 (2.2%) patients, EEG for 2 (1.1%), HIV screening for 3 (1.6), Chest-x-ray for 4 (2.2%) and CT scan, an expensive procedure was done for only 1 (0.5%) patients.

Table 9 shows the list of medications used by the patients.

**Table 9: LIST OF MEDICATIONS – N=183**

Type of Drug	No. of Patients	Percent
Tricyclic Antidepressants	19	10.4
SSRI-Antidepressants	4	2.2
Mood stabilizer (Carbamazepine)	22	12.2
Atypical antipsychotics	15	8.2
Conventional Antipsychotics	130	71.1
Others (Antihypertensive, Antidiabetic, Antibiotics, Analgesic etc.)	68	37.2

The list of medication shows that the conventional antipsychotic drugs were the mostly (71.1%) used medications.

Only 4 (2.2%) of the patients used the newer Antidepressants – the SSRI antidepressants. Similarly only 8.2% of the patients used atypical antipsychotic medications.

Table 9b shows the distribution of treatment outcome.

**Table 9b: TREATMENT OUTCOME**

Outcome	No. of Patients	Percent
Absconded	3	1.6
Improved	175	95.6
Died	5	2.7
TOTAL	183	

Outcome of treatment showed that 175 (95.6) of the patients improved. Improvement is the desired end event (outcome) of this study.

The other outcomes referred to as censored observations were those that absconded 3 (1.6%) and those that died 5 (2.7%).

Among the 183 admitted patients, 15 (8.2%) could not locate their residential addresses. In the course of the admission, 15 (8.2%) of the patients had vocational training in the hospital and carried out various vocational occupational activities like barbing, fashion designing, cobbling, laundry work, poultry, vulcanizing, farming, cleaning and petty trading.

In the course of treatment, 8(4.4%) of the patients were abandoned in the hospital.

The follow up care of the patient as shown in Table 10 revealed that 72 (39.3%) had good follow up, 26 (14.2%) follow up care was poor while 62 (33.9%) were lost to follow up care. 7 (3.8%) patients were referred to another psychiatric hospital to continue their follow up care. Follow up care was not applicable to the 8(4.4%) patients abandoned in the hospital.

**Table 10: FOLLOW UP CARE**

Follow up care	No. of Patients	Percent
Good	72	39.3
Poor	26	14.2
Lost/Defaulted	70	38.4
Referred to other specialist centers	7	3.8
Not applicable	8	4.4
Total	183	100

The status of the patients as at when last seen in the hospital is represented in Table 11. Majority of (76%) of the patients were still in remission.

**Table 11: PATIENTS STATUS WHEN LAST SEEN IN HOSPITAL**

Status	No. of Patients	Percent
Remission	139	76.0
Relapsed	15	8.2
Undetermined	4	2.2
Partial remission	25	13.7

**Table 12a: COMPARISON OF VAGRANT AND NON-VAGRANT MENTALLY ILL PATIENTS**

Variable	vagrant N=61 Total (%)	Non-vagrant N=122 Total (%)	Total (%) N=183	Chi Square	P-Value
Mean Age (S.D)	50.62 (16.3)	35.2 (10.9)	40.3(14.8)	t=7.588	95% C.I <).001
<b>Sex</b>					
Male	41 (67.2)	68 (55.7)	109(59.6)	2.223	0.136
Female	20 (32.8)	54 (44.3)	74(40.4)		
<b>Tribe</b>					
Yoruba	51 (83.6)	101 (82.2)	152(83.1)	1.765	0.623
Ibo	6 (9.8)	10 (8.2)	16(8.7)		
Hausa	2 (3.3)	2 (1.6)	4(2.2)		
Others	2 (3.3)	9 (7.4)	11(6.0)		

The mean age (S.D) of the vagrant mentally ill patient was 50.62(16.3) years while the mean for the non vagrants was 35.2(10.9) years. The vagrants were statistically older than the non vagrants ( $P < 0.05$ ). The sex distribution as in table 12, did not show statistical significance ( $P = 0.136$ ). The tribe distribution did not show a statistical difference between vagrants and non vagrants ( $p = 0.623$ ).

**Table 12b: COMPARISON OF VAGRANT AND NON-VAGRANT MENTALLY ILL**

Variable	Vagrant N=61 Total (%)	Non-vagrant N=122 Total (%)	Total	Chi Square	P-Value
<b>Religion</b>					
Christainity	41(67.2)	87(71.3)	128(69.9)	1.560	0.458
Islam	20(32.8)	33(27.0)	53(29.0)		
Traditional	0(0)	2(1.6)	2(1.1)		
<b>Marital status</b>					
Single	40(65.6)	82(67.2)	122(66.7)	29.907	<0.0001
Married	1(1.6)	31(25.4)	32(17.5)		
Divorced	14(23.0)	7(5.7)	21(11.5)		
Separated	6(9.8)	2(1.6)	8(4.4)		
<b>Education</b>					
No formal education	38(62.3)	17(13.9)	55(30.1)	49.317	<0.0001
Primary school	12(19.7)	28(23.0)	40(21.9)		
Secondary school	6(9.8)	39(32.0)	45(24.6)		
Post secondary school	1(1.6)	14(11.5)	15(8.2)		
University	4(6.6)	24(19.7)	28(15.3)		
<b>Employment</b>					
Employed	2(3.3)	47(38.5)	49(26.8)	26.653	<0.0001
Retired	3(4.9)	4(3.3)	7(3.8)		
Unemployed	56(91.8)	70(57.4)	126(68.9)		
<b>Occupational status</b>					
Highly skilled professional I	0(0)	10(8.2)	10(5.5)		
Highly skilled professional II	2(3.3)	27(22.1)	29(15.8)	49.633	<0.0001
Semi-skilled	6(9.8)	46(37.7)	52(28.4)		
Unskilled	53(86.9)	39(32.0)	92(50.3)		
<b>Living situation</b>					
Alone	12(19.7)	4(3.3)	16(8.7)	74.769	<0.0001
With others	23(37.7)	116(95.1)	139(76.0)		
No accommodation	26(42.6)	2(1.6)	28(15.3)		

Table 12 b shows that the religious distribution between vagrants and non vagrants, did not show a statistical difference between vagrants and non vagrants (P=0.458). Marital status and educational

distribution between vagrants and non vagrant mentally ill patients showed the vagrant patients were more single, divorced and separated at a significant level ( $P < 0.005$ ). The non vagrant patients were significantly married than the vagrant counterpart. The educational distribution showed that more of the vagrant patient had no formal education compared to the non vagrant patient at a significant level  $P < 0.005$ . The non vagrant patients were statistically more educated than the vagrant patient.

The distribution of employment as shown in the table revealed that the vagrant patient were more statistically unemployed than the non vagrant patient ( $P < 0.005$ ). The occupational status revealed that the vagrant patient were statistically more unskilled labor than the non vagrant ( $P < 0.005$ ). The non vagrant patient were more in the highly skilled professional I and II occupational status.

The living situation revealed that the vagrants significantly ( $P < 0.005$ ) lived alone and had no established accommodation compared to the non vagrants who were more likely to live with others.

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**Table 13: COMPARISON OF DIAGNOSIS AMONG VAGRANT AND NON-VAGRANT MENTALLY ILL PATIENTS**

Diagnosis	Vagrant N=61 Total (%)	Non-vagrant N=122 Total (%)	Total N=183	Chi Square/ Test statist.	P-Value
Schizophrenia	49(80.3)	76(62.3)	125(68.3)	6.108	0.010
Schizoaffective	5(8.2)	8(6.6)	13(7.1)	1.538	0.122
Bipolar affective	6(9.8)	14(11.5)	9(4.9)	2.133	0.336
Depressive disorder	0(0)	7(5.7)	7(3.8)		0.106
Delusional disorders	0(0)	3(2.5)	3(1.6)		0.215
Organic brain disorders	2(3.3)	2(1.6)	4(2.2)		0.475
Substance use disorder	8(34.8)	23(18.9)	31(16.9)	2.060	0.357
Epilepsy with psychosis	2(3.3)	2(1.6)	4(2.2)		0.469
Mental retardation	3(4.9)	1(0.8)	4(2.2)		0.074
Personality disorder	0(0)	6(4.9)	6(3.3)		0.083

The diagnosis as compared in table 13 showed that only the psychiatric diagnosis of schizophrenia that was more statistically significant ( $P < 0.005$ ) in the vagrant patient. All other diagnoses when compared between the two groups did not attain a statistical significance ( $p > 0.05$ ).

**TABLE 14: COMPARISON OF MEDICAL CO-MORBIDITIES AMONG VAGRANT AND NON-VAGRANT MENTALLY ILL PATIENTS**

Medical condition	Vagrant N=61 Total (%)	Non-vagrant N=122 Total (%)	Total	Chi Square/ Fest statisti.	P-Value
Hypertension	19(31.1)	12(9.9)	31(17.0)	12.935	<0.0001
Diabetes mellitus	3(4.9)	0(0)	3(1.6)	Fisher exact	0.014
HIV/AIDS	1(1.6)	0(0)	1(0.5)		0.156
Cellulitis/wound infection	3(4.9)	0(0)	3(1.6)		0.014
Fracture	3(4.9)	0(0)	3(1.7)		0.014
Others (Allergies, asthma, Dental caries, dermatitis, Conjunctivitis, Herpes, Eczema, Tinea, Tuberculosis)	20(32.8)	16(13.1)	36(19.7)	46.939	<0.0001

A comparison of the physical co-morbidities shown in table 14, revealed that the vagrant patients were significantly more hypertensive ( $P < 0.005$ ), more diabetic ( $P = 0.014$ ), had more infections ( $P = 0.014$ ), and more fractures ( $P = 0.014$ ). The vagrant mentally ill patients had more other co-morbidities than the non vagrant patients at a significant level ( $P < 0.005$ ).



**Table 15: COMPARISON OF OUTCOME OF TREATMENT AMONG VAGRANT AND NON-VAGRANT MENTALLY ILL PATIENTS**

Outcome	Vagrant N=61 Total (%)	Non-vagrant N=122 Total (%)	Total	Test statistics	P-Value
Absconded/Died	5(8.2)	3(2.5)	3(1.6)		0.003
Improved	56(91.8)	119(97.5)	175(95.6)		0.458

Treatment outcome as shown in table 15, revealed that more vagrant patient died than non vagrant patients and this was statistically significant ( $P=0.003$ ) compared to the non-vagrant patients.

**Table 16: FOLLOW UP CARE OF THE PATIENTS**

Follow up care	Vagrant N=61 Total (%)	Non-vagrant N=122 Total (%)	Total(=183)	Chi Square	P-Value
Good	14(23.1)	58(47.5)	72(39.3)	27.185	<0.0001
Poor	3(4.9)	23(18.9)	26(17.6)		
Lost to follow up/ defaulted	36(59.0)	34(27.9)	70(31.8)		
Referred	0(0)	7(5.7)	7(4.7)		
Not applicable	8(13.1)	0	8(4.4)		

Table 16 revealed that the vagrant patients were significantly ( $P<0.005$ ) lost to follow up more than the non vagrant patient who had better follow up care.

**Table 17: STATUS OF PATIENT WHEN LAST SEEN**

Status	Vagrant N=61 Total (%)	Non-vagrant N=122 Total (%)	Total	Test statistics	P-Value
Remission	34(56.7)	103(85.1)	138(75.7)	X <sup>2</sup> = 53.737	<0.0001
Relapsed	0(0)	15(12.4)	15(8.3)		
Undetermined	4(6.7)	0(0)	4(2.2)		
Partial remission	23(36.7)	3(2.5)	25(13.8)		

Status of patients when last seen in hospital in table 17 revealed that more vagrant patients had partial remission than the non vagrant group at a significant level ( $P < 0.005$ ) and more of the non vagrant group were in clinical remission of symptoms.

**TABLE 18: OUTCOME OF EVENT RE-CODED**

Variable	Frequency	Percent
Outcome (1)	175	95.6
Others censored (0)	8	4.4

Table 18, showed re-coding of outcome. The outcome of interest which was improvement was recoded as 1, while other outcomes were recoded as 0. These other outcomes were the censored observation.

TABLE 19: MEANS AND MEDIAN FOR SURVIVAL TIME (TIME TO IMPROVEMENT)

MEAN SURVIVAL TIME (TIME TO IMPROVEMENT)

Estimate	Standard error	95% CI	
		Lower band	Upper band
136.634	12.981	111.192	162.076

MEDIAN SURVIVAL TIME (TIME TO IMPROVEMENT)

Estimate	Standard error	95% CI	
		Lower band	Upper band
67.000	5.374	56.467	77.533

The median time to improvement of symptoms as shown in table 19, revealed that the median time to improvement was 67.0(56.467-77.533) days.

**TABLE 20a: COMPARISON OF MEANS AND MEDIAN TIME TO IMPROVEMENT  
AMONG VAGRANTS AND NON VAGRANTS IN DAYS**

Classification	Mean estimate (S.D)	Median estimate (Range)
Vagrant	283.678(28.233)	211.000(190-239)
Non vagrant	61.232(5.205)	43.000(40-47)
Overall	136.634(12.981)	67.000(61-73)

**TABLE 20b: COMPARISON OF PERCENTILE IMPROVEMENT TIME AMONG  
VAGRANTS AND NON VAGRANTS IN DAYS**

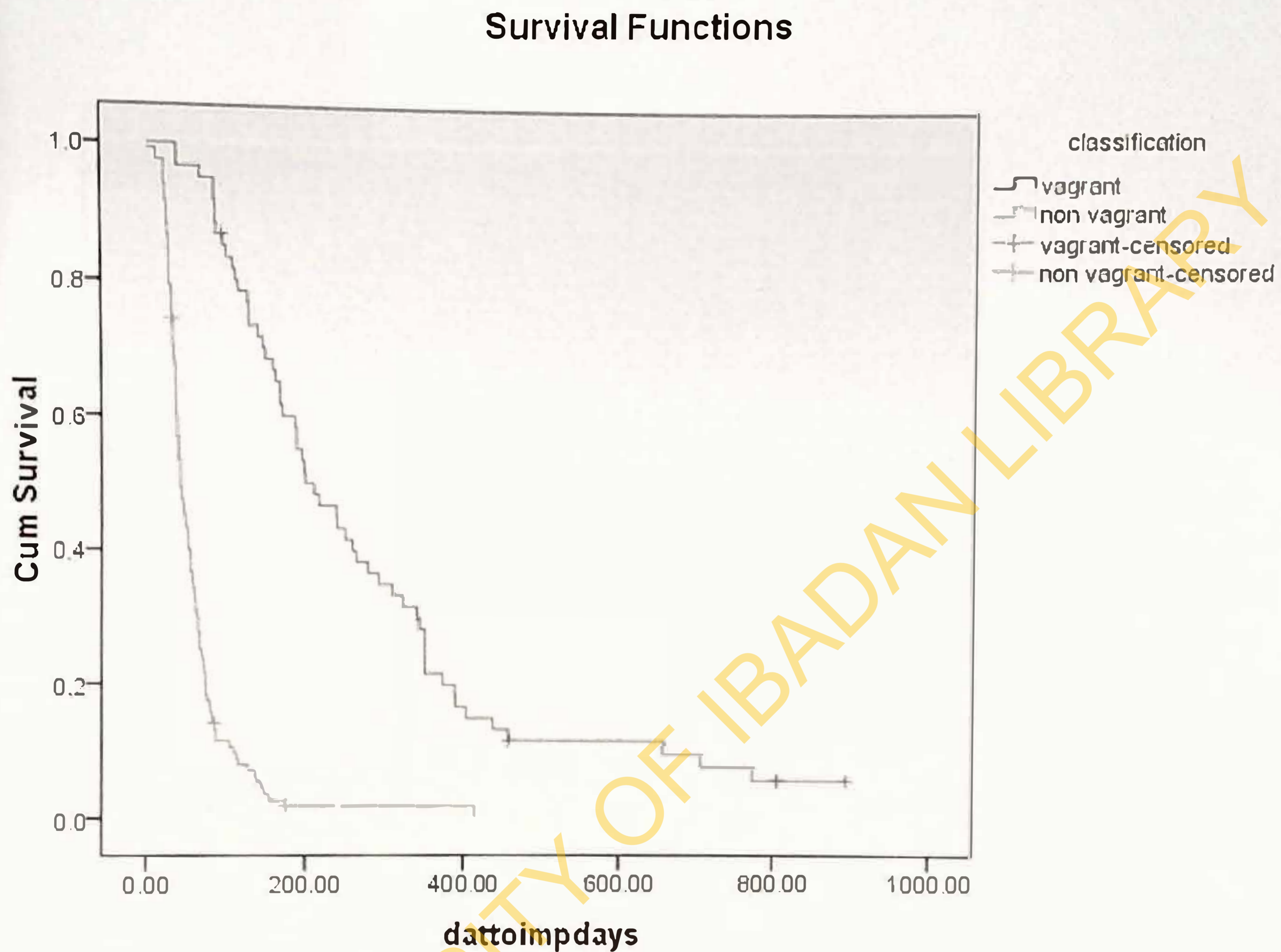
Classification	25 percentile estimate (S.E)	50 percentile estimate(S.E)	75 percentile estimate (S.E)
Vagrant	350.000(20.960)	211.000(28.130)	129.000(17.490)
Non vagrant	69.000(4.020)	43.000(3.275)	34.000(1.500)
Overall	159.000(18.080)	67.000(5.370)	39.000(1.610)

**TABLE 20c: TEST OF SIGNIFICANCE FOR THE GROUP**

Test	Chi square	Df	P value
Log rank test (Mantel-Cox)	108.645	1	<0.0001
eslow(Generalised Wilcoxon)			
Tarone-Ware	91.639	1	<0.0001
	102.906)	1	<0.0001

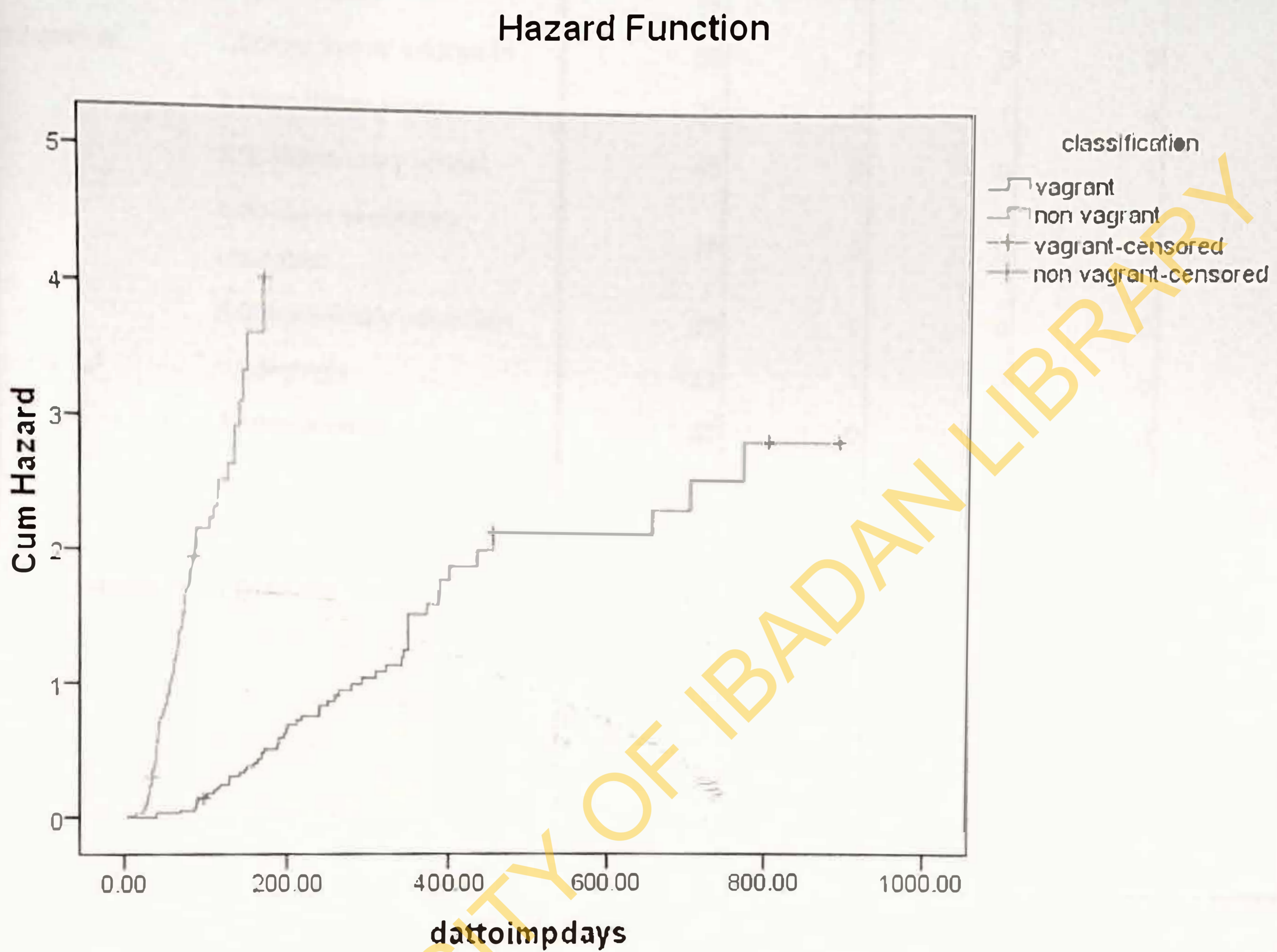
From table 20a-c, which compared the median time to improvement of the two groups, the median among the vagrant patients was 211.00 days compared with 43.00 days for the non vagrant patients. This was statistically significant ( $P < 0.005$ ). The vagrant patient took a much longer time to attain clinical improvement of symptoms. The Log Rank test as above used to compare the two groups was significant ( $P < 0.005$ ).

**FIGURE 1: KAPLAN-MEIER (K-M) ESTIMATE OF THE SURVIVAL FUNCTION CURVES FOR VAGRANT AND NON VAGRANT PATIENT**



The survival function curve as shown in Figure 1 reveals two survival function curves for vagrant (V) and non vagrant (NV) patients. On the x-axis is the time to improvement while on the y-axis is the cumulative survival. From the plot above, the estimated survival function (time to improvement) is greater in the vagrant than the non vagrant patient. This means that at any time  $t$ , the estimated probability of the time to improvement is greater in the vagrant than the non vagrant.

**FIGURE 3: HAZARD FUNCTION CURVES FOR VAGRANT AND NON VAGRANT PATIENTS**



The hazard function curve as shown in figure 3, revealed that the cumulative hazard to improvement is greater in the vagrant than the non vagrant group of patients.

**TABLE 21a; CATEGORICAL VARIABLES MODELLED FOR COX'S REGRESSION**

**Categorical Variable Codings<sup>b,c,d,e,f</sup>**

		Frequency	(1)	(2)	(3)	(4)
sex <sup>a</sup>	1.00=male	108	1			
	2.00=female	74	0			
education <sup>a</sup>	1.00=no formal education	55	1	0	0	0
	2.00=primary school	39	0	1	0	0
	3.00=secondary school	45	0	0	1	0
	4.00=post secondary education	15	0	0	0	1
	5.00=university education	28	0	0	0	0
mstatus <sup>a</sup>	1.00=single	122	1	0	0	
	2.00=married	32	0	1	0	
	3.00=divorced	20	0	0	1	
	4.00=seperated	8	0	0	0	
employstatus <sup>a</sup>	1.00=employed	48	1	0	0	
	2.00=retired	7	0	1	0	
	3.00=unemployed	126	0	0	1	
	4.00=4.00	1	0	0	0	
classification <sup>a</sup>	1.00=vagrant	61	1			
	2.00=non vagrant	121	0			

a. Indicator Parameter Coding

b. Category variable: sex (sex)

c. Category variable: education (education)

d. Category variable: mstatus (marital status)

e. Category variable: employstatus (employment status)

f. Category variable: classification (classification)



**TABLE 21b; VARIABLES AFFECTING IMPROVEMENT USING COX'S REGR.**

Variables in the Equation

	B	SE	Wald	Df	Sig.	Exp(B)	95.0% CI for Exp(B)	
							Lower	Upper
Classification	-1.171	.277	17.926	1	.000	.310	.180	.533
Sex	.027	.177	.024	1	.878	1.028	.726	1.454
Age	-.030	.009	11.481	1	.001	.971	.954	.988
Education			12.169	4	.016			
education(1)	-.904	.305	8.810	1	.003	.405	.223	.736
education(2)	-.895	.292	9.376	1	.002	.409	.231	.725
education(3)	-.375	.257	2.122	1	.145	.687	.415	1.138
education(4)	-.346	.345	1.006	1	.316	.707	.360	1.392
Mstatus			17.481	3	.001			
mstatus(1)	1.211	.673	3.234	1	.072	3.355	.897	12.553
mstatus(2)	2.225	.698	10.165	1	.001	9.254	2.357	36.341
mstatus(3)	.967	.694	1.941	1	.164	2.631	.675	10.261
Employstatus			9.741	3	.021			
employstatus(1)	-3.425	1.242	7.604	1	.006	.033	.003	.371
employstatus(2)	-3.773	1.280	8.693	1	.003	.023	.002	.282
employstatus(3)	-3.659	1.231	8.843	1	.003	.026	.002	.287
Hypertension	.580	.322	3.234	1	.072	1.786	.949	3.359
Diabetesmellitus	.510	.808	.397	1	.528	1.665	.341	8.118
HIVAIDS	11.513	250.910	.002	1	.963	.000	.000	759E208
Cellulitiswoodinfectn	-1.420	1.122	1.601	1	.206	.242	.027	2.180
Fractures	.747	.634	1.388	1	.239	2.111	.609	7.314

From the Cox proportional hazard regression table above, using the formula by Spotwoods et al. (2004), the chance of improving first is given by; Hazard Rate/1+Hazard Rate, hence using the non-vagrant group as reference, the non-vagrant group had 77% chance of improving first compared to the vagrant group of patients and this was significant ( $P < 0.005$ ). Using age > 60 years as reference,

age decreases with time to improvement. The younger patients were likely to improve faster than the older patient ( $P=0.002$ ). Educational status shows that those with university education had a 71% chance of improving first compared with those with no formal and primary education. The marital status using separated as reference, revealed that the married had 90% chance of improving first compared with the separated and this was significant ( $P<0.005$ ). Employment status as it influence time to improvement using the employed as reference showed that the employed had 97% chance of improving first compared to the unemployed ( $P=0.003$ ).

The influence of medical co-morbid illness on the time to improvement is shown above in table 21. Patients with wound infection and cellulitis and HIV/AIDS (with  $OR < 1.0$ ) were less likely to improve but not significant. While the diagnosis of hypertension, diabetes mellitus and fracture (with  $OR > 1.0$ ) did not significantly influence the time to improvement.

**TABLE 22: INFLUENCE OF PSYCHIATRIC DIAGNOSIS ON THE TIME TO IMPROVEMENT USING COX PROPORTIONAL HAZRAD REGRESSION**

Variables in the Equation

	B	SE	Wald	Df	Sig.	Exp(B)
Schizophrenia	.821	.219	14.057	1	.000	2.273
Schizoaffective	-.018	.047	.142	1	.707	.982
Bipolarmania	-.642	.423	2.306	1	.129	.526
Bipolardepression	.125	.614	.041	1	.839	1.133
Bipolarmaniapsychosis	.896	.615	2.127	1	.145	2.450
bipolardeprssnpsychosis	1.215	1.408	.744	1	.388	3.369
Manicepisode	.	.	.	0 <sup>a</sup>	.	.
Depressvepisode	-1.400	.501	7.789	1	.005	.247
Recurrentdepressn	.	.	.	0 <sup>a</sup>	.	.
Delusionaldisorder	-.020	.607	.001	1	.973	.980
Dementia	.	.	.	0 <sup>a</sup>	.	.
Delirium	.	.	.	0 <sup>a</sup>	.	.
Amnesticdisorder	.210	.717	.085	1	.770	1.233
Mentalbehavdisorder	.194	.043	20.190	1	.000	1.214
Epileppsychois	-.002	1.025	.000	1	.998	.998
Mentallretardation	1.238	1.233	1.008	1	.315	3.449
Persondisorder	-.825	.482	2.930	1	.087	.438
manicepisodepsychosis	.	.	.	0 <sup>a</sup>	.	.
depressveepisodpsychosis	.030	.029	1.015	1	.314	1.030
anxietyneuroticdisorder	.	.	.	0 <sup>a</sup>	.	.
unspecifpsychoticdiorder	.	.	.	0 <sup>a</sup>	.	.

From table 22, those without the diagnosis of schizophrenia had 70% chance of improving first compared to those with the diagnosis ( $P < 0.005$ ). Similarly, those without mental and behavioural disorders due to substance use, had 55% chance of improving first compared to those with the diagnosis ( $P < 0.005$ ).

**TABLE 23: DURATION OF ADMISSION**

	Vagrant	Non vagrant	P value
Mean (SD) days	546.378(390.3)	155.89(85,3)	<0.0001
Median	445.0	137.0	<0.0001

The mean(SD) duration of admission of the Sample was 222.3(23.6)days and the median duration was 159days. The mean duration of admission for the vagrant (546.3) days was greater than for the non vagrant (155.8) days. Comparing these means using independent t-test, yielded a significance level ( $P < 0.005$ ). The median duration for the vagrants (445.0 days) was greater compared to the non vagrants (137.0 days)

## CHAPTER FIVE

### DISCUSSION

Out of the 68 vagrant mentally ill patients identified, 7 case files had too many missing portions or they were entirely missing. Consequently, 61 vagrant mentally ill patients' case files were valid yielding 89.7% valid rate. This is however expected being a retrospective study. A total of 183 patients (61 vagrant and 122 Non vagrant patients)' case files were consequently studied, yielding a ratio of 1:2(vagrant 1:2 non vagrant). The distribution by year of admission showed that the highest (39.2%) numbers of vagrant mentally ill patients were admitted in 2004 and this declined progressively to 6.6% in 2008. This decrease may reflect policy change in the hospital and a review of the fees for admission over the year by the hospital. The decrease may also be explained by the lesser involvement of the hospital and other bodies in the care of the vagrant mentally ill patients.

#### **Sociodemographic characteristics of the patients**

The finding of more males (59.8%) than females' patients on admission is similar to that of Erauquin et al, (2009) in a psychiatric hospital In Spain with 54.5% of the admissions being males.

However, Potjonjak(2008) found equal number of males and females in a Croatian psychiatric hospital. Adegunloye et al, (2009) found more females (51.8%) patients in the study at the university of Ilorin Teaching hospital (UITH), Nigeria.

The male: female ratio especially for schizophrenia, the most common psychiatric diagnosis for admission is 1:1. However, in Neuropsychiatric hospital, Aro where the study was carried out, 40% of the admission wards were for females while 60% is for males.

The mean(SD) age of the patients was 40.3(14.3) years. This value is higher than the mean age (30.5) years obtained by Adegunloye et al, (2009) in their study at UITH. However, this mean age is similar to 39.9 years obtained by Oyeckin (2008) in his study among patients in East Anatolin psychiatric hospital.

The age range distribution showed a higher proportion (74.3%) within 20-49years old. This is however similar to 68.7% of patients in the age range of 20-40years old in a psychiatric in-patient facility in Spain (Erauquin et al, 2009). This age range is also similar to the findings of Adegunloye et al, (2009) with 68.5% of the patients in the age range of 20-40 years.

The tribe distribution showed that 85.1% of the patients were Yorubas. The hospital is located in Abeokuta, Ogun state and has other states in the western geopolitical zone as its catchment areas. Hence majority of the patients are Yorubas and were from the western geopolitical zone of Nigeria.

The study revealed that majority (68.9%) were unemployed. This finding is similar to those of Adegunloye et al, (2009) who found that 60.2% of the in-patients at UITH were unemployed. Potkonjak(2008) found 64.5% of the in-patients in a Croatian hospital to be unemployed.

Psychiatric disorders may result in functional impairment in the sufferer with a decline in occupational activities. Patients that suffer from psychiatric illness are discriminated against and people keep them at a social distance in terms of marriage, employment, and accommodation (Adewuja & Makanjuola , 2005).

Most of the patients (66.7%) had single marital status. This finding is similar to 61.5% obtained by Potkonjak (2008) among Croatian patients and close to 58.0% obtained among Nigerian in- patients (Adegunloye, 2009). This could be a reflection of the impact of the illness in the functional domain of the individual and also the stigmatizing attitude of the public to keep patients with psychiatric

disorders at social distance especially in terms of marriage (Viviane Kovess, 2002). In a survey on the knowledge and attitude of primary health workers in Ogun state, majority of the respondents indicated that they would never marry someone with mental disorder (Ogunlesi, 1987)

The educational distribution revealed that the highest proportion (30.1%) had no formal education and 21.9% had primary school education.

About 15% had university education. This finding is in keeping with Odejide (1982)'s study that found a higher proportion with lower level of education.

Oyeckcin (2008) found that the mean education period among the psychiatric among the psychiatric patients he studied was 6.06 years. This low educational status is also a reflection of the impact of the illness in the suffers. Many patients with psychiatric illness eventually drop out of school because of the inability to cope with academic demands.

The occupational status revealed predominance (50.3%) of unskilled labour. This is a reflection of the predominant lower educational status of the people.

The living situation of the patients revealed that a higher proportion (76.0%) lived with relations or other people. However, about 24% of the patients either lived alone or had no accommodation. This is a reflection of the social support available to the patients. Living alone and having no established accommodation are among the risk factors for vagrancy in the mentally ill patients (Hawthorne et al, 2000).

The study showed that majority (72.7%) of the patients financial burden was borne by their relatives.

The financial responsibility for the other patients was borne by Aro hospital, Government, NGO and religious organizations. Most of the patients that fell into this category were the vagrants with no one to cater for them.

## PSYCHIATRIC DIAGNOSIS AMONG THE PATIENTS

The most frequent psychiatric diagnosis was schizophrenia (68.3%). This was followed by mental and behavioural disorder due to substance use (16.9%). Other studies (Potkonjak, 2008; Adegunloye et al, 2009; Erauquin et al, 2008, Odejide, 1982) had found schizophrenia as the main diagnosis among psychiatric in-patients. Schizophrenia is the hallmark of functional psychiatric disorder and patients that suffer from this illness may require in patient care because of the symptoms and associated disruptive behavior among this group of patients.

### Medical co morbidity in psychiatric patients

A prevalence of 33.9% medical conditions comorbidity among the patients was obtained. Hypertension was the commonest (17.0%) and others were diabetes mellitus, stroke, infections, arthritis and cancer.

Co morbidity between physical and psychiatric disorders are not uncommon. Over the last 30years, several studies conducted to determine the prevalence of medical diseases among psychiatric patients reported rates of 28% to 92%. The finding of 33.9% co morbidity is similar to the prevalence rate of (33.3%) reported by Bridges and Goldberg (1985) among psychiatric patients in the hospital setting.

### Laboratory investigation

Almost all (97.3%) of the patients had routine baseline investigations. Only about 2% had more expensive and specific investigations like CT scan and EEG. This further illustrate that most of the patients were from lower socioeconomic status and could not afford expensive investigations.



The most commonly prescribed medication is antipsychotics (79.3%).

Some of the patients required mood stabilizer (12.2%) while 12.6% were on antidepressants. Only a few of the patients could afford the relatively new medications-SSRIs (2.2%) and atypical antipsychotics 8.2%.

These are drugs commonly used in the developed countries where the treatment of the mentally infirm is free. These drugs are rather expensive but cost effective. Most of our patients could not afford them for financial constraints.

### **The distribution of treatment outcome**

Outcome of treatment showed that 95.6% of the patients improved. The time to improvement in these patients was influenced by their socio-demographic characteristics and the clinical diagnosis.

There were also censored observations (5 died and 3 absconded).

About 8.2% of the patients could not locate their residential addresses and consequently 16 patients were abandoned in the hospital.

About 8.2% of the patients had vocational training programmes in the hospital.

These training / vocational programmes are given to patients in the long stay Rehabilitation wards of the hospital. Consequently, 15 of them learnt various vocational training such as barbing, fashion designing, cobbling, laundry, and poultry, petty trading and vulcanizing.

The follow up care of these patients revealed that only 35.5% had good follow up care. Default from follow up care is a common phenomenon in psychiatric treatment. Psychiatric disorders are chronic disorders that require a long follow up time of care but most often patients default from follow up care. Default from follow up has been attributed to many factors, among which are: financial constraints, distance to health facility, and side effects of medications.

## Comparison of vagrant and non vagrant mentally ill patients

The mean age of the vagrant patients (50.6years) was statistically ( $P < 0.0010$ ) greater than the non vagrant patients (35.2 years). The mean age could be greater in the group because in the vagrant group of patients it is likely that they had longer duration of mental illness before becoming vagrant.

Asuni (1971) found that the duration of mental illness among the vagrant patients that he studied ranged from 6 to 25 years.

There was no significant sex difference between vagrant and non vagrant patients. However, Hawthorne et al, (2000) identified a male gender as a risk factor for vagrancy among the mentally ill patients. Asun(71) obtained an almost equal male: female ratio of 12:13 in his study.

The vagrants were statistically ( $p < 0.001$ ) more single, divorced or separated. This could be the impact of vagrancy on their mental disorder.

The vagrant patients had lower educational status compared with non vagrant patients at a statistically significant level ( $p < 0.001$ ). This could be explained by the fact that their illness could have started much earlier in life and interfered with their educational pursuits.

The vagrant group of patients was significantly ( $p < 0.001$ ) unemployed compared to the non vagrant group. This could be the impact of vagrancy on their mental illnesses and they were mostly in the unskilled occupational status.

The vagrant patients significantly ( $p < 0.001$ ) lived alone and had no established accommodation. One of the major risk factors for vagrancy is loneliness. When a patient lives alone, he is cut off from family, social support, emotional and physical support. The absence of these crucial support<sup>s</sup> had been identified as risk factors for vagrancy (Odejide, 1982).

## **Psychiatric and physical diagnosis among vagrant and non vagrant patients.**

The diagnosis of schizophrenia was significantly ( $p=0.010$ ) greater in the vagrant group of patients. This finding is similar to that of Asuni (71) who found a predominant schizophrenia diagnosis among the patients that he studied.

Physical co morbidities were significantly commoner in the vagrant group of patients. In the course of their vagrancy, they lived in the street, refuse dumps, bush etc. They ate all sort of dirty and unhygienic food. They are prone to myriads of infections and physical co morbid conditions. The female vagrant patients are prone to sexual abuse and they stand a risk of contracting all sort of sexually transmitted diseases and HIV infections. They are also at a risk of having illegitimate children while on the street.

It is therefore not surprising that all 5 cases of death were recorded among the vagrant group of patients. This might be due partly to the various co morbid physical conditions.

In the follow up care, most of the vagrants were lost to follow up care. This finding is in keeping with that of Asuni (1971) with the majority of the patients that he studied defaulting from treatment.

### **Survival date analysis-(Kaplan – Meier method)**

In the estimate of the comparison of the time to improvement, the Kaplan –Meier was used because of the presence of censored observation.

The median estimate of the time to improvement was 67.00 days for the total patients.

In comparing the survival function ( time to improvement) between the 2 groups of patients, we can:

- ) Do a point-by-point comparison(survival curve)
- ) Compare the median time to improvement
- ) Use the hazard ratio

4) Do a total curve comparison using the LogRank as the golden standard

The median time to improvement among the vagrant patients (211.0days) was longer than for the non vagrant group of patients.

The LogRank test showed a statistical significant finding( $p<0.001$ )

### **Factors influencing improvement**

The factors influencing improvement were assessed with Cox's proportional Hazard Regression.

The vagrant group was 3.4times less likely to improve than the non- vagrant group.

The factors found to increase the time to improvement at a significant level( $p<0.05$ ) were; old age, low educational status, single marital status, unemployment and those with the diagnosis of schizophrenia and mental & behavioural disorder due to substance abuse.

Physical comorbid conditions increased the time to improvement but this was not statistically significant. It is not surprising that the median duration of the admission for the vagrant group of patients (445days) was greater than that of the non vagrant patients (137days) at a significant level ( $p<0.001$ ). This was partly due to the fact that the vagrant patients stayed longer on admission before improvement in their psychiatric and medical conditions.

### **LIMITATIONS**

This study being a retrospective one was faced with some challenges that should be acknowledged.

Some patient's case files were missing and some of the case files had a large portion with missing data.

At the point of admission, there was no baseline rating of illness severity with any standard symptom rating scale

The point of improvement is chosen based on the subjective assessment of the consultant psychiatrists and their management team and there was no use of standardized symptom rating scales. For some of the patients, their ages were determined by the recollection of some historical and their personal life events.

To minimize these limitations, case files without complete variables of interest such as date of admission, time of improvement and many incomplete data were excluded.

Specific information from the case files were meticulously searched for, hence the study took about four months to complete.

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## **CONCLUSION**

From this study, the clinical profile and outcome of care among the vagrant mentally ill patients is poor compared to the non vagrant patients. Health workers have the need for early identification of the risk and prognostic factors that will help in the prevention of the mentally infirm from the pathway to vagrancy.

The public health implication of this study is that it will create the awareness on the need for a collective endeavour on the ever neglected care for the teaming vagrant mentally ill persons in our community.

## **RECOMMENDATION**

The relatives and caregivers of the mentally ill patients should be educated on the need for continuous social, physical, economic and emotional support for their mentally ill patients. The need for continuous follow up care of these patients will ensure that they maintain a stable mental state for them to function effectively in the community.

There should be a continuous mental health education to families, communities, Governments and employment agencies to reduce social distance and stigma towards the mentally ill patients.

The various local Governments, religious, traditional systems and non-Governmental organizations should support the care of the mentally ill and build residential institutions for the vagrant mentally ill patients.

The Federal Government should put in place a Mental Health policy that makes provision for free treatment for vagrant mentally ill patients in our communities.

Some chronic co-morbidities predispose the mentally ill patients to longer time to improvement and longer duration of admission, hence health workers should endeavour to identify and promptly manage the physical health problems they encounter in the course of their care.

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APPENDIX 1

CLINICAL PROFILES AND OUTCOME OF CARE OF MENTALLY ILL PATIENTS  
ADMITTED INTO NEUROPSYCHIATRIC HOSPITAL, ARO, ABEOKUTA

SECTION A:

Identifying/Personal Information

Serial No

Hospital Registration No.

Sex: Male 1

Female 2

Age:

Tribe: Yoruba 1

Ibo 2

Hausa 3

Edo 4

Others 5

State of Origin

Geopolitical Zone: South-West 1

South-South 2

South-East 3

North-East 4

North West 5

North Central 6

Foreigners 7

3. Residential Address

9. Education

(a) No formal Education 1

(b) Primary School 2

(c) Secondary School 3

Post Secondary School (Polytechnic, College of Education, Technical College etc) 4

e) University Degree 5

10. Marital Status

(a) Single (Never married) 1

(b) Married 2

(c) Divorce 3

(d) Separated 4

(e) Widowed 5

(f) Numbers of Illegitimate children

11. Religion

(a) Christianity 1

(b) Islam 2

(c) Traditional 3

(d) Others (specify) 4

12. Employment Status

(a) Employed 1

(b) Retired 2

(c) Unemployed 3

13. Living Situation

(a) Alone 1

(b) Living with Others 2

(c) No accommodation 3

14. Occupational Status

(a) Highly Skilled Professional I (Doctors, Pharmacist, Engineers, Top Government Officials and Official/Business Executive etc.) 1

(b) Highly Skilled Professional II (Technicians, Nurses, Senior tutors etc.) 2

(c) Semi Skilled (Junior Military & Policemen, Students Apprentices etc.) 3

(d) Unskilled (Housewives, Petty traders, Farmers(subsistent), Messengers, Labourers etc.) 4

**SECTION B**

Clinical Variables

How was he/she brought to the Hospital?

a) Relatives 1

b) Initiative of Neuropsychiatric Hospital 2

c) Government 3

d) NGOs 4

e) Religious Organization 5

2. Who is responsible for the cost of treatment?

a) Relatives 1

b) Neuropsychiatric Hospital 2

c) Government 3

(d) NGO 4

(e) Religious Organization 5

3. Date of admission

4. Classification: Vagrant 1

Non-vagrant 2

5. Type of mental illness (Diagnosis)

o Schizophrenia yes no

o Schizoaffective yes no

o Bipolar affective (Mania) yes no

o Bipolar affective (Depression) yes no

o Bipolar affective mania with psychosis yes no

o Bipolar affective - Depression with psychosis yes no



- Manic episode    yes        no
- Depressive episode    yes        no
- Recurrent depression    yes        no
- Delusional disorder    yes        no
- Dementia    yes        no
- Delirium    yes        no
- Amnestic disorder    yes        no
- Mental & behavioural disorder due to psychoactive substance use    yes        no
- Epilepsy with psychosis    yes        no
- Mental Retardation    yes        no
- Personality disorder    yes        no
- Manic episode with psychosis    yes        no
- Depressive episode with psychosis    yes        no
- Anxiety, stress & Neurotic disorder    yes        no
- Unspecified psychotic disorders    yes        no
- Others (Specify)<sup>22</sup>

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**SECTION C**

Medical co-morbidity

- 1. Hypertension: Yes  No
- 2. Diabetes mellitus: Yes  No
- 3. HIV/AIDS Yes  No
- 4. Cellulitis/Wound infection: Yes
- 5. Fractures: Yes  No
- 6. Others (specify):
- 7. Laboratory Investigations done Yes
- 8. List of laboratory investigations
- 9. List of medications

**SECTION D**

Outcome of treatment as indicated in the case note

1. Outcome: Date of outcome-----

- (a) Absconded 1
- (b) Improved 2
- (c) Worsened 3
- (d) Died 4
- (e) Referred 5
- (f) None indicated

Date of discharge -----

**SECTION E**

**Rehabilitation and Social Reintegration**

- Able to locate residential address Yes
- Able to trace relation Yes
- Vocational training in Hospital Yes

If Yes, Specify

Vocational/Occupational activities carried out in the Hospital

- Reintegrated back into the society Yes
- Abandoned in the Hospital Yes  No

**SECTION F**

**Follow Up**

- Follow Up
  - Good 1 Poor 2
  - Lost to follow up/Defaulted 1 Died 4
- Status of patient when last seen in Hospital
  - Remission 1 Relapsed 2 Undetermined 3
  - 4 partial remissions
- Date of last follow up \_\_\_\_\_

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**SECTION E**

Rehabilitation and Social Reintegration

- Able to locate residential address      Yes
- Able to trace relation      Yes
- Vocational training in Hospital      Yes
- If Yes, Specify
- Vocational/Occupational activities carried out in the Hospital
- Reintegrated back into the society      Yes
- Abandoned in the Hospital      Yes            No

**SECTION F**

Follow Up

1. Follow Up:

Good 1

Poor 2

Lost to follow up/Defaulted 3

Died 4

2. Status of patient when last seen in Hospital

Remission 1

Relapsed 2

Undetermined 3

4 partial remissions

3. Date at last follow up-----