

## CHAPTER 1: INTRODUCTION

Schizophrenia is a form of mental disorder that affects approximately 1% of the world population (Sadock BJ, et al., 2003). It is a chronic and disabling illness that is hugely variable in both its definition and description (Gelder M, et al., 2000). The illness is often accompanied by relapses despite treatment. South African data about the prevalence and relapse rates of schizophrenia is very limited, although it would appear to be common.

Relapses in patients with schizophrenia causes significant personal distress and interferes with rehabilitation efforts. The re-emergence of psychotic symptoms and disruptive behaviours can lead to hospitalisation, arrest and incarceration, cognitive impairment due to progressive structural brain damage and the development of treatment resistance (Piggott TA, et al., 2003). It also increases the economic burden on health care systems because of its associated morbidity and readmissions to hospital.

International trends in psychiatric care are towards a more community based care (Knapp M, et al., 1998) and the services provided in South Africa are in keeping with these international trends. This is further supported by the Mental Health Care Act of South Africa of 2002 (Government Gazette, 2002) which places emphasis on the least restrictive care, rehabilitation and treatment for mental health care users. Early identification and prevention of relapse within a community setting has enormous therapeutic and socio-economic implications, and is one of the National Health's strategic objectives.

A pilot study of 40 patients was conducted at two clinics to determine the feasibility of this study. It indicated that in the majority of cases the information sought was in the clinic records and that the diagnosis of schizophrenia was made according to DSM IV criteria, and was reliable. Some significant findings were that 75% of the patients had a relapse; the mean age was 41.8 years (range: 27 - 60 years). 70% of the patients were male, 80% were single, 80% were unemployed and living on a disability grant. Of the patients who relapsed, 60% were non compliant with their medication, 54% were abusing cannabis and 48% were abusing alcohol.

Thus the opportunity in this country to further study the factors associated with schizophrenia relapse with a view to provide guidelines for early identification and management of relapses in a community setting.

### 1.1. DIAGNOSTIC CRITERIA, COURSE AND PROGNOSIS OF SCHIZOPHRENIA

According to the Diagnostic and Statistical Manual (DSM) IV (APA, 2002), schizophrenia is described as “a mental disturbance of minimum six months duration and includes at least a month of active-phase symptoms: hallucinations, delusions, disorganized speech, disorganized behaviour and negative symptoms” (Addendum A).

The International Classification of Diseases (ICD) 10 requires the presence of first-rank symptoms of Schneider, a minimum duration of one month, and exclusion of prodromal symptoms for a diagnosis of schizophrenia (Gelder M, et al., 2000). The first rank symptoms of Schneider include hearing thoughts spoken loud, third-person

hallucinations, hallucinations in the form of a commentary, somatic hallucinations, thought withdrawal or insertion, thought broadcasting, delusional perception, and all other experiences involving volition, made affects and made impulses (Addendum B).

The pattern of the schizophrenia during the first five years of the disorder usually determines the patient's lifelong course (Sadock BJ, et al., 2000). Possible outcomes for patients with schizophrenia include (Wright P, et al., 2005; Gelder M, et al., 2000):

a) Complete and permanent recovery.

Some patients with schizophrenia present with a single psychotic episode followed by complete remission. The chance of such recovery has increased with the use of anti-psychotic drugs. Maintenance with anti-psychotic drugs can prevent relapse and greatly reduce the risk of personality deterioration in many patients. Complete remission with sustained return to pre-morbid level of functioning is uncommon compared to relapses (APA, 2002).

b) Remission with one or more future relapses.

This is usually a remitting course with one or multiple psychotic episodes with full remission in between episodes accounting for about 35% of patients.

c) Social remission with personality deficits.

This includes remission between episodes but, with significant personality deficit that is characterized by a reduction of ambition, emotional response, energy and initiative. Patients are impoverished and their level of functioning is also affected.

d) Stable chronicity.

This outcome usually occurs in less than 30 to 40% of patients with schizophrenia.

They have signs and symptoms of active mental disorder i.e. they do not deteriorate but remain in a state of stable chronicity.

e) Deterioration to a terminal stage

This is very rare nowadays due to modern biological and social therapies. This state is characterized by signs and symptoms of extreme regression of behaviour, affect and ideation (Sadock BJ, et al., 2000).

A number of factors are associated with a better prognosis in schizophrenia and these include:

- a) good pre-morbid adjustment
- b) acute onset
- c) later age of onset
- d) absence of anosognosia
- e) being female
- f) presence of precipitating events
- g) associated mood disturbance
- h) good compliance and
- i) absence of structural brain abnormalities (APA, 2002).

## 1.2. RELAPSES IN SCHIZOPHRENIA

### 1.2.1. Definition

Schizophrenia relapse is defined on the basis of re-emergence or the worsening of psychotic symptoms. Certain clinical criteria or patient characteristics (Almond S, et. al., 2004) are used to define a relapse and include:

- a) a significant change in management (directly related to illness or treatment side-effects)
- b) a change in clinical state (re-emergence of psychotic symptoms, aggravation of positive or negative symptoms)
- c) a change in management (hospital admission in past 6 months, detention under section of Mental Health Care Act, change of anti-psychotic agent, more intensive case management, significant change in accommodation).

### 1.2.2. Recognition of relapses

Studies on relapse in patients with schizophrenia (Docherty JP, et al., 1978) set out five specific stages in the decompensation process to a relapse namely:

- a) Overextension: This stage is characterized by anxiety, irritability, distractibility and a feeling of being overwhelmed.
- b) Restricted consciousness: This stage is characterized by boredom, apathy, listlessness, narrowing of thoughts and social withdrawal.
- c) Disinhibition: Unmodulated expression of impulses is characteristic of this phase.
- d) Psychotic disorganization.

- e) Psychotic resolution: The characteristic features of this stage are decreased anxiety and psychotic organization.

The symptoms in the various stages may have variable duration (few days to several weeks). The progression to a full episode of relapse can occur as a result of interaction of many of these factors. It has been postulated that close clinical monitoring of these symptoms and early intervention with antipsychotic and/or psychosocial approaches (crisis intervention) can reduce relapse rates (Marvin IH, et al., 2000).

### 1.2.3 Factors associated with relapses

#### 1.2.3.1. Non-compliance

Studies on health behaviour (DiMatteo MR, et al., 1982) have interchangeably used others words (adherence, therapeutic alliance, collaboration) in lieu of compliance. Compliance implies an obligation on the part of the patient to blindly follow the practitioner's instructions while adherence requires the patient's agreement. The WHO (World Health Organisation, 2003) also emphasises the differentiation of adherence from compliance. Patient compliance is defined as "the extent to which a person's behaviour coincides with the medical prescription and recommendations" (Perkins DO, et al., 2002). Compliance is a complex parameter and remains difficult to measure accurately. Its assessment is necessary for effective treatment planning.

Approximately 40- 50% of patients with schizophrenia are not compliant to anti-

psychotic medication (Hudson TJ, et al., 2004). In general, about a third of all patients comply with treatment, a third sometimes comply with treatment, and a third never comply with treatment (Sadock BJ, et al., 2003). The DSM IV TR (APA, 2002) includes “non-compliance” as a condition that may be a focus of clinical attention and when the problem is sufficiently severe to warrant independent clinical attention. Non compliance to psychotropic medication leads to relapse and re-hospitalization (Kozuki Y, et al., 2003) and may be the cause of “revolving door” phenomenon (Haywood TW, et al., 1995).

Non-compliance includes:

- a) failure to attend clinics
- b) refusal to enter the hospital
- c) failure to begin a treatment program
- d) premature cessation of treatment and
- e) incomplete performance of instructions (Perkins DO, et al., 2002).

The reasons for non-compliance may include:

- a) discomfort resulting from treatment (e.g. medication side effects)
- b) cost of treatment
- c) decisions based on personal value, judgment, religious or cultural beliefs about the advantages and disadvantages of the proposed treatment
- d) maladaptive personality traits or coping styles (e.g. denial of illness)
- e) the presence of a mental disorder (e.g. Schizophrenia, Avoidant Personality Disorder).

With specific reference to medication, non-compliance could take a form of:

- a) failure to fill a prescription
- b) refusal to take medication
- c) stopping treatment prematurely
- d) taking medications at wrong times and
- e) incorrect dosage of medications.

Compliance to treatment may be assessed in the following ways (Dunbar J, et al., 1979):

- a) Biological index: It is a direct method of assessing compliance by detecting the presence of the substance or its metabolites in serum or in a urine sample. Another procedure is to look for the presence of a biological marker.
- b) Clinician ratings: The clinician's subjective ratings of the patient's behaviour are methods of assessing compliance which have not proved to be always accurate.
- c) Patient's self-report: The most commonly used method is some form of interview procedure. These methods rely on the patient's memory of compliance. Techniques include daily records, charts, or graphs.
- d) Pill count: Methods include a standard pill count, drug packs with a built-in counting system.
- e) Direct observation: This method consists of utilizing the observations of relatives, housemates, or caregivers for the compliance data.

The following factors may be associated with poor compliance (WHO, 2003):

a) Patient related factors: These include demographic characteristic such as age, sex, and social status. Other factors include forgetfulness, anxiety about side-effects, inadequate knowledge, lack of insight, lack of motivation, fear of stigma, and poor or lack of financial resources. Many definitions of insight exist in the literature, but the guiding concept in this study is the following definition: “patients with insight judge some of their perceptual experiences, cognitive processes, emotions, or behaviours to be pathological in a manner that is congruent with the judgement of involved mental health professionals, and that these patients believe they need mental health treatment” (McEvoy JP et al., 1985). The lack of insight has been reported to be highly associated with non compliance and improvements in insight have been linked to improved compliance: greater expressed willingness to take medication (McEvoy JP, et al., 1989) and less likelihood of hospitalisation (Heinrichs DW et al., 1985). There is a link between severity of symptoms and non compliance. The presence of paranoid delusions, grandiosity, cognitive impairment and disorganised behaviour increase the risk of medication non compliance.

Stigma exists where there is association with labelling differences, negative attitudes, separation of “us” from “them”, status loss and discrimination against the out-group because of the mental disorder. The fear of being stigmatised may lead the patient, their family/ caregivers, and neighbours to deny symptoms and illness, and to search for other explanations for the disorder. This increases the likelihood of non compliance (Wright P, et al., 2005).

Many psychiatric patients are likely to consult traditional healers before, during or

after the course of their treatment. It is therefore important to explore the cultural meaning and discuss patient's concerns on these issues (Robertson B, et al., 2001).

b) Health care related factors: Poor patient-health care provider relationships may cause poor compliance. Failures to establish good rapport with patients by a physician may account for lack of the effectiveness of care. The development of negative counter-transference may destroy the patient-physician alliance and result in poor compliance (Sadock BJ, et al., 2003). Nelson, et al. (Nelson AA, et al., 1975) report that the patient's perception of the physician interest in him or her as a person was the best predictor of compliance in a population of schizophrenic patients. Other factors that might impact negatively on compliance include: poorly developed services; poor medications distribution systems; poor staff training; overworked health care providers; poor capacity to educate patients and to provide continuity of care, and inability to establish community supports.

c) Socio-economic and environmental related factors: These include: poor socio-economic conditions; illiteracy; low level of education; poor access to clinics due to long distances from the centre or due to high cost of transport; lack of coordination between different service providers; poor support system; less friendly clinical environment, stigmas and attitudes associated with suffering from a mental disorder and lack of accommodation. The availability of support in form of family, friends, or caregivers to assist or supervise medication is associated with outpatient adherence to treatment (Fenton WS, et al., 1997).

d) Treatment related factors: Schizophrenic patients usually respond to treatment with

single anti-psychotic drug. The use of poly-pharmacology is acceptable when switching from one anti-psychotic to another or in case of augmentation of treatment. Complex regimen may be less use-friendly and increase the chance of adverse events. Razaly MS, et al. (Razaly MS, et al., 1995) found a significant association between complexity of regimen and compliance. There is a hypothesized advantage of depot over oral anti-psychotic in that non compliance can be detected quickly. Unpleasant side-effects (extrapyramidal, sexual, and metabolic disturbances) are commonly cited as reasons for poor treatment adherence. These side-effects may cause subjective distress to the patient thereby affecting adherence to treatment. (Perkins DO, et al., 2002). The chance of non compliance increases with the length of treatments, previous treatment failures and frequent change of treatments.

Non-compliance is common in the black population in different parts of Southern Africa (Gillis LS, et al. 1989) and cultural and social attitudes and belief system are cited as one of the reasons. A lack of insight and the presence of delusional ideas might also contribute to poor compliance (Barnard EJ, et al., 1998).

General interventions to maximize the likelihood of compliance include:

- a) Health care providers awareness: They must be aware of and concerned about the magnitude of patient non-compliance and its effects on the quality of care. They should be educated on the use of medicines, the management of disease in conjunction with patients, multidisciplinary care and trained in monitoring compliance.
- b) Patient knowledge: Patients must understand what is expected from them. Written instructions, reminders and memory aids should be provided when possible. Patient

should learn self-management (behavioural and educational).

c) Characteristic of the regimen: Attempts should be made to reduce regimen's complexity, duration, costs, and the need for alteration of behaviour. Continuous monitoring and reassessment of treatment are important.

d) Socio-economic related factors: Improving the support system by getting the family involved in the management of the patient, empowering them with educational and behavioural techniques and improving living conditions of patients will improve compliance.

e) Condition related interventions: Early identification of signs of aggravation of the condition or co-morbidities that affect compliance is important. This early prodromal symptoms detection offers an opportunity, of early drug intervention and intensive monitoring, to avoid relapse and avert the need for hospitalisation.

#### 1.2.3.2. Substance use and abuse

The course of schizophrenia is frequently complicated by substance use and abuse. They are more likely to have a poorer course, exacerbation of psychotic symptoms, treatment non-compliance and increased psychosocial problems (e.g. homelessness). Substance abuse is common in patients with schizophrenia (Swofford CD, et al., 1996) and commonly abused substances include nicotine, alcohol, cannabis, and cocaine. The lifetime prevalence of substance abuse among patients with schizophrenia is estimated to be as high as 47% (Regier DA, et al.,

1990) with approximately 33% suffering from alcoholism (Salloum IM, et al., 1991).

a) Nicotine

More than 75% patients of all patients with schizophrenia smoke cigarettes. Smoking tobacco is 2-3 times higher in schizophrenia than in the general population and is considerably higher than among any other psychiatric population.

b) Cannabis

15 to 25% of patients with schizophrenia use cannabis (Sadock BJ, et al., 2003).

Cannabis can induce brief psychotic symptoms at high doses. Although no persistent cannabis psychosis has been identified, it appears that cannabis exacerbates the symptoms of schizophrenia. Cannabis users report short-lived and dose-related adverse effects. People with pre-existing major psychiatric disorder such as schizophrenia are vulnerable, in that cannabis is likely to cause relapse and aggravates existing symptoms.

c) Alcohol

About 30 to 50% of patients with schizophrenia present with alcohol dependence or abuse (Sadock BJ, et al., 2003). And an estimated 3% of patients with alcohol abuse may present with psychosis. Many of the symptoms are similar to that of schizophrenia. Most patients use alcohol to decrease the feelings of isolation or to self-medicate their symptoms, and are likely to present with severe alcohol related life problems.

d) Psycho-stimulants

5 to 10% of patients with schizophrenia use cocaine (Sadock BJ, et al., 2003). It is estimated that 19 to 50% of patients with schizophrenia use psycho-stimulants such as cocaine and amphetamine (World Health Organization, 2004).

e) Other substances of abuse

Patients with schizophrenia also use hallucinogens, inhalants, opiates and sedative-hypnotics (Schneier FR, et al., 1987).

The neurobiological hypotheses that have been postulated to explain this co-morbidity with substances include: (World Health Organization, 2004)

a) Substance related disorders and others psychiatric disorders are different expressions of the same pre-existing neurobiological abnormalities.

b) Repetitive substance administration might lead to biological changes and abnormalities similar to those mediating some psychiatric disorders.

c) Substance use might reflect a form of self-medication intended to reverse some of the abnormalities associated with mental illness.

d) Substance related disorders and others psychiatric disorders have different and independent neurobiological mechanisms and the observed co-morbidity simply by chance.

The Epidemiologic Catchment Area Study in the USA found that patients with schizophrenia had four to five fold increased risk of substance abuse (Gupta S, et al., 1996). The abuse may be as a result of the relief for personal distress, increased genetic susceptibility, exposure to socioeconomic factors associated with substance misuse in the general population (Gelder MG, et al., 2000). Individuals may also use substances in an attempt to help them reintegrate into society, to alleviate their symptoms or the side effects of their medications. The population of patients with schizophrenia with dual diagnosis is difficult to identify and manage. In the absence of toxicological screening, the chances of detecting use or abuse of substance are low. This leads to inappropriate treatment, cancelled or missed appointment, and less effective treatment.

Solombela et al. (Solombela PW, et al., 1994), in the Ketani area of Transkei, identified the following factors for relapse in patients with schizophrenia; being single, leaving great distances from the clinic, alcohol and cannabis use, lack of motivation for health care, lack of insight and the affective response to illness and treatment. Gillis et al. (Gillis LS, et al., 1986) report that a larger proportion of acute psychotic states were caused by cannabis, methaqualone and alcohol abuse.

### **1.2.3.3 Co-morbid psychiatric disorders**

Patients with an established history of schizophrenia have higher relapse rates than more recently diagnosed patients (Hudson, et al., 2004; Piggot TA, et al., 2003; Ohmori T, et al., 1998),

Mood disorders are nosologically distinct from schizophrenia, yet depressive signs and symptoms are evident during the course of schizophrenia. Depressive symptoms do not always fulfil the criteria for a co-morbid disorder. Studies on depression associated with schizophrenia show a variation ranging from a high of 75% to a low of 7% (DuPreez RR, et al., 2005, Siris SG, et al., 2000; Gelder MG, et al., 2000).

Depression may occur in the different phases of the disorder viz. prodromal, psychotic phase and post-psychotic phase. The severity of symptoms is also variable. Adjustment disorder with depressed mood, minor depressive episodes and major depressive disorder have also been described in schizophrenia. The risk factors for depression include depressive disorder in first degree relatives, early parental loss, unemployment, poor marital relationship prior onset of the disorder, living alone, low self-esteem, and personality factors (Roy A, et al., 1983).

Depression should be differentiated from negative symptoms of schizophrenia, from reactions to stress, and side effects due to anti-psychotics. Numerous studies have indicated that distinguishing between depressive symptoms and negative symptoms can be very difficult in patients with schizophrenia. The negative syndrome of schizophrenia overlaps with the syndrome of depression namely: diminished interest, pleasure, energy, impaired concentration and amotivation. Negative symptoms can also be better assessed and differentiated from depressive symptoms using a rating scale.

Depression in schizophrenia has been associated with poor outcome; impaired functioning, personal suffering, higher rates of relapse or re-hospitalization and even suicide (Siris SG, et al., 2000; Tollefson GD, et al., 1998). The DSM IV TR (APA,

2002) differentiates “schizophrenia with co-morbid major depressive disorder” from “schizoaffective disorder, depressive type”. Mood symptoms in schizophrenia have a duration that is brief in relation to the total duration of the disorder or do not meet the full criteria for a mood episode. When mood symptoms that meet the full criteria for a mood episode are superimposed on schizophrenia and are of clinical significance, an additional diagnosis of Depressive Disorder Not Otherwise Specified or Bipolar Disorder Not Otherwise Specified may be given.

#### **1.2.3.4. Suicidal ideation**

The risk of suicide remains high in patients with schizophrenia. Approximately 10 to 13% succeeds in ending their life and 18 to 55% make at least one suicide attempt (APA 2002, Sadock HI et al., 2000). 2 to 12% of all individuals dying by suicide have a diagnosis of schizophrenia (Heila H, et al., 1997). The risk factors for suicide include:

- a) Male gender: 50% of death in males compared to 35% in females (Wright P, et al., 2005)
- b) Being under 45 years old: Young adult men have increased risk of suicide as they have difficulty negotiating internal impulses and external demands (Cohen LJ, et al., 1990).
- c) The presence of depressive symptoms
- d) Feelings of hopelessness
- e) Lack of support system
- f) Joblessness

- g) Recent hospital discharge
- h) High IQ and aspirations
- i) Presence of command auditory hallucinations to kill oneself
- j) A chronic and deteriorating course with many exacerbations
- k) Awareness of loss of functional abilities (American Psychiatric Association, 1997)
- l) Loss of access to care and
- m) Better premorbid functioning (Cohen LS, et al., 1990).

Patients with paranoid schizophrenia have a greater suicide risk while schizophrenia with prominent negative features apparently have the lowest suicide risk (Fenton SW, et al., 1997). Suicide may occur at any point during the course of schizophrenia.

There is clinically important variation in depression, alcoholism and suicide methods among suicide victims with schizophrenia (Heila H, et al., 1997). Feelings of inner disintegration and persecution and severity of hallucinations and delusions have a predictive value for suicide (Cohen LS, et al., 1990).

#### **1.2.3.5. Stressful life events**

There is evidence of a relationship between life events and the onset of a psychotic relapse (Pourmand DD, et al., 2005; Murray RM, et al., 2000) usually in the three weeks prior to the relapse. Life events include both internal events (e.g. thoughts and feelings) and external events (e.g. death of a relative) (Hunter PE, et al., 1994). Other stressors include chronic interpersonal stress, poverty, homelessness, criminal victimization and stigma. There is also evidence that patients with schizophrenia are more sensitive and more susceptible to negative effects of even minor stressors.

Thus, any life change should be considered as a major stressor.

Adverse life events and a stressful social milieu play a role in determining the course of illness in general and relapse in particular. Dysfunction within prefrontal-sub-cortical connections can mediate the susceptibility to stress-induced exacerbation of the symptoms of schizophrenia (Sadock BJ, et al., 2000).

Expressed Emotion (EE) refers to the attitudes and behavior that are likely to induce emotional distress in patients. They include critical comments, hostility and emotional over-involvement (Pourmand DD, et al., 2005; Leff J, et al., 1985). Families with high EE provide an environment which enhances the risk of relapse for schizophrenia. Patients living in families with high EE have a two to threefold increased risk of psychotic relapse rates at 9-12 months follow-up compared with low EE settings (Bloch S, et al., 1994). Similar findings have been found across cultures (Kavanagh DJ, et al., 1992). Negative affective style is another family transactional factor that significantly increases the chance of relapse. It includes parental behavior such as criticism, guilt induction, intrusiveness and inadequate support. (Sadock BJ, et al., 2000). Mwaba K, et al. (Mwaba K, et al., 1998) in a study at a Mafikeng Hospital report that non-compliance, lack of social support, loss of a close family member and unemployment were significant causes of relapse among recovering schizophrenic patients.

#### **1.2.3.6. Co-morbid medical and/ or surgical condition**

Up to 80% percent of all patients with schizophrenia have co-morbid medical illnesses (Sadock BJ, et al., 2003). People tend to focus on treating the medical

condition rather than the mental disorder. Drug interactions can also contribute to inadequate dosage of medications. The exacerbation of co-existing medical illness (e.g. hyperglycaemia from diabetes) can worsen psychotic symptoms (Weiden P, et al., 1997). Surgery is also a major stressor which can contribute to relapse (APA, 2002).

#### **1.2.3.7. Duration of untreated psychosis**

This is another important predictor of relapse. The duration of active psychotic symptoms may have an influence on long term outcome and relapse. Longer duration of symptoms prior the initial treatment was significantly associated with poor neuroleptic response and frequent relapse (Ohmori T, et al., 1999; Crow TJ, et al., 1986).

### **1.3. MANAGEMENT OF SCHIZOPHRENIA IN COMMUNITY SERVICES**

The care of the mentally ill is shifting from hospital-based care to community-based care in developed countries worldwide and South Africa is in line with these trends. The criticisms levelled against institutions included overcrowding, malnutrition, high death rate, loss of social and occupational skills, reinforcement of maladaptive behaviour, patients forgotten by family, poor hygiene, infections, poor quality of care, loss of individuality, dependency, and stigma (Robertson B, et al., 2001). Institutions closed as a result and patients were discharged into the community to receive outpatient treatment.

The concept of Community Psychiatry involves treating mentally ill people in their community and in a least restrictive setting. It aims to assist primary health services with promotion of mental health, detection, prevention and early treatment of minor and acute psychiatric conditions as close as possible to the patients' home.

Community psychiatry involves a change in the locus of care and management techniques. It also covers the social, accommodation, occupational and leisure facilities.

Included in Community Psychiatric care are:

- a) short hospitalization as opposed to institutionalization,
- b) case management,
- c) day treatment / outpatients care,
- d) crisis management,
- e) supportive living arrangements for homeless and elderly.

The Promotion of mental health include addressing issues of healthy lifestyles, stigma about mental illness, use of mental health and psychiatric services, and teaching life skills. Prevention of mental illness include increasing protective factors, reducing risk factors, early identification and effective treatment of mental disorders, long-term continuity of care, improving functioning and providing rehabilitation for chronic psychiatric patients.

Joubert PM (Joubert PM, et al., 2002) however, underlines difficulties associated with community psychiatry in South Africa namely:

- a) Specialized services still care for patients at primary level despite the fact that

psychiatric care have in principles moved from specialist management to management by primary health care workers.

- b) The delivery of an effective and adequate service is hampered by the lack of financial and human resources
- c) The essential Drugs List for community mental health services is very limited.
- d) Psycho-social services are not well supported

Considering the above, the management of schizophrenia in our community faces certain challenges viz: accessibility to services need to be improved in most rural areas where clinics are situated quite a distance away from patients, re-integration of the persons with mental disorder within their own communities while dealing with stigma, rehabilitation of the patients in a context of poor resources.

#### **1.4 COST IMPLICATIONS OF RELAPSES**

Schizophrenia usually runs a chronic course. It is economically and emotionally costly for the patient, for their family and the society. The costs are direct and indirect. Direct costs account for 1 to 3% of the national health care budgets of most developed countries (Wright P, et al., 2005) and include treatment and hospitalisation related costs. The total annual cost of schizophrenia treatment has been calculated at almost 400 million pounds in the United Kingdom and over 10 billion dollars in the United States (Perkins DO, et al., 2002). The cost of relapses has been estimated to be about 2 billion US dollars for readmissions (Almond S, et al., 2004). Indirect costs are largely accounted for by the loss of productivity of the patient, their family and their employer. Patients with chronic schizophrenia benefit from social grant but are

dependent on government for social services and support. They are not able to contribute to national wealth by production of services, goods or by paying taxes. In the United Kingdom, figures show that indirect expenditures are 4 billion pounds per year (Wright P, et al., 2005).

In South Africa, the economic burden is staggering. Direct and indirect costs of schizophrenia amount probably to billions of rands yearly and there is an immense suffering of patients and their family (Emsley RA, et al., 2006).