



ASSESSMENT OF FACTORS ASSOCIATED WITH TREATMENT RELAPSE AMONG PATIENTS DIAGNOSED WITH PSYCHOTIC ILLNESS IN TWO PSYCHIATRIC HOSPITALS IN SOUTH WEST, NIGERIA

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ABSTRACT: *Factors associated with relapse of patients usually influence treatment negatively. This study aims to determine, personal, social and clinical factors associated with relapse among psychotic patients in the Neuropsychiatric Hospitals in South West Nigeria. A cross sectional designs using questionnaire was used to capture information from psychotic readmitted patients into the Neuropsychiatric hospitals. The hypotheses explanations were exhibited using inferential analysis. For personal and social factors responsible for relapse, 82.5% had adequate to moderate knowledge while 17.5% had low knowledge. Clinical factors that can lead to relapse, 74.4% had adequate to moderate knowledge. Socio-demographic factors such as employment status had no association with treatment relapse as 75% were self-employed. The study concluded that the factors were strongly linked to treatment relapse, despite knowledge of the factors associated with relapse. It was recommended that healthcare workers and other carers should acquire knowledge on factors associated with treatment relapse to prevent relapse.*

KEYWORDS: Psychotic Illness, Social Factors, Clinical Factors, Relapse, Psychotic Patients

INTRODUCTION

Mental illness is a disease of the mind, the most disturbing of all mental illness is the psychotic disorders and of all the psychotic disorders schizophrenia is the most devastating. The term was coined by Blueier, a Swiss psychiatrist in 1908 after identifying four cardinal symptoms of the illness which is characterized Blueier four A's. These symptoms are autism, affect disturbance, ambivalence and associative looseness. These symptoms also characterize all psychotic disorders. The researcher has observed in this practise as a mental health nurse that many psychotic patients especially those diagnosed with schizophrenia tend to have relapse following their discharge. Apart from the psychotic disorders (Schizophrenia), there are other types of mental disorders that are even as serious as psychosis. One of such is mood disorders which consist among others, depression and mania which are the most common in this group. There are also personality and anxiety disorders. However, the interest of this researcher is in the psychotic disorders using schizophrenia as point of contact of all psychotic illness. It was observed by Larry (2016) that schizophrenia tend to be chronic and disabling in its course and most suffers experience symptoms exacerbation from time to time and this may occur in some patients more than others. This symptom exacerbation is what is termed treatment relapse in the patients. What causes some patients to relapse and not others. Mwaba and Molamu (2014) said that relapse is a worsening condition of a treated patient following treatment and discharge from the hospital.



Matenyl, Brown, Zhang, Koke and Prekash (2016) had observed that nurses and others in the care of the patient could observe evidence of relapse in the patients while this may be difficult for patients relatives to quickly discern Mwaba and Molamu(2014) states that the major contributing factor to relapse of psychotic patients is non-compliance with treatment regimen. Manamela (2013) found that the non-compliance with treatment of patient was resulted from stigma attached to psychotic illness that patients experience frequently. Stress could also result to non-compliance of patient with treatment. Sokhela (2016) emphasized that stress can also lead to illness behaviours, when psychiatric patients are stressed as a result of unacceptable behaviours within and outside the family such as neglecting and discrimination against patients, they are likely to relapse. According to Mbanga (2015). Stressful life events like loss of loved one, loss of job have been identified as being associated factors for relapse.

Another research carried out by Solombela and Guys (2018) pointed out that substance abuse is another factor responsible for relapse. It is reported that psychoactive substance abuse in the society is one of the major setbacks in the treatment and rehabilitation of psychotic patients. Molamu and Mwaba (2014) found that stigma attached to psychotic illness makes psychotic patients feel neglected by their family and community, consequently they had few friends or relatives who care for them and felt lonely and isolated which eventually led to relapse. Incessant relapse of schizophrenia patients may be very costly to the state or country concern (Scott 2016). Moreover, it has been pointed out that the morbidity and economic burden of mentally ill relapse patients are equal to or more than major disorder arising from physical condition (Cooper, 2014). Some other factors that could commonly associated with relapse include poor adherence to treatment, substance abuse, co-morbid psychiatric illness, a co-morbid medical and/or surgical condition, stressful life events, and the treatment setting.

According to Xiao, Mi, LI, Shi and Zhang (2015). Psychotic is a chronic and disabling illness that affects approximately 1% of the world's population. Relapse rates varies between 50% to 92% and are similar in developed and developing countries, despite the former having well-established mental health services. More specifically, about half of the patients with psychotic illness are non-adherent to treatment. This non-adherence may be due to factors that are patient-related (e.g. substance abuse, forgetfulness, anxiety about side-effects, inadequate knowledge, lack of insight, lack of motivation, fear of stigma); health care-related (e.g. poor patient/ health care provider relationship, poor services and access to services, poor staff training); socio-economically-related (e.g. illiteracy, low level of education) or treatment-related poly-pharmacology, complex treatment regimens). Likewise, among South Africans, cultural and social attitudes and belief systems are speculated as common reasons for poor adherence to treatment, Xiao *et al.*, (2017)

In a study carried out in China in affiliated brain hospital of Guanzlaou Medical University Guangzhou by Fengchun, Yuanguan, Yonling, Henhua, Bin, Xiaomei, Xinni(2017) Alcohol, cannabis and methaqua alone abuse were reported, as one of the major factors contributed to relapse in acute psychotic patients.

Ademola *et al.*, (2016) unemployment and the loss of a close family member are reported as significant contributed to relapse of psychotic patients in Nigeria. Other factors contributed to relapse of schizophrenic patients, according to researches include chronic interpersonal stress, poverty, homelessness, criminal victimization and stigma. Depression in schizophrenia has been associated with higher rates of relapse, poor outcome, impaired functioning, personal suffering and even suicide. According to Smitha (2018) approximately 18 - 55% of patients



with schizophrenia make at least 1 suicide attempt, while 10 - 13% of patients succeed in committing suicide. It is against this background that this study needs to investigate factors associated with relapse of psychotic patients in neuropsychiatric hospital in Southwest, Nigeria.

Statement of the Problem

Psychotic disorder is the most severe mental disorder characterized by profound disruptions in thinking and perception; it often includes psychotic experiences such as hearing voices or delusions. It can impair functioning through the loss of an acquired capability to keep a livelihood or the disruption of studies (WHO, 2019).

Psychotic illness has been seen as major challenges in developing country of which Nigeria is included. Recently, in Neuropsychiatric Hospitals across the Nation most especially in South-western, there has been an increase in number of patient's re-admitted with mental disorders than new admissions and approximately half of those readmitted are diagnosed with psychotic illness. Muller (2016) affirmed that relapse can occur at any time during treatment and recovery, and relapse can be expected in 70% of patients after the first psychotic episode. This relapse in psychotic illness predicts poor prognosis, brings about deterioration in social, occupational and financial status and increases the burden of care on the family.

Sariah *et al.*, (2014) of Department of Psychiatry, University of the Witwatersrand, Johannesburg released the result of their study on factors associated with relapse in schizophrenia reported that 217 patients who were included in the study, 61.8% (N=134) had a history of at least one-episode relapse. In another vein Hassan, Jacob, and Sharour (2017) carried out a study to assess the life events associated with risk of relapse in schizophrenic patients and more than two third of the patients under study were reportedly relapse due to stressful life event like loss of job, loved ones, bereavement and lack of social support.

Psychotic relapse is associated with progressing functional deterioration, decline treatment response, worsening clinical outcome, escalating caregiving burden, and increased economic burden for families and society Fikreyesus *et al.*, (2016).

According to Ademola *et al.*, (2010) a study carried out in Neuropsychiatric Hospital Yaba, Lagos out of 536 in patients in both Yaba main hospital and annex of Oshodi, 124 psychotic patients especially schizophrenia, were relapse. The percentage of readmitted patients was 34% (in one three patients) with relapse rate of 23.1% (one in four patients) among the participants. The majority of the relapsed patients is 82.3%.

A study carried out in London by Almond *et al.*, (2018) examine factors associated with relapse and the cost. They found out that cost for patients who relapsed were over four times higher than those not relapse group and noncompliance with medication was the major factor associated with relapse in psychotic illness.

Relapse in psychotic illness is highly distressing, costly, and engenders burn-out syndrome among mental health worker. This study tends to assess factor associated with treatment relapse among patient diagnose in psychotic illness in Neuropsychiatric Hospitals in South West, Nigeria because relapse prevention is a primary focus in the treatment of psychotic illness in both developed and developing countries like Nigeria.



Objective of the Study

The general objective of this study was to assess factors associated with relapse of psychotic illness (Schizophrenia) in neuropsychiatric hospitals in the South West, Nigeria.

The specific objectives are to:

- i. Determine the personal factors associated with relapse in psychotic patient in Neuropsychiatric hospitals in South West Nigeria.
- ii. Determine the social factors associated with relapse in psychotic patients in the Neuropsychiatric hospitals in South -West Nigeria.
- iii. Assess clinical factors associated with relapse in psychotic patients in the Neuropsychiatric hospitals in South-West Nigeria.

Research Questions

- i. What are the personal factors associated with relapse in psychotic patients in Neuropsychiatric Hospitals in South-West Nigeria?
- ii. What are the social factors associated with relapse in psychotic patients in Neuropsychiatric hospitals in South-West Nigeria.?
- iii. What are the clinical factors associated with relapse in psychotic patients in Neuropsychiatric hospitals in South-West Nigeria?

Hypotheses

- i. There is no significant relationship between personal factors and relapse psychotic patients
- ii. There is no significant relationship between social factors and relapse psychotic patients
- iii. There is no significant relationship between clinical factors and relapse psychotic patients

Scope of the Study

The study is assessing factors associated with relapse of psychotic patients attending neuropsychiatric hospitals in South-West, Nigeria. And some of the these factors identified in the study includes: poor adherence to medication, stigmatization, psycho active substance abuse, stress, poor social support, lack of insight/wrong perception, high expressed emotion, treatment resistance, and residual psychopathology, and the same factors had been identified by Fikreyesus (2016) in a study titled “Psychotic Relapse and Associated Factors”

Significance of the Study

Findings from the study may provide adequate knowledge and understanding to health care givers about factors associated with relapse of psychotic illness. The study will also help the discharged psychotic patients to be very conscious and have more knowledge about factors that could lead to relapse. This could make the patients conscious of their action.



It will also assist patient's relatives to identify their roles and responsibilities in caring for the patients after discharge and to give social support during rehabilitation of psychotic patients thereby reducing cost of treatment of relapse. Moreover, the results of this study will reduce the rate of stigmatization as well as to create awareness in order to educate general public about psychotic illness.

The findings of this study may hopefully contribute to the existing literature by extending the stock of knowledge on factors associated with relapse of psychotic illness patient. It will also provide some useful reference materials for future researchers who might be interested in conducting similar studies.

The results of this study might also enable the management of neuropsychiatric hospital both Aro and Yaba to understand the various factors associated with relapse of psychotic illness and may help them devise ways and means of tackling these challenges.

Operational Definition of Terms

Psychotic illness: is the distorts the senses, making it very difficult for the psychotic patients to differentiate what is real from what is not real. Psychotic condition characterized by a disturbance in thinking, emotions, volitions and faculties in the presence of clear consciousness, which usually leads to social withdrawal.

Associated factors: the indicators that brought up the re-admission of psychotic patients, such as non-compliance with medication, stigma, stress, psychoactive substances use, financial constraint, poor social support and treatment resistance schizophrenia

Relapse: re-occurrence or worsening of the condition of psychotic patients after an apparent recovery and clinically discharged.

REVIEW OF LITERATURE

According to Townsend (2014) Mental Illness is "maladaptive responses to stressors from the internal or external environment, evidenced by thoughts, feelings and behaviors that are incongruent with the local and cultural norms and interfere with the individual's social, occupational or physical functioning. Mental health focuses on primary and secondary prevention of mental illness. Primary prevention involves the promotion of positive mental health and secondary prevention involves early diagnosis and treatment. Mental illness refers as complex problem. Early repetitive negative interpersonal relationship with the family situation apparently influences the future emotional health of an individual in many unfortunate ways.

One of these ways is the lack of development of coping mechanisms that are adequate to meet the usual maturational and situational stressors of the society in which the individual lives. (Afolayan, 2015). These conditions affect the brain and they cause disability. It could be chronic and feature prominently in measures of global disease burden (Community Mental Health Implementation Audience, 2010). Psychosis usually distorts the senses, thereby making it difficult for the clients to differentiate between what is real from what is not and it usually occur among young adults (Aina, 2016).



Psychosis is identified by an impaired relationship with reality, thoughts that are contrary to actual evidence and experience less of motivation and social withdrawal, an example of this is schizophrenia. It can be described further as a persistent brain disorder that has a negative effect on the individual behaviour, concrete thinking and perception. Mental health involves not only the freedom from mental disorders, such as depression, anxiety, psychotic conditions, or personality problems, but also the regular experience of positive emotions, such as joy, wonder, happiness, satisfaction, meaning, purpose, and hope (Oxhandler *et al.*, 2017).

Overview of Psychotic Illness (Schizophrenia)

The National Institute of Mental Health (NIMH, 2016) describes schizophrenia as a chronic and severe mental illness affecting how someone thinks, feels, and behaves. Symptoms of the illness fall within three broad categorizations: positive, negative, and cognitive symptoms (NIMH, 2016). Positive symptoms include hallucinations, delusions, or thought disorders. Negative symptoms are associated with disruptions in normal emotions or behaviours, and include a flattened affect, reduced feelings of pleasure, difficulty beginning or sustaining activities, or reduced speech. Finally, cognitive symptoms, which might be subtle or severe, include difficulties with executive functioning (i.e. planning and decision making), focus, attention, or memory (NIMH, 2016). The natural progression of schizophrenia is usually described as deteriorating with time, with an eventual plateau in the symptoms. Only for the elderly patients with schizophrenia has it been suggested that improvement might occur (Boyd, 2014). Deterioration in social functioning can lead to substance abuse, poverty, and homelessness. People with untreated schizophrenia may lose contact with their families and friends and often find themselves living in the streets of large cities (Townsend, 2013)

Concept of Relapse

Psychotic disorders are disabling illnesses, with many of the patients experiencing multiple relapses during the course of the illness. In general, most people who have experienced mental illness do not use the term relapse at all and are more likely to talk in terms of being "well" or "unwell". For many people who have experienced mental illness, relapse has an underlying negative sentiment; it implies "going backwards", "failing" and "back to square one" (Almond, 2018).

'Relapse' is a word that is used in many different ways in a variety of contexts. It is defined in the Macquarie Dictionary as "to fall or slip back into a former state. In the Australian Concise Oxford Dictionary edited by Collins (2014), it is defined as "deterioration in a patient's condition after a partial recovery. Relapses are defined by the exacerbation of symptoms related to the diagnosis of schizophrenia in patients with a stable condition (Roseliza, Fatimah & Asmawati, 2014). Relapse in psychotic illness is broadly recognized as reemergence or worsening of psychotic symptoms after apparent recovery. Relapse can occur at any time during treatment and recovery and are very detrimental to the successful management of mentally ill patients. With each relapse, there is a long period of time to recover (Gathiya, 2018). Relapse can be defined by aggravation of positive or negative symptom. Relapse is the return of ill health after an apparent or partial recovery, and characterized by acute psychotic exacerbation that may have serious implications (Kane, 2017).

The main causes of relapses among psychotic patients are related to high rates of non-adherence to treatment. As such, relapse generates increased and potentially avoidable



hospitalization costs, increase the risk of suicide and significantly worsen the prognosis of the patient. Relapse may generate distress for both patient and family, as well as interrupt the process of recovery and increase the risk of resistance to treatment. One of the major reasons for relapse is non-compliance with medication regimen (Fikreyesus and Vidbeck, 2016). Relapse can lead one to be a victim of violence and crime, substance abuse, poverty and homelessness, hence, reducing quality of life for such patients. A retrospective study done in Rozella Hospital in Australia by Bergen (2017) to identify factors associated with frequent hospitalization and a poor outcome for patients with schizophrenia identified factors associated with relapse of psychotic as illness perception, non-compliance with medications' stress, inadequate social support and substance abuse. The poor outcome in patients with frequent relapse emphasizes the need to reduce the occurrence of symptom to provide better quality of life. In addition, relapse may carry a biological risk. The repeated relapses also cause a burden on family, society and health system. Internationally, the factors commonly associated with relapse include poor adherence to treatment, substance abuse, co-morbid psychiatric illness, a co-morbid medical and/or surgical condition, stressful life events, and the treatment setting (Harris, Henry and Harrigan, 2015).

A study carried out in London by Almond *et al.* (2018) examined factors associated with relapse and the cost, they found out that cost for patients who relapsed were over four times higher than those not relapse group and non-compliance with medications was major factor associated with relapse during the course of mental illness. David (2017) investigated in a study on psychosocial factor and relapses of schizophrenia and found out that 8 percent of the patients relapse repeatedly. In another study in Pennsylvania USA (2016) on social demographic and clinical factor associated with relapse in mental illness, he found out that relapse was associated with unemployment, number of psychotic episodes, side effect of medication and stressful life event. From the study done, it is evident that symptomatic relapse of mentally ill patients is both distressing and costly. It can devastate the lives of not only patients but also their family and a care giver. The debilitating symptom require a combination of specialized health care intervention, targeted treatment and family intervention that combine support and education about schizophrenia to help them cope and reduce relapse. From the literature searched; the factor commonly associated with relapse in schizophrenic patients includes poor adherent to treatment, substance abuse, comorbid psychiatric illness, comorbid medical condition, stressful live event and the treatment setting. In Kenya, there is minimum published data regarding factors associated with relapse schizophrenia, this study is intended to address that need. A previous study among drug abusers in Nigeria reported that relapse rate was positively influenced by socio-economic status like: private employment, never married, low educational status, poor family background and male gender (Lawal *et al.*, 2014). Therefore, relapse detection and prevention are fundamental to better prognosis. The international literature shows that there is an association between the occurrence of relapses in schizophrenia patients at different stages of the disease and the presence of among relatives. Prospective studies assessed the presence of expressed emotion in family members and relapses of schizophrenia patients for a period varying from 1 to 20 years. They demonstrated that there is an association between these two variables, even after more than three years of follow-up. Koutra, Triliva, Roumeliotaki, Basta, Simos, Lionis, (2015). Relapse can occur at any time during treatment and recovery and 70% of patients may relapse after the first schizophrenic episode Olivares (2013). Relapse predicts; poor prognosis, deterioration in social, occupational and financial status and increases the burden of care on the family.



Factors Associated with Relapse of Psychotic Patients

There are multitude of risk factors that can precipitate a relapse in psychotic patients which include poor illness perception/insight, poor adherent to medication, psychoactive substance misuse, smoking and alcohol, stigmatization, stressful life events, poor social support, treatment resistant schizophrenia, residual psychopathology and caregivers with high expressed emotions.

Poor Adherent to Medication

Relapse and adherence criteria, relapse was identified in the cases of patients who had documented evidence of re-emergence or aggravation of psychotic symptoms, a consultation with a psychiatrist and medication change for deterioration of illness, and/or admission to a psychiatric unit in a hospital in accordance with the Mental Health Care Act. Schoeler, Petros, Forti and Klamerus (2017). Planned hospital admission for a non-related illness or for special investigations was not deemed to be a relapse. Adherence to treatment was considered to be poor if there was failure to fill any prescription, refusal to take medication, stopping treatment prematurely, and reports of taking medication at the wrong time and/or incorrect dosage.

Demographic and clinical characteristics of the patients (gender, age, marital status, source of income, highest level of education, substance abuse, presence and type of co-morbid psychiatric illness, presence of co-morbid medical/surgical illness, stressful life events, presence of and type of stressor, insight) that affect adherence were obtained directly from their case notes.

At World Health Organization (2014) adherence to medication the extent to which a person's behaviour, taking medication, following a diet and /or executing life style changes, corresponds with agreed recommendations from a health care provider. The report of World Health Organization (2019), states that increasing the effectiveness of adherence interventions may have a few greater impacts on the health of the population than any improvement in specific treatment. The organization went further to define adherence to medication as the extent to which the person's behaviour (including medication-taking corresponds with agreed recommendations from healthcare provider (World Health Organization, 2014).

Non-compliance or partial compliance to medication remains a significant problem amongst individuals suffering from Schizophrenia. Misdrahi, Petit, Blanc, Bayle (2012) found that 40% of relapses were secondary to poor treatment adherence. They estimated the rate of outpatient non adherence to antipsychotic treatment to be 50% within 1 year of discharge and 75% within 2 years. Horvitz-Lennon and Robinson (2019) reported that individuals who discontinued antipsychotic medication after their first episode of psychotic illness multiplied their risk of relapse by almost five times. The NICE guidelines recommended continuous therapy with antipsychotic medication in the long-term management of individuals with psychotic.

Adherence to treatment is influenced by various factors which include adverse effects, limited efficacy, complicated dosing schedules, impaired insight into illness or the importance of medication, cognitive impairment and poor therapeutic relationship with the clinician. Therefore, management of poor compliance involves understanding and addressing the cause and concerns of the patients. Certain factors can be managed through a change in medication and simplifying dosing regimens.



Caregivers can also be involved in supervising the medication. However, poor insight can be a challenging factor to overcome in improving adherence to treatment. Psycho-education, allowing the patient time for acceptance of the illness and contact with a peer support worker or peer support group may enhance the patient's insight into his illness and thereby improve compliance.

According to Alpha *et al* (2016) Providing psycho-education on psychotic illness, the prognosis, the role of medication and the risk of relapse is essential for all patients suffering from this illness. Essentially, this information should be provided to all caregivers as studies have shown that family psycho-education reduces relapse rates in schizophrenia. A crucial strategy in relapse prevention lies in identification of the early relapse signs. As relapses often develop gradually, being able to identify the triggers or early signs of relapse may help to prevent the relapse or at least in reducing the severity of the episode. Early recognition of an impending relapse is beneficial as treatment and support can be sought early and hospitalization may be avoided. In addition to this, the individual would suffer from less disruption to his social and occupational functioning as well as have a quicker recovery. Early relapse signs are subtle warning signs that the patient or caregivers notice before a full relapse of the illness is imminent. They may be symptoms such as poor sleep, feeling confused or nervous, being more isolative or difficulty concentrating. Early relapse signs are unique to the individual. Clinicians should help patients along with their caregivers to identify their individual early warning signs. In Singapore, Relapse Prevention Cards are used in the Department of Early Psychosis Intervention at the Institute of Mental Health. This empowers the individual to take responsibility of his illness and through identifying the early warning signs; the individual, caregiver and clinician can work collaboratively to draw up a relapse prevention plan. This plan may include actions that the individual would take such as promptly contacting the clinician, closer monitoring of symptoms, ensuring compliance, increasing the dosage of medication or alleviating any stress. It has been shown that a full-blown relapse in psychotic illness can be avoided if early intervention is provided Lamberti, Russ and Cerulli (2014).

However, in patients who continue to have poor insight despite the above interventions or in individuals who default treatment repeatedly, it may be necessary to consider long acting intramuscular antipsychotic injections rather than oral antipsychotic medication. Long-acting intramuscular antipsychotic injections have been found to lower relapse rates by about 15% when compared to oral antipsychotic medications.

The benefit of these long acting antipsychotic injections is that it enables clinicians to detect non adherence which would enable them to monitor the individual for early signs of relapse and early intervention. This is helpful for individuals who have poor social support with a lack of resources for daily supervision of medication, in patients who are resistive to being supervised by caregivers and in patients who are suspected of being partially compliant Jeong and Lee (2013).

Psychoactive Substance Abuse

World Drug Report by Vienna (2019) said 35 million people worldwide suffer from drug disorder.



According to Igwe and Ojinnaka (2010) substance abuse is related disorders that involve maladaptive pattern of substance use leading to significant impairment in functioning, it is not a character flaw but rather a medical condition that has developed over time. Psychoactive drugs have been in use since the beginning of recorded history for pleasure, utility, curiosity, and social reasons Igwe and Ojinnaka (2010). In Nigeria both men and women abuse drugs equally even to intoxication, Africans has consumed different drugs for centuries especially alcohol, tobacco, Indian hemp, cola nuts and others to enhance a wide variety of social functions like marriage, naming ceremonies, religious and other cultural activities (Bailey, 2018). Human beings are attracted to psychoactive substance because they help them to adapt to an ever-changing environment. Smoking, drinking, and taking drugs reduce tension and frustration, relieve boredom fatigue and in some cases help people to escape from the harsh realities of the world (Santrock, 2013). Despite such personal gratification and temporary adaptation, psychoactive drugs carry a high price tag; drug dependence, personal and social-disorganization, and a predisposition to serious and sometimes chronic diseases (Goldberg, 2016). The number of global drug addicts is now 30 million, what's more, each year more than 200 000 people are killed and 10 million people lose the ability to work as a result of drug abuse Xu *et al.* (2012).

Individuals may experience a relapse of Schizophrenia due to misuse of substances such as alcohol or illicit drugs. (Brink *et al.* 2013) point out that there is a high prevalence of substance abuse in patients with psychotic disorders and also found that substance abuse by patients with schizophrenia is more common. The prevalence rate among young psychotic patients with schizophrenia ranges from 25% to 60%. The link between the two disorders raises the question of whether substance abuse precipitates schizophrenia or is an outcome of schizophrenia. Cantwell (2014) found increased psychotic relapse in those patients who abused substances. In a study which investigated the association between cannabis-use and mental health among Dutch adolescents (Monshouwer *et al.*, 2016) it was observed that the use of cannabis rises with increasing more boys than girls used cannabis, and cannabis use is related to psychotic relapse Cantwell (2014) also stated that psychotic symptoms in young people using cannabis were found, while psychosis and depression were disorders noticed among those adolescents. These substances can precipitate or cause an exacerbation of psychotic symptoms due to a direct intoxication effect, as a withdrawal effect, through reduced metabolism of the antipsychotic medication or through an indirect effect on the individual's sleep pattern or mood. Patients may also become noncompliant to the medication due to a potentiating of side effects, such as increased lethargy, drowsiness or impaired concentration, which the patient may misattribute as side effects solely due to the medication.

According to Xiao *et al.* (2014), Stimulants like Amphetamines and Cocaine can cause relapse psychotic symptoms, whilst drugs like Cannabis may precipitate or trigger further episodes of relapse. Therefore, it is imperative that individuals with a history of substance use are educated on the effects of the substance on their mental health and its impact on the risk of relapse of Schizophrenia. Smoking also has the potential to cause relapses through its effect on antipsychotic medication. Also smoking can reduce the levels of some antipsychotic medications such as Haloperidol, Clozapine and Olanzapine. Hence, if a stable patient experiences recurrent relapses, a history of concurrent or episodic smoking must be elicited. Psycho-education on the interaction between smoking and medication as well as interventions for smoking cessation must be offered in such situations, Xiao *et al.*, (2014).



According to Simpson (2016), apart from substances such as alcohol and illicit drugs, it is essential to elicit if the individual has been taking any other prescription medicine or traditional medicine. Interactions may occur between antipsychotic medication and other prescription or traditional medicine which may lead to a lowering of the levels of the antipsychotic medication and resulted to relapse of psychotic illness. For example, antacids and barbiturates may reduce levels of chlorpromazine and haloperidol. There have also been multiple case reports of contaminated traditional medicine containing steroids or small doses of amphetamines, which can cause psychotic symptoms. Certain prescription medications such as fluoroquinolones, isoretenoin, high doses of antihistamines, antidepressants, slimming pills such as phentermine and sibutramine can cause psychotic symptoms as an adverse effect. Therefore, in an individual with recurrent relapses, it would be essential to screen for any concurrent medication or substance use that may be the precipitating or causing the relapse.

Stigmatization

Stigmatization of mental illness is an everyday and everywhere occurrence, though the form and nature of its presentation vary from one culture to another (Murthy, 2015). Carlyle (2010) described 'Stigma' as a concept, rooted in the Greek word that focused at exposing abnormality about the mentally ill patients. It is also defined as someone to be evaded particularly in public. Erving Goffman (2018) in his final work on stigma noted that the stigmatized person is more often seen as someone less human being. Much of the mental health terms have been assimilated into the public dialogue in an explicit stigmatizing manner. The use of such terms as 'psycho', 'nutter', 'maniac', 'schizo' and 'kolo' are employed to belittle the entire field of mental health (Adeoye, 2013). Stigmatizing people living with mental illness is devaluing and degrading (Abdullahi, 2017).

Most of the researches on stigma were done in developed countries. There are scanty data on stigmatization of people living with a psychotic disorder in sub-Saharan Africa (Barke *et al.*, 2017). The more psychotic ill individuals feel stigmatized, the lower their self- confidence and increase in chance of relapse (Struening *et al.*, 2017). Stigmatizing attitudes towards psychotic patients have direct consequences for the relapse, management, reintegration, and value of existence. Stigma breeds bias or the unequal conduct towards individuals. It also leads to denial of their rights in the society (Stuart, 2015). Stigma and discrimination connected to being obese and overweight can lead to mental health consequences (Puhl and Brownell, 2018).

According to United Nations (2015), eighty-five-percent (85%) of the world's child and adolescent populace live in developing countries where stigma hinders people with mental illness from seeking treatment, finding employment and residing in the society. The World Health Organization (2017) noted that there is the opinion that stigmatization of the mentally ill is the most important barrier to overcome in the society. Also, World Health Organization Global Action Programme advocacy for non- discriminatory attitudes and practices is one of its main tactics of enhancing the state of global mental health. Globally, reasons for stigmatization are not the same across cultures. For example, the World Mental Health surveys showed that there is a close association between that stigma and anxiety, and mood conditions among adults with a significant disability. The statistics revealed that 22.1 percent and 11.7 percent of individuals who participate from developing and developed countries respectively got embarrassed and discriminated due to their mental health status (Alonso *et al.*, 2018). Research carried out by (Crisp *et al.* 2018) revealed that an individual's familiarity with someone with mental instability does not mean he or she will not utter derogatory statements



about the victim. Some psychologists believe that Social illnesses such as discrimination, poverty and crime might be at the roots of mental disturbance. Psychotic patients appear to be more prevalent among people in the low socio-economic levels and suchlike people may not have ready access to adequate professional treatment.

Stress

We all deal with many stressful events in our lives; birth, death, divorce, moving house Tibbo P. (2014). Stressful life events such as the loss of a parent or spouse, financial hardship, illness, perceived or real failure and midlife crises are all examples of environmental factors contributing to the development relapse of a psychotic illness. Certain populations of people including the poor, single persons, or working mothers with young children seem to be more susceptible than others to psychotic relapse. The Stress-Vulnerability model emphasizes that individuals with Schizophrenia have a biologically mediated vulnerability to stressful events that can result in acute psychosis Wemm S.E. (2019). Stress is seen frequently and appears to affect many people on a regular basis, yet it is poorly understood, commonly distorted and its implications are often taken for granted. The stress construct has suffered from a lack of clear definitional criteria arising from long-standing confusion over its use as both stimulus and response. until recent years there have been few well-validated psychometric instruments to measure the subjective elements of this universal human experience. It is regarded as one of twenty-first century's most potent health hazards. Stress makes people vulnerable to relapse of psychotic illness. Culture influences both the appraisal and experience of stress.

Stress has direct psychological effects on the body, direct cognitive and behavioural effects and secondary effects by exacerbating illnesses, making them worse and delaying recovery Dougall (2018). There is nobody that is immune to stress. It can be beneficial and at the same time damaging. It can lead to tension, anxiety and depression. The workplace is one of the key factors of psychotic illness. Job stress is the severe bodily and emotional reaction that happens when the work specifications do not equal the needs, skills, and wealth of the worker (United States National Institute for Occupational Safety and Health, 2015). Job stress causes deprived health and can upsurge rates of occupational harms and accidents.

A number of potential reasons for occupational-related stress are overburden, job uncertainty, secluded working conditions and insufficient child-care activities. Sexual harassment puts women under stress in their workplaces. Its effects consist of several physical infirmities as well as mental health difficulties such as depression and augmented rates of suicide. There is emergent global interest in the influence of occupational stress as well as subjects connected to gender, violence, sexual harassment, family, and underemployment. Job stress is one of the most common work- related health problems in European Union.

The subsequent European assessment on working conditions showed that 28 out of a hundred of workforces stated that their job causes stress. In Japan, there is a drastic increase in the rate of employees who report severe concerns or stress about their working conduct connected to suffering and weakened functioning (United States Department of Health and Human Services, 2016). Therefore individuals who have achieved remission on medication and those with residual symptoms may experience episodes of relapse when faced with significant stressors Herz and Lamberti (2012) stated that a full blown relapse is dependent upon the complex interaction between an individual's degree of vulnerability, nature of stressful event and



presence of protective factors such as coping skills, social support and therapeutic interventions.

For such individuals, it is necessary to preempt the effect of a stressful situation to prevent a relapse if possible. Management of stress is focused on identification of possible stressors, facilitating use of structured problem solving by the individual and family, decreasing activities or interactions that increase stress levels and the use of stress management techniques such as relaxation training. Stress can also lead to high expressed emotion.

Poor Social Support/Financial Constraints

Poor social support contributes to a relapse in psychotic illness in several ways. An individual who lacks family or social support may be more likely to default treatment if he is not supervised, if he lacks motivation or has financial difficulties that deter him from complying with treatment. Poor social support is one of the risk factors of relapse (Pillemer *et al.*, 2010) Schizophrenia Commission (2012) argued that family separation or bereavement and childhood ordeal have been discovered to be risk causes of relapse of mental illness. Abandoned of patient with psychotic illness by parents, family, friend, and care-taker can lead to relapse (Feldman and Papalial, 2012). Issues in relationships have continuously been connected to relapse of psychotic illness. According to Henrich and Gullole (2016) there is association between early social depreciation and lack of continued cooperation, safe and dedicated relationship, can lead to relapse of psychotic illness. Good social support also has a protective effect in helping the patients to overcome stressful situations. Therefore, it is crucial that for such individuals who lack social support, social interventions such as financial support, and placements in staff supported accommodation and participation in social activities are provided. Patients who are relapsing often become more isolative, withdrawn and motivated, which may lead to them defaulting their outpatient appointments. When these individuals also have poor social support, the early signs of relapse may be missed, thus leading to a full-blown relapse. Therefore, clinicians may have to use assertive outreach techniques to engage these patients and encourage them to seek treatment early case.

Managers that work within various psychiatric hospital settings often employ assertive outreach techniques such as contacting patients through phone calls, letters or even conducting home visits if they are concerned that the patient may be relapsing. These case managers or care coordinators not only act as a form of assertive outreach for such patients but also as a form of social and therapeutic support for patients who are able to identify their early warning signs. In such cases the case managers provide frequent monitoring of symptoms, conduct risk assessments, and assist in problem solving and management of any precipitating stressors as well as coordinating any changes in the treatment with the psychiatrist or psychologist. These assertive outreach interventions aid in possibly engaging the patient and preventing a full-blown relapse.

Treatment-Resistant Psychotic Illness

Before the advent of antipsychotics (APs), majority of patients with psychotic illness were placed in asylum for the rest of their lives. Since the introduction of chlorpromazine in 1952, APs have changed dramatically the prognosis of those patients. However, despite effective treatment, roughly 30% of patients are considered treatment-resistant (Teo *et al.* 2013). Some studies reported even higher percentage of treatment resistance such as 42% (Hassan & De



Luca 2015). Those patients have high rates of smoking (56%), alcohol abuse (51%), substance abuse (51%), suicide ideation (44%) and poor quality of life (Kennedy et al. 2014). Annual costs for patients with treatment resistant schizophrenia (TRS) are 3-11-fold higher compared to patients with psychotic illness in general (Kennedy *et al.* 2014), and they often have long hospitalizations (Hasan *et al.* 2012). Treatment resistance represents the greatest unmet need in schizophrenia care (Nakajima *et al.* 2015). There is no universally accepted definition of what is TRS (Molina et al. 2012, Sinclair & Adams 2014). Various criteria have been used. The first scientifically validated definition was that of Kane, 1998 (Molina *et al.* 2012). It defines treatment with different classes of APs at equal doses of 1000 mg/day of chlorpromazine for at least 3 periods of 6 weeks in the last 5 years without significant clinical improvement Kane J. (2019). Given that the highest approved dose of new generation APs, such as risperidone, olanzapine, aripiprazole and ziprasidone are below the equivalence of such high dose of chlorpromazine Polese D (2019), less strict criteria about the dosage of APs are widely accepted (Molina *et al.* 2012). According to most guidelines which are in use today, TRS is defined as lack of significant improvement to ≥ 2 antipsychotic trials at therapeutic doses (at least one with atypical antipsychotic), lasting ≥ 6 weeks (Hasan *et al.* 2012).

Treatment resistance can be further defined narrowly in terms of persistent positive symptoms poorly responsive to antipsychotic medication or broadly, to include persistent negative or cognitive symptoms and other kinds of disabilities. Some studies recognized two groups of patients with TRS: those who responded to clozapine, and those with clozapine-resistant or ultra-treatment resistant schizophrenia. Revealing individual factors associated with treatment resistance may help in treatment decisions.

In spite of 60 years of psychopharmacology, TRS remains an enormous challenge. The aetiology of TRS appears to be heterogeneous, complex and under investigated. Schizophrenia is a continuum. Probably there is no simple explanation of why some patients completely recover after single episode, whilst others have progressive outcome with severe deterioration.

Residual Psychopathology / Co-Morbid Medical Illnesses

In individuals with residual psychopathology or inadequate response to a medication, relapses or worsening of their symptoms may occur despite compliance to the medication. This can occur due to the natural remitting and relapsing course of the illness or in relation to stressful life events. Therefore, it is beneficial to optimize treatment with a view to achieving remission of any residual psychopathology, if at all possible. Although in many individuals, this remains a challenging task. The National Institute for Health and Clinical Excellence by Robert D and Rieske (2019) had recommended that individuals experiencing adverse effects or unsatisfactory response on typical antipsychotic medication should be switched to atypical antipsychotics. NICE has also recommended Clozapine for individuals with treatment resistant psychotic illness, which has been defined as little or no symptomatic response to multiple (at least 2) antipsychotic trials of an adequate duration (at least 6 weeks) and at a therapeutic dose range.

Surprisingly, only a third of the patients with relapses had comorbid medical illnesses, despite published reports that co-morbid medical disorders exacerbate the relapse process (Green, Canuso, Brenner, & Wojcik, 2013) In South Africa, mental health services remain marginalized and poorly integrated with general medical services in the primary health care system. Co-morbid medical illnesses are managed by different services, and it is possible that



adequate attention is not paid to recording these co-morbid medical disorders in case note at mental health clinics.

Illness Perception

Perception is the process of becoming aware of something through one of the senses, such as seeing, hearing, smelling, tasting or touching. Perception of illness influences treatment and outcome of any disease and evidence suggests that illness perceptions are also applicable across a wide range of common mental health disorders, including Schizophrenia, non-affective psychotic disorder, bipolar disorder, anorexia nervosa, depression, and anxiety. Illness perception approach proposes that understanding the way a patient perceives their condition can help in understanding their behavior and lead to new ways to assist their adjustment. The work on illness perception is based on “cognitive representations “of illness in self-regulation model proposed by Baines (2013). It proposes that individuals form beliefs concerning their illness in order to understand and cope with the health problems. Illness perceptions have been associated with emotional distress, disability, adherence to the recommended treatment regimen, recovery and engagement in services in Psychosis (Petire and Wienman. 2012).

Thus, understanding illness perceptions and incorporating them into health care is critical to improving treatment outcomes in patients with schizophrenia. Much of our knowledge of illness perceptions in various psychotic illnesses including schizophrenia has been informed by literature from the west but illness perception (IP) has been shown to vary across countries and culture Chan, Austin, Pearson, Gong, and Honer (2017).

Insight

Impairment in insight has been considered to be the cardinal feature in psychotic patients (Amador 2014). In the context of psychiatric illnesses, it is considered to encompass the various dimensions such as ability to recognize that one has psychotic illness, ability to label unusual psychological experiences as pathological and adherence to the advised treatment. It may be equated to the term called “anosognosia” which often refers to the lack of awareness of neurological disturbance; insight has been conceptualized as a multidimensional construct with its elements being understanding the symptomatology and existence of illness, knowledge of illness etiology, awareness of chances of relapse and value of treatment. Impairment or lack of insight is considered as one of the most central symptoms in psychotic illness and this feature to some extent helps in differentiating psychotic illness from other overlapping psychiatric disorders. According to the International Pilot Study on Schizophrenia IPSS (2016), a substantial proportion of patients with psychotic patients (up to 80%) demonstrate poor insight into the illness, irrespective of the cultural variation of patients. Diminished insight is associated with poor treatment adherence and has been linked to a greater risk for psychotic relapse of symptoms. In addition, poor insight can potentially worsen the social and interpersonal malfunction which is observed in schizophrenia Pyneet *al.* (2016). Poor insight has been linked to poor outcome of psychosis in multiple ways. The negative influence of poor insight has been demonstrated in relation to quality of life, re-hospitalization, poor treatment adherence and poor outcome of psychosis. Pijnenborg, Donkersgoed, David & Aleman (2013).

According to Baier (2010). Insight can be broadly classified into clinical and cognitive. The former is a simpler definition which empowers the clinician to understand whether a patient is



aware of the symptoms. The latter refers to a higher and complex concept of metacognition, which deals with one's ability to examine distorted cognitive views and revise them. Insight can be assessed during the mental status examination using questions which aim to elicit awareness of symptoms, attribution of symptoms by the patients and readiness to accept medications/treatment. However, clinical insight can be assessed more formally through instruments such as Schedule for Assessment of Insight and Scale for Assessment of Unawareness of Mental Disorder (SUMD). On the other hand, Beck Cognitive Insight Scale (BCIS), which has been widely used in studies, examines cognitive processes involved in evaluation of anomalous experiences Vagayadevan (2019).

Insight has often been considered as an elusive target despite its conspicuous impairment in psychotic illness, it is now being increasingly recognized that insight might not be a dichotomous entity; rather it is a dynamic and dimensional construct. There is a much broader social understanding of this construct which describes that there is relative disagreement regarding reality between the patients, family members and treatment providers. (Osatuke, Ciesla, Kasckow, Zisook, & Mohamed. 2016). Some of the Indian studies have examined the role of cultural factors in insight and have highlighted the importance of the need to understand the variations in exploratory models in the cultural context while assessing insight Jacob (2010). This broader understanding might be the key in addressing the issue of adherence to treatment. However, a biological understanding of insight attempts to examine the substrate for this construct and its relationship to various other symptom dimensions of psychotic illness, thus conferring a pathological significance for this entity Redd (2015)

High Expressed Emotion

The life event most often associated with the development of a mental disorder is the loss of a parent before the age of 11 years. And the stressor most often associated with an episode of psychotic disorder is the loss of a spouse. Aspects of psychotic behaviors appear to be somewhat vulnerable to the impact of life events, particularly those events that are undesirable Peris T. (2015) Also there is evidence that psychotic experiences can sometimes follow major events in someone's life, either negative (for example bereavement) or positive (for example winning the lottery). People who have mental health problems but live in a calm and relaxed home atmosphere, their problems are less likely to return Roh H. (2018). Some theorists believe that the stress experienced by a client results in a long-lasting change in the brain's biology affecting the functional states of neurotransmitters and intra-neuronal signaling systems Sinha (2012). Brown et al (2018) showed that patients with psychotic illness who were discharged to live with their parents or spouses appeared to relapse more often than patients who lived with other relatives or non-relatives. This led to the concept of 'expressed emotion'.

This term encompasses hostility, emotional over-involvement and critical comments displayed by the caregivers of a patient. It can be measured using the semi-structured Camberwell Family Interview. There have been several studies that have duplicated these findings of the negative effects of high expressed emotions on the risk of relapse in patients with Schizophrenia. Relapse rates were observed to be much lesser in families with low expressed emotions or where caregivers expressed more positive remarks towards the patients.

Therefore, based on these findings, interventions are targeted towards reducing the level of high expressed emotions in caregivers to manage to risk of relapse. Treatment of high expressed emotions involves family psycho-education on the symptoms, treatment and



prognosis of Schizophrenia, communication training, problem solving as well as developing coping strategies. Mari (2014) showed that family interventions not only reduced the level of expressed emotions but also significantly increased compliance to medication and showed a reduction in hospitalization when compared to a control group at 1 year follow up. This was supported by Randolph (2010), whose study showed that behavioral family therapy was of benefit in reducing high expressed emotions as only 15% of the patients in the therapy group experienced a relapse when compared to a 55% relapse rate in the control group. This emphasizes the importance of interventions to reduce high expressed emotions in order to reduce the risk of relapse in individuals with psychotic illness (SujathaRao, 2013)

Relapse Prevention Intervention Strategies

According to Burton (2019), hopelessness is a key predictor of suicidal behaviour which is well established to be a serious problem. It is likely to come about through the life experience that has no control over symptoms that repeatedly occur and wreck daily life like mental illness

The Relapse prevention model includes a variety of cognitive and behavioral approaches designed to target each step in the relapse process. These approaches include specific intervention strategies that focus on the immediate determinants of relapse as well as global self-management strategies that focus on the covert antecedents of relapse. Both the specific and global strategies fall into three main categories: skills training, cognitive restructuring, and lifestyle balancing, Tibbo (2014).

Specific Intervention Strategies

The goal of the specific intervention strategies—identifying and coping with high-risk situations, enhancing self-efficacy, eliminating myths and placebo effects, lapse management, and cognitive restructuring—is to teach clients to anticipate the possibility of relapse and to recognize and cope with high-risk situations. These strategies also focus on enhancing the client's awareness of cognitive, emotional, and behavioral reactions in order to prevent a lapse from escalating into a relapse. For example, the therapist can use the metaphor of behavior change as a journey that includes both easy and difficult stretches of highway and for which various “road signs” (e.g., “warning signals”) are available to provide guidance, Joseph Goldberg (2018).

Cognitive Restructuring

According to Joseph (2018), cognitive restructuring, or reframing, is used throughout the relapse process treatment to assist clients in modifying their attributions for and perceptions of the relapse process. In particular, cognitive restructuring is a critical component of interventions to lessen the abstinence violation effect. Thus, clients are taught to reframe their perception of lapses, to view them not as failures or indicators of a lack of willpower but as mistakes or errors in learning that signal the need for increased planning to cope more effectively in similar situations in the future. This perspective considers lapses key learning opportunities resulting from an interaction between coping and situational determinants, both of which can be modified in the future. This reframing of lapse episodes can help decrease the clients' tendency to view lapses as the result of a personal failing or moral weakness and remove the self-fulfilling prophecy that a lapse will inevitably lead to relapse.



Balanced Lifestyle and Positive Addiction

Assessing lifestyle factors associated with increased stress and decreased lifestyle balance is an important first step in teaching global self-management strategies. This assessment can be accomplished through approaches in which clients self-monitor their daily activities, identifying each activity as a “want,” “should,” or combination of both. Clients also can complete standardized assessment measures, such as the Daily Hassles and Uplifts Scale Davies G (2015), to evaluate the degree to which they perceive their life stressors to be balanced by pleasurable life events. Many clients report that activities they once found pleasurable (e.g., hobbies and social interactions with family and friends) have gradually been replaced by drinking as a source of entertainment and gratification. Therefore, one global self-management strategy involves encouraging clients to pursue again those previously satisfying, non-drinking recreational activities. In addition, specific cognitive-behavioral skills training approaches, such as relaxation training, stress-management, and time management, can be used to help clients achieve greater lifestyle balance.

Helping the client to develop “positive addictions” (Lou, Cary and Cooper, 2015) that is, activities (e.g., meditation, exercise, or yoga) that have long-term positive effects on mood, health, and coping is another way to enhance lifestyle balance. Self-efficacy often increases as a result of developing positive addictions, largely caused by the experience of successfully acquiring new skills by performing the activity.

Empirical Studies

according to Adebisi, Mosaku, Irinoye, and Oyedele (2018) in a study on social demographic and clinical factors associated with relapse of mental illness a retrospective study was done, involving 219 clients multiple logistic regression was performed to ascertain the effect of age, living arrangement family background, social class index, employment status, educational status, duration of illness and drug compliance, the finding was statistically significant that 36% of the patients were relapsed and 74% (69.5) relapse cases was reported. Those with duration of illness greater than five years were 3.43 time more likely to relapse than those with lesser years lower age of onset predict 2.76 times are likely to relapse. being employed at the onset of illness is compliance with medication reduces the likely-hood of relapse, in conclusion social demographic and clinical factors were significantly associates with relapse of psychotic illness.

In a study on factors influencing relapse of schizophrenia by Fengchien et al (2017), concluded that good compliance with medication use may reduce the risk of relapse in psychotic patients especially schizophrenic patients.

In another study done in china on high relapse rate and poor medication adherence by Xaiou (2015) that out of 992 eligible patients for the study 293(33.4%) had at least one relapse within 1 year after discharged and 165(18.8%) were re-hospitalized, due to poor medication adherence and was major contributed factors to relapse and 20.7% of patients adherent to medication relapse. Conclusively high rate of relapse in the Chinese among the psychotic patients (schizophrenia) the strongest factor associated with relapse is poor medication adherence due to negative attitude toward medication.

According to Fikreyesus *et al* (2016) in a study of psychotic relapse and associated factors among patient in south west Ethiopia stated that a total of 386 patients were approached and



participated in the study, out of the total participant 24.6% (N=95) had at least one relapse within 6 months. 14.8% (N=57) had only one relapse, 9.8% (n.38) had more than one relapse, prevalence among male was 2.8.4% N = 71 nearly one forth (25.8% 48) of patients with relapse were found among the patient in the age group of 25-34 year, Fikreysus (2018) also said nearly half of 49% (N =173) of the total participants found to drink alcohol 1.7% N=27) had alcohol use disorder among patients with alcohol use. 40.7% (N=11) were identified having a psychotic relapse out of this patient 815% were diagnosed with psychotic illness.

In a study factors associated with psychotic relapse in Pakistan by mohamed (2016) identified that poor knowledge of psychotic illness by family member 88%, the attribution of symptom to social and cultural value 97% which can lead relapse.

According to Fikreyesus (2016) concluded that the linkage of psychotic illness to social and religion support may help the patients improving compliance for medication and reduce the psychotic relapse

In another study on factor associated with relapse of schizophrenia by kasali (2018) 217 patient were included in the study 61.8% N134 had history of relapse ,there was no significant difference between those who relapsed and those who did not relapse in term of gender ,Mental status or employment status approximately 46% (N =611) of those who relapse had comorbid psychotic disorder compared with 10.8% of those who did not relapse, nearly half of those who relapse had history of substance about (63) two third of 13.8 of the study population did not adherent to their treatment of who 80.4% (107) experienced a relapse.

Winkbaur, Ebner, MD, and Fisher (2011) in a study on substance abuse in patients with psychotic disorder the link between the use of the substance and the development of psychosis is demonstrated by the high prevalent of substance abuse in psychotic patients especially (schizophrenia) apart from alcohol misuse ,substance commonly abused include nicotine, cocaine and cannabis heavily cannabis abuse has been reported to be a stress or elicit relapse in psychotic patients in general substance abuse in psychotic patients is associated with poorer prognosis include increase in psychotic symptoms, poor treatment compliance and frequent relapse.

Sariah *et al.*, (2014) of Department of Psychiatry, University of the Witwatersrand, Johannesburg released the result of their study on factors associated with relapse in schizophrenia reported that 217 patients who were included in the study, 61.8% (N=134) had a history of at least one-episode relapse. Hassan, J A, and Sharour (2017) carried out a study to assess the life events associated with risk of relapse in schizophrenic patients. A purposive (non-probability) sample of 50 relatives of schizophrenic inpatients selected from Ibn-Rushd Psychiatric Hospital and psychiatric unit at Baghdad teaching hospital in Iraq, 58 patients were selected who are diagnose with schizophrenia according to DSM IV, more than half of this patient under study had at least one episode of relapse within a year. Furthermore, the prediction of relapse is an important and desirable goal in this study. In addition, experiencing a stressful life event was at 30% chances to relapse, because the patients found support for coping with the life events from their family.

Porcelli (2016) in research carried out to reviews the clinical factors associated with schizophrenia relapse postulated results: three main groups of factors are related to relapse: factors associated with pharmacological treatment, add-on psychotherapeutic treatments and

general risk factors. Overall, the absence of a maintenance therapy and treatment with first generation antipsychotics has been associated with higher risk of relapse. Further, psychotherapy add-on, particularly with cognitive behaviour therapy and psycho-education for both patients and relatives, has shown a good efficacy for reducing the relapse rate. Among general risk factors, some could be modified, such as the duration of untreated psychosis or the substance misuse, while others could not be modified as male gender or low pre-morbid level of functioning. He concluded that several classes of risk factors have been proved to be relevant in the risk of relapse.

A study carried out in Egypt by Mostafa (2013) on medication adherence among schizophrenic patients on the role of insight, medication beliefs and spirituality showed effect of religious belief and practice on medication adherence. Questionnaires were administered on 92 patients with schizophrenia, results shows 26% of patient were categorized as medication adherent while 74% are classified as medication non-adherence, their findings was in agreement with the report of Borrás (2017) which concluded that there is a significant association between religions and medication adherence, the study also found out that patients who were more adherent to their medication were significantly associated with a religion affiliation and participated in more group religious practices than non-adherent patients. When they administered adherence scale, it revealed patients who had a low or moderate rate of adherence were considered non-adherent.

THEORETICAL FRAMEWORK

Cognitive-Behavioral Model

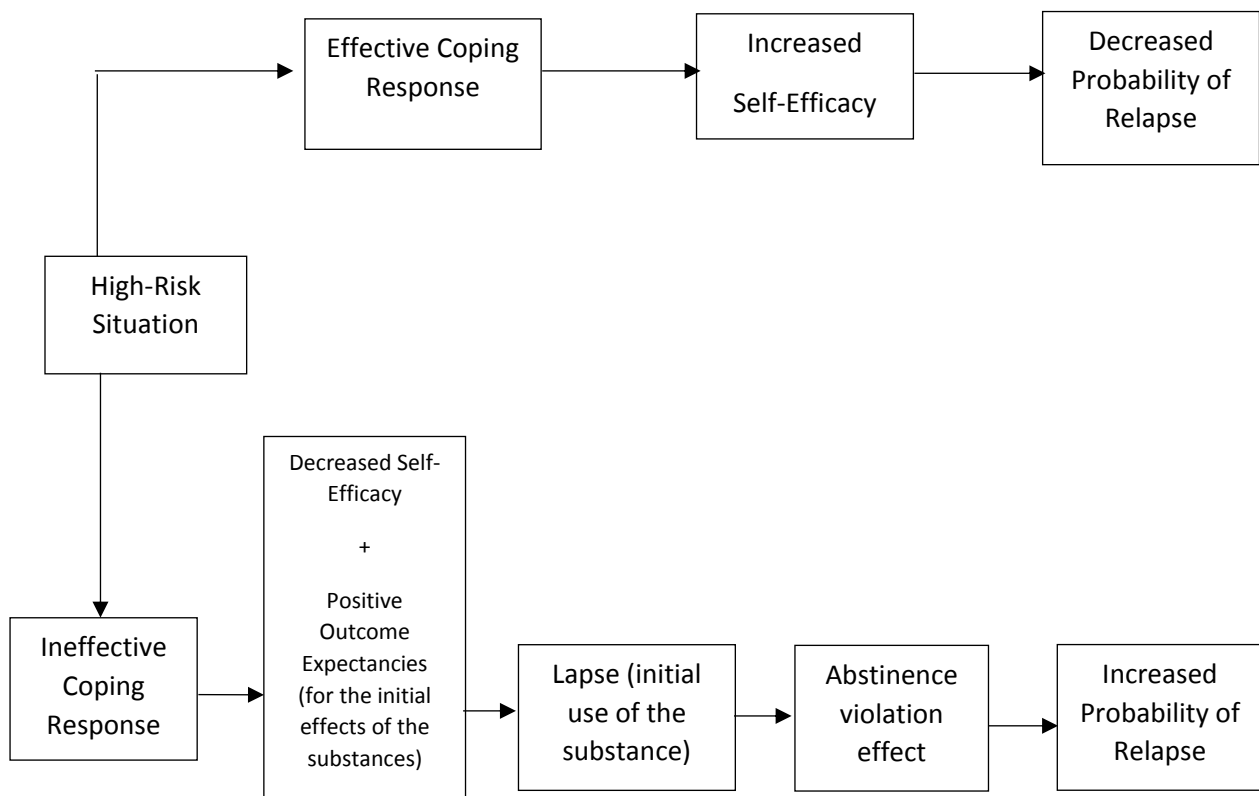


Figure 1: Cognitive Behavioural Model by Marlatt & Gordon (1985)

Application of Cognitive-Behavioural Model

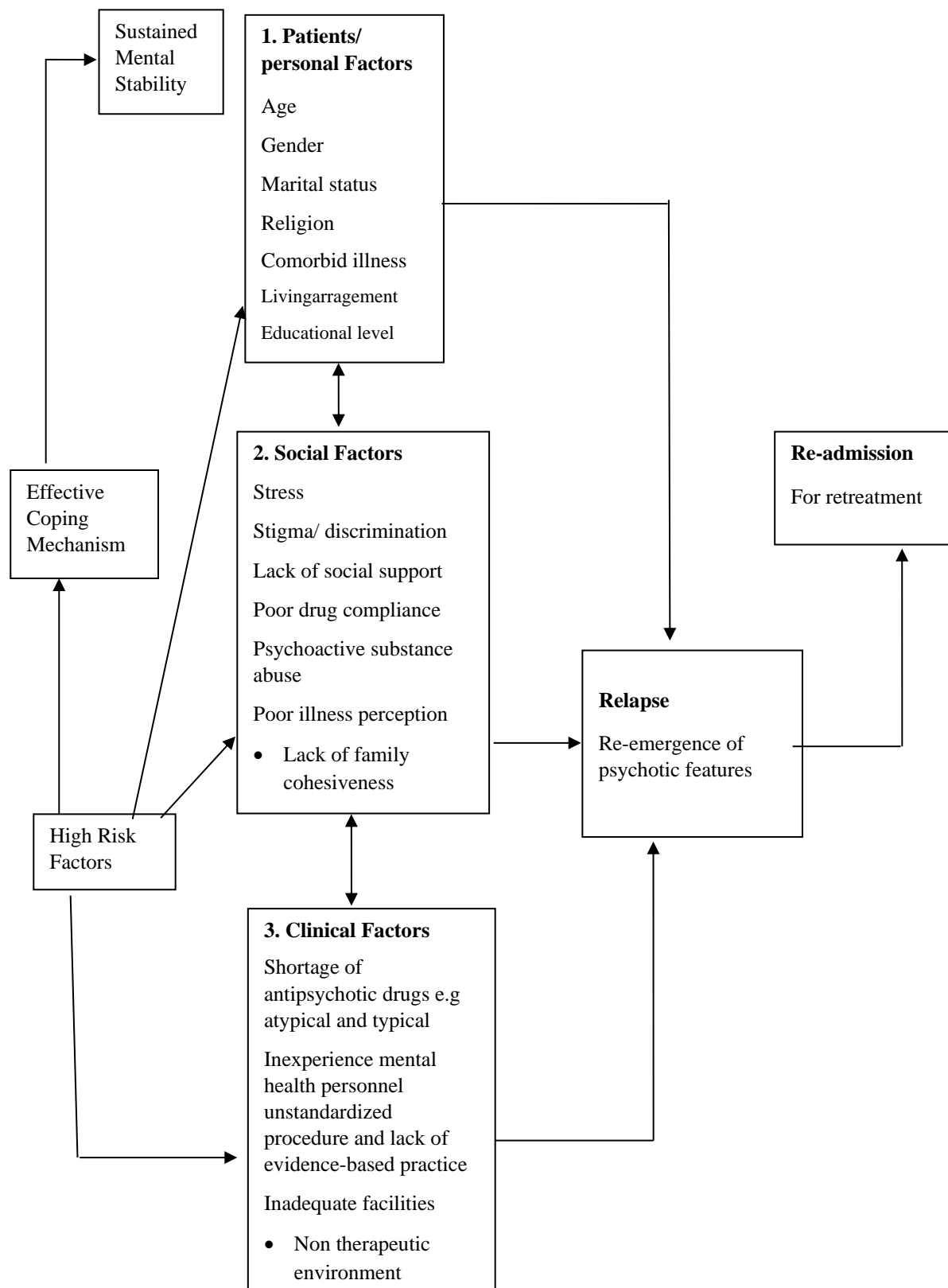


Figure 2: Adapted Cognitive Behavioural Model by Marlatt & Gordon (1985)



The Cognitive-Behavioral Model of the relapse process describes how people's perceptions of, or spontaneous thoughts about situation influence their emotional behaviour (and often physiological) reaction. Individual's perception is often distorted and dysfunctional when they are distressed. They can learn to identify and evaluate "automatic thought" occurring, verbal or imaginal cognition and to correct their thinking so that it will be more closely resemble reality.

The cognitive behavioural model Relapse Prevention (RP) by Marlatt and Gordon's (1985) is based on social-cognitive psychology and incorporates both a conceptual model of relapse and a set of cognitive and behavioral strategies to prevent or limit relapse episodes (for a detailed description of the development, theoretical underpinnings, and treatment components. A central aspect of the model is the detailed classification (i.e., taxonomy) of factors or situations that can precipitate or contribute to relapse episodes. In general, the relapse prevention model posits that those factors fall into two categories: immediate determinants (e.g., high-risk situations, a person's coping skills, outcome expectancies, and the abstinence violation effect) and covert antecedents (e.g., lifestyle imbalances and urges and cravings). Treatment approaches based on the relapse prevention model begin with an assessment of the environmental and emotional characteristics of situations that are potentially associated with relapse (i.e. high-risk situations). After identifying those characteristics, the therapist works forward by analyzing the individual response to these situations, as well as backward to examine the lifestyle factors that increase the exposure to high-risk situations. Based on this careful examination of the relapse process, the therapist then devises strategies to target weaknesses in the client's cognitive and behavioral repertoire and thereby reduce the risk of relapse.

The cognitive-behavioral model of the relapse process posits a central role for high-risk situations and for the response to those situations. People with effective coping responses have confidence that they can cope with the situation (i.e., increased self-efficacy), thereby reducing the probability of a relapse. Conversely, people with ineffective coping responses will experience decreased self-efficacy, which, together with the expectation that those factors will have a positive effect (i.e., positive outcome expectancies), can result in an initial lapse. This lapse, in turn, can result in feelings of guilt and failure (i.e., an abstinence violation effect). The abstinence violation effect, along with positive outcome expectancies, can increase the probability of a relapse.

When patient is discharged from hospital and rehabilitated back to the society psychotic patients prone to a lot of high risk situation but when the effective coping mechanism is maintained as a result of complying with treatment regimen and health care giver's advice discharged psychotic patients will sustained and maintained mental stability and there will be no relapse.

On above conceptual framework, it was conceptualized on independent variable which are categorized into three factors namely: patients / personal factors (Age, Gender, Marital status, Religion, Comorbid illness, Living arrangement and Educational level) Social factors (Stress/Stigma/ discrimination, Lack of social support, Poor drug compliance, psychoactive substance abuse and Poor illness perception/insight) (Shortage of antipsychotic drugs e.g. a typical and atypical Inexperience mental health personnel, unstandardized procedure and lack of evidence based practice) These factors can lead to relapse in psychotic patients, whereby resulted to treatment approaches.



All these factors can also lead to relapse if ineffective coping mechanism is applied as a result of noncompliance with treatment regimen and neglect of health care advice, or it may be social factors as a result of stressors or clinical factors, any of their factor can lead to relapse and psychotic patients will fall back to hospital for re admission

Application of Cognitive Behavioural Model to Nursing

It became relevant in nursing and especially in mental health nursing, as this will make nurses to be more scientific and evidence-based practice. It is a time limited, present focused and goal-orientated psychiatry that helps patients learn and apply specific strategies to modify cognition and behaviours in their own environment through homework. The cognitive behavioural model emphasizes on how thought, beliefs and interpretation about an event influence behavioural, emotional & physiological outcome. For example if a patient is told that he has mental illness, he/she may interpret the event as life threatening or being labeled, this may increase the likelihood of experience disturbing emotion thoughts and psychological state may lock the individual deterioration or worsening of condition or pathological state of anxiety and distress, that may serve to exacerbate the underline condition, from the cognitive perspective, and identical event will bring about different degree of disturb and emotions, physiological response and mald adaptive behaviour, dedicated by the interpretation of the event, if the mentally stable schizophrenic patient interpret event negatively this can excavate the relapse of his condition. However, all these base lines information about mentally ill patients especially schizophrenic patients will enhance health care giver to provide individualize and holistic care to the patients as this will bring about standardize service delivery and evident based practice in nursing, Mayo (2019).

METHODOLOGY

Research Design

The study employed a cross sectional designs using questionnaire to capture information from caretakers of relapsed patients. The readiness of the patient's caregiver to participate in the study is the basis of the convenience sampling utilized. So, the psychotic patients that met the inclusion criteria were given the questionnaire.

Research Setting

This study was carried out in the two most famous Neuropsychiatric hospitals in the South-West of Nigeria. These are: The Neuropsychiatric Hospital, located in Aro, in Abeokuta, Ogun State and the second hospital is the Federal Neuropsychiatric Hospital, located in Yaba, Lagos State, Nigeria.

Neuropsychiatric Hospital, Aro, Abeokuta

Neuropsychiatric Hospital Aro started at her annex in Lantoro in 1944 as an administrative prison/asylum which was established by colonialists for mentally ill soldiers repatriated home after World War II. Initially, it was under the supervision of Mr. Leonard Oliver, an expatriate psychiatric nurse who oversees the treatment of the mentally ill in a modern way devoid of



crude traditional care which involved inflictions of pains on the victim with the resultant exclusion from the society.

The need for modern psychiatric hospital led to the establishment of Neuropsychiatric hospital along Lagos-Abeokuta Road near Ita-Oshin and the hospital at inception was referred to as Aro Mental Hospital. The selection course for the training in Mental Health Nursing was improved upon in 1954 at the arrival of Professor Adeoye Lambo who came from England into Lantoro asylum and Aro mental hospital to render modern psychiatric services to the nation and this heralded the beginning of the premier School of Psychiatric Nursing in 1955 with 27 male and female student nurses in attendance under the tutorship of Mr. Maxwell.

The hospital has a total bed capacity of 526 (Aro and Lantoro Annex) and renders qualitative services to patients from all over the county and from some neighboring Countries, as well as conducting research in the field of mental health. It has capacity to accommodate 308 patients at a time, with total bed space of 393. 1,043 total number of staff which comprises about 318 nurses, 52 doctors and 1488 non clinicians Abeokuta North Local Government Area is among the 20 Local Government areas (LGA) in Ogun State. The headquarters is at Akomoje. The Local Government first came into existence in 1981 as Abeokuta South Local Government area. However, on the 27th of September, 1991, the local Government was recreated by the Federal Military Government to bring governance closer to the grassroots. The Local Government area shares boundary with Imeko-Afon Local government, Abeokuta South Local government, Odeda Local government, Ewekoro Local Government, Yewa North Local government and Obafemi-Owode Local Government areas.

The local Government Area has an estimated population of 214,420 inhabitants according to 2006 national population census. The Local Government is made up of 16 wards. The famous Neuropsychiatric hospital, Aro, Abeokuta, Crescent University, a private university, Ayetoro road, Abeokuta among others, are some important structures situated in the Local Government Area.

Federal Neuropsychiatric Hospital, Yaba, Lagos State

Psychiatric Hospital, Yaba came into existence on October 31, 1907 when the hospital was set up as an asylum under the British Colonial rule. The first batch of 48 inmate was admitted in a disused Nigeria Railway Building in Yaba, Lagos. Over the years, the hospital has witnessed four developmental stages. The first stages (1907-1950) were purely an asylum stage. The function of the hospital was custodial i.e. keeping the mentally ill away from the society. During this period, there were padded cells and drugs such as paraldehyde, mist alba etc. were prescribed by the doctors and administered by the asylum attendants. There were no nurses, no beds and beddings, no uniform and no form of psychiatric treatment. However, medical doctors from the Ministry of Health paid occasional visits to give minimal treatment. The buildings were dilapidated and the inmates lived in appalling sanitary conditions. It was truly an asylum and its name at that time was the Yaba Lunatic Asylum.

The second stage (1951-1971) witnessed the arrival of qualified psychiatrists, nurses and pharmacists. There was an outpatient department and it also marked the beginning of Occupational Therapy in the hospital. The name of the institution was changed from asylum to Yaba Mental Hospital.



This stage marked the beginning of the progressive development of the hospital as emphasis shifted to therapy in which apart from tranquilizers, ECT and deep Insulin therapy were used.

The third stage saw the introduction of qualified psychiatrists. At this time, although buildings were still substandard, treatment then was the best and the name changed from mental hospital to Psychiatric Hospital. During this stage more professionals like nurses and pharmacists started working in the hospital. The Out Patient department and Occupational therapy was well developed.

The fourth stage marked the coming of the first female psychiatrist in Nigeria as the Medical Director of the hospital. It witnessed the beginning of improvement in the infrastructure and treatment in the hospital. Apex of the decision-making chain in the hospital is the Federal Ministry of Health which also represents the interest of the owner i.e. Federal Government of Nigeria. The psychiatric Hospital Yaba Management Board is the next in line and it is responsible for formulating broad policies for the organization and ensuring that Government policies and programmes on mental health are faithfully implemented. The Medical Director Heads and management team responsible for the day today governance of the hospital subject to directions of the Board. Training for resident doctors in Psychiatry also began during this period. It has a capacity to accommodate 328 patients at a time, with total bed space of 400. 1,243 total number of staff which comprises about 338 nurses, 64 doctors and 88 non clinicians

Research Population

A population is a complete set of participants that possess some common characteristics that are of interest to the researcher. The population of the study will be relapsed psychotic patients who are currently on admission in the two Hospitals of the target population, the in-patients were given questionnaires to answer

Inclusion Criteria: All Patients diagnosed with psychotic illness based on the ICD-10/DSM-V diagnostic criteria between the ages of 18 and 70 years and have been readmitted into the wards because of similar or same symptoms or diagnosis as in the previous admission, the study also makes use of inpatients who were found during the process of the survey.

Exclusion Criteria: Patients with other mental illness apart from psychotic patients that are admitted. Newly diagnosed with psychotic illness are not included. Patients with other medical condition present in the ward during the study was excluded. Patients below 18 years and above 70 years were not involved.

Sampling Technique: Non probability convenience sampling technique, the readiness of the patient's caregiver to participate in the study is the basis of the convenience sampling technique utilized. So, the psychotic patients that met the inclusion criteria were given the questionnaire.

Sample Size Determination: The result of finding on psychotic relapse and associated factor in Ethiopia by Fikreyesus *et al* (2016) was 24.6% and while 36.7% was the result on social demographic and clinical factor associated with relapse in mental illness by Adebisi *et al* (2018) south west Nigeria. The average concessor proportion of relapse result from two previous studies was 30%.



Where Z = normal variate at 95% confidence interval.

E = tolerant error.

N = sample size

P = Proportion of relapse from previous study (30%)

$Q = (1 - P) = 70$

Therefore, the sample size was determined by using a formula for Likert Scale questionnaire propounded by Soyinka (2016).

$$N = \frac{Z^2 Pq}{E^2}$$

$$N = \frac{(1.96)^2 (0.3) (0.7)}{(0.1)^2}$$

$$N = 80.6736$$

Therefore N = sample size is 80 (for a hospital)

Since two institutions were chosen to be used according to supervisor sample size for each institution is 80 while 2 institutions were 160. Meanwhile researcher added 6% to take care of alteration or incomplete questionnaires, which make the total sample size to be 170

Instrument for Data Collection

A self-structured developed questionnaire consisting of two (2) sections; A and section B. while section C is validated research instrument used by Lidi, Plas, Leboyar, Fond and Chvreul (2018) in Europe, it was developed and used by Velligan, Carpenter, Waters, Gerlanc and Lagacy (2018) to measure assessment of relapse in psychotic patients, in this study the instrument is adopted to measure the relapse. The questionnaire will be used to collect data from the respondents (re-admitted) patients of the two hospital. Section A contains 8 items on socio demographic/personal characteristics of respondents to measure the frequency distribution section B contains 12 items on predominant factors associated with relapse and section C contains 5 items on assessment of relapse. Section B was measured in likeit scale of 1 to 5, with strong agree with the statement was taken as factor associated and 5 scored was awarded while strongly disagree with the statement was awarded with 1 score, while Section C was measured on the level of relapse in three categories using (low risk, moderate risk and high risk of level of relapse) using PANSS positive and negative symptoms scale used by Velligan, Carpenter, Waters, Gerlanc and Lagacy (2018) therefore low risk of relapse (positive symptoms) was identify with total score less than 12.5, moderate risk of relapse (excitement symptoms) was also identify with total score more than 12.5 but less than 20, while the high risk of relapse negative (symptom) measured with total score of 20 and above.



Validity and Reliability of the Instrument

Researcher's self-constructed instrument was submitted to the supervisor who made necessary modifications to give it face validity and same was also given to experts in the field to make their input while content validity of the instrument was done by making sure that the instrument is related to the aims, objectives, research questions and the hypotheses of the study.

The reliability of the instrument was determined using the Cronbach Alpha index. Copies of the questionnaire were administered through a pilot survey to 20 respondents attending Okelewo Community Psychiatric Hospital Ogun State and the reliability was tested using SPSS 25 statistical software for analysis. A value of reliability co-efficient was obtained, values greater than 0.75 was considered adequate for the study. The respondents used for the reliability was excluded from the study population.

Interpretation of Cronbach's Alpha

Table 1: Reliability Statistics

Cronbach's Alpha	N of Items
.741	17

Table 1 shows that the value of Cronbach's Alpha (α) obtained is 0.741, which implies that altogether, the proposed instrument was an acceptable reliability.

Data Collection Procedure

Researcher introduced himself to the respondents and explained the purpose of the study in order to obtain consent. Respondents was assured of the confidentiality of the Data and request to answer questionnaires to the best of their ability. Self-structured, validated and reliable questionnaires was personally administered to a total number of 160 respondents (80 respondents from each studies centers) re-admitted patients present in the ward as at the time the researcher was distributing questionnaires, while the nurse attached to each patients was employed to assist and help patient to answer the questions because of the technicality of the questions, researcher was on ground to interpret questions in Yoruba and to also guide them and to make clarification where necessary.

Method of Data Analysis

Data collected was analysed using statistical package for social sciences (SPSS) version 25. Descriptive statistics, measures of central tendency like mean, median, and mode frequency distribution, cross tabulation, were included where necessary. Hypotheses on association of factors that could predispose to relapse were tested using Chi-Square.

The independent variables explained in the model are as follows

PF = Personal Factors

SF = Social Factors

CF = Clinical Factors



Ethical Consideration

Approval was obtained from Babcock University Health Ethics Committee (BUHEC) and also from the institutions where the study was carried out. The consent of individual respondents participating in the study was sought and obtained before administering the questionnaires. They were also assured that any information provided will be treated confidentially.

Post Research Benefits

The findings of the study will be communicated to the Head of the institutions (N.P.H, Aro) by submitting a copy to him where hopefully members of the health care team can access it. It is hoped that the result of the study might help to improve the knowledge of nurse as well as the populace on treatment adherence. The researcher may also hold seminars with the nurses during their lecture day. The researcher also hopes to see the results published in journals.

Patients and their relatives may know more about the influence of religious practices on treatment adherence through health education to the patients who attend the out-patient clinic of the hospital.

DATA ANALYSIS, RESULT AND DISCUSSION OF FINDINGS

Questionnaires were administered to 167 patient who accepted to participate. Three section of the research question and the research hypothesis were tested at 0.005 level of significant. The analysis of data and the findings of the study are presented in 3 parts. Section A shows the social demographic variable, Section B was on factors associated with relapse while Section C centered on assessment of relapse.

Section A: Social Demographic of Respondent

Table 1 – 9: Demographic characteristic of respondents

Demographic variable	Categories	Frequency	Percentage
Age of respondents	18-30	61	38.1
	31-40	58	36.3
	41-50	31	19.4
	51-60	5	3.1
	61-70	5	3.1
Gender of Respondents	Female	62	38.8
	Male	98	61.3
Marital Status of Respondents	Married	46	28.7
	Separated/Divorced	10	6.3
	Single	102	63.7
	Widowed	2	1.3
Educational level of respondent	No formal education	4	2.5
	Others	4	2.5
	Primary	4	2.5
	Secondary	24	15.0
	University	94	98.8



Other Specified Levels of Education	DIPLOMA	1	6
	HND	1	6
	NA	156	97.5
	PGD IN Broadcast Journalism	1	6
	Polytecnic	1	6
Employment Status of Respondents	Formal employment	28	17.5
	Others	7	4.4
	Self employed	120	75.0
	Unemployed	5	3.1
Residential Areas of Respondents	High class residential area	16	10.0
	low class residential area	52	32.5
	Middle class residential area	92	57.5
Living Arrangements of Respondents	Alone at home	28	17.5
	Significant others	10	6.3
	With family	122	
Religious Affiliations of Respondents	Christianity	122	76.3
	Islam	35	21.9
	Traditional	3	1.9

Table 1-9 shows that 38.1% of the respondents fell within age bracket 18-30 years followed by those within 31-40 years (36.3%). Respondents within age group 51-60 and 61-70 years were the least with just 3.1% patients each. Table reveals that majority of the respondents were male (61.3%) while their female counterparts were only 38.8%.

This table reveals that majority of the respondents were single with 63.7% followed by 28.7% of married while the lowest was 1.3% of widow.

This table reveals that majority of respondents were degree holder with 58.8% followed by lower level of education were primary holder, no formal education, with 2.5

This table shows that majority of respondents with other educational qualification have the same percentage of just 6%.

This table shows that 75% of respondents were self-employed, 17.5% of respondents were formerly employed, while 3.1% of respondents were unemployed which is the lowest percentage

This table reveal that majority of respondents were middle class residential with 57.5% followed by the low class residential with 32.5% and the lowest was high residential class with just 10%



The table also shows that majority of the respondents are living with their family with 76.3% while those respondents that are living alone had 17.5%

It reveals that majority of respondents were Christians with 76.3% followed by Muslims with 21.9% while the lower was traditional with just 1.9%.

Knowledge of Major Predominant Factors Responsible for Relapse in Psychotic (Schizophrenic) Patients

Table 10: Knowledge of Personal Factors responsible for Relapse

	Frequency	Percent	Valid Percent	Cumulative Percent
Low knowledge	28	17.5	17.5	17.5
Moderate knowledge	73	45.6	45.6	63.1
Adequate knowledge	59	36.9	36.9	100.0
Total	160	100.0	100.0	

Table 10 shows that the highest percentage (i.e. 45.6%) of the relapsed patients had moderate knowledge concerning those personal factors leading to relapse while 36.9% of them had adequate knowledge about it. Only 17.5% had low knowledge on the subject matter.

Table 11: Knowledge of Social Factors responsible for Relapse

	Frequency	Percent	Valid Percent	Cumulative Percent
Low knowledge	28	17.5	17.5	17.5
Moderate knowledge	60	37.5	37.5	55.0
Adequate knowledge	72	45.0	45.0	100.0
Total	160	100.0	100.0	

Table 11 shows that 45% of relapsed psychotic patients had adequate knowledge about social factors that can lead to relapse, 37% of them had moderate knowledge while 17% of them had low knowledge about social factors that can lead to relapse

Table 12: Knowledge of Clinical Factors Responsible for Relapse

	Frequency	Percent	Valid Percent	Cumulative Percent
Low knowledge	41	25.6	25.6	25.6
Moderate knowledge	45	28.1	28.1	53.8
Adequate knowledge	74	46.3	46.3	100.0
Total	160	100.0	100.0	



Table 12 shows that 46% of relapse psychotic patients had adequate knowledge about clinical factors that can lead to relapse, followed by 28.1% of moderate knowledge and 25.6% had low knowledge of clinical factors responsible for relapse.

Assessment of Relapse in Psychotic (Schizophrenic) Patients

Table 13: Levels of Relapse

	Frequency	Percent	Valid Percent	Cumulative Percent
Low level	20	12.5	12.5	12.5
Moderate level	68	42.5	42.5	55.0
High level	72	45.0	45.0	100.0
Total	160	100.0	100.0	

Table 13 shows that majority of the patients fell within the group of high-level relapsed patients based on the assessment by their caregivers (i.e. 45%) followed by those with moderate level of relapse (42.5%). Patients with low level of relapse were very few with just 12.5% in number.

HYPOTHESES TESTING

Hypothesis 1

H₀: There is no significant relationship between relapse and personal factors responsible for relapse of psychotic patients.

H₁: There is significant relationship between relapse and personal factors responsible for relapse of psychotic patients.

Table 14: Cross Tabulation of Relapse Assessment against Personal Factors Responsible for Relapse in Psychotic (Schizophrenic) Patients

	Personal Factors			Total
	Low Knowledge	Moderate knowledge	Adequate knowledge	
Assessment Low risk	8	10	2	20
Moderate risk	11	38	19	68
High risk	9	25	38	72
Total	28	73	59	160

Table 15: Chi-Square Test for Relapse Assessment against Personal Factors Responsible for Relapse

	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	20.737	4	.0005
Likelihood Ratio	20.518	4	.0005
N of Valid Cases	160		

Table 14 shows the distribution of relapsed psychotic patients with low, moderate and high levels of relapse as well as their levels of knowledge about personal factors that are responsible for relapse. In the same vein, Table 15 shows the chi-square test result for this association. It can be seen that the p-value obtained was 0.0005. Since $0.0005 < 0.05$, we reject the null hypothesis H_0 and accept the alternative hypothesis H_1 and then conclude that there is a significant relationship between relapse and personal factors responsible for relapse of psychotic patients.

Hypothesis 2

H_0 : There is no significant relationship between relapse and social factors responsible for relapse of psychotic patients.

H_1 : There is significant relationship between relapse and social factors responsible for relapse of psychotic patients.

Table 16: Cross Tabulation of Relapse Assessment against Social Factors Responsible for Relapse in Psychotic (Schizophrenic) Patients

	Social Factors			Total
	Low knowledge	Moderate knowledge	Adequate knowledge	
Assessment Low risk	6	12	2	20
Moderate risk	14	23	31	68
High risk	8	25	39	72
Total	28	60	72	160

Table 17: Chi-Square Test for Relapse Assessment against Social Factors Responsible for Relapse

	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	13.723	4	.008
Likelihood Ratio	15.686	4	.003
N of Valid Cases	160		



Table 16 shows the distribution of relapsed psychotic patients with their levels of knowledge about social factors which are responsible for relapse. Also, Table 17 shows the chi-square test result for this association. It can be seen that the p-value obtained was 0.008. Since $0.008 < 0.05$, we reject the null hypothesis H_0 and accept the alternative hypothesis H_1 and then conclude that there is a significant relationship between relapse and social factors responsible for relapse of psychotic patients.

Hypothesis 3

H_0 : There is no significant relationship between relapse and clinical factors responsible for relapse of psychotic patients.

H_1 : There is significant relationship between relapse and clinical factors responsible for relapse of psychotic patients.

Table 18: Cross Tabulation of Relapse Assessment against Clinical Factors Responsible for Relapse in Psychotic (Schizophrenic) Patients

		Clinical Factors			Total
		Low knowledge	Moderate knowledge	Adequate Knowledge	
Assessment	Low risk	8	6	6	20
	Moderate risk	22	28	18	68
	High risk	11	11	50	72
Total		41	45	74	160

Table 19: Chi-Square Test for Relapse Assessment against Clinical Factors Responsible for Relapse

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	29.460	4	.0005
Likelihood Ratio	30.065	4	.0005
No of Valid Cases	160		

Table 18 shows the distribution of relapsed psychotic patients with their levels of knowledge about clinical factors responsible for relapse. Moreover, Table 19 shows the chi-square test result for this association. It can be seen that the p-value obtained was 0.000. Since $0.000 < 0.05$, we reject the null hypothesis H_0 and accept the alternative hypothesis H_1 and then conclude that there is a significant relationship between relapse and clinical factors responsible for relapse of psychotic patients.



DISCUSSION OF FINDINGS

This study is based on assessment of factors associated with treatment of relapse among patients diagnosed with psychotic illness in two psychiatric hospital in south west Nigeria. The aims of the study was to assess factors associated with psychotic relapse, the main result of the analysis indicated that all the three identified objectives and hypotheses were correlated as the three identified objectives in the study were significant.

A total of 160 psychotic patients were participated, their age group ranges from 18 years to 70 years. Table 1 shows that age range 18 - 30 years and 31 - 40 years had the 38.1% and 36.2% respectively this corroborates other previous study (such as Adebisi, et al 2018', Fikreyesus, et al 2016 Irinoye et al, 2019) meaning that majority of psychotic relapse were below 40 years of age.

After the analysis of data gathered in the course of the study, the findings thus reveal that majority of psychotic relapse were male as revealed by table 2 with 61.3% this in line with previous study by Fikreyesus et al, 2016; Maehira et al, 2013) this table shows relapse were common among male psychotic patients.

Table 3 shows that 63.7% were single and 28.7% were married this in contrary with previous study by (Solomonbela, 2016) which shows majority of psychotic relapse were married with 48.70% but in another study by *Mosaku et al* (2018) shows that majority of psychotic relapse with 68.9% of psychotic relapse were single.

Table 4 shows result of findings that 58.8% of psychotic patients were relapsed had university education, followed by college education with 18.8% this corroborate result of findings from previous study by Ademola et al, (2016) but in contrary with result of findings by Adebisi et al (2018) which shows that 55.3% of secondary education had psychotic relapse.

Table 6 shows that 75% of respondents were self-employed and just 3.1% were unemployed, this is not in line with previous study such as Oyekanmi, Adelufosi, Abayomi and Adebowale (2012) and Boardman (2003) that shows that majority of psychotic relapse patients with 60.7% were unemployed but this study shows that majority had university education and they engaged themselves in private small scale business or something else.

Table 7 shows that majority of relapse psychotic patients were in middle class residential with 57.5% followed by low class residential with 32.5% meaning that both lower- and middle-class psychotic patients were relapsed this corroborate result of previous study such as, Irinoye, 2018; Fikreyesus, 2016; Kazad et al 2008.

Table 8 shows that majority of psychotic relapse patients were living with their family with 76.3% followed by 17.5% living alone, this was totally contrary with result of findings by Fikreyesus, (2016) that says odd of developing psychotic relapse among patient living with family was 72% lower than that of patient living alone.

Table 9 shows that religion had significant relationship with psychotic relapse as 76.3% of respondents were Christianity while Islam counterpart had just 21.9% it shows that Christianity had majority of relapse than Islam. This corroborate with result of precious study by Obgbobor (2018) and Xaio *et al* (2016) on factors associated with relapse.



Table 10 presented the knowledge on personal factors that can responsible for relapse which is patients' insight into his mental problem. The table shows that 45% had moderate knowledge about factors that can lead to relapse while 36.9% had adequate knowledge this means majority of relapse psychotic patients were knowledgeable about this factors that can lead to relapse, this did not buttress opinion of the previous researcher. According to the International Pilot Study on Schizophrenia IPSS (2016), (80%) a substantial proportion of patients with psychotic illness demonstrated poor insight into his illness which is actually lead to relapse

Table 11 also shows similar result, with table 10 that majority of psychotic patients had adequate and moderate knowledge about social factors that can lead to relapse which were 45% and 37.5% respectively, this is in line with previous study by Sariah (2014) in Tanzania. When psychotic patients have adequate knowledge about social factors that can lead to relapse, this will reduce the rate of relapse of psychotic patients. Meaning that insight orientation therapy should be intensified by health worker and relatives.

Table 12 shows that majority of relapse psychotic patients had adequate knowledge on clinical factors associated with relapse with 46.3% while both low and moderate knowledge had close percentage of 25.6% and 28.1% respectively. This result corroborates with previous study Zimbron et al (2012) in their compassion of patients' risk of psychosis relapse that majority of patient that knowledgeable about the mental state were relapsed because they believed that they can care for themselves

Table 13 shows that majority of the patients fell within the group of high risk level of relapse by the health care givers (Nurses) 45% followed by moderate level risk of relapse which is 42%, patient with low level risk of relapse were very few with just 12.5% this in line with previous study by Xiao et al, (2015), in their study high relapse rate in psychotic patient in china.

Table 14 shows that 72% had high risk of relapse follow by 68% had moderate level of relapse while 20% had low risk level of relapse this in line with previous study by Adebisi *et al* 2016

Table 15 shows the chi-square test result for this association. It can be seen that the p-value obtained was 0.000. Since $0.000 < 0.05$, we reject the null hypothesis H_0 and accept the alternative hypothesis H_1 and then conclude that there is a significant relationship between relapse and personal factors responsible for relapse of psychotic patients, this corroborate opinion of Simpson (2016) that attitude and behaviour of an individual contribute has negative impact on mental stability of psychotic patients

Table 16 shows the distribution of relapsed psychotic patients with their levels of knowledge about social factors which are responsible for relapse. Also, Table 17 shows the chi-square test result for this association. It can be seen that the p-value obtained was 0.008. Since $0.008 < 0.05$, we reject the null hypothesis H_0 and accept the alternative hypothesis H_1 and then conclude that there is a significant relationship between relapse and social factors responsible for relapse of psychotic patients, this in line with United Nations (2015) that 85% psychotic patients relapsed as a result of poor social support and also World Health Organization (2017) noted that social stigmatization contributes a lot to relapse of psychotic patients.

Table 18 shows the distribution of relapsed psychotic patients with their levels of knowledge about clinical factors responsible for relapse. Moreover, Table 19 shows the chi-square test



result for this association. It can be seen that the p-value obtained was 0.000. Since $0.000 < 0.05$, we reject the null hypothesis H_0 and accept the alternative hypothesis H_1 and then conclude that there is a significant relationship between relapse and clinical factors responsible for relapse of psychotic patients, this corroborates conclusion and the result of previous study by (Bowtell *et al*, 2017; Porcell *et al*, 2016) in the study clinical factor as a risk of psychotic relapse, that there was significant relationship between clinical factors and relapse of psychotic patients

This study also shows that, social demographic valuable such as age, gender, education status, unemployment, social class, living arrangement and family background were all significant associated with psychotic relapse, in the this group of patients it is interesting to note that, most of the patient who were relapse and readmitted had post-secondary education. These findings could be due to the fact that these set of patients, who should be make progress in their various endeavour have become disadvantages as a result of their psychotic illness and stigma associated with their condition. Thus, because of the negative attitude of their personality, poor social support, poor clinical management end up not willing to take medication, poor management of stress, drug abuse, lack of social support.

Marital status not significant associated with relapse of psychotic patient in this study, this could be due to the fact that most of respondents were single, this corroborate the previous study by Adebisi *et al* (.2019)

SUMMARY

The study was carried out to assess the factors that associated with relapse among diagnosed psychotic patients in Neuropsychiatric Hospital Aro and Yaba, South West Nigeria. To undertake these three specific objectives and corresponding research questions were formulated as well as three null hypotheses were used. relevant literature to this study were reviewed with the following subheadings; the concept of mental illness, overview of psychotic illness, concept of relapse, factors associated with psychotic relapse, empirical studies, theoretical framework model on (Cognitive Behavioral Model).

Sample size was determined using a formula design for Likert Scale questionnaire by Soyinka (2016). The questionnaires were administered on 170 patients admitted in two Neuro Psychiatric Hospital in South West Nigeria. Questionnaire has three (3) sections: Section A: demographic/personal factors, Section B: predominant factors responsible for psychotic relapse, Section C: assessment of relapse in psychotic patients.

Validity of instrument was carried out through a pre-test given to 20 admitted patients of the State Community Psychiatric Hospital Okelewo Abeokuta which was analyzed using Crunbach Alpha Coefficient; it yielded on overall reliability on value greater than 0.74 was considered adequate for the study.

Finding revealed that factors associated with relapse (Personal and social and clinical factors) were significantly associated with relapse psychotic Illness like substance, poor drug compliance, stigma, poor social support, treatment resistance, poor illness perception and stress except gender, unemployment and educational status that were not significant.



CONCLUSION

It was discovered that, there were factors associated with relapse of psychotic patients despite the fact that they are receiving treatment as the respondent believed that personal, social and the clinical factors were responsible for treatment relapse while employment status do not reflect as one of the high-risk factors responding for relapse. Worth of note is that those factors that responsible for relapse should be prevented as much as possible so as to reduce rate of relapse among psychotic patients. Nurse should be taught patient on how to comply with treatment regimen, such as comply with medication, keep to appointment date, avoidance of taking psychoactive and clinical

Family should be proactive enough in managing these factors by supporting patients by providing financial support, avoid social discrimination, accommodation of patient to live with them and to guide against over involvement and early detection of psychotic symptoms.

Lastly healthcare giver should monitor follow up date, home visit should be encouraged, community outreach should be intensified and government should reduce influx of psychoactive substance into the society, hospitals should be well equipped and should be affordable and accessible to both the poor and the rich, and employment opportunity should be extended to this set of patients

RECOMMENDATION

The treatment/management of psychotic patient should take a long time and for them to have good quality of life there is need to prevent the factor associated with relapse, with this in mind the researcher recommend that health care provider/professionals, the families/relative, community as well as religious body need to be involve in the care of the patient. The researcher also recommends that the Psycho education and health education to family member and patient is very important and also to provide community mental health psychiatric unit for easy accessibilities.

Non-governmental organization as well as the wealth to do in the society should be encourage to be more involved in the care of psychotic patient so as to reduce the body cost by the cause of treatment which include purchase of the drug and transportation on the psychotic patient as well as their relatives

Government should provide befitting hospital that will be affordable for the poor and rich people that are mentally-ill so as to reduce the burden caused by cost of treatment which include purchase of drug and transportation on the mentally-ill as well as their relatives.

Non-government organisations as well as the well to do in the society should be encouraged to be more involved in the care of patients

More study should be encouraged especially on those factors that likely to cause relapse of psychotic illness especially hereditary.



Limitation

Due to descriptive nature of the study, some importance social demographic data, personal factors, social factor and clinical factors such as, level income were not recorded,

More so, not all factors associated with relapse are considered in the study, factor such as family relationship, genetic factor/hereditary could have been exploited better in an intervention study or cohort study.

Suggestion for Further Study

Generalization of the study should be done with caution as some of the psychotic relapse cases might not be reported due to lack of access to the government hospital due to financial cost.

The research could serve as a basis for further research in the area of understanding the relationship between factors associated with relapse and psychotic patients. More studies can be carried out so as to know how these factors can lead to frequent relapse among the psychotic patients.

Implication of the Findings for Nursing

Nursing Practice: Practicing psychiatric nurses should always consider the influence of patient's demographic-personal characteristics on his health decisions as well as treatment adherence when caring for any patient as this will help identify some of the factors that is contributing to the non – adherence of the patient to treatment.

They need to improve their knowledge on treatment adherence and personal factors that can lead to frequent relapse of patients so as to be able to give adequate information to patients and relative on the topic during health education.

Nursing Education: Lectures can be organized for student and nurses as a whole on factors associated with relapse and prevention strategies, this will improve their knowledge and help them to know how to manage crisis that may come up as a result of these factors.

Nursing Administration: The findings of this research can be used by administrators to form useful policies; it can also be used to improve curriculum. It will be of great help in organizing and given continuing education program to health care gives and teaching personnel on factors associated with relapse and prevention strategies and modalities. It can also be used during seminar and outreach.

Nursing Research: More research should be encouraged on factors associated with psychotic relapse and prevention strategies can be carried out based on the findings of this research.

Implication for Patient Relatives and THE Community

The findings of the study would help patients and their relatives to know more about the association between the personal, social and clinical factors that associated with relapse of psychotic illness.

The research would also help community leaders, family members and clergy men not to impose their own idea, over involvement in the care of the patients so as not to affect his



treatment adversely. It would also help the community on how to handle patients with psychotic illness with care so as to prevent community stigmatization or social discrimination.

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