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Psychiatric registered nurses' knowledge of and attitudes towards the use and side-effects of antipsychotic medication administered mental health users in the Western Cape.

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A mini-thesis submitted in partial fulfilment of the requirements for the degree of Masters of Nursing (Advanced Psychiatry Nursing) in the School of Nursing, Faculty of Community and Health Sciences, University of the Western Cape.

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Abstract

Background

There is a growing burden of disease associated with mental disorders especially in low and middle-income countries. This growing burden is accompanied by an increase in psychotic disorders and has increased the demand for antipsychotic medication. The increase in the use of antipsychotic medication has resulted in the increase in side-effects that have a detrimental effect on the health of the mental health care user. Antipsychotic medication side-effects have been classified as the primary indicator for medication non-adherence. There is a relationship between psychiatric nurses' knowledge and attitudes towards the use and the non-adherence of antipsychotic medication. The aim of this study was to investigate professional nurses working in psychiatric setting's knowledge of and attitudes towards the use and side-effects of antipsychotic medication.

Methodology

A quantitative descriptive survey design was used to investigate professional nurse's knowledge of and attitudes towards the use and side-effects of antipsychotic medication in a psychiatric hospital in the Western Cape, South Africa. All-inclusive sampling of all the professional nurses employed at the psychiatric hospital was done and 90 out of a possible 110 respondents completed the questionnaires (81%). Permission to conduct the study was obtained from the institution involved, respondents were given information with regards to the study and the consent with every process explained. Questionnaires were entered into

SPSS (Statistical Package for Social Sciences) computer statistical package (version 21) and descriptive analysis was conducted.

Results

Thirty-four psychiatric nurses and fifty-six general nurses completed the questionnaires. The reason for the use of general nurses in this study is to compare both specialties as they both render care to mental health care users. Psychiatric nurses had specialist training and more specific training on medication compared with the general nurses and this was reflected in significant differences in knowledge per speciality. Overall, staff had low knowledge levels on the effectiveness and side effects profile of first- and second-generation antipsychotics in the treatment of schizophrenia.

There were no significant differences between the two groups of nurses, but the psychiatrist nurse specialists had more positive attitudes compared to the general nursing respondents, when considering patient centred and non-patient centred attitudes. The highest rated patient centered attitude was: *Antipsychotic treatment is part of a patient-centred approach to treatment,* with most of the respondents agreeing with this statement. The lowest rated patient centered attitude was: *If a patient is prescribed a depot, they are more likely to have a forensic history* with significant differences between the two specialties. It was expected for the two groups of nurses to disagree and lower responses were received in opposing or validating that the statement is false when a *patient is prescribed a depot, they are more likely to have a forensic history* statement. The highest rated non-patient centered attitude items were: *Patient compliance is better with depots than with oral antipsychotics*. A high

response was expected in this question and the lowest rated non-patient centered attitude was: *Depots are old fashioned;* this was the lowest rated in this category. The above were in line with the expectation of general attitudes held from the nurses.

Conclusion

It is evident from the study that there is a gap in knowledge between psychiatric nurses and general nurses and that additional training in psychopharmacology needs to be conducted.

Limitations

This study is limited to one psychiatric hospital which makes it difficult to generalise the findings to other psychiatric hospitals around the Western Cape. The study was also limited to psychiatric nurses and those that render direct care but are not professional nurses were not included. The participants' answers to the questionnaire cannot guarantee that the nurses are knowledgeable as it cannot be proven that it's their own direct answers without other sourced being used to answer the questionnaire as they were given the questionnaire and taken back after a certain period.

List of acronyms and abbreviations.

CPN	Community Professional Nurse
MHCA	Mental Health Care Act
MHCU	Mental Health Care User
NMS	Neuroleptic Malignant Syndrome
SPSS	Statistical Package for Social Sciences
UWC	University of the Western Cape
WHO	World Health Organisation

Keywords

Nurses

Antipsychotic medication

Side-effects

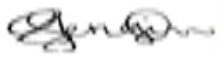
Knowledge

Attitudes

Declaration

I, Stella Tengile, hereby declare that the study entitled **Psychiatric nurses' knowledge of and attitudes towards the use and side-effects of antipsychotic medication given to mental health users in the Western Cape** is my original work and has not been submitted for any degree or examination in any other university and that all the sources I have used or quoted have been indicated and acknowledged by complete references.

Stella Tengile

Signed 

This ____day of _____2019.

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CHAPTER 1: ORIENTATION TO THE STUDY.

1.1 Introduction

The World Health Organisation (WHO) (2004), reports that neuropsychiatric disorders are estimated to contribute 14% to the global burden of disease. The WHO (2004) further reports that approximately 25% of the global population will experience disorders such as intellectual disability, schizophrenia and alcohol addiction with drug use in their lifetime. This is concomitant with high use of antipsychotic medication and an increase in the sudden use of antipsychotic medication across the globe (Stomski, Morrison & Meehan, 2016). As the burden increases the demand for the supply of antipsychotic medications increases and therefore it can increase the occurrence of the side-effects (Stomski, et al., 2016).

This is similar in South Africa. Allers (2018), from the South African Society of Psychiatrists, reports that with crime and motor vehicle accidents considered, more South Africans can experience post-traumatic stress disorders. Further to that, less than 16% of sufferers of PTSD are receiving treatment for mental illnesses in government facilities (Allers, 2018). According to Allers (2018) reports over 85% of mental health users are dependent on public health-sector services where there are only 18 beds for every 100 000 people available in such hospitals (and only 1% of these are reserved for children and adolescents). This gives a clear picture of the demand of mental health in the society and the lack of mental health resources. In these facilities the professional nurses working in psychiatry are the forefront

of serving or delivering these services and they are faced with a challenge of being competent and possessing the skills to manage these cases in the community level and the hospital level. As the backbone of the mental health services, professional nurses working in psychiatry need the required training to gain the necessary knowledge, skills and attitude to manage mental health care users (MHCU'S) without being burned out (Allers, 2018).

There is a growing "attention to the burden of disease associated with mental disorders in low and middle-income countries" (WHO, 2000). The HIV/AIDS epidemic's on mental disorders possess dangerous interactions that affect the communities and the society at large (WHO, 2000). The WHO (2000) further reports that, different mental disorders shape risk-taking behaviours that predispose to HIV acquisition. The population of mental health increases in the communities and contribute to the spread of HIV through communities. The WHO (2000) emphasized that populations in the African region are beset by numerous mental and neurological disorders that are a major cause of disability.

Morrison et al. (2017) in a survey of antipsychotic medication curriculum content in Australia, suggests that MHCU's in long term care, experience lower life expectancy as compared to the general population, this is suggested to increase morbidity and self-harm and antipsychotic medication side-effects which can cause diabetes and heart conditions. Coombs, Deane, Lambert and Griffiths (2003), points out the vital role the nurses are playing in supporting MHCU's and ensuring medication adherence. The key to this is to have adequate knowledge on the use of antipsychotic medication (Coombs, et al., 2003).

Armstrong-Esther et al. (2008), reports poor knowledge with several nursing staff not knowing whether a drug is an antipsychotic or not. Patel et al. (2005) also reported lack in knowledge of antipsychotic side effects and training in primary care nurses.

1.2 Background of the study.

In South Africa, the mental health is supported by changes in policies and legislation (Moosa and Jeenah, 2008). The legislation of South Africa was prior the democratic elections in 1994, the Mental Health Act of 1973 was utilised and therefore amended. The Mental Health care act (MHCA) 17 of 2002 is utilised which focuses on mental health delivery of services from the primary approach (Moosa and Jeenah, 2008). According to the Mental Health Care Act, No 17 of 2002, the main aim of the act *"provide for the care, treatment and rehabilitation of persons who are mentally ill; to set out different procedures to be followed in admission of such persons; to establish Review Boards in respect of every health establishment; to determine their powers and functions; to provide for the care and the administration of the property of the mentally ill persons; to repeal certain laws and to provide for the matters connected therewith"*

The mental health is regarded as a speciality in the South African health. In a psychiatric facility there are two kinds of nurses, namely: professional nurses with advance speciality referred to in the study as (PN) and the general nurses with no advance diploma (GN). All the nurses have received a comprehensive nursing degree or diploma programme R425 whereby they are exposed to psychiatry for two years in their course. In the R212 programme which is regarded as the speciality year for advance, they do one-year

psychiatry as an advance. Buchanan, (2009) reports that a general nurse performs general functions of a nurse whilst an advanced speciality. A basic level nurse or general nurse focuses on the physical care than the mental though the nurse can intervene in crisis management. Whilst the advance nurse is competent in designing programmes, conduct research, workshops and other functions (Buchanan, 2009)

Antipsychotic medication is integral in the treatment of enduring mental health problems (Mutsatsa, et al., 2003). Antipsychotic medications have been shown to be effective in enhancing clinical outcomes, including improving positive symptoms and reducing relapse risk (Kreyenbuhl, Buchanan & Dickerson, 2010). Barkhof, Meijer, de Sonneville, Linszen, and de Haan (2012) add that antipsychotic medication is considered as the cornerstone in treating schizophrenia, that antipsychotic treatment is very efficient and effective in reducing psychotic symptoms, preventing psychotic relapses, helping in maintenance therapies and improving psychosocial functioning.

Antipsychotic medication however can produce a range of diverse side-effects as reported by researchers in a wide range of studies, which detrimentally affects the patient's quality of life (Goff, Hill and Reudenreich, 2010; Wong, Chen, Lui, & Tso, 2011; Haddad, Brain & Scott, 2014). These include side-effects such as Parkinsonism, akathisia and tardive dyskinesia with respective annual incidence ranging from 37–44%, 26–35%, and 8–10%. The diagnosis and management of parkinsonism, akathisia, tardive dyskinesia is reviewed in relation to the decreased liability of the second-generation antipsychotics contrasted with evidence from the Clinical Antipsychotic Trials of Intervention Effectiveness (CATIE) Schizophrenia Trial.

Clinical Antipsychotic Trials of Intervention Effectiveness (CATIE) Schizophrenia Trial offered an opportunity to address the liability for movement disorders between first- and second-generation antipsychotics. The CATIE study includes its large sample size, diverse representation of clinical settings, independence from industry sponsorship, and a well-controlled, double-blind, head-to-head treatment comparison. The rationale, design, methods and statistical analysis of the CATIE trial have been described previously. CATIE was designed to address the overall effectiveness between four SGAs (olanzapine, risperidone, quetiapine and ziprasidone) and a mid-potency FGA (perphenazine) including the influence of specific EPS on tolerability and effectiveness. (Miller, Caroff and Davis, 2008; Mutsatsa et al., 2003). There are less severe side effects which include: sedation, weight gain, hypersomnia, insomnia, sexual dysfunction, dry mouth, constipation, urinary problems and dizziness (Leucht, Abter, & Engel, 2009). Kuroda et al. (2008); Patel et al., (2005) further commented on negative attitudes towards medication due to some side-effects such as sedation, concentration difficulties, increased sleep and diminished sexual desire.

Antipsychotic medication side-effects have been classified as the primary indicator in medication non-adherence (Haddad, et al., 2014; Wong et al., 2011). There is however little evidence that medication use, and side-effects are monitored by nurses in a systematic manner in routine clinical practice (Coombs, et al., 2003). Research evidence indicates that in the process or course of their illness, approximately half of the MHCU's do not take their prescribed antipsychotic medication and the consequences of this have been reported to be rehospitalisation, self-harm and increased risk of relapse (Wong et al., 2011; Haddad et al., 2014; Stomski et al., 2016). Similarly, Barkhof et al. (2012) adds that, the consequences of

non-adherence can be very severe and tragic for families and the MHCU's on a personal level such as, hospitalisation, increased personal suffering, reduced quality of life, loss of income and increased dependency .In a study done to assess the medication curriculum, Morrison et al. (2017) reported that antipsychotic medication has been treated as a first line treatment with MHCU's without proper consideration of the side-effects and that when the side-effects are involved, they may be overlooked especially in cases where skills fail to identify these cases.

The relationship between the mental health care user and the health practitioner, with the provision of information have been recognized as two important aspects in health process (Gray, Wykes, Parr, Hails, & Gournay, 2001; Happel, 2009). The lack of education regarding medication as a primary source of dissatisfaction with MHCU's and barriers which limit them to perform such as lack of time within a busy unit or environment, lack of current knowledge in the field of medication such as nurse's prior education and training or perceived competence in this role (Coombs, et al., 2003; Happel, 2009).

In a study that was aimed at investigating attitudes, beliefs and knowledge of Community Professional Nurses (CPN) from London compared with psychiatrists. CPNs had negative attitudes to depots as compared with psychiatrists and CPN's agreed that depots are old fashioned and stigmatizing (Patel et al., 2005). CPNs had less knowledge regarding side-effects and the need for routine monitoring concerning antiparkinsonian medication. In comparison to the psychiatrists, CPNs also had less favourable attitude regarding patient's

autonomy, coercion and monitoring (Patel et al., 2005). In a cross-sectional survey done by Stomski et al., (2016) reports psychiatric nurse's ability to identify and manage side-effects was also poor. Similarly, in a cross-sectional survey done to professional psychiatric nurses of Hong Kong showed that Hong Kong nurses had less favourable patient-focused attitudes and depot specific than London CPNs (Waddell & Taylor, 2009). No studies have been found which investigated this in South Africa.

1.3 Problem statement

The use of antipsychotic medication has increased concomitant with psychotic mental health conditions (Stephenson, Karanges & McGregor, 2013). The increase in use has resulted in an increase in medication side effects such as cardiovascular mortality, increase in chance of causing mortality, neuroleptic malignant syndrome (Stomski et al, 2016). In addition, side-effects of anti-psychotics are primary indicators of medication non-adherence (Haddad et al., 2014; Wong et al., 2011). Studies have also shown that there are gaps in the knowledge of patients about the use and side effects of these medications (Coombs et al., 2003) which further contributes to problems in the management of patients on these medications.

There are concerns regarding professional psychiatric nurse's knowledge of and attitudes towards the use and side-effects of antipsychotic medication given to MHCU's. It is important that nurses are knowledgeable about the use and side effects of antipsychotic

medications as they need to use measures of assessment to monitor side-effects to be effective in managing these side-effects (Morrison & Stomski, 2015). The focus of this study is to investigate the Psychiatric nurses' knowledge of and attitudes towards the use and side-effects of antipsychotic medication given to mental health users in the Western Cape.

1.4 Aim of the study.

The aim of this study is to investigate psychiatric registered nurses working in psychiatry's knowledge of and attitudes towards the use and side-effects of antipsychotic medication.

1.5 Objectives of the study.

1. To investigate professional nurses working in psychiatry's attitudes towards the use of antipsychotic medication

2. To determine professional nurses working in psychiatry's knowledge about the use of antipsychotic medication.

3. To determine professional nurses working in psychiatry's knowledge about the side-effects of antipsychotic medication.

1.6 Research Questions.

- What are the professional nurses working in psychiatry's attitudes towards the use of antipsychotic medication?
- What are the professional nurses working in psychiatry's knowledge about the use of antipsychotic medication?
- What are the professional nurses working in psychiatry's knowledge about the side-effects of antipsychotic medication?

1.7 Significance of the study

This study will contribute to the existing knowledge of the selected psychiatric professional nurses in the Western Cape. Various studies have indicated lack of knowledge and training. Findings and recommendations will provide nursing managers with information about professional psychiatric nurse's knowledge, attitudes with regards to the side effects of antipsychotic medication to enable training to be provided and influence on policy to be changed.

Table 1: Definition of key terms.

Term	Definition
Antipsychotic medication	Antipsychotic medication also known as neuroleptics or major tranquilizers, are a class of medication primarily used to manage psychosis (including delusions, hallucinations, paranoia or disordered thought), principally in schizophrenia and bipolar disorder (Collins Dictionary, 2011).
Attitudes	It is a settled way of thinking or feeling about something, (Oxford Dictionary, 2005). *Operational definition:* It refers to the degree of how the psychiatric professional nurse feels towards and perceives mental health care users in the study.
Knowledge	It is an awareness or understanding of someone or something such as facts, information, skills which are required through experience or education by perceiving, discovering or learning, Nursing Act No 33 of 2005. *Operational definition*: In this study, knowledge is defined as per questions in knowledge section B in questionnaire.
Mental Health Care User (MHCU)	Mental health care act (MHCA) no 17 of 2002, explains a mental health care user is the person who suffers from mental illness and requiring treatment and rehabilitation (Mental Health Care Act No 17 of 2002). *Operational definition:* For the purpose of this study it is referred to as a patient that receives care from the professional psychiatric nurses as referred in this study.
Professional nurses working in Psychiatry	Mental health care act (MHCA) no 17 of 2002 explains "mental health care provider". It is explained as a trained professional to provide mental health care, treatment and rehabilitation services. *Operational definition*: In the context of the study this refers to all the Professional psychiatric nurses working in direct care with mental health care users in psychiatric hospital and who have obtained a psychiatric speciality (advanced psychiatry) PN and GN (general nursing) qualifications. The South African Nursing Council (SANC)'s regulation (R) R2598 of November 1984 required that registered nurse's practice under the Nursing Act 50 of 1978.
Side-effects	It is a secondary, typical, undesirable effects of a drug or a medical treatment (Collins Dictionary, 2011).

1.8 Layout of the Thesis

Chapter One:

In this chapter, the researcher presents the overview of the study. In this chapter the research problem statement, aims, objectives, research questions, the significance of the study and definition of keywords have been discussed. Furthermore, the outline of the study has also been provided.

Chapter Two:

This chapter discusses the literature review broader both locally and internationally. The literature review has been discussed with regards to knowledge and attitudes towards the use and side effects of medications that are administered to mental health care users.

Chapter Three:

This chapter outlines the research methodology used to investigate the research problem. In this chapter the research design and methodology that was employed in the study is explained. The data collection process that was used to investigate and determine knowledge and attitudes of the professional psychiatric nurses in a psychiatric hospital in

the Western Cape was explained. The chapter further explained population, data collection process, sampling method, concerns of validity and reliability and ethical considerations related to the study.

Chapter Four:

In this chapter, the findings will be presented and discussed. This chapter presents the findings in a systematic order and in line with the objectives of the study.

Chapter Five:

This chapter focuses on discussing the findings of the study as they met with the purpose of the research. The purpose of the study was to describe the knowledge and the attitudes of the psychiatric nurses with regards the use and side-effects of antipsychotic medication given to mental health users.

Chapter Six:

Summary chapter including key findings, limitations and recommendations. This chapter is last chapter that summarises the study. After the study has been carried, possible recommendations are posed to change the current situation and increase the body of the existing knowledge.

1.9 SUMMARY OF CAPTER ONE

In this chapter the components of chapter one has been covered with introduction and background to the study. A broader overview to the study and objectives were outlined.

CHAPTER 2: LITERATURE REVIEW.

2.1 Introduction.

In this chapter the literature around the field of study will be discussed. The aim of the literature review is to communicate to the reader the information currently known around a certain study (Brink, Van der Walt & Van Rensburg, 2012). Grove, Burns and Gray, (2013) further suggest that the literature review is to identify the gaps that exist in the field. This literature review will provide information currently known about: Prevalence of mental health illnesses in psychiatry; Use and indication of antipsychotics in mental health care treatment; Complications of antipsychotic medication and side effects; Antipsychotic medication adherence; Factors affecting how nurses assess antipsychotic medication side-effects and the roles of the nurse, with regard to: nurse's knowledge, factors affecting how nurses assess antipsychotic medication side effects, information that is given to patients by professional nurses, attitudes and training of professional nurses.

The information was gathered from Google Scholar, CINAHL, Academic Search Complete (Ebcohost), Health Source: Nursing/Academic Edition, MEDLINE, PsycARTICLES, PsychINFO, using the following search terms: Psychiatric nurses' knowledge, attitudes, the use and side-effects of antipsychotic medication given to mental health care users.

Key words and phrases: "random", "control", "trials", "common mental disorders", "study OR evaluation OR research OR review. The main aim of the thorough search was to gather

and identify all relevant studies that pertain to the research question and these phrases were chose and used to gather research articles related to the topic without limitations.

2.2 Prevalence of Mental illness

The prevalence of having any *DSM-IV* disorder varied from country to country, from 4.3% in Shanghai to 26.4% in the United States, with an interquartile range (IQR) of 9.1%-16.9% (WHO, 2004). Between 33.1% (Colombia) and 80.9% (Nigeria) of 12-month cases were mild (IQR, 40.2%-53.3%) (WHO, 2004). There was association of between serious disorders and disability with 35.5% to 50.3% of serious cases in developed countries and 76.3% to 85.4% in less-developed countries received no treatment in the 12 months before the interview (WHO, 2004). It was reported that the number of those who received treatment far exceeds the number of untreated serious cases in every country (WHO, 2004).

The chronic conditions such as: HIV/AIDS, tuberculosis, diabetes is reported to be increasing relatively with the common mental disorders which are reported to contribute 7.4% to the global burden of disease (Whiteford et al., 2013). A further estimate of 25% for individuals in low- and middle-income countries to encounter one or more mental or behavioral disorders in their lifetime (WHO, 2000). Durand-Zaleski, Scott, Roullon and Leboyer (2012) report an estimate of prevalence of mental health to be 21-30%. Similarly, India has approximately 6% of the population suffering from mental illness and encounters suicide as a public health concern (Cowan, Raja, Naik, Armstrong, 2012). It is estimated that by 2030, major depression alone will be the second largest contributor to the worldwide disease burden (Mathers and Loncar, 2006)

The South African Stress and Health (SASH) study was the first large population-based mental health epidemiological survey in South Africa (Herman, Steyn, Seedat, Heeringa, Moomal & Williams, 2009). Before this study it is evident that little was known about the risk factors, prevalence and available access to treatments of common mental disorders in SA (Herman, et al., 2009; The study had a sample size of 4 351 adults and mental disorders were assessed with the Composite International Diagnostic Interview (CIDI) data on the 12-month and lifetime prevalence of these conditions (Herman et al., 2009). It was highlighted that the lifetime prevalence for any disorder was 30.3%; 11.2% of respondents had two or more lifetime disorders and 3.5% had three or more lifetime disorders (Herman et al., 2009). The most prevalent class of lifetime disorders was anxiety disorders (15.8%), followed by substance use disorders (13.3%) and mood disorders (9.8%) (Herman et al., 2009). The most prevalent individual lifetime disorders were alcohol abuse (11.4%), major depressive disorder (9.8%) and agoraphobia without panic (9.8%) (Herman et al., 2009).

It is estimated that more than 50% of the population from middle to high income countries will suffer at least from one mental disorder in their lives (Trautmann, et al. 2016). Of the mental health disorders, schizophrenia and or psychosis are of specific concern, with Schizophrenia rated as a serious mental illness that includes both the positive and negative symptoms (Trautmann, et al., 2016). In Singapore, it is estimated that 23 200 people are diagnosed with schizophrenia in a population of four million, based on a prevalence rate of 580 per 10 000, (Chong, 2004; Chiang, Klainin-Yobas, Ignacio & Lee Ching, 2011).

The SASH study was conducted across all nine (9) provinces of South Africa, reported that the Western Cape had the highest rate of incidents at 42% and the Northern Cape the lowest at 29% (Herman et al., 2009). The Western Cape and Free State had prevalence rates that were significantly higher than the other provinces, and the Eastern Cape and Northern Cape had rates that were significantly lower than other provinces (Herman et al., 2009). These provincial differences held for all mental disorders except impulse disorders, where the lowest provincial rates were found in Mpumalanga (0.2%) and the Eastern Cape (0.1%) (Herman et al., 2009). Significant differences in prevalence with age (35-49 yrs. peak observed) occurred with panic disorder and generalised anxiety disorder and drug abuse and drug dependence (Herman et al., 2009). There was a significant increase in the rate of mood disorders with increasing age (Herman et al., 2009).

Chronic mental illness is the leading cause of morbidity internationally and can impact on the social and economic costs of the country (Trautmann, Rehm & Wittchen, 2016). It is reported that close to 165 million people are affected each year by mental disorders, these include mood, anxiety and substance use disorders. In comparing the international prevalence, a study was conducted to estimate prevalence, severity and treatment of Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) mental disorders in 14 countries (6 less developed, 8 developed) in the World Health Organization (WHO) World Mental Health (WMH) Survey Initiative in 2001-2003 (World Health Organisation, 2004). The study was conducted through face-to-face household surveys of 60 463 community adults conducted from 2001-2003 in 14 countries in the Americas (Colombia, Mexico, United States), Europe (Belgium, France, Germany, Italy, Netherlands,

Spain, Ukraine), the Middle East & Africa (Lebanon, Nigeria) and Asia (Japan, separate surveys in Beijing and Shanghai in the People's Republic of China) (WHO, 2004).

2.3 Use of and indications for antipsychotic medication.

Morrison, et al. (2017) reports that antipsychotic medication plays a very important role in acute psychosis, management of mental illness symptoms and reduction in rates of relapse. Antipsychotic treatment has been the integral treatment to relieve symptoms of acute and chronic schizophrenia including other psychotic disorders (Chiang, Klainin-Yobas, Ignacio & Lee Ching, 2011).

Antipsychotic medication are used with increased frequency especially in a wide range of clinical indications in diverse populations, such as private, youth and nursing home (Crystal, Olfson, Huang, Pincus & Gerhard, 2009). During the 1990's antipsychotics were used mostly by adults with severe psychotic disorders. Currently the newer atypical antipsychotics, widely considered as safer than first-generation ("typical") antipsychotics, have changed the use and basis of antipsychotic treatment (Crystal., 2009). After the risperidone was approved in 1993 it was then followed up by the approval of Olanzapine in 1996 then Quetiapine 1997, Ziprasidone 2001, Aripiprazole 2002 and Paliperidone 2006 (Crystal et al., 2009). All these medications replaced previously approved medications, now the atypical are considered more largely and clinically are diversely used (Crystal et al., 2009).

2.3.1. What are antipsychotic medications?

According to Lally & MacCabe (2015) antipsychotic medication has traditionally been categorized as first-generation (formerly known as 'typical' or 'conventional') antipsychotics (FGAs) or second-generation antipsychotic medication (SGAs) (formerly 'atypical' antipsychotics) (Lally & MacCabe, 2015). Antipsychotic medication mostly gives symptomatic relief for hallucinations and delusions, and improvement for disorganized thoughts and behaviour (Stroup & Gray, 2018).

2.3.2 Indications of Antipsychotic medications.

Antipsychotic medications are primarily indicated for treating schizophrenia including other psychotic disorders (schizoaffective disorder, delusional disorder and bipolar affective disorder (BPAD) (Lally & MacCabe, 2015). Antipsychotic medication is indicated for different psychotic disorders in the youth such as schizophrenia, autism, and bipolar disorder and progressing to other conditions such as conduct disorder, attention deficit hyperactivity disorder (ADHD), anxiety, and depression (Crystal et al., 2009). Antipsychotic drugs are mostly used to treat common behavioural symptoms of dementia such as aggression, agitation, irritability, disinhibition, wandering and anxiety (Crystal et al., 2009).

Antipsychotic treatment is used for mainly treating schizophrenia and other psychotic disorders such as bipolar disorders, treatment resistance depression, borderline personality

disorder Obsessive-compulsive disorder, insomnia, autism and other disorders (Lally & MacCabe, 2015).

The treatment of antipsychotic medication should be used when there is first episode of schizophrenia or a first episode of psychosis should be offered treatment with an antipsychotic (Lally & MacCabe, 2015). There has been an increase in the treatment of children and adolescent with atypical antipsychotics in the United States of America (Lally & MacCabe, 2015). During the year 1993-2002 there was a fivefold increase in the youth given antipsychotic prescriptions (Crystal et al., 2009). The United States encountered an increase from 1999 to 2006 in the antipsychotic use, recorded at 7.4 percent (Whiteford et al., 2013). This indicated the increasing number of residents diagnosed with bipolar mood disorder, schizophrenia, dementia, depression or anxiety disorder and an increase in antipsychotic treatment rates (Crystal et al., 2009; Whiteford et al., 2013). The use increased despite new safety concerns, and residents diagnosed with schizophrenia, bipolar disorder, or aggressive behavioural symptoms of dementia accounted for a declining percentage of antipsychotic use, from 39.4 percent to 34.8 percent of users in the same year (Crystal, et al., 2009).

2.4 Antipsychotic medication adherence.

Gray et al. (2001) reports that, in a community the samples of people with psychosis is estimated at the prevalence rate of medication non-adherence ranges from 24% to 80%.

The World Health Organization (WHO, 2004) reports that that the rates of poor or complete non-adherence to antipsychotic medication are higher on average in developing countries. The World Health Organization (WHO, 2004) states that adherence is the degree at which a person's behaviour such as following a diet, taking medication, and or executing lifestyle changes balance with agreed guidelines from a health care professional.

Antipsychotic medication side-effects have been classified as the primary indicator in medication non-adherence (Haddad et al., 2014; Wong et al., 2011). In a study conducted by Haddad et al., (2014), it is clearly stipulated that almost half of mental health users are not adherent and further adds that antipsychotic medication has implications as non-adherence will increase the chances of relapse, re-hospitalization and self-harm. The recognition and treatment of side effects can support medication adherence while an underestimation of antipsychotic medication influenced side effects and leads to treatment failure which in turn can be attributed to treatment resistance (Fleischhacker et al., 2003).

In a study conducted by Chiang, Klainin-Yobas, Ignacio and Lee Ching (2010), it is reported that the clients experience antipsychotic treatment as something that worsen their condition and report to rather avoid and hence a decision to discontinue is mostly taken by the clients. Non-adherence is reported to be very prevalent in patients with schizophrenia, (Barkof, et al., 2012). Studies reveal that patients that are lacking insight into their illness and awareness are more likely to respond poorly to their treatment, (Barkof et al., 2012). Mohr and Volavka, (2012), in a research that was conducted reports a significant lack of balance and consistency in the measuring of adherence. There are different measuring methods that are used mostly to overestimate or underestimate the non-adherence rate

which includes direct measurement of the drug, indirect pill counts, electronic databases, self-reported questionnaires. The methods that are used as measurement vary to some degree and are combined with their own strengths and weaknesses (Mohr & Volavka, 2012).

Similarly, in a systematic review study that was done on attitudes of mental health care users and mental health staff to antipsychotic long acting injections, reported that non-compliance with antipsychotic medication is increasing the risk of relapse in schizophrenia (Waddell & Taylor, 2009). In the study it was further reported that patients that were receiving out-patient antipsychotic treatment was reported to reach 50% after their discharge in the first year (Waddell & Taylor, 2009).

2.5 Complications of antipsychotic medication and side effects.

Complications usually refers to adverse effects; side effect means therapeutic or adverse drug that has a secondary meaning with the intention of the drug. It can apply to a beneficial drug that has unintended consequence (Wubeshet, Mohammed & Desse, 2019). This can be caused by the complexities of developing drugs such as the nature the drugs are made, it is difficult to make a drug that targets one part of the body but that doesn't affect other parts (Wubeshet, et al., 2019).

Using these drugs comes with adverse reactions (Wubeshet, et al., 2019). This commonly occurs as patients are mostly on a high dose and sometimes taking more than

one antipsychotic at the same time (Wubeshet, et al., 2019). Armstrong-Esther, Hagan, Smith, & Snellgrove (2008) conducted an exploratory study of nurses' knowledge of antipsychotic drug use with older persons, with the high use of antipsychotic drugs with elderly people, it was suggested that some steps be taken to limit this use as it possed high consequences with the elderly. Chiang, Klainin-Yobas, Ignacio & Lee Ching (2010); Morrison, et al (2000), reports that when side effects develop, that result in so many consequences which include emotional distress, poorer interpersonal relationships, reduced quality of life and reduced ability to find employment.

It has been reported that age, substance use, gender, total daily dose of antipsychotics, presence of co-morbid illness and number of antipsychotics are not the determining factors (Wubeshet, et al., 2019)). The studies reveal that between 50 and 70% of schizophrenic patients encounter one serious side-effect from antipsychotic medication (Wubeshet, et al., 2019). Out of the encountered serious effects, the estimated annual incident ranges from 37 to 44% for Parkinsonism, 26 to 35% for akathisia, and 8 to 10% for tardive dyskinesia (Wubeshet, et al., 2019).

A cross-sectional study that took place at Amanuel Mental Specialized Hospital, central Ethiopia that investigated the prevalence and management practice of first generation antipsychotics induced side effects among schizophrenic patients, the study reported that there is a significant association between occurrence of side effects of First Generation Antipsychotic and duration of illness ($P = 0.04$) (Wubeshet, et al., 2019). The study found

that the prevalence of first generation antipsychotics induced side effects was 97.7% out of which 42.3% were moderate side effects score (Wubeshet, et al., 2019). This finding is alarming with regards to the prevalence of antipsychotic medications. There are reports of as high as 86.2% prevalence of antipsychotic medications related side effects (Wubeshet, et al., (2019).

The most prevalent side effects of antipsychotic medication in the study which are reported to be the same as the ones perceived to be the most severe, including extrapyramidal, miscellaneous side effects that include weight gain (Chiang, et al., 2010). Chiang, et al. (2010) reports low prevalence levels of hormonal side effects. Side effects are more common in older people with a study by Armstrong-Esther, Hagan, Smith, and Snellgrove (2008) reporting that hree psychiatric units that had 265 inpatients and n=114 patients that were receiving their antipsychotic medication at the course of the study, 36%(n=41) of the inpatients receiving antipsychotic documented conditions that were indicative of side effects due to antipsychotic drug use,which include: restlessness (12.9%), falls (6.0%), parkinsonian effects (3.4%), drowsiness (3.4%), involuntary movements (2.5%), drooling (1.7%), hypotension (1.7%), dysphagia (0.8%), aggression (0.8%)

2.5.1 Dopamine D2 receptor side effects.

These are side effects that block the Dopamine D2 receptor antipsychotic medication such as risperidone, olanzapine, clozapine can include tremors, inner restlessness, muscle spasms, sexual dysfunction and, in rare cases, tardive dyskinesia, a disorder that causes

repetitive, involuntary movements (Riordan, Antonini and Murphy, 2011). Riordan, et al., (2011) highlight hat metabolic syndrome is reported as a leading cause of morbidity and mortality in clients with schizophrenia with a prevalence rate that has increased to double that of non-psychiatric populations.

Neuroleptic malignant syndrome (NMS) is a fatal and life-threatening reaction to antipsychotic drugs that is characterized by altered mental status, fever, muscle rigidity and autonomic dysfunction. All neuroleptics can be a cause of this, including atypical antipsychotics and a variety of other medications that affect dopaminergic neurotransmission (Berman, 2011). Mortality results from the autonomic manifestations of the disease and from the systemic complications (Modi, Dharaiya, Schultz & Varelas, 2016).

In a study that was done in the United States of America, 1346 patients were obtained from the nationwide inpatient sample for the years 2002-2012(Modi, et al., 2016). The aim of the study was to identify real-world rates of complications, mortality, and outcomes in patients with neuroleptic malignant syndrome (NMS) over the last 10 years (Modi, et al., 2016).

The prevalent complications noted were, rhabdomyolysis (30.1%), acute kidney injury (17.7%), acute respiratory failure (16.1%),), sepsis (6.2%), and other systemic infections and unadjusted mortality rate was 5.6%. Older age, acute respiratory failure, acute kidney injury, sepsis, and comorbid congestive heart failure were significant predictors of mortality. Acute

respiratory failure was the strongest independent mortality predictor ($p<0.001$) (Modi, et al., 2016).

Berman (2011) reports that the NMS typically starts with muscle rigidity, then fever and then followed by an altered mental state that changes from agitation, mild drowsiness or confusion to a severe delirium and coma. The signs of autonomic nervous system include instability that mostly accompanies NMS, such as flushing, diaphoresis, skin pallor and incontinence (Berman, 2011). It is added that as soon as symptoms appear, this can be a rapid progression that could intensify until three days, Muscle rigidity frequently occurs and is mostly described as a motor sign and other extrapyramidal motor effects are expected (Berman, 2011). Other reported symptoms include: dyspnoea, abnormal reflexes, mutism, seizures and dysphagia and laboratory findings seen in NMS include elevated creatinine phosphokinase (CPK) due to rhabdomyolysis and leucocytosis, metabolic acidosis and iron deficiency, electroencephalogram (EEG) may show non-generalized slowing (Berman, 2011).

Clinicians must be cautious and vigilant of the clinical features of NMS and detect early signs and primary management lies in prevention through conservative use of antipsychotics, reduction of risk factors, early diagnosing (Straw, Kerk & Carroff, 2007). Nurses are to render the information to patients as required in giving health education to patients. This study focuses on “knowledge” and “attitudes” and these are two important components when dealing with a mental health care user. NMS remains a risk for susceptible patients receiving these drugs and the only way of preventing the occurrence of this is to manage and control the prescribed dosages of neuroleptics (Straw, et al., 2007).

2.6 Role of the nurse in the management of antipsychotic medication.

A key factor in the management of adherence and side effect is the role of the nurse, her or his knowledge about antipsychotic medication and her attitudes towards the use of antipsychotic treatment (Durand-Zaleski, et al., 2012).

2.6.1 Nurse's knowledge and attitudes towards the use of antipsychotic treatment

In a study conducted in France to investigate the general public's knowledge, attitudes, issues of stigma and behaviours towards schizophrenia, bipolar disorders and autism, it was reported that there was a lack of knowledge in respondents and they could only identify and name the conditions (Durand-Zaleski, Scott, Roullin & Leboyer, 2012). The respondents were aware of the conditions but when asked further, they were not aware of the characteristics of these three conditions. It was noticed that both knowledge and awareness of the conditions increased with age and gender (Durand-Zaleski, et al., 2012). It was estimated to increase up to 55 years of age (Durand-Zaleski, et al., 2012).

Similarly, Ganesh (2011) reports in a study that was conducted in Southern India focussed on identifying the knowledge and attitude of mental illness among the general public, it was revealed that a large portion of this community had poor knowledge regarding mental illness only few respondents have average knowledge, knowledge of causes of illness was

considered low since the respondents believed that it's a punishment from God to suffer from mental illness (Ganesh, 2011).

In contrast, in a report by Patel et al, (2005), it was highlighted that nurses in Hong Kong showed that nurses who were involved in the administration of long acting injections had positive or more favourable attitudes than those who were not giving them and the degree of knowledge of side effects was also a factor that was directly involved. In a study done by Cowan, Raja, Naik, Armstrong (2012) about knowledge and attitudes of doctors regarding the provision of mental health care in a rural district, it was reported that mental health disorders involve communicable and non-communicable health challenges (Cowan, et al., 2012); Prince, Patel, Saxena, Maj, Maselko, Phillips, Rahman, 2007).

In considering attitudes towards mental illness, negative attitudes represent the foundation of excluding individuals with mental health is the society (Chikaodiri, 2009). In a study conducted in Nigeria in Kano Teaching Hospital about the attitude of health workers to the care of psychiatric patients, they found that the seriousness of psychiatric illness was judged by the behaviour and classified as being demonic possessed or possessed by evil spirits (Chikaodiri, 2009). The author further added that in the mind of the public the patients are responsible for their illness especially if they suffer from alcohol or substance abuse, they are denied understanding and sympathy (Chikaodiri, 2009). The result of the patients being misunderstood causes a lot of factors such as misconceptions about mental illness and provision health services and causes the mentally ill person to reject services that are meant for them due to misunderstandings by the public (Chikaodiri, 2009).

Waddell & Taylor, (2009) reported that attitudes of staff and patients have been demonstrated to play a major role in influencing the acknowledgement of long acting injections or depots and that the positive attitudes of the staff members correlated with the extent of their knowledge. In addition, a significant number of respondents reported embarrassment or shame of using long acting injections and half of respondents also reported being forced to start the long acting injections (Waddell & Taylor, 2009). Similarly, Castle, Morgan and Jablensky, (2002) stated that long acting injections have the highest respondents reporting them to be unhelpful and patients with lower insights have rated the usefulness of their medication lower than the patients with insight.

In a study that was done by Patel, et al (2005), it was reported that psychiatrists believed that long acting injections had positive aspects, with 71% believing that they were part of patient centred approach and that the good outweighed the bad, only a small minority reported that they believed the injections were old-fashioned and stigmatising (Patel et al, 2005). The same questionnaire was used in the community psychiatric nurses and similar results were found, where the nurse reported favourable attitudes towards the depot administration and their attitudes were positive with regards to the antipsychotic long acting injections (Patel et al., 2005). Similarly, the minority held negative attitudes such as believing that antipsychotics are coercive, old-fashioned and stigmatising (Patel et al., 2005).

In a systematic review study by Waddell and Taylor (2009) on attitudes of patients and mental health staff to antipsychotic long-acting injections, it was found that therapeutically, the oral second generation (atypical) antipsychotics led to a lower usage of long acting injections and the injections were prescribed to the group of patients with low insight, poor

adherence, chronic illness or history of aggression. The risperidone long acting injection was introduced in 2001 and had impact on attitudes of patients and staff and has led to counterbalance in long acting injections in the use of first episode psychosis (Waddell & Taylor 2009).

2.6.2 Factors affecting how nurses assess antipsychotic medication side-effects.

Factors that contribute to knowledge of nurses on antipsychotics include how nurses assess for side-effects and the information provided to patients

2.6.2.1 Assessment for side-effects.

Challenges have been identified to impact how nurses recognise the antipsychotic medication side-effects (Stomski, Morrison & Meehan, 2016). Other mental health conditions have been identified to have symptoms that are able to mirror or copy the side effects of the antipsychotic medication (Stomski, et al., 2016). The administration of assessment tools has been identified as a preventative measure if it is done on certain controlled regular intervals and if there is a specific tool familiar for nurses to be used to differentiate between the side effects and symptoms (Stomski, et al., 2016).

Problems have also been identified to occur during the preventative measure that acts as a barrier to assess the difference between the symptoms and the side-effect. Communication has been identified as a major contributing factor that hinders the process (De Vos,

Strydom, Fouché, & Delport, 2011). Communication has been identified to lack because at times mental health care users fail to communicate with professional nurses which can be either that they may be thinking about the stigma or their ability to reason or communicate that has been altered by the medication or their illness (Stomski, et al., 2016; Morrison et al., 2000). Furthermore, Stomski et al., 2010; Morrison & Stomski (2015) added that other health professionals lack clinical skills or communication skills that would be comprehensively needed to identify the antipsychotic medication side-effects. In South Africa there is no clear or standard tool that is used to assess the antipsychotic medication side-effects. The AIMS and Simpson-Angus are available, Abnormal Involuntary Movement Scale (AIMS) its positive areas is that it's the old and well-known scale, Inter-rater reliability adequately studied clear examination schedule with its disadvantages: only measures dyskinesias, Inter-rater reliability is rather poor, effect of training rapidly disappears and not suitable for long-term trials. On the other hand the Simpson–Angus Rating Scale (SEE) is also a well-known scale though it's not more beneficial as it is characteristic by insufficiently studied Instructions, definitions unclear examination table needed and Rigidity is to heavily counted (Loonen, Doorschot, van Hemert, Oostelbos, Siljoen, and MASEAS Team, 2000) .However, Stomski et al. (2016) recommends in the study that to overcome the communication issues and other factors that seem to cause barriers is the use of assessment tools, assessment is available to assess the side-effects, Stomski et al. (2016) such as the extrapyramidal symptoms side effects. Stomski et al., (2016), suggest that if the tools are used in combination is convinced that the nurses can use them as a basis of their engagement.

In published literature, currently little is known about the way in which mental health nurses assess antipsychotic medication side-effects. In a survey done in the UK, the findings indicated that there is a difference between nurses who have postgraduate training and other general nurses. Nurses with postgraduate training were more likely to use the assessment tools (Gray, 2001). Stomski et al., (2016) and Goff et al., (2010) add that the use of tools further equips nurses as it provides them with comprehensive documentation of the nature, frequency and impact of side-effects. Armstrong-Esther, et al (2008) reports a number of nursing staff indicated not knowing wheter a drug is an antipsychotic or not, the author further added that overall, the side effects were not well recognised only some frequent ones.

2.6.2.2 Information given to mental health care users.

A study conducted in the UK highlighted concerns of patients when it comes to involvement by psychiatric nurses. The study highlighted concerns of patients being excluded from decision making, lack of preparation to manage their adverse effects (Jones & Jones, 2007). In a survey that was conducted by Gray et al. (2001), patients claimed the only reason to take medication was that they were ordered by the doctor and that shows a gap in not explaining medication to patients. However, the author also points out a gap between healthcare professionals in terms of the role of psychoeducation between the psychiatric nurses. The author further concludes that patients want partnership and want to experience being informed with the choice of the medication they are given. In nurse prescribing countries such as UK, concerns are raised in focus being the dispensation of knowledge

about the antipsychotic medication side effects then what a nurse stands for such as compassion, empathy, understanding are lost (Morrison, Meehan & Gaskil, 2000).

Happel, (2009), suggest that a lack of information in certain medications that would impact the patient more creates limited understanding and causes them not to be prepared to know how to manage their side effects. Similarly, nurses are viewed to focus on with information in informing clients about the reasons of taking the antipsychotic medication while patients value getting information about their illness controlled and how to solve or manage the problems they come across within the course of their treatment (Happel, 2009). Happel, (2009) reported the gap between psychiatric nurses and mental health care user regarding information. Nurses were reported not knowing the information to give about psychotropic medication side-effects and in many circumstances would send a patient to the doctor if they raised problems about medication (Happel, 2009).

2.6.5 The need for training in antipsychotic medication side effects.

In a study conducted by Stomski et al. (2016), about mental nurses' views about antipsychotic medication side effects through a cross sectional survey in Australian College of mental health nurses, the results indicated lack of tools for antipsychotic medication side effects in an assessment and training. A study of antipsychotic medication curriculum content in Australian University nursing programmes by Morrison et al. (2017) reflected that, there is a lack of standardized assessment of antipsychotic medication side effects with collaboration in training and explains the low awareness and structured educational

programmes for proper training. Similarly, a study conducted by Coombs et al. (2003) on what influences patients' medication adherence? Professional nurse perspectives and a need for education and training in Australia, study was conducted in forty-eight Australian nurses. This study reflects that thirty-eight or 84.4% indicated that they have never received any training in antipsychotic medication side- effects.

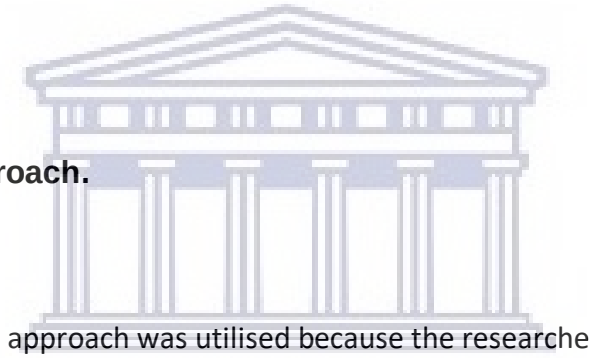
2.7 Summary of Chapter Two

The literature review provided a picture of the gap in how antipsychotic medication side effects are not well managed and missed, responses locally and internationally to antipsychotic side effects. The literature reviewed points that the psychiatric nurses don't have standard tools they use and currently there is no basis of how they assess the antipsychotic medication side effects.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction.

This chapter presents the research methodology that was used to carry out this study. The research design, research approach, research setting, population, sample, method of data collection, reliability and validity of the instrument that was used will be discussed further, ethical considerations will also be discussed in this chapter.



3.2 Research Approach.

The quantitative research approach was utilised because the researcher seeks to gather new knowledge on the nurse's attitudes and knowledge of antipsychotic side effects. Martin and Thompson (2002) states that quantitative research provides data in numerical form that can be entered data analysis. Martin and Thompson (2002), further add that studies in quantitative research attempt to investigate a research question of the knowledge and attitudes of professional nurses and can achieve that by focusing on discrete and measurable aspects of an area of clinical and theoretical interest. At the end the research question ends up being therefore quantified. Houser (2012:365) & Burns, Grove and Gray (2013), Polit and Beck (2014) during the research process, after data has been gathered, it needs to be then analysed objectively and statistically in order to produce precise and generalized findings which will assist in understanding the select aspects of the world.

3.3 Study research design.

For the purpose of this study, the researcher has used a quantitative approach with descriptive survey design to address the objectives of this study. Burns, Grove and Gray (2013) describes a research design as a "blueprint for conducting a study and is a "framework of the study" in which the end results of any decisions that have been taken in order to see how best the study should be implemented. According to Mouton (2001:55), defines a research design as a "plan of how you intend conducting the research and emphasise on the end results by formulating a research problem as the beginning or initial point and focuses on the logic of research

A survey is defined as a quantitative research method that is comprised of a questionnaire with the intention of efficient gathering of data from a set of respondents. It consists of closed ended questions with less open-ended questions (Mouton 2001; Brink, Van Der Walt & Van Rensburg, 2012).

3.4 Research setting

Grove, Burns, and Gray (2013) defines setting as the location where the study occurs. The setting of this study is a psychiatric hospital situated in Mitchell's Plain Health District which serves as a referral system to rural and urban areas of the Western Cape. The hospital provides a range of services for areas that it drains; these areas include Khayelitsha, Philippi, Delft and Klipfontein-Mitchell's Plain substructures of the Cape Metropolitan District. These

areas that drain to the psychiatric hospital situated in Mitchell's Plain Health District face an increase in crime rate, substance abuse, violence, gangsterism, unemployment, child abuse and domestic violence. The hospital is a 740 inpatient beds with 31 wards in total. The hospital is the largest of all four level 2 hospitals that provide the mental health services in the Western Cape. The hospital was selected because it's the largest in Western Cape in mental health; their wards include forensic, child and adolescent unit, wards for intellectually disabled, general adult psychiatry and therapeutic units which will help in the study as it has nurses working in different units, hence it will help in description of nurse's attitude and knowledge about the phenomenon studied.

3.5 Study population and study sample

Grove, Burns and Gray (2013) describes population as the entire set of individuals or elements that meet the criteria to be included in a study. A sample represents a selected group or elements to be included in the study (Grove, Burns & Gray, 2013).

3.5.1 Population.

In this study, the target population is all the nurses who are working with mental health care users at the psychiatric hospital who are selected for the study. A total number of 122 of professional nurses were available as participants of the study. Therefore, 110 were used to participate in this study. The rest of the remaining nurses were counted as been on maternity leave, annual leave, sick leave, resigned from the service, study leave, incapacity

leave, others were not interested to participate to the study. Out of a proposed sample of 122 of professional nurses, 110 were available for the study.

3.5.2 Inclusion criteria.

Registered nurses who are employed permanently at the psychiatric hospital, with either general or specialty and employed at the psychiatric hospital under study for at least twelve months or more. Add that willing to participate and available on day of data collection

3.5.3 Sample

Brink, Van Der Walt and Van Rensburg, (2012) defines a sample as a part or fraction of a whole, or a subset of a largest set selected by the researcher to participate in a research study. For the study all registered nurses general and registered nurses with speciality (in possession of the psychiatric advanced diploma) will be included using all-inclusive sampling. The sample size of the study was 110 registered nurses.

3.6 Procedure for data collection

According to Polit and Beck (2008), a plan to collect data for quantitative studies should produce accurate, valid and meaningful data that is effective maximally in answering research questions. Burns and Grove (2007:4) state that data collection is the exact,

systematic collection of relevant information to the research. Burns, Grove and Gray, (2013), emphasizes on the researcher to plan data collection to detect any problems that might occur and possible solutions to them.

3.6.1 Data collection instrument.

The study used a self-administered questionnaire to conduct the survey. A questionnaire is defined as a set of questions that are used for research purposes (Burns, Grove & Gray, 2013). The questionnaire was developed based on literature review of research studies to identify the knowledge areas important in antipsychotics medication in terms of types, function and side effects of antipsychotics. This was combined with an existing tool to measure attitudes (Patel, De Zoysa, Baker & David, 2005) and knowledge questions based on a tool for Neuroleptic Malignant Syndrome (Creswell, 2009).

The questionnaire had three sections:

Section A: Demographics: Gender, age, period worked in psychiatry and courses undertaken.

Section B: Knowledge: This section consists of 16 Multiple Choice Questions (MCQ) on types of medication, function and indications and side effect. Knowledge questions were adapted from multiple choice questions that were available about antipsychotic medication and side-effects. The questions were sixteen as questions had to be under different categories assessing different knowledge functions.

Section C: Attitudes

This section is based on clinician's attitudes regarding depot antipsychotics as developed by Patel et al., (2005). The questionnaire consists of two subscales: patient centered attitudes (consist of 8 items) and non-patient centered attitudes (with 7 items). Items are scored on a four-point Likert scale: Strongly Agree, Agree, and Disagree, strongly disagree

3.7 Reliability and validity of the instrument.

3.7.1 Reliability.

Reliability is defined as the consistency and dependability of the research instrument in measuring the variable (Brink et al, 2012). A Cronbach's alpha coefficient was calculated for the different sections in the questionnaires to establish internal consistency. A Cronbach's alpha coefficient is defined as a coefficient that is the mean of the inter item correlations and can be obtained using SPSS or other data analysis programs. The Cronbach's Alpha efficient can range from .00 indicating no internal consistency to 1.00 showing internal consistency that is perfect (Grove, Burns & Gray, 2013). The Cronbach's alpha was calculated after the administration of the questionnaire.

Reliability was also established through conducting a pretest. Brink, Van Der Walt and Van Rensburg (2012) suggests that the aim of the pre-test is whether the instrument is clearly worded and has no major biases, and whether it is appropriate for the type of information that is needed to be carried out. This pretest aimed to determine whether the questionnaire

would produce any methodological challenges such as language barriers or vague or confusing statements, its reliability and validity to try and solve any problems with clarity or misconceptions, check if it measures the intended information. A pretest was conducted with five participants working at the selected hospital before the actual data was collected to determine whether the questionnaire would produce any methodological challenges. All the those who participated in the study were informed not to resubmit their questionnaires for the main study. The five respondents were randomly selected between the wards. Any challenges that were identified by the participants were rectified. The challenge was the structure of the questionnaire, the questionnaire was reported to be unclear and hence it was re-done. Those five participants who took part in the pretest were not included in the actual study. How long did the pilot take?

3.7.2 Validity

Validity is known as the ability of an instrument to measure the variable that it is intended to measure (Brink, Van der Walt & Van Rensburg, 2012). Face validity is defined as means of verifying the instrument if it appeared like the contents that was desired for the study (Grove, Burns & Gray, 2013). It has been established through review of the tool by content expert – a mental health professional. She is an expert as she has additionally advanced psychiatric health. Content validity is defined as means of examining to which extent the measurement includes the important elements that are relevant to the study (Grove, Burns & Gray, 2013). It was established (Table 2) where the combined questionnaires represent all the components to be measured which are: professional psychiatric nurse's attitude

towards the use of antipsychotic medication, knowledge about the use of antipsychotic medication and knowledge about the side-effects of antipsychotic medication.

Table 2: Content Validity.

Objectives	Questionnaire #
To investigate the professional psychiatric nurse's attitude towards the use of antipsychotic medication	Questions 22-36
To determine professional psychiatric nurse's knowledge about the use of antipsychotic medication	Questions 6-8
To determine professional psychiatric nurses' knowledge about the side-effects of antipsychotic medication	Questions 9-21

3.8 Data collection process

Firstly, the researcher was granted permission to conduct the study by the University of the Western Cape Ethics Committee (Appendix p. 104). Written permission was obtained from the selected hospital's ethics committee to conduct the research. Permission to access the staff was sought from operational managers and area managers. The researcher made appointments to visit the wards with professional psychiatric nurses. The researcher made sure to keep appointed time and date. The researcher explained about the study in terms of the title, purpose, significance, benefit, risks, anonymity, right to withdraw any time, voluntary consent and questions that will arise will be answered. Those who agreed to

participate in the study were given questionnaires which were accompanied by an information letter and informed consent. Completed forms were collected the following week by the researcher according to the agreed time and date with the nurse. Data collection took place at the end of November 2017 and until January 2018. The researcher prepared 110 questionnaires and distributed, only 90 out of that number came back to the researcher.

3.9 Data analysis

Data analysis refers to structure, order and grouping of information so that it brings meaning (De Vos et al, 2011). Questionnaires were coded and numbered. It was entered into SPSS (Statistical Package for Social Sciences) computer statistical package (version 21). The data was cleaned after entered in SPSS, then entered into Excel spreadsheet. All data was compared using T-values and Chi-squares. Descriptive statistics were done on all variables.

The demographics were described using descriptive statistics (frequencies and percentages) (see Table 3). Knowledge was measured by "marking" the knowledge section to determine the percent of correct answers. Answers were recorded in terms of correct="knowledgeable", incorrect="not knowledgeable" and empty="Don't know".Knowledge per speciality was rated by 50%, using the criteria of a standard university post graduate pass mark of 50%, scoring less than 50% was determined as not having the minimum level of knowledge on psychiatric medication.

The attitudes were measured using an ordinal Likert scale ranging from 1—4. Attitude data were analyzed in three ways. Frequencies and percentages of the ordinal categories were calculated for Strongly agree and Agree and S and Disagree, Strongly Disagree; Strongly agree and Agree were recoded to Agree and Strong Disagree and Disagree were recoded to Disagree and reported using frequencies and percentages. Lastly, an average was calculated for each attitude statement, which was then ranked, and a scale average calculated. To compare these values Mann-Whitney Test and T-test was used to test the level of agreement between the two groups. T-test and Chi-square were used to test the associations between demographic variables and outcomes of knowledge. Statistical significance was considered because of two-sided tests and set at 0.05. The psychiatric nurses were further divided into two groups: PN and GN were compared using the above tests.

3.10 Ethical considerations

Before the researcher began with the process of the research, an approval was obtained to conduct the study, from the research ethics committees of University of the Western Cape and from the Provincial Health Research Ethics Committee. Once the approvals were obtained, the hospital involved was approached for its approval for the use of their facility. Informed consent was filled before the start which was explaining what the study is about, the risks associated with doing it, what is expected of them before they could agree to take place in the research. It is very important to make sure as the researcher that the participant is not coerced (Brink, van der Walt & van Rensburg, 2012).

3.10.1 Informed Consent

It is described as ethical principles which guide the researcher as respect for persons, beneficence and justice, (Brink et al, 2012). The participants of the study were given an explanation describing the study in a manner they understood and as well as an explanation describing how the study will be beneficial to others in terms of results and changes in research. They are to be given a right to choose to participate or not in the study without thinking about a risk of penalty.

Those who chose to participate in the study, they were explained that whenever they choose to withdraw, they can. The beneficence of the study will be maintained as the nature of the study is not invasive. Consent forms were handed to the participants and information sheet to give the required information before they start with the questionnaire. Information was given in a simplest way possible: no educational jargon, nursing jargon to facilitate understanding.

3.10.2 Confidentiality and Anonymity

The researcher took full precautions regarding the confidentiality of the information shared by the participants. Anonymity was secured, by means of maintaining confidentiality; it implies that any data that was received from respondents was protected and dealt with in the strictest confidence (Polit & Beck, 2008). In this study anonymity and confidentiality was

ensured, since the researcher l requested respondents not to say or announce their names, only codes was used to distinguish the participants. Consent forms were handed out.

3.10.3 Ethical principle of beneficence.

Requires the researcher to do good and do no harm, (Grove, Burns & Grey, 2013:162). The researcher's focus was to diminish harm and to maximise benefits. The research project should not contain any harm to respondents and should be intended to benefit either the individual respondent or other individuals (Polit & Beck, 2008). This principle supports avoiding harm physically, emotional and psychologically.

3.10.4 Ethical principle of justice

In this study the selection of the respondents was purely based on the research requirement and did not target specific participants for inclusion (Polit & Beck, 2008). The participants were selected. The researcher was able to honour the agreement with the respondents and confidentiality issues were considered so that the participants could trust the researcher with their information such as using codes to identify the information. The researcher was able to identify boundaries so that they were not broken.

3.10.5 Ethical principle of respect for respect of persons

Polit & Beck, (2008) suggest that respondents must be given the right to establish themselves. This principle discourages the researcher to coerce members and win them by buying of gifts. In this study this principle was applied through not forcing the participants to the study, full disclosure entails that the researcher fully describes the nature of the study, including any aspects that might lead to harm and any other potential risks to the participant.

3.11 Summary of Chapter Three.

The purpose of the study was to describe the knowledge and attitudes of the professional psychiatric nurses. Data collection processes and procedures were followed and adhered to. Ethical principles were all considered and we explained and how it was channeled ethically in the study.

CHAPTER 4: RESULTS

4.1 Introduction

This chapter presents the findings of data that were collected in November, December 2017 and January 2018, on psychiatric nurses' knowledge of and attitudes towards the use and side effects of antipsychotic medication given to mental health users in the Western Cape, South Africa. The data was collected for three months as there were no other participants that were willing to participate in the research. This chapter outlines the socio-demographic profile of the respondents and addresses the key objectives of the study, namely:

1. To investigate professional nurses working in psychiatry's attitudes towards the use of antipsychotic medication

2. To determine professional nurses working in psychiatry's knowledge about the use of antipsychotic medication.

3. To determine professional nurses working in psychiatry's knowledge about the side-effects of antipsychotic medication.

The psychiatric nursing specialists are compared to general nurses and it is expected that there would be differences in the objectives according to specialty.

4.2 Sample realisation

According to human resource (HR) register obtained at the hospital, there were 169 professional psychiatric nurses working with mental health care users at the time of the survey. Of the 169, twenty (20) were operational managers, fifteen (15) community service nurses, six (6) area managers, four (4) professional nurses who work as support of staff, two (2) night managers, leaving a total number of 122 of professional nurses providing direct care available as the target population for the study. Of the 122 professional nurses, 12 were on maternity leave, annual leave, sick leave, resigned from the service, study leave, incapacity leave, or declined to participate to the study. Therefore, there were 110 participants the researcher could include to distribute the questionnaires, with 90 (81%) as the response rate. For the purpose of the study professional psychiatric nurses and general nurses mean nurses in possession of advanced psychiatry and nurses with no psychiatric advance, but have a minimum of undergraduate degree or nursing diploma are considered general nursing respectively.

4.3 Demographic profile of the respondents

Just over half of the respondents were male (46, 51.1%) and of the 46 males, 20(58.8%) were SANC registered Psychiatric Nursing (hereafter referred to as Psychiatric Nursing respondents) speciality and 26 (46.4%) were registered in General Nursing (hereafter referred to as General Nursing respondents). The 44(48.9%) female respondents, were distributed as follows: 14 (41.2%) female respondents in the Psychiatric Nursing speciality

and 30 (53.6%) female respondents in the General Nursing specialty. The mean age of the total was 38.8 years (sd 9.7), with a mean age of the Psychiatric Nursing respondents being 39.9 years (sd 5.9) and for the General Nursing respondents, four (4) years (sd 11.4). Nearly two thirds of the respondents were in the age group 35-65 (62.0%). There were significant differences in age group between the Psychiatric Nursing and the General Nursing respondents with more Psychiatric Nursing respondents in the age group 35 and over (29, 85.3%) compared to the General Nursing respondents 33 (58.9%) (X^2=6.4, p=.012).

Less than half of the respondents 36(40.0%) reported that they had a Diploma in Nursing, 19(21.1%) that they had degree in Nursing, 30(33.3%) an advanced Diploma in Psychiatric Nursing, and four (4.4%) a master's degree in Nursing. Only one respondent did not provide the information on their qualification. There were significant differences in qualifications in the two qualifications groups (Table 3).

Table 3: Demographics

Demographic	**Total (n=90) n(%)**	**PN (n=34) n(%)**	**GN (n=56) n(%)**	**Test (X^2 or T)**	***p*-value**
Gender (f, %)	**90(100%)**	**34(100%)**	**56(100%)**		
Male	46 (51.1%)	20 (58.8%)	26(46.4%)	X^2=1.5	*p*=.220
Female	44(48.9%)	14 (41.2%)	30 (53.6%)		
Age (m, sd)	38.8 (9.7)	39.9 (5.9)	38.4 (11.4)	*T*=0.8	.409
Age group (n=89)	**90(100%)**	**34(100%)**	**56(100%)**		
20-34	27(30.0%)	5(14.7%)	22(39.3%)	X^2=6.4	.012*
35 and over	62(68.9%)	29(85.3%)	33(58.9%)		
Missing	1(1.1%)	0	1(1.8)		

Demographic	Total (n=90) n(%)	PN (n=34) n(%)	GN (n=56) n(%)	Test (X^2 or T)	*p*-value
Highest qualification (n=89)					
Diploma in Nursing	36(40.0%)	0(0.0%)	36(40.0%)	X^2=89.0	<.001*
Degree in Nursing	19(21.1%)	0(0.0%)	19(21.1%)		
Advanced Diploma in Nursing	30(33.3%)	30(33.3%)	0(0.0%)		
Master's degree in Nursing	4(4.4%)	4(4.4%)	0(0.0%)		
Missing	1(1.2%)	0	1(1.2%)		

*PN=Psychiatric Nursing respondents & GN=General Nursing respondents. Chi-square Test (X^2) and Independent Samples T-Test. *Significance set as <.05*

4.4 Experience and training in psychiatric nursing.

Nearly half of the respondents reported that they had ten (10) years or more experience in working in psychiatry (44, 49.4%). Twenty-six (26) of the respondents had a Psychiatry Nursing speciality (76.5%) and 18 had only a General Nursing speciality (32.7%). Very few respondents had two (2) years or less experience (21, 23.6%) respondents, only one (1) Psychiatric Nursing respondent (1, 2.9%) and twenty (20) General Nursing respondents (36.4%). Just over a quarter, (24, 27%) of the respondents had two (2) to ten (10) years of experience, seven (7, 20.6%) respondents with a Psychiatric Nursing speciality and 17(30.9%) with a General Nursing specialty. The mean total score of length of experience was 9.8 (sd 7.9) years. There were significant differences in years of experience between respondents with a Psychiatric Nursing specialty having more years of experience than those with no speciality (Table 4) (X^2=18.9, p<.001).

Table 4: Years of experience by specialty

Years in experience n=89	Total n=90	PN n=34	GN n=56	Chi-square Test (X^2)	p-value
2 years or less	21(23.6%)	1(2.9%)	20(36.4%)	18.9	<.001
2 to 10 years	24(27%)	7(20.6%)	17(30.9%)		
> 10 years	44(49.4%)	26(76.5%)	18(32.7%)		
Total	**89(100%)**	**34(100%)**	**55(100%)**		

*PN=Psychiatric Nursing respondents & GN=General Nursing respondents. Chi-square Test (X^2). *Significance set as <.05*

4.4.1 Training in psychiatric nursing.

Thirty-eight (43.2%) of the respondents indicated that they had received training in antipsychotic medication and side effects. More Psychiatric Nursing respondents reported to be trained as compared to General Nursing respondents 19 (55.9%) vs 19 (33.9%) respectively) (Table 5). Of the 38 respondents (42.2%) who indicated that they had attended training, 13(34.2%) reported that they attended a short course, Psychiatric Nursing seven (36.8%), vs General Nurses six (31.6%), 11(29%) reported attending a single lecture, Psychiatric Nurses six (31.6%) vs General Nurses five (26.3%); and nine (23.7%) reported attending an In-service training session, Psychiatric Nurses three (15.8%) vs General Nurses six (31.6%) and three (3) respondents attended more than one training type (Table 5). Of the total 90 respondents, two (5.3%) did not provide information on training.

Table 5: Types of Training

Values	Total n=90	PN n=34	GN n=56
Trained	38(42.2%)	19(55.9%)	19(33.9%)
Total (n=88)	**38(43.2%)**	**19(55.9)**	**19(33.9%)**
Short course	13(34.2%)	7(36.8%)	6(31.6%)
In-Service training	9(23.7%)	3(15.8%)	6(31.6%)
Single lecture	11(29%)	6(31.6%)	5(26.3%)
Short course and In-service	2(5.3%)	0(0.0%)	2(10.5%)
Short course, In service and single lecture	1(2.6%)	1(5.3%)	0(0.0%)
Missing values	2(5.3%)	2(10.5%)	0(0.0%)
Total	**38(100)**	**19(100%)**	**19(100.0%)**

PN=Psychiatric Nursing respondents & GN=General Nursing respondents

4.5 Registered nurses' working in psychiatry's knowledge about the use of antipsychotic medication and side effects.

To address objective two and three, questions were asked to assess the knowledge of the respondents with regards to the use and side effects of the antipsychotic medication, types of medication, function, indications and side effects. The results are presented by total knowledge score, followed by individual knowledge statements analysis.

4.5.1 Overall knowledge on psychiatric medication.

Of the 90 respondents, 24(26.6%) of the respondents did not respond to all the questions with only, 66(73.3%) who had responded to all the questions.

Overall, the mean total knowledge score was 8.9 (sd 2.5) out of a possible 16 (55.6% out of a possible 100%). The mean knowledge scores between the specialties were significantly different with the Psychiatric Nurses respondents having a higher mean knowledge score (9.8(sd 2.0) or 61.3% vs 8.3(sd 2.6) or 51.9%) respectively (T=2.8, p=.007).

Using the criteria of a standard university post graduate pass mark of 50%, scoring less than 50% was determined as not having the minimum level of knowledge on psychiatric medication. Nearly a third of all the respondents (27, 30.0%) scored less than 50%: General Nurses (22, 39.3 %) and Psychiatric Nurses five (5, 14.7%) (Table 6), over two-thirds (63, 70.0%) scored more than 50% Psychiatric Nurses (29, 85.3%) vs General Nurses (34, 60.7%), X^2=6.4, p=.012) (Table 6).

Table 6: Knowledge per specialty

	All n=90	**PN n=34**	**GN n=56**	**Test**	**P-value**
Less than 50%	27 (30.0%)	5(14.7 %)	22 (39.3 %)	X^2=6.4	.012*
More than 50%	63 (70.0%)	29(85.3 %)	34 (60.7 %)		
Total Score /16 - 100%	**8.9(55.6%)**	**9.8(61.3%)**	**8.3(51.9)**	**T=2.8**	**.007**

*PN=Psychiatric Nursing respondents & GN=General Nursing respondents. Chi-square Test (X^2) and Independent Samples T-Test. *Significance set as <.05*

4.5.2 Highest and lowest rated knowledge areas on psychiatric medication.

The knowledge items with the highest percentage of correct answers were mostly questions relating to side-effects: *What Is Neuroleptic Malignant Syndrome? (*73, 81.1%), followed by: *Which of the following drugs are associated with the highest risk of causing weight gain* (71, 78.9%), *Antipsychotic endocrine effects*, (68, 75.6%), and *Psychological effects of antipsychotic drugs taken by non-psychotic people*, (68, 75.6%).

The knowledge items with the lowest percentage of correct answers were: *is a site of chlorpromazine blockage*? (36, 40.0%), followed by *What other conditions can NMS (Neuroleptic Malignant Syndrome) be mistaken for* (23, 25.6%), and W*hat are the common manifestations of NMS* (23, 25.6%), Knowledge questions on the effectiveness and side effects profile of first and second generation antipsychotics in the treatment of schizophrenia, had a low number of correct responses with only15(16.7%) correct.

Though overall a higher proportion of psychiatric nurses than general nurses' respondents answered individual items correctly, *which drug is associated with LOW clinical potency and HIGH sedation*? Was the only question where the difference between Psychiatric Nurses and General Nurses approached significance (X^2=5.4, p= .066).

4.5.2.1 Neuroleptic Malignant Syndrome (NMS).

To assess the understanding of the respondents on" *What is Neuroleptic Malignant Syndrome?* most of the respondents answered this question correctly with 73(81.1%) respondents answering correctly vs 16(17.8%) incorrect. Only one (1, 1.1%) respondent from the General Nursing respondents did not know the answer. When comparing the Psychiatric Nurses and General Nurses respondents, 31(91.2%) Psychiatric Nurses compared to 42(75%) General Nurses respondents got the answer correct (X^2=3.127, p=.077) (Table 7).

Table 7: Question: What Is Neuroleptic Malignant Syndrome (NMS)?

	All (n=90)	**Psychiatric nursing Specialty (PN) (n=34)**	**General nursing (GN) (n=56)**	**Chi-square Test X^2**	**p-value**
Correct	73(81.1%)	31(91.2%)	42(75%)	3.127	.077
Incorrect	16(17.8%)	3(8.8%)	13(23.2%)		
Did not know	1(1.1%)	0(0.0%)	1(1.8%)		
Total	**90(100.0%)**	**34(38.2%)**	**56(61.8%)**		

*PN=Psychiatric Nursing respondents & GN=General Nursing respondents. Chi-square Test (X^2). *Significance set as <.05*

4.5.2.2 Drugs associated with the highest risk of causing weight gain.

To assess the knowledge of the respondents on" *Which drugs are associated with the highest risk of causing weight gain?* Most of the respondents 71(78.9%) correctly answered this question, 19(21.1%) were incorrect and one (1, 1.1%) respondent did not know the answer from the General Nursing. When comparing the Psychiatric Nurses and General Nurses respondents 26(76.5%) Psychiatric Nurses compared to 44(78.6%) General Nurses

respondents got the answers correct, though there were no significant differences in this question (X^2=0.156, p=.792) (Table 8).

Table 8: Question: Which of the following drugs are associated with the highest risk of causing weight gain?

	All (n=90)	PN (n=34)	GN (n=56)	Chi-square Test	p-value
Correct	71(78.9%)	26(76.5%)	44(78.6%)	0.156	.792
Incorrect	19(21.1%)	8(23.5%)	11(19.6%)		
Did not know	0(0.0%)	0(0.0%)	1(1.8%)		
Total	**90(100%)**	**34(37.8%)**	**56(62.2%)**		

*PN=Psychiatric Nursing respondents & GN=General Nursing respondents. Chi-square Test (X^2). *Significance set as <.05*

4.5.2.3 Antipsychotic endocrine effects.

To assess the knowledge of the respondents on *"Antipsychotic endocrine effects"*. The majority of the respondents have answered this question correctly, 68(75.6%) correctly vs 20(22.2%) incorrect and 2(2.2%) for respondents who didn't know the question. When comparing the Psychiatric Nurses and General Nurses respondents 24(70.6%) Psychiatric Nurses compared to 43(76.8%) General Nurses respondents got the answer correct, though there were no significant differences in this question (X^2=3.424, p=.221) (Table 9).

Table 9: Question: Antipsychotic endocrine effects are?

	All (n=90)	PN (n=34)	GN (n=56)	Test	p-value
Correct	68(75.6%)	24(70.6%)	43(76.8%)	3.424	.221
Incorrect	20(22.2%)	8(23.5%)	12(21.4%)		
Did not know	2(2.2%)	2(5.9%)	1(1.8%)		
Total	**90(100%)**	**34(38.2%)**	**56(61.8%)**		

*PN=Psychiatric Nursing respondents & GN=General Nursing respondents Chi-square Test (X^2). *Significance set as <.05*

4.5.2.4 Psychological effects of antipsychotic drugs on non-psychotic people.

To assess the knowledge of the respondents on "*Psychological effects of antipsychotic drugs on non-psychotic people".* Most of the respondents were correct in answering this question, 68(75.6%) correctly vs 15(16.7%) incorrect and 7(7.8%) respondents who didn't know the answer. When comparing the psychiatric nurses and general nurses' despondences (28, 82.3% Psychiatric Nurses compared to 39, 69.6%) General Nurses respondents got the answer correct (X^2=1.486, p=.476) (Table 10).

Table 10: Question: Psychological effects of antipsychotic drugs taken by non-psychotic people.

	All (n=90)	PN (n=34)	GN (n=56)	Test	p-value
Correct	68(75.6%)	28(82.3%)	39(69.6%)	1.486	.476
Incorrect	15(16.7%)	4(11.8%)	11(19.6%)		
Did not know	7(7.8%)	2(5.9%)	5(8.9%)		
Total	**90(100%)**	**34(38.2%)**	**56(61.8%)**		

*PN=Psychiatric Nursing respondents & GN=General Nursing respondents. Chi-square Test (X^2). *Significance set as <.05*

4.5.2.5. The original definition of "atypical" antipsychotics was used for describing.

To assess the knowledge of the respondents on "*the original definition of "atypical" antipsychotics was used for describing".* Most of the respondents were correct in answering this question 65(72.2%) correctly vs 24(26.7%) incorrect and 1(1.1%) did not know the answer. When comparing the Psychiatric Nurses and General Nurses respondent 28(82.3%) Psychiatric Nurses compared to 37(66.0%) General Nurses got the answer correct (X^2=2.702, p=.259) (Table 11).

Table 11. Question: The original definition of "atypical" antipsychotics was used for describing

	All (n=90)	**PN (n=34)**	**GN (n=56)**	**Test**	**p-value**
Correct	65 (72.2%)	28 (82.3%)	37 (66.0%)	2.702	.259
Incorrect	24(26.7%)	6(17.6%)	18(32.1%)		
Did not know	1(1.1%)	0(0.0%)	1(1.8%)		
Total	**90(100%)**	**34(38.2%)**	**55(61.8%)**		

*PN=Psychiatric Nursing respondents & GN=General Nursing respondents. Chi-square Test (X^2). *Significance set as <.05*

4.5.2.6 Neurological adverse effects associated with antipsychotic drug use late in therapy.

To assess the knowledge of the respondents on "*neurological adverse effects associated with antipsychotic drug use late in therapy"***.** Most of the respondents have answered this question correctly, 60(66.7%) correctly vs 29(32.2%) incorrect and 1(1.1%) for respondents who didn't know the question. When comparing the psychiatric nurses and General Nurses

respondents, 22(64.7%) Psychiatric Nurses compared to 37(66.1%) General Nurses got the answer correct (X^2=0.763, p= .887) (Table 12). No significance evident between the 2 groups.

Table 12: Question: What are the neurological adverse effects associated with antipsychotic drug use late in therapy

	All (n=90)	**PN (n=34)**	**GN (n=56)**	**Test**	**p-value**
Correct	60(66.7%)	22(64.7%)	37(66.1%)	0.763	.887
Incorrect	29(32.2%)	12(35.3%)	17(30.4%)		
Did not know	1(1.1%)	0(0.0%)	1(1.8%)		
Total	**90(100%)**	**34(38.2%)**	**56(61.8%)**		

*PN=Psychiatric Nursing respondents & GN=General Nursing respondents. Chi-square Test (X^2). *Significance set as <.05*

4.5.2.7 Determining the clinical features of the movement pattern in tardive dyskinesia?

To assess the knowledge of the respondents on "Which of the following is not part of the clinical features of the movement pattern in tardive dyskinesia? Most of the respondents answered this question correctly, 60(66.7%) correct vs 30(33.3%) incorrect and 1(1.7%) respondents who didn't know the question from the General Nurses. When comparing the Psychiatric Nurses and General Nurses respondents, 23(67.6%) Psychiatric Nurses compared to 36(61.0%) General Nurses got the answer correct (X^2=0.045, p=1.000) (Table 13).

Table 13: Question: Which of the following is not part of the clinical features of the movement pattern in tardive dyskinesia?

	All (n=90)	PN (n=34)	GN (n=56)	Test	p-value
Correct	60(66.7%)	23(67.6%)	36(64.3%)	0.045	1.000
Incorrect	30(33.3%)	11(32.4%)	19(34.0%)		
Did not know	0(0.0%)	0(0.0%)	1(1.7%)		
Total	**90(100%)**	**34(38.2%)**	**56(61.8%)**		

*PN=Psychiatric Nursing respondents & GN=General Nursing respondents. Chi-square Test (X^2). *Significance set as <.05*

4.5.2.8 NMS can occur following the administration of the following.

To assess the knowledge of the respondents on "*NMS can occur following the administration of the following".* Just above half of the respondents have answered this question correctly, 57(63.3%) correct vs 33(36.7%) incorrect and 1(1.8 %) did not know the answer from the General Nurses. When comparing the Psychiatric Nurses and General Nurses respondents, 25(73.5%) compared to 31(55.4%) got the answer correct (X^2=2.654, p=.103) (Table 14). No significance evident between the 2 groups.

Table 14: Question: NMS can occur following the administration (among others) of?

	All (n=90)	PN (n=34)	GN (n=56)	Test	p-value
Correct	57(63.3%)	25(73.5%)	31(55.4%)	2.654	.103
Incorrect	33(36.7%)	9(26.5%)	24(42.9%)		
Did not know	0(0.0%)	0(0.0%)	1(1.7%)		
Total	**90(100%)**	**34(38.2%)**	**56(61.8%)**		

*PN=Psychiatric Nursing respondents & GN=General Nursing respondents. Chi-square Test (X^2). *Significance set as <.05*

4.5.2.9 The drug that is associated with LOW clinical potency and HIGH sedation?

To assess the knowledge of the respondents on *"the drug that is associated with LOW clinical potency and HIGH sedation?* Just above half of the respondents were correct in answering this question, 52(57.8%) correct vs 37(41.1%) incorrect and 1(1.1%) did not know the answer from the General Nurses. When comparing the Psychiatric Nurses and General Nurses respondents, 25(73.5%) Psychiatric Nurses compared to 28(50.0 %) General Nurses got the answer correct (X^2=5.424, p=.066) (Table 15).

Table 15: Question: Which drug is associated with LOW clinical potency and HIGH sedation?

	All (n=90)	**PN (n=34)**	**GN (n=56)**	**Test**	**p-value**
Correct	52(57.8%)	25(73.5%)	28(50.0%)	5.424	.066
Incorrect	37(41.1%)	9(26.5.0%)	27(48.2%)		
Did not know	1(1.1%)	0(0.0%)	1(1.8%)		
Total	**90(100%)**	**34(38.2%)**	**55(61.8%)**		

*PN=Psychiatric Nursing respondents & GN=General Nursing respondents. Chi-square Test (X^2). *Significance set as <.05*

4.5.2.10 Side-effects of the following first-generation antipsychotic has side effects of sedation (H1 receptors) and alpha 1 receptor (orthostatic hypotension).

To assess the knowledge of the respondents on "*Side-effects of the following first-generation antipsychotic has side effects of sedation (H1 receptors) and alpha 1 receptors (orthostatic hypotension)".* Just below half of respondents were correct in answering this question, 46(51.1%) correct vs 41(45.6%) incorrect and 2(2.2%) did not know the answer

from the General Nurses. When comparing the Psychiatric Nurses and General Nurses respondents, 20(58.8%) Psychiatric Nurses compared to 25(44.6%) General Nurses got the answer correct (X^2=2.883, p=.410) (Table 16). No significance evident between the 2 groups.

Table 16: Question: Side-effects of the following first-generation antipsychotic has side effects of sedation (H1 receptors) and alpha 1 receptor (orthostatic hypotension).

	All (n=90)	PN (n=34)	GN (n=56)	Test X^2	p-value
Correct	46(51.1%)	20(58.8%)	25(44.6%)	2.883	.410
Incorrect	41(45.6%)	14(41.2%)	27(48.2%)		
Did not know	2(2.2%)	0(0.0%)	2(7.2%)		
Total	**90(100%)**	**34(38.2%)**	**56(61.8%)**		

*PN=Psychiatric Nursing respondents & GN=General Nursing respondents. Chi-square Test (X^2). *Significance set as <.05*

4.5.2.11 Antipsychotic with the lowest risk of hyperprolactinemia (described as a condition whereby a person has higher than normal levels of prolactin in the blood) and extrapyramidal symptoms.

To assess the knowledge of the respondents on "*antipsychotic with the lowest risk of hyperprolactinemia (described as a condition whereby a person has higher than normal levels of prolactin in the blood) and extrapyramidal symptoms".* The majority of the respondents in this question answered incorrectly, 41(45.6%) correct vs 48(53.3%) incorrect. When comparing the Psychiatric Nurses and General Nurses respondents, 18(52.9 %) Psychiatric Nurses compared to 23(41.1%) General Nurses got the answer correct (X^2=1.046, p=.383) (Table 17). No significance evident between the 2 groups.

Table 17: Question: What is the antipsychotic with the lowest risk of hyperprolactinemia (described as a condition whereby a person has higher than normal levels of prolactin in the blood) and extrapyramidal symptoms.

	All (n=90)	**PN (n=34)**	**GN (n=56)**	**Test**	**p-value**
Correct	41(45.6%)	18(52.9%)	23(41.1%)	1.046	.383
Incorrect	48(53.3%)	16(47.1%)	32(57.1%)		
Did not know	1(1.1%)	0(0.0%)	1(1.8%)		
Total	**90(100%)**	**34(38.2%)**	**55(61.8%)**		

*PN=Psychiatric Nursing respondents & GN=General Nursing respondents. Chi-square Test (X^2). *Significance set as <.05*

4.5.2.12 The Clinical features of dystonia

To assess the knowledge of the respondents on *"the Clinical features of dystonia". Just* below half of the respondents 38(42.2%) were correct in answering this question, Majority of the respondents in this question answered incorrectly, 51(56.7%) incorrect and 1(1.1%) did not know the answer. When comparing the Psychiatric Nurses and General Nurses respondents, 16(47.1%) Psychiatric Nurses compared to 22(39.3%) General Nurses got the answer correct (X^2=0.966, p=.617) (Table 18). No significance evident between the 2 groups.

Table 18: Question: What are the Clinical features of dystonia?

	All (n=90)	**PN (n=34)**	**GN (n=56)**	**Test**	**p-value**
Correct	38(42.2%)	16(47.1%)	22(39.3%)	0.966	.617
Incorrect	51(56.7%)	18(53.0%)	32(57.1%)		
Did not know	1(1.1%)	0(0.0%)	1(1.8%)		
Total	**90(100%)**	**34(38.2%)**	**55(61.8%)**		

*PN=Psychiatric Nursing respondents & GN=General Nursing respondents. Chi-square Test (X^2). *Significance set as <.05*

4.5.2.13 The site of chlorpromazine blockage.

To assess the knowledge of the respondents on "*the site of chlorpromazine blockage?* The majority of the respondents were incorrect in answering this question, 48(53.3%) incorrect vs 36(40.0%) correct and 5(5.6%) did not know the answer. When comparing the Psychiatric Nurses and General Nurses respondents, 16(47.1%) compared to 20(35.7%) got the answer correct (X^2=1.207, p=.597) (Table 19). No significance evident between the 2 groups.

Table 19: Question: Which is a site of chlorpromazine blockage?

	All (n=90)	**Psychiatric specialty (n=34)**	**No-psychiatric specialty (general nursing) (n=56)**	**Test**	**p-value**
Correct	36(40.0%)	16(47.1%)	20(35.7%)	1.207	.597
Incorrect	48(53.3%)	16(47.1%)	32(57.1%)		
Did not know	5(5.6%)	2(5.9%)	4(7.1%)		
Total	**90(100%)**	**34(38.2%)**	**55(61.8%)**		

*PN=Psychiatric Nursing respondents & GN=General Nursing respondents. Chi-square Test (X^2). *Significance set as <.05*

4.5.2.14 The other conditions NMS can be mistaken for.

To assess the knowledge of the respondents on *"the other conditions can NMS be mistaken for".* Respondents above half have answered this question incorrectly, 57(60.0%) incorrect vs 26(28.9%) correct and 6(6.7%) did not know the answer. When comparing the Psychiatric Nurses and General Nurses respondents, 15(44.1%) Psychiatric Nurses compared to 11(19.6%) got the answer correct (X^2=5.938, p=.051) (Table 20). No Ssignificance evident between the 2 groups.

Table 20: Question: What other conditions can NMS be mistaken for?

	All (n=90)	PN (n=34)	GN (n=56)	Test	p-value
Correct	26(28.9%)	15(44.1%)	11(19.6%)	5.938	.051
Incorrect	57(60.0%)	17(50.0 %)	40(71.4%)		
Did not know	6(6.7%)	2(5.9%)	4(9.0%)		
Total	**90(100%)**	**34(38.2%)**	**56(61.8%)**		

*PN=Psychiatric Nursing respondents & GN=General Nursing respondents. Chi-square Test (X^2). *Significance set as <.05*

4.5.2.15 The common manifestations of NMS.

To assess the knowledge of the respondents on "*the common manifestations of NMS".* The majority of the respondents answered this question incorrectly, 66(36.7%) incorrect vs 23(25.6%) correct and 1(1.1%) did not know the answer. When comparing the Psychiatric Nurses and General Nurses respondents, 25(40.9%) compared to 13(59.1%) got the answer correct (X^2=0.689, p=<1000).

Table 21: Question: What are the common manifestations of NMS?

	All (n=90)	PN (n=34)	GN (n=56)	Test	p-value
Correct	23(25.6%)	25(73.5%)	13(59.1%)	0.689	1000
Incorrect	66(36.7%)	25(37.9%)	41(62.1%)		
Did not know	1(1.1%)	0(0.0%)	1(1.1%)		
Total	**90(100%)**	**34(38.2%)**	**56(61.8%)**		

*PN=Psychiatric Nursing respondents & GN=General Nursing respondents. Chi-square Test (X^2). *Significance set as <.05*

4.5.2.16 The effectiveness and side effects profile of first- and second-generation antipsychotics in the treatment of schizophrenia.

To assess the knowledge of the respondents on "*the effectiveness and side effects profile of first- and second-generation antipsychotics in the treatment of schizophrenia.* Most of the respondents were incorrect in answering this question. Nearly three quarters of the respondents 68(75.6%) incorrect vs 15(16.7%) correct and 7(7.8%) respondents who didn't know the question. When comparing the Psychiatric Nurses and General Nurses respondents, 6(17.6%) Psychiatric Nurses compared to 8(14.3%) General Nurses got the answer correct (X^2=0.435, p=.802) (Table 22). No significance evident between the 2 groups.

Table 22: Question: Regarding the effectiveness and side effects profile of first- and second-generation antipsychotics in the treatment of schizophrenia.

	All (n=90)	**Psychiatric specialty (n=34)**	**No-psychiatric specialty (general nursing) (n=56)**	**Test**	**p-value**
Correct	15(16.7%)	6(17.6%)	8(14.3%)	0.435	.802
Incorrect	68(75.6%)	26(76.5%)	42(75.0%)		
Did not know	7(7.8%)	2(5.9%)	5(9.0%)		
Total	**90(100%)**	**34(38.2%)**	**55(61.8%)**		

*PN=Psychiatric Nursing respondents & GN=General Nursing respondents. Chi-square Test (X^2). *Significance set as <.05*

4.6 Attitudes towards the use of antipsychotic medication.

To address objective two which was to describe the attitudes of professional psychiatric nurses towards the use of antipsychotic medication, respondents were asked to rate

question number 22-36 statements using a Likert scale (Table 23). The attitude questions were divided among patient-centered attitudes and non-patient centered attitudes.

4.6.1 Patients centered attitudes.

Patient-centered approach means attitudes that are influenced by patient's direct factors such as thoughts and knowledge with non-patient centered referring to surrounding issue that re not directly related to the patient.

The highest rated patient centered attitude was: *Antipsychotic treatment is part of a patient-centred approach to treatment with* no significant differences between the two specialties 2.29 Psychiatric Nurses vs 2.28 General Nurses, Test U=1.20 and p-value= .904).

The lowest rated patient centered attitude was: *If a patient is prescribed a depot, they are more likely to have a forensic history* with significant differences between the two specialties .72 Psychiatric Nurses' vs .50 General Nurses, Test U=1.656 and p-value= .098

Table 23: Attitudes towards the use of antipsychotic medication

Question	All=90		PN=34		GN=56			
	Level of Agreement	Mean (sd)	Level of Agreement	Mean (sd)	Level of Agreement	Mean (sd)	Mann Whitney -Test (U)	p-value
PATIENT CENTERED								
POSITIVE STATEMENTS								
Antipsychotic treatment is part of a patient-centred approach to treatment	88(97.8%)	2.3(0.6)	34 (100%)	2.29 (sd)	54 (%)	2.28 (sd)	1.20	.904
Patients' friends and family are more accepting of depot than oral medication	89(98.9%)	1.8(0.9)	34	1.76	55	1.87	3.89	.697
Patients can negotiate the dose of antipsychotic medication	86(95.6%)	1.4(0.8)	32	1.47	54	1.43	4.27	.669
NEGATIVE STATEMENTS								
Patients are less likely to accept depot than oral medication.	88(97.8%)	1.5(0.8)	33	1.36	55	1.62	1.366	.172
Patients have a greater risk of being stigmatized if they receive a depot	89(98.9%)	0.9(0.8)	34	.79	55	.93	9.22	.357
The patient has no autonomy if they receive a medication	88(97.8%)	0.8(0.7)	33	.79	55	.84	6.47	.518
Prescribing antipsychotics is by force	89(98.9%)	0.8(0.8)	34	1.03	55	.73	1.591	.112
If a patient is prescribed a depot, they are more likely to have a forensic history	88(97.8%)	0.6(0.7)	34	.50	54	.72	1.656	.098

*PN=Psychiatric Nursing respondents & GN=General Nursing respondents. Mann Whitney Test and Independent Samples T-Test. *Significance set as <.05*

4.6.2 Non-patients centered attitudes.

The highest rated non-patient centered attitude items were: *Patient compliance is better with depots than with oral antipsychotics* 2.44 Psychiatric Nurses vs 2.29 General Nurses compared to no Psychiatric speciality (General Nursing), Test U= 7.92 and p-value= .428.

The lowest rated non-patient centered attitude was: *Depots are old fashioned* .87 for General Nurse's vs .72 Psychiatric speciality, Test U= 1.182 and p-value= .237.

In the individual items, there were no significant differences but only that the psychiatrist nursing specialists had higher positive rated attitudes as compared to the no psychiatric speciality. There were no significant differences between psychiatric nurses and general nurse respondents in attitudes.

Table 24: Non-patient attitudes towards the use of antipsychotic medication

Question	All=90		PN=34		GN=56		Mann Whitney-Test	p-value
	Level of Agreement	Mean (sd)	Level of Agreement	Mean (sd)	Level of Agreement	Mean (sd)		
NON-PATIENT CENTERED								
POSITIVE STATEMENTS								
Patient compliance is better with depots than with oral antipsychotics	89(98.9%)	2.3 (0.7)	34	2.44	55	2.29	7.92	.428
Depots are associated with prevention of relapse	89(98.9%)	2.3(0.6)	34	2.32	55	2.33	1.52	.879
Monitoring patient compliance is easier with depots than with oral antipsychotics	88(97.8%)	2.3(0.7)	33	2.39	55	2.29	1.159	.246
For depots, the good aspects outweigh the bad	87(96.7%0	1.9(0.8)	34	1.82	53	1.91	2.71	.787

Once a patient is on depot, it is unwise to discontinue	88(97.8%)	1.5(0.8)	34	1.41	54	1.63	1.040	.299
NEGATIVE STATEMENTS								
Prescribing and monitoring are more bothersome for depot than oral medication	89(98.9%)	1.0(0.8)	34	.79	55	1.07	1.821	.069
Depots are old fashioned	85(94.4%)	0.8(0.8)	32	.72	53	.87	1.182	.237

*PN=Psychiatric Nursing respondents & GN=General Nursing respondents. Mann Whitney Test and Independent Samples T-Test. *Significance set as <.05*

4.7 SUMMARY CHAPTER FOUR

This chapter presented a picture of the study in terms of the respondents' answers to measure the objectives of the study. All the objectives of the study were discussed in relative to the knowledge, attitudes about the use and side effects of antipsychotic medication.

CHAPTER 5: DISCUSSION OF RESULTS.

5.1. Introduction

This chapter discusses the findings of the study. The aim of this study is to investigate professional psychiatric nurses' knowledge of and attitudes towards the use and side-effects of antipsychotic medication.

1. To investigate professional nurses working in psychiatry's attitudes towards the use of antipsychotic medication
2. To determine professional nurses working in psychiatry's knowledge about the use of antipsychotic medication.
3. To determine professional nurses working in psychiatry's knowledge about the side-effects of antipsychotic medication.

It was anticipated that the study would help to identify the level of knowledge and attitudes of nurses working in psychiatry with regards to antipsychotic medication. The discussion focused on the main findings: knowledge, training and attitudes towards antipsychotic medication use and side effects.

5.2 Knowledge of the respondents on use and side effects of the antipsychotic medication.

The study tested the knowledge of the respondents on use and side effects of the antipsychotic medication, questions were asked on types of medication, function, indications and side effects.

Firstly, overall, the knowledge of the respondents was adequate with more respondents scoring more than 50% on the test than less than 50%. These results were expected as the expectation was to find speciality nurses with higher knowledge. Given their training it was expected that there would be differences as seen that some nurses have as little as day courses. That knowledge is not sufficient as the nurses deal with lethal drugs and it is imperative for staff to know about them.

Additionally, it was nursing specialty having more years of experience than those with no speciality

Armstrong-Esther, et al (2008), in a study that was conducted, reported that several nursing staff indicated not knowing whether a drug is an antipsychotic or not. The author further added that overall, the side effects were not well recognised with only some recognised such as drooling, dry mouth, nausea and vomiting and constipation though infrequently (Armstrong-Esther, et al, 2008). This poses a risk as there is a lack in knowledge and causes some side effects not recognised and this may be due the gap between the psychiatric

specialist and general nurses who are treating the same patients with different knowledge levels (Armstrong-Esther, et al, 2008). In comparing to the study, it is evident that the nurses are not well aware of the fatal and detrimental side effects only the obvious can be picked up.

In a survey that was conducted by Gray, Wykes, Parr, Hails and Gournay, (2001), patients reported a gap in nurses not explaining medication to patients. As this study highlights this gap in nursing may be due to the differences in knowledge between these two groups (Gray et al., 2001). This has implications when patients are not explained what their medication is and what the possible side effects may be (Gray et al., 2001). A lack of knowledge in nurses contributes to side effects left unattended and affects quality of nursing care and contributes to negligence (Gray et al., 2001). However, the author also points out a gap between healthcare professionals in terms of the role of psychoeducation between the Psychiatric Nurses. This role is lacking due to lack in knowledge and causes a lack in information that is disseminated to the patients (Gray et al., 2001).

Secondly, the results of this study showed that knowledge scores between the specialties were significantly different with the Psychiatric Nurse's respondents having a higher mean knowledge score and high percentage. There were significant differences in knowledge of side effects per speciality between respondents with a Psychiatric Nursing specialty and those with no speciality (General Nursing) 85.3 %) Psychiatric Nurses vs 60.7 % General Nurses.

The results are supported by, Kabir, Iliyasu, Abubakar and Iliyasu, (2004) and Pande, Saini and Chaudhury, (2012), report that the findings reveal a correlation between the levels of education compared to the knowledge, attitude and perceptions of people with regards to the mental illness. Similarly, Patel, et al (2005) reported lack of knowledge and training in a study that was done in primary care nurses. The authors postulated that this lack of knowledge can impact on the nurse-patient interactions and decrease patient's autonomy (Patel, et al, 2005).

Thirdly, the area of most concern was knowledge on the effectiveness and side effects profile of first- and second-generation antipsychotics in the treatment of schizophrenia, had a low number of correct responses with only 15(16.7%) correct. Sabella (2007) reported that medications cannot be used to manage patients' feelings of isolation and alienation. The author further adds that, it is an important issue for nurses to address and the lack of this means the lack of nurses identifying therapeutic ways for the effectiveness of the medications given.

Nurses are in the forefront when treating patients who take other medications, nurses are required to be aware of potential drug–drug interactions. Possible life-threatening reactions include neuroleptic malignant syndrome, which can include a fever of 103°C or greater; tachycardia; tachypnoea; agitation; diaphoresis; and changes in blood pressure and their lack in knowledge in identifying such is a concern (Sabella, 2007).

5.3 Attitudes towards the use of antipsychotic medication.

Firstly, there were no significant differences noted between the two groups but the psychiatrist nurse specialists had more positive attitudes compared to the general nursing respondents. Patel et al. (2005) states that Familiarity of the nurses with depots was positively associated with favourable attitudes. CPNs have several strongly endorsed attitudes towards antipsychotic medication. CPNs had negative attitudes to depots as compared with psychiatrists and CPN's agreed that depots are old fashioned and stigmatizing (Patel et al., 2005).

Secondly, when considering patient centred and non-patient centred attitudes,

The highest rated patient centered was: *Antipsychotic treatment is part of a patient-centred approach to treatment,* with the majority of the respondents agreeing with this statement. The lowest rated patient centered attitude was: *If a patient is prescribed a depot, they are more likely to have a forensic history* with significant differences between the two specialties. It was expected for the nurses to disagree and lower responses were received in opposing the statement. This was in line with the expectation of general attitudes held from the nurses. The highest rated non-patient centered attitude items were: *Patient compliance is better with depots than with oral antipsychotics*. A high response was expected in this question and the lowest rated non-patient centered attitude was: *Depots are old fashioned;* this was the lowest rated in this category.

Studies have reported different attitudes towards antipsychotic medication specifically related to depot medication. Patel, et al (2005) reported that nurses held favorable attitudes though they have rated giving depot injections as low importance. In our study psychiatric nurse specialists presented with higher values as compared to general nurses. The extensive study further reported that nurses reported favourable results to carry the depot administration and their attitudes were positive with regards to the antipsychotic long acting injections, though, similarly the minority held negative attitudes such as believing that antipsychotics are coercive, old-fashioned and stigmatising (Patel et al. 2005).

This finding is similar across specialties, with Patel, et al (2005), reporting that psychiatrists believed in long acting injections as possessing positive aspects, with 71% majority believing that. Additionally, it was believed that they are part of the patient centred approach and that the good outweighs the bad. Patel, et al (2005), reports that the minority of the participants (psychiatrists) reported that they believed the injections were old-fashioned and stigmatising (Patel, et al. 2005). The same questionnaire was used in the community psychiatric nurses and gave results that were similar (reference?).

5.4 Training in antipsychotic medication.

These results demonstrate a lack in education and training of nurses working in psychiatry about antipsychotic medication side effects with the Psychiatric Nurses respondents

reporting that they have attended most of the trainings including short lectures, single lectures but the value of these forms of training are questionable to impart knowledge about the drugs that are used in psychiatry. The knowledge is brief when looking at the duration and it is evident by the study that nurses are not able to identify detrimental side effects that threatens life only the obvious such as constipation, drooling, nausea and vomiting. A study conducted by Coombs et al. (2003) on what influences patients' medication adherence and mental health nurse perspectives and a need for education and training in Australia, study was conducted with forty-eight Australian nurses. This study reflected that thirty-eight (84.4%) indicated that they have never received any training in antipsychotic medication side- effects (Coombs et al. 2003). These results demonstrate a lack in education and training of professional psychiatric nurses about antipsychotic medication side effects, this may lead to underestimation of other side effects or lack in identifying due to the lack of training or education and which can then promote discontinuation of medication and increase the relapse (Coombs et al. 2003).

Training is the most fundamental aspect of knowledge and growth and yet according to the literature and research, it's the most lacking part. The study findings, reflect that only 38 respondents out of the 90 respondents, indicated to have received training in antipsychotic medication side-effects. This is less than a half of respondents. The findings of this study are like the other studies (Stomski et al., 2016; Coombs et al., 2003). In a study conducted by Stomski et al. (2016), about mental nurses' views about antipsychotic medication side effects through a cross sectional survey in Australian College of mental health nurses, the results indicated lack of knowledge of assessment tools and training (Stomski et al., 2016).

Similarly, a study of antipsychotic medication curriculum content in Australia university nursing programmes by Morrison et al. (2017) reflected that, there is a lack of standardized assessment of antipsychotic medication side effects with collaboration in training and explains the low awareness and structured educational programmes for proper training.

5.5 Conclusion.

In this chapter, the results were discussed with detailed description of the results of the study. The descriptive analysis was utilised to process the descriptive statistics analysis. The study highlighted that the psychiatric specialities had more knowledge than the general nurses. The general attitudes are reported to be positive for nurses though.

CHAPTER 6: CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS.

6.1 Introduction

This chapter provides for a summary, conclusion, recommendations and limitations of the study. The study focused on nurses working in psychiatry's knowledge about the use of antipsychotic medication and the nurse's working in psychiatry's knowledge and the attitude about the side-effects of antipsychotic medication in a psychiatric hospital of the Western Cape. A quantitative, descriptive design was utilised for the purpose of this study to achieve the aim and the objectives.

Chapter One of the study introduced the reader to the study from the background, problem statement, purpose of the study, objectives of the study, significance of the study and concepts are defined operationally. In addition, the overview of research design has been discussed briefly by the researcher.

Chapter Two discussed the literature review that was published both locally and internationally. The literature review has been conducted on psychiatric nurses' knowledge of and attitudes towards the use and side-effects of antipsychotic medication given to mental health care users in a psychiatric facility in Mitchells plain. This chapter introduced the background of the topic starting with factors affecting how nurses assess antipsychotic medication side effects. The chapter further explored the information given to patients by

the nurses working in psychiatry. Lastly, antipsychotic medication adherence was discussed in broader view with gaps identified in the literature throughout the review.

Chapter Three outlined the aspects of research methodology that were used to investigate the research problem, by discussing the research design, research instrument, sampling, data collection and analysis in further detail. The research design used has helped to achieve the purpose and objectives of the study.

In chapter Four, the data was analysed and findings were presented. Chapter Five entailed discussing the findings in detail and broader view, whilst Chapter Six focused on summarising the study and main findings, limitations and recommendations.

6.2 Summary of the key findings

Firstly, overall, the knowledge of the respondents was adequate with more respondents scoring more than 50% on the test than less than 50%. These results were expected as the expectation was to find speciality nurses with higher knowledge.

Secondly, there were significant differences in knowledge per speciality between respondents with a psychiatric nursing specialty and those with no speciality.

Thirdly, knowledge questions on the effectiveness and side effects profile of first- and second-generation antipsychotics in the treatment of schizophrenia, had a low number of correct responses, thus indicating that this is an area of knowledge which requires specific additional training.

Fourthly, there were no significant differences but only that the psychiatrist specialists were higher with patient centred and non-patient centred attitudes.

The highest patient centred attitude was *Antipsychotic treatment is part of a patient-centred approach to treatment,* majority of the respondents agreed to this statement. The lowest rated patient centered attitude reported was, *if a patient is prescribed a depot, they are more likely to have a forensic history* with significant differences between the two groups. *Patient compliance is better with depots than with oral antipsychotics:* was reported as the highest rated non-patient centered attitude and *Depots are old fashioned,* these were the lowest rated in this category.

Finally, in training: these results reflect that psychiatric nurses are respondents that have attended most of the trainings with majority numbers as compared with the general nurses.

6.3 Recommendations.

6.3.1 Education

- It is evident from the study that there is a lack in knowledge between the two levels of nursing and that poses a risk for patients as both these levels of nurses treat the same patients. It is therefore recommended that general nurses are sent for training as early by government or increase support to nurses to be able to study earlier than waiting a long time to obtain study leave for advancement.
- An awareness should be made to the institutions that employs the nurses and also to the tertiary institutions that train them in terms of the findings with regards to the shortfalls in knowledge and side effects.
- Psychiatric training programmes should increase the content of side effects and more training in antipsychotic medication and side effects. These results demonstrate a lack in training of general nurses about antipsychotic medication side effects, though the psychiatric speciality have received better training compared to general nurses but it is not an indication that its effective. This may lead to underestimation of other side effects or lack in identification due to the lack of training or education which can then promote discontinuation of medication and increase the relapse rate. Antipsychotic treatment and side effects information to be included in the curriculum for nurses working in psychiatry and they need to be competent before they work in the field.

6.3.2 Research

- A province wide survey should be conducted to determine if this is a province wide concern or challenge. The researcher strongly recommends that this study to be replicated to all psychiatric institutions in the Western Cape to draw a comparative analysis on the prevalence of side effects and to reinforce the results.
- The researcher recommends another study which can be a qualitative study to gain an understanding about the factors that influence and are associated with the lack of knowledge.

6.3.3 Practice

- Proven tools of assessment of side effects are needed as to help in guideline as the studies suggest that most nurses utilise their discretion when it comes to other side effects.
- Training should be continuous; this can be achieved when collaboration can take place in the psychiatric institutions in the Western Cape to have trainings every quarter or every 3 months.

6.4 Limitations.

The research was only focusing on the professional psychiatric nurses, excluding other ranks and categories such as Staff nurses who also have some knowledge on medication and side effects, but their knowledge is perceived not sufficient for them to have been included in the study.

The study couldn't be generalised to other nurses as it only focused on one selected rank and that it can't be generalised to other institutions as it was conducted only in one institution, cannot be applicable to larger setting. The instrument knowledge section cannot be proven if the respondent's answers are their correct knowledge without secondary resources.

6.5 Conclusion.

The researcher conducted the study in the Western Cape focusing on the knowledge and side effects of antipsychotic medication for the nurses working in psychiatry. The study shows us that there is a difference in knowledge between the two groups, the psychiatric nurses are more knowledgeable compared to the general nurses as they have an advance course that is considered as speciality. The study shows no significant differences in attitudes but only that the psychiatrist specialists were higher with patient centred and non-patient centred attitudes as compared to general nurses.

7. References

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Appendice A: Information Sheet

UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa

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INFORMATION SHEET

Project Title: Psychiatric registered nurses' knowledge of and attitudes towards the use and side-effects of antipsychotic medication given to mental health users in the Western Cape

What is this study about?

This is a research project being conducted by Stella Tengile, a master's student at the University of the Western Cape. I am inviting you to participate in this research project because you will be given the opportunity to share or describe your knowledge of and attitudes regarding the use and side-effects of antipsychotic medication given to mental health users.

The purpose of this study is to investigate professional nurses working in psychiatry's knowledge of and attitudes towards the use and side-effects of antipsychotic medication. You will be asked to complete a consent form to participate in the project

What will I be asked to do if I agree to participate?

You will be asked complete a questionnaire that will take approximately 15 - 30 minutes of your time. The questions that will be asked are based on your knowledge and attitude towards the use and side effects of antipsychotic medication given to mental health care users. The questionnaire consists of 38 questions. Sixteen questions consist of multiple-choice questions and other sixteen questions consist with four possible responses, ranging from 1 (strongly agree) to 4 (strongly disagree) to assess for the attitude of antipsychotic use and side effects. You will have to indicate your response by placing an X in the appropriate block.

Written consent for the questionnaire will be needed and only the supervisor, the statistician, and I will have access to these documents. The data analysed along with the questionnaires will be placed in a safe place and will be kept under lock and key for a period of five years.

Would my participation in this study be kept confidential?

We will do everything in our best to keep your personal information confidential. To help protect your confidentiality, the questionnaires will be stored in a locked and safe cabinet where no one will be able to access it except the researcher. Your name will not be mentioned or identified in the report. Identification codes will be used instead of names such as, participant 1 or participant A. If we write a report or article about this research project, your identity will be protected to the maximum extent possible. The publication of the results of the project, will not mention any names of participants.

What are the risks of this research?

There are no known risks associated with participating in this research project.

What are the benefits of this research?

The results will assist the researcher to learn more about the psychiatric nurses' knowledge of and attitudes towards the use and side-effects of antipsychotic medication given to mental health users in the Western Cape

Guidelines can be developed for psychiatric nurses to improve the implementation of the medication use and side effects to address mental health user needs.

Information acquired during this research project will be shared with all respondents prior to public dissemination. Results of the study can be published in an accredited journal.

Other people might benefit from this study by obtaining a better understanding of learning and teaching in various psychiatric hospitals at nursing psychiatric facilities. This study could be repeated in a different but similar contextual setting.

Do I have to be in this research and may I stop participating at any time?

Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.

What if I have questions?

This research is being conducted by Ms Stella Tengile from the School of Nursing (SoN) at the University of the Western Cape. If you have any questions about the research study itself, please contact her at: 078 618 0988, Email: 3207046@myuwc.ac.za

Should you have any questions regarding this study and your rights as a research participant or if you wish to report any problems you have experienced related to the study, please contact:

Prof J.Chipps
Head of Department
University of the Western Cape
Private Bag X17
Bellville 7535
Contact: 021 959 3024
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Prof Rina Swartz
Acting Dean of the Faculty of Community and Health Sciences
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Appendice B: Consent Form

UNIVERSITY OF THE WESTERN CAPE

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CONSENT FORM

Title of Research Project: Psychiatric nurses' knowledge of and attitudes towards the use and side-effects of antipsychotic medication given to mental health users in the Western Cape.

The study has been described to me in language that I understand. My questions about the study have been answered. I understand what my participation will involve and I agree to participate of my own choice and free will. I understand that my identity will not be disclosed to anyone. I understand that I may withdraw from the study at any time without giving a reason and without fear of negative consequences or loss of benefits.

Participant's name……..

Participant's signature…….

Date……

APPENDIX C: QUESTIONNAIRE

A questionnaire on psychiatric registered nurse's attitude and knowledge regarding antipsychotic medication side-effects.

SECTION A: BIOGRAPHICAL AND DEMOGRAPHICAL INFORMATION

This section of the questionnaire refers to information necessary for the psychiatric registered nurse's attitude and knowledge of antipsychotic medication side-effects.

Instructions:

It will take 15-30 minutes to complete. **Questions consist of true or false, multiple choice or tick/answer as requested. Comment on your responses as appropriate in the areas provided**

1. Gender: _____
2. How old are you? _____
3. How many years have you worked in psychiatry? _____
4. What is your highest qualification?

Diploma in Nursing	**Advance Diploma in Nursing**
Degree in Nursing	**Master's degree in Nursing**

5. Have you formally undertaken any training in antipsychotic medication side effects? ☐ **YES** ☐ **NO**

If YES: choose completed course, if you have done more than one course as part of University education (Bachelor, Masters etc)

☐ **Short course**

☐ **In-Service Training**

☐ **Single lecture**

SECTION B: KNOWLEDGE SECTION

Please circle the letter (e.g a) which is the closest answer in your opinion to each question.

7. The original definition of "atypical" antipsychotics was used for describing (choose the correct answer):

a. A drug with low risk of EPS
b. A drug with low risk of weight gain
c. A drug that caused improvement of cognitive symptoms
d. A drug that reduced prolactin

8. Which is a site of chlorpromazine blockage?

a. Alpha adrenergic receptor
b. Muscarinic receptor M1
c. Serotonin receptor 5HT2A
d. Histamine receptor H1
e. All of above

9. Which drug is associated with LOW clinical potency and HIGH sedation?

a. Thiothixene
b. Haloperidol
c. Chlorpromazine
d. Olanzepine

10. Choose the antipsychotic with the lowest risk of hyperprolactinemia and extrapyramidal symptoms:

a. Thiothixene
b. Haloperidol
c. Chlorpromazine
d. Fluphenazine
e. Aripiprazole

11. One of the following is part of the clinical features of dystonia, choose the correct answer:

a. Cogwheel rigidity
b. Pill rolling movements
c. Masklike facies
d. Retrocollis and laterocollis

12. Which of the following is <u>not</u> part of the clinical features of the movement pattern in tardive dyskinesia? Choose the correct answer:

a. Repetitive movements

b. Abnormal movements

c. Stereotyped movements
d. Painful movements

13. Regarding the effectiveness and side effects profile of first- and second-generation antipsychotics in the treatment of schizophrenia, choose the correct answer:

a. Second generation antipsychotics are ineffective for the treatment of acute episodes
b. Second generation antipsychotics are less effective for treating secondary symptoms than first general antipsychotics
c. First- and Second-generation antipsychotics are effective for the treatment of positive symptoms
d. First generation antipsychotics are effective for the treatment of positives, negative and cognitive symptoms

14. Side-effects of the following first-generation antipsychotic has side effects of sedation (H1 receptors) and alpha 1 receptors (orthostatic hypotension)

a. Chlorpromazine
b. Clozapine
c. Haloperidol
d. Quetiapine

15. Which of the following drugs are associated with the highest risk of causing weight gain? Choose the correct answer:

a. Risperidone and quetiapine
b. Haloperidol and perphenazine
c. Clozapine and olanzapine
d. Aripiprazole and ziprasidone

16. Psychological effects of antipsychotic drugs taken by non-psychotic people

a. Pleasant, euphoric, increased psychomotor performance
b. Unpleasant, associated with decreased psychomotor performance

17. Antipsychotic endocrine effects are:

a. False positive pregnancy test
b. Increased libido in women
c. Decreased libido in men
d. Amenorrhea-galactorrhea
e. All of the above

18. Neurological adverse effects associated with antipsychotic drug use late in therapy

a. Parkinson's syndrome
b. Akisthisia
c. Acute dystonic reactions

d. Tardive dyskinesia
e. All of the above

19 What Is Neuroleptic Malignant Syndrome? (NMS)

a. A type of cancer relating to nervous tissue
b. A rare and often fatal reaction to anaesthetics
c. A type of psychological disorder
d. A rare and often fatal reaction to neuroleptic drugs

20. NMS can occur following the administration (among others) of

a. Procyclidine, paracetamol, chlorpromazine
b. Chlorpromazine, lithium, prothiaden
c. Haloperidol, chlorpromazine, thioridazine
d. Lithium, carbamazepine, levodopa

21. What are the common manifestations of NMS''

a. Fever, altered consciousness, rigidity, changes in blood pressure
b. Incontinence, fever, sweating, hypertension
c. Palpitations, alterations in blood pressure, unconsciousness, increased respirations
d. Tremor, rigidity, shuffling gait, hypertension

22. What other conditions can NMS be mistaken for''

a. Parkinson's disease, heart stroke, hypothyroidism
b. Epilepsy, heart stroke, catatonia
c. Pothyroidism, encephalitis lethargic, renal failure
d. Tetanus, heatstroke, malignant hyperthermia

Section C

State if you Strongly Agree, Agree, Disagree Strongly Disagree by placing an "X" in the box of your choice.

Subscale:(Patient centred)	Strongly agree	Agree	Disagree	Strongly Disagree
24. Antipsychotic treatment is part of a patient-centred approach to treatment				
25. The patient has no autonomy if they receive a medication				
26. Prescribing antipsychotics is coercive				
27. Patients can negotiate the dose of antipsychotic medication				
28. Patients have a greater risk of being stigmatised if they receive a depot				
29. If a patient is prescribed a depot, they are more likely to have a forensic history				
30. Patients are less likely to accept depot than oral medication.				
31. Patients' friends and family are more accepting of depot than oral medication				
Subscale: Non-patient-centred	Strongly Agree	Agree	Disagree	Strongly disagree
32. Patient compliance is better with depots than with oral antipsychotics				
33. Monitoring patient compliance is easier with depots than with oral antipsychotics.				
34. Depots are associated with prevention of relapse				
35. Depots are old fashioned				

36. Prescribing and monitoring are more bothersome for depot than oral medication				
37. For depots, the good aspects outweigh the bad				
38. Once a patient is on depot, it is unwise to discontinue				

APPENDIX D: UWC Consent Letter

OFFICE OF THE DIRECTOR: RESEARCH

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24 July 2017

Ms S Tengile

School of Nursing

Faculty of Community and Health Sciences

Ethics Reference Number: BM17/5/5

Project Title: Professional psychiatric nurses' knowledge of and attitudes toward the use and side-effects of antipsychotic medication given to mental health users in the Western Cape.

Approval Period: 09 June 2017 – 09 June 2018

I hereby certify that the Biomedical Science Research Ethics Committee of the

University of the Western Cape approved the scientific methodology and ethics of the above-mentioned research project. Any amendments, extension or other modifications to the protocol must be submitted to the Ethics Committee for approval.

Please remember to submit a progress report in good time for annual renewal.

The approval letter from the Provincial Health Department should be submitted to the BMREC for record keeping.

The Committee must be informed of any serious adverse event and/or termination of the study.

Ms Patricia Josias

Research Ethics Committee Officer

University of the Western Cape

PROVISIONAL REC NUMBER -130416-050

APPENDIX E: Western Cape Department Consent Letter

Western Cape Government
Health

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5th Floor, Norton Rose House., 8 Riebeek Street, Cape Town, 8001
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REFERENCE: WC_201708_009
ENQUIRIES: Ms Charlene Roderick

University of Western Cape

Robert Sobukwe Road

Bellville

Cape Town

7535

For attention: Ms Stella Tengile

Re: **Professional psychiatric nurse's knowledge of and attitudes towards the use and side-effects of antipsychotic medication given to mental health users in the Western Cape.**

Thank you for submitting your proposal to undertake the above-mentioned study. We are pleased to inform you that the department has granted you approval for your research.

Please contact following people to assist you with any further enquiries in accessing the following sites:

Lentegeur Hospital	**Ms Mary Jacobs**	**021 370 1111**

Kindly ensure that the following are adhered to:

1. Arrangements can be made with managers, providing that normal activities at requested facilities are not interrupted.
2. Researchers, in accessing provincial health facilities, are expressing consent to provide the department with an electronic copy of the final feedback (**annexure 9**) within six months of completion of research. This can be submitted to the provincial Research Co-ordinator (Health.Research@westerncape.gov.za).
3. In the event where the research project goes beyond the *estimated completion* date which was submitted, researchers are expected to complete and submit a progress report