

**REDUCING METABOLIC SYNDROME IN PATIENTS WITH A
SEVERE MENTAL ILLNESS IN A FORENSIC UNIT IN NEW
ZEALAND: PERCEIVED BARRIERS FOR REGISTERED
NURSES**

by

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ABSTRACT

The New Zealand Health Strategy in 2000 highlighted significant health inequalities and the need to improve the health status of individuals with severe mental illness (Ministry of Health, 2000). Mental health users die at 2.5 to 4.3 times the rate of the general population, even when suicide is factored out (Handiside, 2004). It is estimated that one quarter of the world's population have Metabolic Syndrome and that they are twice as likely to die from and have a five-fold greater risk of developing type two diabetes mellitus (International Diabetes Federation, 2009). The time has long past when Registered Nurses can only afford to focus on a patient's mental health and to do so would negatively impact on a patient's quality of life. A patient's quality of life encompasses their physical, functional, emotional, spiritual and social well-being (Cella, 1994). This study highlights that Registered Nurses working in inpatient psychiatric units are well positioned to detect, prevent and manage Metabolic Syndrome in patients with severe mental illness as they spend the greatest amount of time in close patient contact.

An exploratory qualitative descriptive approach was used for the study to describe the perceived barriers that Registered Nurses encounter in their practice in the reduction of Metabolic Syndrome in patients with severe mental illness. The study was conducted on a forensic psychiatric unit at one DHB in New Zealand. A sample of five Registered Nurses consented to participate in a focus group interview, which was the main data collection tool used for this study. Thematic analysis was used to establish the major themes that emerged from the focus group interview. The findings of this study revealed that there are significant barriers that Registered Nurses have in helping to reduce Metabolic Syndrome in this patient group. These barriers include a patient's mental illness, knowledge of patients and staff, staff provision of care, diet and insufficient resources on the forensic unit. The focus group interview also encouraged Registered Nurses to suggest possible solutions to these barriers and these are reflected upon in this study.

Key Words

Metabolic Syndrome, severe mental illness, forensic psychiatry, physical health, obesity, holistic nursing practice, chronic illness.

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LIST OF ACRONYMS

5HT2	Serotonin
BMI	Body Mass Index
CVD	Cardiovascular Disease
D2	Dopamine
DHB	District Health Board
H ₁	Histamine
HDL-C	High-density lipoprotein cholesterol
LDL-C	Low-density lipoprotein cholesterol
MDT	Multi-Disciplinary Team
MOH	Ministry of Health
RN	Registered Nurse
SMI	Severe Mental Illness
T2DM	Type Two Diabetes Mellitus
TC	Total Cholesterol
TGs	Triglycerides
WHO	World Health Organisation

CHAPTER ONE: INTRODUCTION

Background

Mental health nursing is a specialised area of nursing which focuses on meeting the mental health needs of the individual with a mental illness in partnership with family/whanau and the community in any setting (New Zealand College of Mental Health Nurses (NZCMHN), 2004). The NZCMHN (2004) defines mental health nursing as an interpersonal process that embodies a concept of caring which has a therapeutic influence on the patient, the family or whanau and the community, within their cultural context by:

- Supporting patients to optimise their health status within the reality of their life situation.
- Encouraging patients to take an active role in the decisions regarding their health care and wellbeing.
- Involving whanau and communities in the care and support of patients.

As a Registered Nurse, I have six years experience in mental health nursing, four years of which I have worked in a forensic unit in New Zealand and two years in an acute adult mental health unit in Australia. My philosophy of nursing and the theoretical framework for this study underpins a holistic nursing framework when a patient's physical, social, spiritual, emotional, cultural and mental wellbeing (Milner, 2003; Brown & Wimpenny, 2011) is reflected on during assessment, treatment and recovery. As a result I have a strong interest in both the mental health and physical health needs of individuals with severe mental illness (SMI). Over the past five years through my own observations and practice, I have noticed that in particular the physical health care needs of individuals with SMI are not being met adequately. This is further evidenced in research carried out by Pack (2009), who concluded that Registered Nurses (RNs) working with individuals with SMI tend to focus on an individual's psychiatric symptoms and often overlook their physical health needs.

Usher, Foster and Park (2006) define Metabolic Syndrome as the presence of three or more of the following metabolic risk factors:

1. Insulin resistance, a precursor for Type Two Diabetes Mellitus (T2DM)
2. Abdominal Obesity
3. Dyslipidaemia (increased cholesterol and fats in the blood stream)
4. Hypertension (high blood pressure)
5. Smoking

A constellation of these risk factors greatly predisposes an individual to cardiovascular disease (CVD) (Van Gaal, 2006).

The separation of an individual's physical illness from their mental health often fragments the total care offered to individuals with SMI (Sebastian & Beer, 2007). It is for this reason, that I believe it is important for RNs to provide holistic care for individuals with SMI by addressing both their mental health and physical health care needs to improve their overall quality of life (Pack, 2009) and help facilitate their road to recovery.

The research question

What are Registered Nurses' perceptions of the barriers in helping to reduce Metabolic Syndrome in patients with a severe mental illness on a forensic unit in New Zealand? Arising from this primary question is the sub question: what are the suggested solutions to these barriers?

Research aims and objectives

The aim of this research was to describe the barriers that Registered Nurses encounter in their day to day practice, in helping to reduce Metabolic Syndrome in patients with SMI on a forensic unit. Two key research objectives were identified:

1. To explore the barriers that Registered Nurses have in helping to reduce Metabolic Syndrome in patients with a SMI in a forensic unit in New Zealand.
2. To explore possible solutions to these barriers as suggested by the Registered Nurses.

Relevance of study

This study has wide relevance internationally and more specifically in New Zealand. The New Zealand Health Strategy in 2000 highlighted significant health inequalities and the need to improve the health status of people with SMI (Ministry of Health, 2000). Recent research indicates that mental health service users die at 2.5-4.3 times the rate of the general population, even when suicide has been factored out (Handiside, 2004). The New Zealand Mental Health Survey in 2006 found that 68% of individuals with SMI have at least one chronic physical condition (i.e. cardiovascular disease, hypertension) compared to 53% of individuals in the general population (Scott, Oakley Browne, McGee & Wells, 2006). Similarly, the World Federation for Mental Health (WFMH) has also raised concerns about the importance of monitoring the physical health of individuals with a SMI (WFMH as cited in Sebastian & Beer, 2007).

Mental health nurses spend the greatest amount of time in close patient contact (Wand & Murray, 2008) and are therefore well positioned to prevent, detect or manage the development of physical illnesses in patients in inpatient psychiatric units (Usher et al, 2006). There is currently insufficient research evidence to suggest why the physical health care needs of patients with SMI in forensic inpatient units are not being met. Based on the research available literature (Chapter Two) and from my personal experience working in this clinical area, physical illness, in particular Metabolic Syndrome, is over-represented in this population group. This study is therefore significant for RNs working in forensic inpatient units as it aims to identify the barriers in providing effective physical healthcare for this patient group and explores possible avenues to overcome these barriers. This is important as the time has long past when mental health nurses can afford to attend only to the presenting psychiatric illness as to do so would impact negatively on the quality of life for mental health patients (Wand & Murray, 2008) and impede their journey to recovery.

Contribution to nursing knowledge

The knowledge that will be uncovered in this study will not only benefit the practice of the RNs on the forensic unit where this study is carried out, but will be valuable to

RNs who work in other forensic units throughout New Zealand. The study results will build on nursing knowledge and enable RNs to develop their practice by emphasising the importance of providing holistic health care to patients with SMI. The findings of this study contribute to the development of nursing knowledge by informing nursing education and practice through publication and through the dissemination of the study results to District Health Boards.

Forensic Inpatient Nursing

Forensic inpatient services provide assessment, treatment and rehabilitation for people who have or may have a mental illness and who are alleged offenders or have been charged with a criminal offence (Ministry of Health, 2001; Ministry of Health 2007). In some circumstances, forensic inpatient services also provide assessment and treatment for individuals whose potential danger to themselves and others is such that they cannot be managed by other adult mental health services (Ministry of Health, 2001).

Admission to a Forensic Psychiatric Unit in New Zealand occurs via a New Zealand Court of Law or a New Zealand Correctional Service. The person may not necessarily be mentally ill or need acute care, but require observation and assessment to establish if there is a relationship between their mental illness and the offence (Ministry of Health, 2001). If a relationship is established between the offence and the person's mental illness, the court of law in conjunction with a psychiatrist's assessment can deem the person to be unfit to be tried for a criminal offence or find the person not guilty of the offence due to mental illness (Happell, Cowin, Roper, Foster and McMaster, 2008). The patient is admitted under either or both The Mental Health Act 1992 and The Criminal Procedures (Mentally Impaired Persons) Act 2003 and can remain as an inpatient on the forensic unit for a varying period of time. This may be several weeks through to several years, until the patient is considered well enough by a court of law to be discharged. On certain occasions, patients may not be discharged from a forensic inpatient unit due to their high risk of re-offending and their mental illness.

Forensic mental health nursing requires specific assessment, treatment and care for patients who have offended or who may offend because of their mental illness (Mullen, 1999). Forensic nurses must have a high level of self-awareness and have established a good therapeutic use of self (Bowring-Lossock, 2006). Forensic mental health nursing requires a similar skill set as nurses in other acute mental health inpatient settings in that they must be able to establish effective therapeutic relationships with patients; be exceptionally competent in the safety and security of patients and colleagues; be able to assess and manage risk; be able to manage violence and aggression effectively and be trained in de-escalation and restraint (Bowring-Lossock, 2006; Ministry of Health, 2001). Forensic mental health nurses however, must also have knowledge of the criminal justice system, which includes competence in writing reports for the court and the mental health review tribunal; be familiar with mental health and criminal law and have knowledge of offending behaviour.

Due to the long periods of time spent in forensic psychiatric units, patients can become institutionalised. Features of institutionalisation include a dependence on hospital life, little or no interest in the outside world, withdrawal, loss of the ability to socialise and often a reluctance to be discharged from hospital (Wirt, 1999). During this time, a patient's physical health status can deteriorate as they are less likely to maintain good self care. Forensic mental health nurses must therefore have good physical health assessment skills and be able to provide holistic care to maintain optimum health and wellbeing for this patient group.

The Treaty of Waitangi

This study conforms to the three principles of the Treaty of Waitangi: partnership, protection and participation. Due to the high prevalence of Maori with SMI in New Zealand (Wheeler, Harrison & Homes, 2009) and their overrepresentation in the forensic population, it is important for RNs to *protect* their physical health status through the provision of holistic nursing care. Holistic nursing recognises that health is toanga (sacred) and that the physical, mental, spiritual and cultural needs of Maori need to be met (Durie, 1994). By encompassing holistic nursing, RNs can work in

partnership with Maori, therefore encouraging Maori individuals with mental illness to engage more frequently in the *participation* of their own health and wellbeing (Nursing Council of New Zealand, 2002).

Definitions of key concepts:

Following are some definitions for the purpose of this thesis:

Whanau

Whanau is the Maori word for family. The Whanau is recognised as the foundation of Maori society and as a principal source of strength, support, security and identity; the Whanau plays a central role in the individual and collective wellbeing of Maori (Ministry of Health, 2006).

Recovery

Recovery is the ability to live well in the presence or absence of one's mental illness and each individual with mental illness needs to define for themselves what 'living well' means to them. The process of recovery happens when individuals with mental illness take an active role in improving their lives, when communities include people with mental illness and when mental health services can enable people with mental illness and their communities and families to interact with each other (Mental Health Commission, 2001).

District Health Board (DHB)

District Health Boards are responsible for providing, or funding the provision of health and disability services in their district. In New Zealand, there are 20 DHBs and they have existed since 1 January 2001 when the New Zealand Public Health and Disability Act 2000 came into force (Ministry of Health, 2009).

Registered Nurse

The Nursing Council of New Zealand (2008) has defined a Registered Nurse as an individual who:

“Utilises nursing knowledge and complex nursing judgement to assess health needs and provide care, and to advise and support people to manage their health. They practice independently and in collaboration with other health professionals and delegate to and direct enrolled nurses, healthcare assistants and others. They provide comprehensive assessments to develop, implement and evaluate an integrated plan of health care and provide interventions that require substantial scientific and professional knowledge, skills and clinical decision making. This occurs in a range of settings in partnership with individuals, families, whanau and communities.”

Multi-disciplinary Team

The multi-disciplinary team (MDT) is a group of health professionals who work collaboratively in a health care setting to make treatment recommendations for a patient. On the forensic unit discussed in this thesis, the MDT is made up of Registered Nurses, Psychologists, Psychiatrists, Occupational Therapists and Social Workers.

Structure of thesis

Chapter one provides a background to the study and its relevance to nursing practice. It discusses how the study aims to improve the overall health and wellbeing of patients with SMI. In chapter two, Metabolic Syndrome is defined and the latest research evidence is introduced. A gap in the literature in relation to Metabolic Syndrome in patients in forensic psychiatric units, in particular the barriers for RNs in helping to reduce Metabolic Syndrome in this patient group is identified. The methods and methodology used to answer the research question for this study is discussed in chapter three. In chapter three the data collection tool, ethical considerations for this study and the concept of trustworthiness in qualitative research are also discussed at length. Chapter four presents the data analysis and findings of this study from the focus group interview. The findings are presented as straight descriptions of the data. The analysis of the findings in relation to the themes that emerged from the focus group interview data are discussed in chapter five. The findings are also discussed in relation to the literature for literature control purposes.

The study's methodology is reflected upon and the limitations of the study are explored. Chapter five concludes with recommendations for further research.

Summary

In this chapter the research question was introduced. The relevance and importance of the study as it further expands on the health inequalities in people with SMI as outlined in the New Zealand Health Strategy (Ministry of Health, 2000) was emphasised. The findings of this research may assist in improving the health and wellbeing of patients with SMI in forensic settings with the overall aim to reduce Metabolic Syndrome in this patient group through the provision of holistic nursing care. This chapter also provides definitions of key concepts that surface in this study. A literature review was carried out prior to data collection and analysis with the aim to provide background information on Metabolic Syndrome and to identify the key gaps in the literature regarding patients in forensic psychiatric units and their risk of developing Metabolic Syndrome. The literature review for this study is presented in Chapter Two.

CHAPTER TWO: LITERATURE REVIEW

Introduction

This chapter defines Metabolic Syndrome in relation to its individual risk indicators and the relationship Metabolic Syndrome has with SMI, antipsychotic medication and the development of cardiovascular disease (CVD). It is important to define Metabolic Syndrome in this study as the definition provides a clear insight into why RNs need to focus on reducing Metabolic Syndrome in patients with SMI by highlighting the significant physical health risks associated with the syndrome. This chapter also emphasises the importance of holistic nursing care in mental health nursing practice and identifies the barriers for nurses who care for patients with chronic illness who are institutionalised. The monitoring of Metabolic Syndrome within the New Zealand health context and the available research on the relationship between Metabolic Syndrome and forensic psychiatry is also explored in this chapter. The chapter concludes with a brief discussion regarding the identified gap in the literature in relation to the aims and objectives of this study.

Search Strategy

For the purpose of this research and literature review, a wide variety of bibliographic databases and search engines were used to obtain current literature. The databases searched included Advanced Google Scholar, Cumulative Index to Nursing and Allied Health Literature (CINHAL), medline and psychINFO. The Ministry of Health (MOH) website was also searched to locate key documents relating to the physical health needs of patients with SMI.

The literature search was limited to a ten year period from 2000 to 2011 and the articles were required to be written in English. The literature search was limited to this time frame as although the concept of Metabolic Syndrome has existed since 1998 (Meyer & Stahl, 2008), knowledge and understanding of Metabolic Syndrome

has developed significantly over the past decade. An article by Alberti and Zimmet (1998) falls outside the ten year bracket but was considered to be relevant to the literature review process as it provides a clear guideline for the parameters of body mass index. Journal articles from these databases were required to be available electronically, have an abstract and be available in full text.

The concept of *ancestry approach* was another search strategy used in this literature review. Ancestry approach involves looking at the citations from relevant journal articles to track down earlier research on which the studies are based (Polit & Beck, 2010). This process also provided several relevant journal articles for this literature review, such as those by Sernyak, Leslie, Alarcon, Losonczy and Rosenheck (2002); Newcomer (2007) and Robson and Gray (2007).

Due to the abundance of literature available on Metabolic Syndrome within these search parameters (i.e. CINAHL: 3557 articles; psychINFO: 535 articles; Medline: 35418 articles and advanced Google scholar: 685,000 articles), a combination of the key words for this study were used. The key words were Metabolic Syndrome, severe mental illness, forensic psychiatry, physical health, obesity and holistic nursing practice. Combinations of the individual risk factors of Metabolic Syndrome were also used to help identify relevant literature. Studies by Wheeler, Harrison and Homes (2009) and Prebble, Kidd, O'Brien et al. (2011) were the only studies found based in New Zealand. The majority of the studies were done in Australia, Europe and Scandinavia. The literature search only returned two articles within the search parameters relating Metabolic Syndrome to forensic psychiatry (Ojala, Niskanen, Tiihonen, Paavola, Putkonen & Repo-Tiihonen, 2008; Tetile, Eik-Nes, Palmstierna, Callaghan & Nottestad, 2008). These two articles clearly identify a gap in the literature on this topic which will be explored in more detail at the end of this chapter.

Metabolic Syndrome defined

Over the last 50 years, there has been a dramatic change in the human environment, behaviours and ways of living (Zimmet, Magliano, Alberti & Shaw, 2005). These changes have resulted in escalating rates of both obesity and type two

diabetes globally (Zimmet et al, 2005), which are now recognised as two of the major risk factors of developing Metabolic Syndrome. The combination of obesity and diabetes is now recognised as one of the major threats to human health in the 21st century (Zimmet et al, 2005). Over the last decade, the incidence of people with SMI developing Metabolic Syndrome has increased (Meyer & Stahl, 2008). This is evidenced in recent research carried out by Brunero and Lamont (2009) who studied 73 patients in an Australian psychiatric hospital for Metabolic Syndrome. Their results found that 45 (61.6%) of the patients met the criterion for Metabolic Syndrome.

The International Diabetes Federation (2009), estimates that one-quarter of the world's population have Metabolic Syndrome and that individuals with Metabolic Syndrome are twice as likely to die from and have a five-fold greater risk of developing T2DM. Diabetes and Metabolic Syndrome are currently ahead of HIV/AIDS globally in terms of morbidity and mortality, yet the problem is not yet as well recognised (International Diabetes Federation, 2009). Moreover, the age of Metabolic Syndrome onset occurs much earlier in individuals with schizophrenia and other SMIs than in the general population, with high Metabolic Syndrome prevalence seen among patients with schizophrenia below the age of thirty (Meyer & Stahl, 2008). Metabolic syndrome is defined by the presence of three or more of the following metabolic risk factors:

- Insulin resistance, a precursor for T2DM
- Abdominal obesity
- Dyslipidaemia
- Hypertension
- Smoking

At least one of these risk factors is reported in 68% of people experiencing a SMI (Wheeler, Harrison & Homes, 2009). This is a serious health issue in that a constellation of these risk factors greatly predisposes an individual to CVD (Van Gaal, 2006). In 2004, 17.1 million people died from CVD, representing 29% of all deaths globally (World Health Organisation (WHO), 2009). By 2030, CVD is estimated to be the leading cause of death in developed countries with an estimated

23.6 million people dying from CVD, in particular heart disease and stroke (WHO, 2009).

The following section addresses specific details regarding each of these risk indicators and provides parameters for their measurement.

Insulin resistance

Central to the Metabolic Syndrome is the concept of insulin resistance. Insulin resistance is associated with impaired glucose control, increased plasma triglycerides, reduced high density lipoprotein cholesterol (HDL-C), increased blood pressure, increased risk of blood clotting and increased markers of inflammation, all of which are associated with an increase risk of CVD (Newcomer, 2007). Insulin resistance is a precursor for the development of diabetes, in particular T2DM which accounts for 90 percent of all diabetes globally (International Diabetes Federation, 2009).

The relationship between diabetes and SMI has been investigated more than any other co-occurring mental and physical health problem (Robson & Gray, 2006). Atypical antipsychotic medication (discussed later in this chapter) has a strong relationship with the development of T2DM in individuals with SMI. However schizophrenia itself appears to be an independent risk factor for diabetes and many individuals with schizophrenia have a family history of the condition (Gough & Peveler, 2004). A family study found that up to 19% of the first degree relatives of individuals with schizophrenia had T2DM, which indicates a probable genetic association between schizophrenia and T2DM (Holt as cited in Sebastian & Beer, 2007). Further, individuals with schizophrenia show over-activation of both the hypothalamic-pituitary-adrenal and sympathoadrenal medullary axes, manifested by increased production of cortisol and adrenaline (Chue & Cheung, 2006). Both of these hormones are known to be diabetogenic and have, therefore, been proposed as playing a part in the onset of diabetes in schizophrenia (Dinan as cited in Chue & Cheung, 2006).

The following criterion as defined by the International Diabetes Federation (2009) is indicative of insulin resistance:

- Raised fasting plasma glucose: ≥ 5.6 mmol/L *or*
- Previously diagnosed T2DM

Obesity

During the last decade, obesity has become one of the leading international physical health concerns (Von Hausswolff-Juhlin, Bjartveit, Lindstrom & Jones, 2009).

Obesity increases the risk of Metabolic Syndrome and CVD (Rege, 2008). The World Health Organisation's (Alberti & Zimmet, 1998) criteria for overweight and obesity is calculated by body mass index (BMI). A healthy person has a BMI 18.5 to 24.9 kg/m²; an overweight person has a BMI of 25-29.9kg/m² and an obese person has a BMI of >30 kg/m². BMI is calculated by dividing an individual's weight by their height in meters² (Alberti & Zimmet, 1998). For example, a person who weighs 88kg and whose height is 1.72m has a BMI of 29.75, indicating that this person is overweight. An example of this calculation follows:

$$\text{BMI: } \frac{88\text{kg}}{1.72\text{m} \times 1.72\text{m}} = 29.75$$

Individuals with abdominal fat distribution, or visceral adiposity, have a greater metabolic risk than those with peripheral fat distribution (i.e. fat deposits on the thighs, buttocks and chest) (Millar, 2008). Excess visceral fat puts a strain on the entire circulatory system (Van Gaal, 2006). This is strongly associated with decreased insulin sensitivity, which impairs glucose control and increases triglycerides and highly oxidised low-density lipoprotein particles. Blood pressure is also increased as well as the markers of blood clotting. All these effects are associated with an increased risk of CVD (Newcomer & Haupt as cited in Rege, 2008).

Table 2.1 outlines the waist circumference measurements that identify abdominal obesity for specific ethnicities as defined by The International Diabetes Federation (2009):

Table 2.1: Waist circumference measurements for specific ethnicities

COUNTRY/ETHNIC GROUP		WAIST CIRCUMFERENCE
European (USA uses 102cm for males and 88 cm for females for clinical purposes)	Male	≥ 94 cm
	Female	≥ 80 cm
South Asians (Chinese, Malay and Asian-Indian population)	Male	≥ 90 cm
	Female	≥ 80 cm
Chinese	Male	≥ 90 cm
	Female	≥ 80 cm
Japanese	Male	≥ 90 cm
	Female	≥ 80 cm

Obesity can have a negative impact on an individual with a SMI. It affects an individual's self-image, their ability to participate in the rehabilitation process, compliance with prescribed medication and their overall quality of life (Tirupati & Chua, 2007).

Dyslipidaemia

Dyslipidaemia is a further risk factor for T2DM and CVD (Barnett et al, 2007) and the subsequent development of Metabolic Syndrome. Elevated levels of total cholesterol (TC), low-density lipoprotein cholesterol (LDL-C) and triglycerides (TG) are all strong independent risk factors for CVD, while low levels of high-density lipoprotein cholesterol (HDL-C) is associated with an increased risk of CVD (National Cholesterol Education Program, 2002). Prospective studies demonstrate a constant linear relationship between relative cardiovascular risk and total cholesterol in the range of 4 to 8 mmol/L (New Zealand Guidelines Group, 2003). The following criterion as defined The International Diabetes Federation (2009) is indicative of dyslipidaemia:

- triglyceride levels: ≥ 1.7mmol/L,
- high density lipoprotein (HDL): ≤ 1.03 mmol/L (males) and ≤ 1.29mmol/L (females)
- cholesterol/HDL ratio of >4.5mmol/L

Hypertension

Hypertension is a major contributing factor to CVD (Cohn & Sernyak, 2006). Hypertension is defined by the International Diabetes Federation (2009) as having a raised blood pressure of: systolic ≥ 130 mmHg or diastolic ≥ 85 mmHg and is a significant risk factor for the development of CVD (Usher, Foster & Park, 2006). One in five New Zealanders over the age of 15 have a blood pressure over 160/95 or are taking medication to lower blood pressure (NZGG, 2003). A 10mm Hg reduction in systolic blood pressure or a 5mm Hg reduction in diastolic blood pressure between the ages of 40 and 69 years is associated with approximately a 40% reduction in the risk of CVD (NZGG, 2003).

Smoking

Epidemiological studies have indicated that the international prevalence rates of smoking in people with schizophrenia and bipolar disorder range from 58% to 88%. This is up to three times higher than the general population (Robson & Gray, 2006). The high incidence of smoking means that people with schizophrenia are at a greater risk for developing the detrimental effects associated with smoking, such as CVD (Von Hausswolff-Juhlin et al, 2009). Smoking cessation can reduce the incidence of CVD by up to 50% (Paton, Esop, Young & Taylor, 2004). However, for individuals with a SMI, smoking can be seen as a means of self-medication. The inhalation of nicotine increases the levels of dopamine which alleviates certain psychiatric symptoms, i.e. negative symptoms, cognitive deficits and antipsychotic side effects (Robson & Gray, 2006). The difficulties in giving up smoking are therefore magnified in individuals with a SMI.

Assessing cardiovascular risk

It is well identified that the constellation of risk factors for Metabolic Syndrome significantly increases an individual's risk for CVD (Van Gaal, 2006; Usher et al, 2006; Newcomer, 2007). The goal for cardiovascular risk assessment is to decrease an individual's five-year absolute cardiovascular risk (Ministry of Health, 2009). Absolute cardiovascular risk is the likelihood that a person will have a cardiovascular event over a given period of time (NZGG, 2003). In New Zealand, health professionals are able to assess an individual's absolute cardiovascular risk by using the New Zealand Cardiovascular Risk Charts (Appendix A). The charts allow health

professionals to assess different variables, i.e. male versus female; smoker versus non-smoker and diabetic versus non-diabetic to establish a more accurate cardiovascular risk percentage. To accompany this chart, the Ministry of Health (2009) have produced a table outlining the potential interventions that may be taken by health professionals (Appendix B) to help reduce an individual's for CVD. The table outlines recommendations for individuals who fall into different risk categories, i.e. low, moderate or very high risk. Individuals with metabolic risk factors should automatically be assessed as a high CVD risk and have their cardiovascular risk measured at baseline and every three to six months (Ministry of Health, 2009).

Antipsychotic medication and Metabolic Syndrome

Antipsychotic medications have revolutionised the treatment of mental illness and have become the mainstay of treatment for most psychotic disorders, i.e. psychoses, delusional disorder, psychotic depression, schizophrenia and schizoaffective disorder (Elder, Evans & Nizette, 2005). Atypical antipsychotics have a lower risk for extrapyramidal side effects compared with typical antipsychotics and have rapidly become the first line treatment for their indicated use, as well as for a number of off-label indications (i.e. bipolar disorder, dementia, psychotic depression, autism and developmental disorders) (Sernyak, 2007). However, atypical antipsychotics have been recently linked to a number of their own serious side effects. In addition to their actions on the D2 receptors in the brain, atypical antipsychotics also have a high affinity for the antagonism of 5HT_{2C} (serotonin) and H₁ (histamine) receptors on the brain (Jarboe, 2007). These two receptors are strongly associated with sedation and weight gain (Rege, 2008).

Antagonism of serotonin receptors is known to influence appetite and thereby promote weight gain (Sebastian & Beer, 2007) by diminishing the sensation of satiety (feeling full) (Rege, 2008). The H₁ receptor is involved in the orexigenic actions of antipsychotics whereby the antipsychotics potently and selectively bind to the paraventricular and arcuate nucleus of the hypothalamus, increasing appetite and reversing the anorexigenic actions of leptin (Kim et al. as cited in Rege, 2008). Leptin is a hormone secreted by the adipose tissue and affects the receptors in the

hypothalamus that controls food intake (Sebastian & Beer, 2007). A deficit in leptin or leptin receptors results in individuals overeating, subsequently leading to the individual becoming overweight or obese (Sebastian & Beer, 2007) which can further manifest into dyslipidaemia and T2DM. For individuals taking atypical antipsychotics, fat deposition occurs despite substantial elevation of circulating leptin, indicating that leptin control or fat deposition in individuals receiving atypical antipsychotics treatment is disturbed (Sebastian & Beer, 2007). This occurs because the medications block other receptors that interact with the effects of leptin in the hypothalamus (Sebastian & Beer, 2007).

I developed the following diagram to summarise how atypical antipsychotics play a role in increasing an individual's risk in the development of CVD (Figure 2.1). The diagram is read from top to bottom with the arrows indicating the flow-on effects associated with atypical antipsychotics.

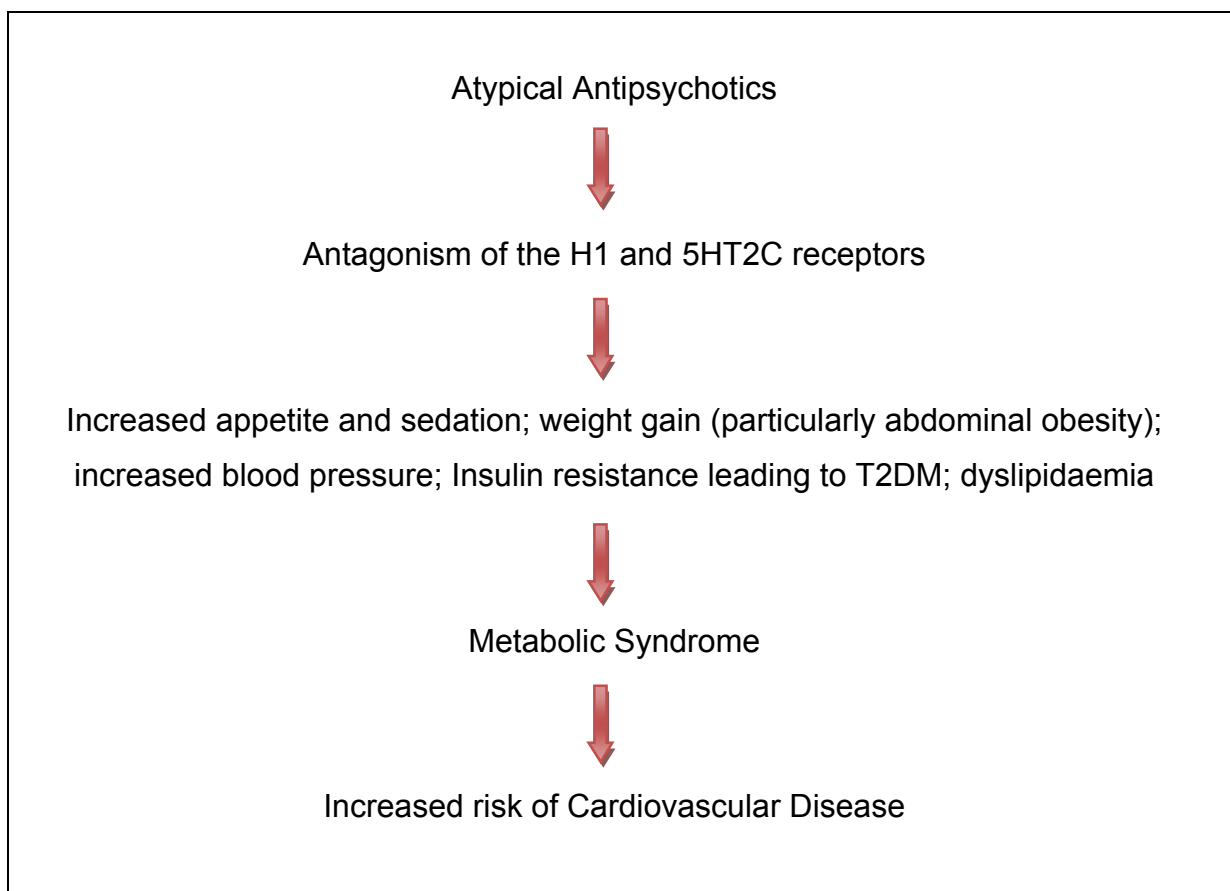


Figure 2.1: Flowchart indicating how atypical antipsychotics increase the risk for CVD.

There is an abundance of published evidence spanning case reports, prospective observational studies, retrospective database analyses and randomised control trials identifying an association between atypical antipsychotic medications and metabolic risk indicators (Newcomer, 2007). In a case study which investigated the prevalence of dyslipidaemia in 606 inpatients in a South London psychiatric unit with a SMI treated with atypical antipsychotics, the researchers found that 66-68% of patients treated with an atypical antipsychotic were identified as having dyslipidaemia (Paton et al, 2004). Similarly, in a study carried out by Tarricone and colleagues 2006, they found that patients treated with atypical antipsychotics had four times higher odds of developing dyslipidaemia compared to control groups (Kannabiran & Singh, 2008). This study was of significance, as it did not find any differences between the different atypical antipsychotic medications, with all atypical antipsychotics being associated with metabolic effects (Kannabiran & Singh, 2008).

The following graph (Figure 2.2) gives a clear indication of the weight gain associated with atypical antipsychotics over a 10 week period. For each of the atypical antipsychotics on the horizontal axis, the corresponding weight gain over a ten week period is indicated both on the vertical axis and as an exact weight gain measurement on top of each individual bar.

Discussion of the literature

Metabolic Syndrome and the New Zealand health context

In the New Zealand Mental Health Survey 2006, Maori were found to have a higher prevalence of mental illness, both major and general compared to the rest of the New Zealand population (Wells, Browne, Scott, McGee, Baxter & Kokaua, 2006). Maori and Pacific ethnicities appear to be at a further risk factor for the development of metabolic abnormalities and are known to have a higher incidence for the development of CVD (NZGG, 2003). CVD is now the leading cause of death in New Zealand, accounting for 40% of all deaths (NZGG, 2003). CVD contributes significantly to the earlier mortality and significant morbidity in Maori and Pacific people compared to New Zealand Europeans (NZGG, 2003). New Zealand Maori make up approximately 15% of the total New Zealand population. The estimated

lifetime risk of developing T2DM in New Zealand Maori is 21% and 7.5% in New Zealand Europeans. The rate of overweight and obesity is 63% and 21% respectively (New Zealand Mental Health Metabolic Working Group, 2006).

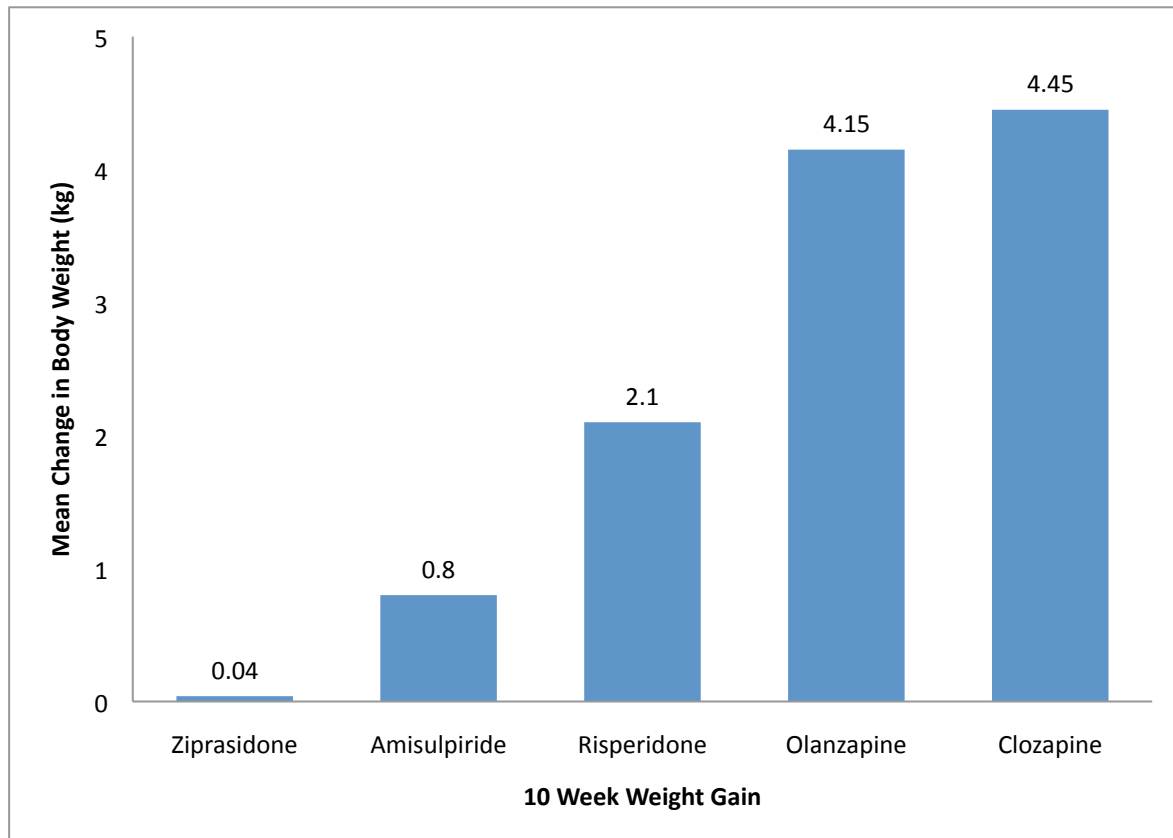


Figure 2.2: Mean changes in body weight associated with different atypical antipsychotic medications (Newcomer, 2007, p. 1938).

The relationship between socioeconomic position, CVD, diabetes and mental illness is strong in New Zealand. Over half of the Maori population and even a greater proportion of Pacific people live in the most deprived areas (NZGG, 2003). The New Zealand Mental Health Survey conducted in 2006 found that Maori and Pacific people with mental illness are less likely to access health services, regardless of sociodemographic factors such as income and age (Wells et al, 2006). This is because although secondary health services are free at the point of care, primary health services where traditionally health is normally managed, is only partially subsidised and the two systems function independently of each other (Wheeler et al,

2009). All of these factors collectively put Maori and Pacific Island people at a further risk of cardiovascular mortality (Wheeler et al, 2009).

Metabolic Syndrome and forensic psychiatry

Despite the abundant research literature involving Metabolic Syndrome that has been produced globally, there is an evident gap in the literature regarding the incidence of Metabolic Syndrome in patients on forensic psychiatric units. Following is an example of the current research evidence pertaining to this specific area:

In a study carried out by Ojala et al. (2008), in a sample size of 221 patients on a secure forensic psychiatric unit in Finland, Metabolic Syndrome was found in one third of the patients. The study showed that the most common component of Metabolic Syndrome was dyslipidaemia with 52% of the patients having triglyceride concentrations >1.70mmol/L and 44% of the patients having low HDL cholesterol levels. More than one third of the patients had a BMI of >30. This study indicates that the rate of Metabolic Syndrome and therefore the risk of developing CVD are exceptionally high in forensic psychiatric patients.

Tetile et al. (2008) conducted a survey of inpatients in a high secure forensic setting in Nottinghamshire, United Kingdom. They concluded that 54% of inpatients had physical health problems and there were high rates of smoking and obesity levels among the inpatient group. This meant that two of the major risk factors predisposing an individual to Metabolic Syndrome and CVD were present in these patients.

Reducing Metabolic Syndrome in patients with severe mental illness in forensic psychiatric inpatient units

There is a paucity of published literature available on programs aimed to reduce metabolic syndrome within inpatient forensic mental health units (Prebble, Kidd, O'Brien et al, 2011) in New Zealand and internationally. In New Zealand, a review of the literature produced one study by Prebble, Kidd, O'Brien et al. (2011) who investigated the implementation of two healthy living programs on two separate forensic inpatient units. The study aimed to improve the health status of individuals with mental illness through the introduction of healthy practices related to diet,

exercise, reducing alcohol and drug use and the adoption of related social and living skills.

The first program was carried out on a medium secure forensic rehabilitation unit and included individualised programs that were tailored to the patient's physical ability, mental wellness and areas of interest. Seven patients participated in this study for a period of six to 52 months. The results found that patient's self-esteem, confidence and life skills all improved. Some of the individual risk factors for Metabolic Syndrome (weight, cholesterol/HDL ration, blood pressure and blood glucose) were measured at baseline, six and twelve months. Results showed these measures were either maintained or slightly improved over a twelve month period. The second program was implemented on a minimum-secure forensic rehabilitation unit in which nine patients participated in the study for a period of six to 26 months. The patients had to collaboratively plan, budget, shop and cook for the group five days a week on a weekly roaster basis. The results found that patients had increased motivation and energy levels. However, the program was unable to be evaluated effectively as the individual risk factors for Metabolic Syndrome were not consistently recorded. For example, there were no records of blood pressure readings for any of the patients and only one patient had been weighed throughout the study. Overall, the study concluded that successful implementation of healthy lifestyle programs in forensic inpatient units requires the development of a sound philosophical approach and input from the multidisciplinary team to enable the program to be tailored to individual needs (Prebble, Kidd, O'Brien et al, 2005).

In the general mental health population, the majority of the health promotion and healthy living programs are community based. One example from the literature review is a study carried out by the Inner North Brisbane Community Mental Health Service at the Royal Brisbane Women's Hospital. O'Sullivan, Gilbert & Ward (2006) investigated the implementation of a healthy living program to address the health and lifestyle issues of individuals with mental illness. The program did not monitor for the individual risk factors of Metabolic Syndrome, instead it consisted of three separate modules, each focusing on a different aspect of healthy lifestyle:

1. Nutrition and healthy lifestyle: focusing on education and the promotion of lifestyle and behaviour changes.

2. Looking after your physical health: promoting general health and psychological well-being with education on heart health, diabetes, nutrition, physical activity and smoking.
3. Activities and interests: promoting regular activity and educating regarding the benefits of engaging in interests to promote general health and well-being.

The program was evaluated through satisfaction surveys and participants found that the program was interesting, educational and useful. However, limited statistics were available to ascertain whether long-term lifestyle changes occurred.

Another study from the literature review describes a service which was set up to monitor and improve physical health in people with severe mental illness in the community (Ohlsen, Peacock & Smith, 2005). The aims of this study were to assess and identify the levels of physical health in individuals with severe mental illness; to encourage positive lifestyle changes directed towards health promotion such as weight loss, exercise and smoking cessation and to develop and strengthen links between primary and secondary care. Individuals with severe mental illness were referred to the service and initial baseline data was collected. The baseline data included the individual risk factors for Metabolic Syndrome. Individuals were given food diaries and asked to come back for a follow-up appointment in two weeks, in which their results of their initial appointment was discussed. Individuals were then referred onto a weight management group program or a physical activity group program.

The results of this study indicated that the first 134 patients that were screened showed higher rates of obesity, overweight and smoking than for the mainstream population. After two consultations there was a noted improvement in the quality of dietary input, with 60% of participants having unhealthy diets at baseline and only 25% on the second consultation. This service appears to have significant limitations in there appears to have been no evaluation done on the effectiveness of the service provided and it is not indicated if the individual's measures for Metabolic Syndrome are repeated over a period of time.

Barriers in helping to reduce Metabolic Syndrome in individuals with a severe mental illness in forensic psychiatric inpatient units

A review of the literature revealed only one article that describes the barriers in helping to reduce Metabolic Syndrome in individuals with SMI in forensic psychiatric inpatient units. In a study by Prebble, Kidd and O'Brien et al. (2011), several barriers were identified in the implementation of healthy living programs on forensic inpatient units. A resistance to change from staff and patients who were accustomed to the existing system was identified as a significant barrier. This was likely due to a lack of knowledge regarding healthy living and the belief some nurses held that the tasks they had to carry out in order to implement this program were not part of their nursing role. Financial pressure was also identified as a significant barrier in the implementation of this healthy living program.

Despite a review of the literature which identified only one article pertaining to the barriers in forensic inpatient units, several other published studies highlighting the barriers individuals with SMI have in relation to receiving adequate health care were located. A study by Sebastian and Beer (2007) highlighted several factors that contribute to individuals with SMI not receiving adequate health care in the community. These factors include:

- Individuals with SMI are among the most marginalised people in the community.
- They face continual discrimination based on the fear of mental illness equating to social stigma.
- SMI affects an individual's employment opportunities and makes it difficult to secure and retain either part-time or full-time employment, often leading to poverty and poor nutrition.
- Individuals with SMI are often isolated from their friends and family.
- Individuals with SMI are less likely to spontaneously report physical health symptoms to their General Practitioner or mental health provider.

In addition to the findings by Sebastian and Beer, a study by Lawrence and Kisely (2010) also highlights the barriers for individuals with SMI in receiving adequate health care. Their study was published after the data collection had taken place in my own study. In their study, Lawrence and Kisely discuss barriers to receiving adequate healthcare at different levels: systemic level, provider level and at a

patient-related level. Although their study was conducted with participants from the community setting, some of the barriers that they identify readily translate into the forensic inpatient context. For example, they cite the effects of stigma, the restraints of resources including time, the fragmentation of care across health providers and the failure to identify who is responsible for the physical health care needs when working with mental health consumers (Lawrence & Kisley, 2010). The full list of the barriers they identify is summarised in Appendix C.

The confusion over role boundaries between health professionals regarding whose responsibility it is to assess and manage the physical health of individuals with SMI, is also emphasised in a New Zealand study by Wheeler et al. (2009). Wheeler et al. (2009) concluded from their research that primary health care providers, for example General Practitioners, are best placed to manage CVD risk and assess physical health in patients with SMI as mental health practitioners do not believe they have the knowledge and skills to manage this risk. However, shared care between General Practitioners and mental health services is viewed as being best practice to overcome the barrier of patient access to appropriate health care and therefore significantly improves the physical health of patients with SMI (Wheeler et al, 2009).

Holistic nursing practice in mental health

It is important for mental health nurses to provide holistic health care to improve the quality of life of patients with SMI (Pack, 2009). This is particularly important for nurses working in forensic psychiatric inpatient units as patients are at increased risk of becoming institutionalised (Wirt, 1999) due to lengthy admissions which can negatively impact on their physical health. A patient's quality of life encompasses their physical, functional, emotional, spiritual and social well-being (Cella, 1994), whereas holistic nursing practice incorporates the physical, mental, social, emotional, spiritual and cultural aspects of an individual (Milner, 2003; Brown & Wimpenny, 2011). Without practicing in a holistic manner, nurses cannot therefore enhance a patient's quality of life.

Holistic nursing draws on nursing knowledge, theories of nursing practice, expertise and intuition to guide nurses to work in a therapeutic partnership with the patient and family. In mental health practice, holistic nursing is defined as “care that recognises people with mental health problems as whole persons with interrelated psychological, social, physical and spiritual needs” (Brimecombe, Tingle, Tunmore & Murrells, 2007, p. 340). Individuals with SMI require the adoption of a holistic approach to their care that enhances their quality of life through the provision of adequate and reliable control of their symptomatology (Citrome & Yoemans, 2005). In particular, it is important that the physical health care needs of individuals with SMI be paid special attention as obesity, dyslipidaemia, hypertension and diabetes are highly prevalent in individuals with SMI (Citrome & Yoemans, 2005).

An example of holistic nursing in the provision of care for an individual with SMI who is obese is outlined by Brown & Wimpenny (2011). They emphasise that holistic nursing assessment is vital in the provision of care of the obese patient and should include assessment of social, physical and psychological factors that can contribute to obesity (Brown & Wimpenny, 2011). Holistic nursing care of the patient who is obese also involves encouraging the patient to become more self-aware and to take an active role in the decision making process regarding their care (Brown & Wimpenny, 2011). Brown and Wimpenny (2011), also emphasise the importance of developing a therapeutic partnership with the patient who is obese. If nurses are not comfortable with this approach, they may develop avoidant tactics which would be detrimental to the patient’s care. This leads to the nurse promoting a level of care that is based solely on the physical/dietetic approach to obesity management and therefore does not achieve essential changes in the patient with must occur at the psychological and social level (Brown & Wimpenny, 2011).

Having a holistic approach to nursing practice is beneficial to the patient; however it is not without consequences. The RN needs to be aware that to achieve holistic nursing practice, they need to take into consideration that there will need to be a change in the attitudes and professional development needs of staff (Brown & Wimpenny, 2011). This is able to be achieved through the promotion of health and wellness through education of nursing staff (Montgomery, Dossy & Keegan, 2009) which is important factor in changing the attitudes and improving the development of

skills in nurses (Brimblecombe et al, 2007). Education of nursing staff will have a positive effect in the prevention of physical illness as they will be better equipped to encourage individuals with SMI to actively participate in their own health and recovery (Montgomery, Dossy & Keegan, 2009).

Identifying the gap

It was clear from a review of the literature, that there is a clear gap in the knowledge base with the respect to the prevalence of Metabolic Syndrome amongst individuals with SMI who are inpatients on secure forensic units. As previously mentioned, there are few studies that have been conducted in this area. Moreover, there appears to be no current evidence relating to the reduction of Metabolic Syndrome in patients with SMI in secure forensic units which is of concern, as these patients can often reside in secure forensic units from a period of a month to several years.

Registered nurses who work in secure forensic units spend most of their time in close patient contact. I am therefore interested in what Registered Nurses perceive to be the barriers helping to reduce Metabolic Syndrome in patients with SMI in a secure forensic unit in New Zealand and their ideas on how to overcome these barriers.

Summary

In this chapter, a review of the current literature has emphasised the increased risk of individuals with SMI in forensic psychiatric inpatient units for developing Metabolic Syndrome and CVD. Holistic nursing practice has been identified as having a central role in helping to reduce to the development of Metabolic Syndrome in patients with SMI. Holistic nursing encourages the RN to not focus solely on an individual's mental health, but to also assess the patient's physical, social, emotional, cultural and spiritual needs (Brown & Wimpenny, 2011) which will result in a more significant improvement in the patient's health and wellbeing.

Despite the abundant research literature addressing Metabolic Syndrome that has been produced globally and the research literature describing the barriers to receiving adequate health in individuals with SMI, there is an evident gap in the literature regarding patients in inpatient forensic psychiatric units. Within the New Zealand health context, CVD accounts for 40% of all deaths nationally (NZGG, 2003). Maori and Pacific ethnicities also appear to be at a further risk for developing metabolic abnormalities and are known to have a higher incidence for the development of CVD (NZGG, 2003). It is therefore of great significance that this research study is carried out in New Zealand as it will hopefully aid in closing this gap and improve the health and wellbeing of patients with SMI in forensic psychiatric units, not only globally but also on a national level in New Zealand.

The next chapter will examine the methods used to explore these perceived barriers for Registered Nurses in helping to reduce Metabolic Syndrome in patients with SMI in a forensic unit in New Zealand.

CHAPTER THREE: METHODOLOGY

Introduction

In this chapter I will revisit the aims and objectives of this study and describe the methodology used to answer the research question: What are Registered Nurses' perceptions of the barriers in helping to reduce Metabolic Syndrome in patients with SMI on a forensic unit in New Zealand and what are the suggested solutions to these barriers? The chapter provides an overview of the data collection and analysis methods and explores how qualitative rigour in relation to trustworthiness was established. The chapter concludes with an in-depth look into the ethical considerations for this study.

Aims/objectives of this research

The aim of this research was to describe the barriers that RNs encounter in their day to day practice in helping to reduce Metabolic Syndrome in patients with SMI on a forensic unit. Two key research objectives were identified:

1. To explore the barriers that RNs have in helping to reduce Metabolic Syndrome in patients with SMI in a forensic unit in New Zealand.
2. To explore possible solutions to these barriers that were suggested by the RNs.

Research design

This research is a case study which uses qualitative descriptive design. A case study is defined as an empirical enquiry that investigates a phenomenon in its real life context in which multiple sources of evidence are able to be used (Yin, 1994). Case studies are an avenue for the collection of rich descriptions of data of the phenomenon under study within its natural setting (Yin, 2011). They are in-depth

investigations of a single or a small number of entities and are useful for exploring phenomena that have not been rigorously researched (Polit & Beck, 2010).

The advantage of using a qualitative design is that there is a focus on the human experience and it is possible to develop a rich description and holistic understanding of the phenomena being studied (Schneider, Elliot, LoBiondo-Wood & Haber, 2003). Qualitative descriptive research designs have an equal standing amongst other qualitative methodologies and have become a distinct method of choice when straight descriptions of phenomena are desired (Sandelowski, 2000). Descriptive studies are particularly useful for researchers wanting to provide evidenced based practice for nursing and policy development. In descriptive research, the researcher summarises the events in everyday informal language appropriate to the situation without being obliged to put their own interpretive viewpoint on what they see and hear as is required in other qualitative methodology, i.e. grounded theory and phenomenology (Sandelowski, 2000).

Qualitative description includes the use of individual interviews and/or focus groups to explore and clarify peoples' knowledge and experiences. Qualitative descriptive studies are the least theoretical approaches on the spectrum of qualitative methodology, in that researchers are: "less encumbered by pre-existing theoretical and philosophical commitments" (Sandelowski, 2000, p.337). However, Sandelowski (2010) further emphasises this statement by reinforcing that it is important that researchers do not approach their qualitative studies naively and that by having no prior commitment to a theory does not mean that the study is not influenced by theory. Qualitative descriptive studies are theoretically drawn from the general views of the naturalistic paradigm (Sandelowski, 2000) in that knowledge is maximised when the distance between the inquirer and the participants in the study are minimised (Polit & Beck, 2010). Sandelowski (2010) further expands on the naturalistic paradigm as being a 'factist' view of the data, in that the data is more or less accurate and is a truthful index of reality. In naturalistic research, opinions and interpretations of the participants are crucial as they are grounded in the real-life experiences of people with first-hand knowledge of the phenomenon (Polit & Beck, 2010).

The research question for this study necessitates the use of a qualitative descriptive case study design as it aims to describe the perceived barriers a small number of participants (the Registered Nurses) in helping to reduce Metabolic Syndrome in patients with SMI in a forensic unit in New Zealand. The data for this study is taken from a real-world context as the Registered Nurses who participated in the study were employed in the forensic unit at the time of this study and were able to depart with their first-hand knowledge of the phenomenon under study.

Sample

Purposive sampling was used to recruit participants for this study. Purposive sampling techniques are commonly associated with qualitative research and occur when researchers deliberately choose the participants that will best contribute to the needs of the study (Polit & Beck, 2010). Sandelowski (2000) supports the use of purposive sampling by concluding that the ultimate goal of purposive sampling is to recruit participants deemed to be information-rich for the purposes of the study.

Information sheets and consent forms were sent to the unit manager of the forensic unit at one DHB in New Zealand with a request that it was to be distributed amongst the RNs who were employed on the unit. Those RNs were alerted further by a poster that served as an invitation to participate in the study (Appendix D). The information sheets and consent forms were sent out four weeks prior to the proposed date for data collection. Inclusion and exclusion criteria for the purposes of participant recruitment are detailed below:

Inclusion criteria

There were two inclusion criteria for participants were established during the recruitment process:

1. The RN had to be currently working on the forensic unit because of their first hand knowledge of the topic under investigation.
2. The RN had to have been working on the forensic unit for a time period of greater than three months.

RNs who had been working on the forensic unit for a time period of greater than three months increased the possibility that they were able to have had enough time to identify perceived barriers in helping to reduce Metabolic Syndrome in patients on this particular forensic unit. All participants of the focus group interview had been working on the forensic unit for more than six months.

Exclusion criteria

One exclusion criterion was established for consenting to participate in the focus group: those RNs who had worked for a period of less than three months on the forensic unit.

A total of five RNs who work on the forensic unit selected themselves by signing their consent forms to participate in the study. The recruitment of RNs for the study was considerably more difficult than was initially perceived and the sample size was lower than anticipated. Attempts to recruit more participants from the forensic unit were unsuccessful and despite being given four weeks to consent to participate, consent from two participants was only received in the final days leading up to data collection. The data collection date was unable to be changed due to geographical limitations and time constraints implied on this study. However, the low response rate for this study is not seen as insufficient as Sandelowski (2000) emphasises that sample sizes in qualitative research are typically small due to the large volume of verbal data that is collected.

The five RNs who participated in the study consisted of two males and three females. Their nursing experience ranged between three years and 25 years. Due to the small population of RNs working in forensic psychiatric units throughout New Zealand and to further protect anonymity, the age and ethnicity of the participants are not identified in this study.

Setting

The focus group was conducted on the hospital campus where the forensic unit is located. To avoid unnecessary disruption, for example: noise, interruption by other

staff members or the acuity of the ward, the focus group was not conducted on the unit itself. The focus group was organised at a time and place that would cause minimal disruption for the participants (Happell, 2007). It was conducted during shift hand over time which allowed staff who were already at work to be interviewed at a time which would not disrupt any of their duties or leave the ward short of staff. All of the RNs who consented to participate in the research were rostered for either a morning or afternoon shift on the day the focus group was conducted. This meant that no participants had to make the journey into work on their day off.

Data collection

Sandelowski (2000, p.338) suggests that data collection in qualitative descriptive studies is designed towards discovering the “*who, what and where* of events or an individual’s experiences”. To achieve this aim, a focus group was conducted as the main data collection tool for this study. A focus group is a group of individuals who are selected by researchers to openly discuss and comment on the subject of the study based on their own personal experiences (Powell & Single, 1996). Focus groups are stimulating, flexible, inexpensive and are capable of producing a rich source of data and are therefore particularly suited to qualitative methodology (Fontana et al, 1994 cited in Streubert Speziale & Carpenter, 2003). Focus groups are semi-structured group sessions, conducted by a group leader (i.e. moderator or facilitator), are held in an informal setting and have a purpose of collecting information on a specific topic (Streubert Speziale & Carpenter, 2003). When conducting a focus group, it is important to make the distinction between a focus group interview and a focused interview (Redmond & Curtis, 2009). A focused interview is limited to several people being brought together to discuss their views on a general topic about which they share some knowledge, whereas a focus group interview is more confined to a specific topic area where the emphasis is on the interaction within the group (Redmond & Curtis, 2009). The size of a focus group typically varies between five to no more than twelve members. The focus group must be large enough to ensure diversity of the participant’s individual perspectives, yet be small enough to ensure that everybody has an opportunity to participate (Gerrish & Lacey, 2006).

A focus group was chosen over individual interviews for this study due to time constraints. It was initially anticipated that two to three small focus groups would be conducted, however due to the small sample size for this study; only one focus group was able to be conducted within the proposed time frame. A focus group was also chosen as it provided a rich source of data over a very short space of time and proved to be inexpensive (Holloway & Wheeler, 2002). I was the facilitator for the focus group interview and the focus group interview was recorded using a digital voice recorder as the primary method of recording. A tape recorder was used as a back-up recording source, should the digital voice recorder have failed to record.

Advantages and disadvantages of focus groups

There are several advantages and disadvantages of focus groups that I had to take into consideration when making the decision to use a focus group as the main source of data collection. Table 3.1 contains a summary of these opinions from various authors of the main advantages and disadvantages of focus groups.

Focus group interview question guide

Prior to conducting the focus group interview and as part of obtaining ethical approval for conducting this research, I developed a set of questions for the focus group interview (Table 3.2). Having a preset question guide also ensured that the maximum range of issues relevant to the research question and aims of the study were covered (Redmond & Curtis, 2009). Generally, a structured question guide uses at most five to six questions and the questions are ordered to move from general to specific and non-sensitive to a more sensitive manner. This technique aims to enable all group members to participate in the focus group interview (Gerrish & Lacey, 2006). By using open ended questions prefixed by either “How”, “What”, “Where” or “Why”, allows participants the freedom to respond (Gerrish & Lacey, 2006).

Table 3.1: The advantages and disadvantages of focus groups according to various authors

Advantages	Disadvantages
Provide stimulus for discussion and debate for specific and relevant issues, as participants are able to respond to ideas that they would not likely have thought of individually (Goodwin & Happell, 2009).	Small focus groups can be dominated by one or two participants. This is of particular concern as data may be inaccurately presented as representing the group as a whole (Goodwin & Happell, 2009).
On responding to each other's comments, participants might generate new and spontaneous ideas regarding the research topic (Holloway & Wheeler, 2002).	Difficulty in capturing individual responses, which can make transcribing more difficult (Holloway & Wheeler, 2002).
Focus groups allow for a large number of participants than could be achieved using individual interviews (Goodwin & Happell, 2009).	Participants can conform to the majority opinion due to the group dynamic (Webb, 2002).
Focus groups produce more data in the same amount of time as an individual interview, hence making them more cost effective and are a quicker method to access data (Holloway & Wheeler, 2002).	Less control over the focus of the discussion by the researcher (Happell, 2007).
The synergy generated from a group discussion often enables participants to consider the topic with more enthusiasm than an individual interview can achieve (Gerrish & Lacey, 2006).	The researcher needs to have considerable expertise to facilitate an effective focus group (Happell, 2007).
Focus groups have high face validity (Reed & Payton, 1997).	Researcher manipulation and bias (Gerrish & Lacey, 2006).

I developed five main questions for this study with the first three questions as 'warm-up' questions. These warm-up questions allowed for a natural progression from general questions related to the topic to questions that were more specific, i.e. they allowed direct answers to the aims of the research (Stewart & Shamdasani as cited in Redmond & Curtis, 2009). The final two questions that were asked in the focus group interview reflected the aims and objectives of the study. These questions encouraged the participants to discuss what they perceive to be the barriers in helping to reduce Metabolic Syndrome in patients with SMI on a forensic psychiatric unit and suggest possible solutions to these barriers.

All but one of the questions in the focus group question guideline started with the prefix 'What', therefore enabling the participants to respond openly to the questions. I also developed a subset of prompting questions that aided the discussion in relation

to the main question guideline. These are clearly outlined in the focus group question guideline in Appendix E.

Table 3.2: Focus Group Question Guideline

Question One	What is your understanding of Metabolic Syndrome? <ul style="list-style-type: none"> • What does Metabolic Syndrome mean? • What are the parameters for Metabolic Syndrome? • Do you think RNs have a good understanding of Metabolic Syndrome?
Question Two	What is the process for monitoring Metabolic Syndrome in patients in the forensic unit? <ul style="list-style-type: none"> • Who monitors for Metabolic Syndrome in patients on this forensic unit? • Are there guidelines for monitoring Metabolic Syndrome in patients on the forensic unit and are they easy to follow? • How frequently is metabolic syndrome monitored in patients? • Where is the data collected from the monitoring documented? • What happens to the data once it is collected and documented? • How are patients followed up if they have Metabolic Syndrome or are at risk for developing it?
Question Three	What education is given to the patients in regards to Metabolic Syndrome? <ul style="list-style-type: none"> • Who provides the education for the patients? • Is information for patients regarding Metabolic Syndrome readily available?
Question Four	What do you believe to be the barriers (if any) for Registered Nurses in preventing Metabolic Syndrome in patients with a major mental illness on this forensic unit?
Question Five	For each of the barriers identified in the previous question, what do you think would be a solution (if any) to overcome these barriers?

Beginning the focus group interview

Prior to the commencement of the focus group, I welcomed the participants, introduced myself and explained the purpose of the focus group. Light refreshments were provided prior to the focus group to provide time for the participants to relax and to help make the participants feel more at ease as they had just finished working a shift on the forensic unit. The following ground rules were then outlined for the focus group interview as Redmond and Curtis (2009) suggest this is the responsibility of the facilitator:

- Everyone was to treat one another with respect.

- Only one participant in the focus group was to speak at any given time.
- Any of the participants were free to leave the focus group if and when required.
- If any participants had any specific questions regarding the research but not directly related to the question guideline, they would be given the opportunity to ask these questions at the conclusion of the focus group.

The participants in this study were satisfied with these ground rules and did not wish to add to them further.

For ethical reasons, it was ensured that each participant had read and understood the participant information sheet (Appendix F) and signed and handed in a copy of the participant consent form (Appendix G) prior to the focus group commencing. Participants were also reminded that confidentiality would be maintained and that no information that could identify the participants would be publicly reported or used in any written reports (Polit & Beck, 2010).

During the focus group interview

A skilled focus group facilitator will gently draw participants to the process; encourage them to interact with one another and allow the flow of conversation to occur naturally with minimal intervention. In addition the skilled facilitator uses effective non-verbal listening skills; paraphrases in a way that brings out more refined thoughts or explanations and remains non-authoritarian and non-judgemental (Karger as cited in Redmond & Curtis, 2009).

Asking questions and guiding the discussion are important skills of the facilitator of a focus group interview. An equally important skill is to use non-reflective and reflective listening skills. Non-reflective listening is a non-judgemental approach that requires only non-verbal acknowledgments of the participants (Fern, 2001). I applied this by nodding my head, smiling, making sounds of acknowledgement and maintaining eye contact with the participants to acknowledge their input and this encouraged further discussion (Redmond & Curtis, 2009). Using non-verbal acknowledgments can uncover a wide-range of responses from the group, which is the aim of exploratory focus group interviews (Redmond & Curtis, 2009).

Reflective listening is also non-judgmental but attempts to clarify what is being said by utilising effective listening responses such as asking the speaker to clarify what they have said (Redmond & Curtis, 2009). Table 3.3 contains a summary of the four types of reflective responses used to increase accuracy and understanding in a focus group as outlined by Redmond and Curtis (2009). Table 3.4 provides examples of how I used reflective listening responses during the focus group interview.

Throughout the focus group interview, I found that the participants equally contributed to the group discussion. They were able to bounce off each other's thoughts and ideas which generated a more detailed discussion. The participants demonstrated respect for each other in that they did not talk over someone when they were speaking and seemed at ease in expressing their individual ideas in front of the group.

On reflection, this is likely to have been a result of the participants working and communicating together on a regular basis on the forensic unit. Despite most researchers recommending that participants should not know each other to encourage more honest and spontaneous expression of ideas (Rabiee, 2004), my reflections mirror that of Kitzinger (1994) who believes that it is advantageous for the participants to have already known each other as they already have an established trust which further encourages the expression of individual views.

After the focus group interview

The focus group lasted for 65 minutes. Once the discussion had finished and prior to concluding the focus group interview, I reiterated the purpose of the focus group and provided the participants with a brief verbal summary of what was discussed (Redmond & Curtis, 2009). I then asked whether the participants thought anything was left out. In response to this, they felt that everything they wished to express was covered during the interview and they were satisfied with their input.

Table 3.3: A summary of the four types of reflective listening responses (Redmond & Curtis, 2009, p. 67).

RESPONSE	ACTION	MEANING
Clarifying	Ask the speaker to clarify what was said	These types of responses point out that we do not understand what the speaker means
Paraphrasing	This is restating what was said. The facilitator restates the essence of the speaker's response	This response means making sure you understand what the speaker intended to communicate
Reflecting feelings	The facilitator mirrors feelings they think were expressed	The feelings are what is important here and not the content of the speaker's response
Summarising	Is about summarising the main points, feelings (or both) the speaker expresses	Important for playing back the points the speaker was attempting to make because not all people communicate logically.

Table 3.4: Examples of reflective listening responses used in the focus group interview

RESPONSE	EXAMPLE
Clarifying	Facilitator: The focus of this focus group is not in relation to mental health settings as a whole, but instead is focused in its entirety on this forensic inpatient ward
Paraphrasing	Facilitator: So what you are saying is that you cannot deprive them of everything when the patients already have so little?
Reflecting feelings	Facilitator: So there is a good general consensus amongst you all related to this question.
Summarising	Facilitator: Ok, we have covered exercise barriers, diet as well as resources in relation to exercise and cultural barriers, are there any other barriers that you can think of?

Trustworthiness

In qualitative research, trustworthiness is related to methodological soundness and adequacy (Holloway & Wheeler, 2002). Sandelowski (1986) suggests that

trustworthiness is the truth value that resides in the individual's lived or perceived experience rather than in the researcher's prior conceptions of those experiences. Lincoln and Guba (1985) suggest four criteria for developing trustworthiness in qualitative research: dependability; credibility, transferability and confirmability.

Dependability

The findings of a study are dependable if they are consistent and accurate. The readers should be able to evaluate the adequacy of the analysis by being able to follow the decision-making processes of the researcher (Holloway & Wheeler, 2002). The researcher helps to strengthen the dependability of their research through the use of an audit trail (Lincoln & Guba, 1985).

Audit trail

In this study dependability was achieved by maintaining an audit trail. An audit trail is a systematic collection of materials and documentation that would allow an independent researcher to reach similar conclusions about the data (Polit & Beck, 2010). The audit trail can be clearly seen in this study through the documentation of clear and concise methods and through an in-depth description of the data collection and analysis process. This allows the reader to clearly follow the decision-making processes of the researcher.

Credibility

Credibility in qualitative research refers to the confidence in the truth of the data and its' interpretations (Polit & Beck, 2010). In qualitative research, the findings are thought to be credible when the participants can immediately recognise the descriptions and interpretations of the researcher as their own (Sandelowski, 1986). In this study, credibility of the research findings was obtained through the process of member checking.

Member checking

Member checking refers to the process when researcher provides the participants with a summary of the research findings. This allows the participants to validate whether or not the researcher's interpretations are good representations of their own perspectives (Polit & Beck, 2010).

Receiving feedback from participants ensures the trustworthiness of the research. Member checking will help the researcher to avoid any misinterpretation or misunderstanding of the participant's words or action and ensure that the researcher presents the participant's point of view (Holloway & Wheeler, 2002).

In this study, member checking was achieved at the conclusion of the focus group interview by summarising all of the main barriers and suggested solutions that were voiced by the participants. The participants unanimously agreed that this was a true reflection of what they had described throughout the focus group interview. A focus group to discuss the findings of this research was not conducted due to the time constraints imposed on this study.

Transferability

Transferability refers to the ability of the research questions and methods of one study being able to be transferred to a similar study or participant group (Holloway & Wheeler, 2002). To facilitate transferability it is valuable for the researcher to provide a clear description of the selection process and characteristics of participants; the data collection methods and data analysis process (Graneheim & Lundman, 2003). Providing a thick description (Lincoln & Guba, 1985) of the findings through participant narratives about the phenomenon of inquiry will also enhance the transferability of the study.

Transferability was achieved by providing a thorough description of sample and recruitment process; the data collection methods and data analysis methods. This will allow future researchers to transfer the research process to similar settings if applicable.

Confirmability

In qualitative research, confirmability is an important component for establishing trustworthiness by ensuring that the interpretations of the data by the researcher are not figments of the researcher's imagination. The findings of the research must reflect the participant's voice and must not be influenced by the biases, motivations or personal perspectives of the researcher (Polit & Beck, 2010). To ensure that this occurs, the researcher must demonstrate reflexivity in their research. Reflexivity relates to the degree of influence that the researcher exerts, either intentionally or

unintentionally on the findings (Jootun, 2009). Reflexivity is a process that enables the researcher to guard against their personal biases and judgement by enabling the researcher to reflect critically on the self and to analyse and make note of personal values that could affect the data collection and interpretation (Polit & Beck, 2010). Confirmability was therefore maintained in this study by ensuring that reflexivity was adhered to. The study did not represent any form of my own biases as a Registered Nurse and my own assumptions and perspectives of the perceived barriers in preventing Metabolic Syndrome in patients with SMI on forensic units were kept separate from the research data.

Data analysis

The primary method of data analysis for this study was thematic analysis. Thematic analysis is the process for identifying and reporting themes within the data (Braun & Clarke, 2006). Braun and Clarke (2006) define a theme as being a concept that: “Captures something important about the data in relation to the research question and represents some level of patterned response or meaning within the data set” (p. 82).

An inductive approach to thematic analysis was used for this study. Inductive thematic analysis is used when the themes identified are strongly linked to the data themselves. It is a process of coding the data without trying to fit it into a pre-existing coding frame. Unlike theoretical thematic analysis which enables the researcher to code to a specific research question and has a tendency to provide less rich descriptions of the data, inductive theoretical analysis enables the research question to be evolved throughout the coding process (Braun & Clarke, 2006). This is evidenced through the application of the six phases of thematic analysis as described by Braun and Clarke, (2006). These six phases are summarised in Table 3.5 and are explored in more detail in Chapter Four.

Table 3.5: The phases of thematic analysis (Braun & Clarke, 2006, p.87)

PHASE	DESCRIPTION OF THE PROCESS
1. Familiarising yourself with the data	Transcribing data, reading and re-reading the data, noting down initial ideas.
2. Generating initial codes	Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code.
3. Searching for themes	Collating codes into potential themes, gathering all data relevant to each potential theme.
4. Reviewing themes	Checking if the themes work in relation to the coded extracts (Level 1) and the entire data set (Level 2), generating a thematic 'map' of the analysis.
5. Defining and naming themes	Ongoing analysis to refine the specifics of each theme, and the overall story the analysis tells, generating clear definitions and names for each theme.
6. Producing the report	The final opportunity for analysis. Selection of vivid, compelling extract examples, final analysis of selected extracts, relating back of the analysis to the research question and literature, producing a scholarly report of the analysis.

Ethical considerations

Conducting research that involves human participants involves careful consideration of all potential ethical implications of the study before it is commenced. Prior to commencing this research, ethical approval was sought and granted through the Lower South Regional Ethics Committee and the DHB where this research was conducted (Appendix H). Additionally, cultural advice and support for this research was sought from the Cultural Advisor of the Maori Mental Health Team associated with the DHB. They were provided with the research proposal and after reviewing it, they decided to support the research and to further provide any support for Maori Registered Nurses who might participate in the research. Copies of the DHB approval and Maori Mental Health Team approval are not included in this study. This ensures that confidentiality is maintained as both of these documents identify the DHB where this study was conducted.

This research complies with the three fundamental ethical principles as described by Polit and Beck (2010) that are relative to both research and nursing practice. These are: beneficence, non-maleficence and self-determination.

Beneficence:

Beneficence means that the researcher is seeking to 'do good' and that the research seeks to benefit either the participants, individuals or a society as a whole (Polit & Beck, 2010). This research seeks to do good by highlighting the barriers for RNs in helping to reduce Metabolic Syndrome in patients with severe mental illness in a forensic unit and suggests solutions to these barriers.

Non-maleficence:

Non-maleficence means that the researcher minimises any form of harm and discomfort towards the participants. Harm and discomfort can take many forms, i.e. physical, emotional, social or financial (Polit & Beck, 2010). Several strategies were put into place to ensure non-maleficence in this study. A mutually agreed time to conduct the focus group was established. By conducting the focus group during staff cross-over time as agreed to by the ward unit manager and on a day that all participants were rostered to work, ensured that there was no extra financial cost or inconvenience to the participants. Informed consent of the participants and the strategies used to maintain confidentiality and anonymity (as explored in more depth later in this chapter) also ensured that potential psychological harm was minimised (Polit & Beck, 2010). To manage any potential emotional or psychological harm, the participants were required to have access to Seed – a work place wellness service of the DHB. They were also provided with the contact details of the Health and Disability Services Consumer Advocate in the information sheet they received with their informed consent form.

Self-determination:

Self-determination ensures that the participants have the right to voluntarily decide whether or not to participate in the study without risking any penalty or prejudicial judgement. It also means that participants have the right to ask

questions, to refuse to give information and to withdraw from the study at any given time (Polit & Beck, 2010). Participants who worked on the forensic unit were provided with an information sheet (Appendix F) outlining the specific details of the research which enabled them to give their full informed consent to voluntarily participate. The consent forms (Appendix G) were required to be completed and handed to me prior to the commencement of the focus group interview. The participants were also informed that they were able to withdraw from the study at any time without explanation and that they did not have to answer all of the questions asked in the focus group interview.

Self-determination also means that the individual has the right to be free from coercion. Coercion in research involves explicit or implicit threats of penalty from failing to participate in the research or through the researcher providing excessive rewards for the participants for agreeing to participate (Polit & Beck, 2010). Participants were informed in the information sheet that if they do not agree to participate in the research or wish to withdraw from the research at any stage, it would in no way have any impact on their current or future employment. Participants were provided with a small *koha* (gift) in the form of a light afternoon tea and a box of chocolates for participating in the focus group.

Anonymity and confidentiality in the reporting of this research were maintained by ensuring that pseudonyms were used for each participant and that no information that could personally identify the participants was used in any written reports. The DHB also remained unidentified in this research. It is important to note that there are several forensic units throughout New Zealand's 20 DHBs. All the raw data from the focus groups will be stored within a locked cabinet or as password protected electronic documents and will be destroyed ten years after the completion of this study. The participants were also informed in the information sheet that all processes for this research are a component of an assessment for a Masters Degree thesis.

Summary

This chapter provided a rationale for the use of qualitative descriptive research design as being the most appropriate method for this study. Detailed descriptions of the data collection method have been outlined in this chapter and an in-depth review of the ethical considerations in relation to this research was described. The data analysis and results generated from this methodological process are discussed in Chapter Four.

CHAPTER FOUR: DATA ANALYSIS AND RESULTS

Introduction

This case study using qualitative descriptive design has a twofold purpose. Firstly an exploration of the barriers that RNs perceive interfere with their ability to reduce Metabolic Syndrome in patients with SMI on a forensic unit in New Zealand. Secondly, to outline the RNs solutions to these perceived barriers. This chapter presents the data analysis and results of a focus group interview which consisted of a sample of five RNs who worked in an inpatient forensic unit at one DHB in New Zealand.

Inductive thematic analysis as outlined by Braun and Clarke (2006) was used to analyse the focus group interview data. During the analysis process, significant themes emerged from the data that related to the objectives of this study. The final representation of these overarching themes and sub-themes are presented in Figures 4.3 and 4.4. The results from the focus group interview are supported by verbatim quotations drawn from the participant's comments during the focus group interview.

Analysis of the data

What follows is a discussion of the analysis of the focus group data which was guided by the six phases of thematic analysis as described by Braun and Clarke (2006).

Phase one: familiarising yourself with the data

I chose to transcribe the data myself, as transcription can be an excellent way to familiarise yourself with the data (Riessman as cited in Braun & Clarke, 2006). Transcribing the data verbatim allowed me to immerse myself into the data until I

had familiarised myself with the depth and breadth of the content (Braun & Clarke, 2006). After reading and re-reading the data I began to generate some initial codes.

Phase two: generating initial codes

After I had familiarised myself with the data, the data was coded. This process was achieved by writing down the codes in the right hand margin of each page of the data set. Codes identify a specific feature of the data that appears interesting to the analyst (Braun & Clarke, 2006). An example of this initial search for codes is shown in Table 4.1.

Table 4.1: Process of coding data

DATA EXTRACT	CODED FOR
“Another barrier is patient’s cultural backgrounds, in particular for Maori and Pacific Islanders who come to our service. Food is part of the daily package, they cook a lot of food, they eat a lot of food and they eat as part of being wealthy. I suggest that you can only do so much education and inform patients but when it comes down to patient’s mental state and where they are in terms of wanting to change”.	<ol style="list-style-type: none"> 1. Patient’s cultural background 2. Food part of daily package 3. Eating is part of being wealthy 4. Patient education 5. Patient’s mental state 6. Willingness to change

Phase three: searching for themes

Once the data was coded, initial candidate themes were identified. This process began by allocating different colours to groups of codes. The initial candidate themes were then summarised into sub-themes and allocated to two categories which are directly related to the aims of this study:

1. Perceived barriers for Registered Nurses
2. Solutions to the barriers

This initial search for the sub-themes is presented in Tables 4.2 and 4.3. Verbatim excerpts from participants are grouped together to support the development of these themes.

Table 4.2: The sub-themes derived from participant's excerpts for category one: perceived barriers for Registered Nurses

CATEGORY ONE: PERCEIVED BARRIERS FOR RNS	
Excerpts from participants	Sub-themes
<p>"For one of my patients, some days you can take him out in the hospital grounds for a walk and other days he doesn't want to".</p> <p>"It is about getting patients motivated as well, which is linked to their negative symptoms of their illness."</p> <p>"You know, it's not just the medications, it's the sedentary lifestyle as well."</p>	Negative symptoms of mental illness
<p>"Some patients refuse consent to have bloods taken and measurements recorded."</p> <p>"Even if we identify someone as having high cholesterol, they might not want to take statins or medications like that."</p>	Non-compliance with treatment
<p>"The balancing up of treating the psychotic illness versus the development of Metabolic Syndrome is a huge thing."</p>	Mental State
<p>"It comes down to patient's mental state and where they are in terms of wanting to change."</p>	Willingness to change
<p>"Another barrier is staff's attitudes and personalities. With some staff you can't change their thinking unless they want to change. They have to be willing to come to the party."</p> <p>"Some people are black and white in their personality. For example: who cares, you know we are all going to die one day, so we may die happily eating."</p>	Attitudes and personalities
<p>"Inconsistency of care is a big thing. There are a few stumbling blocks due to consistency of care and that comes down to sometimes people who are not trained health professionals needing as much information as the patients about how things are done, so consistency is another barrier."</p>	Inconsistency of care
<p>"At the moment there have not been a lot of ideas floating around in regards to exercise and patient activities."</p>	Lack of ideas/creativity
<p>"No I do not believe our knowledge of Metabolic Syndrome is good."</p>	Staff knowledge
<p>"To be honest, I haven't seen a lot of patient education relating to Metabolic Syndrome."</p>	Education for patients
<p>"The group of people we have working with the patients are not all trained health professionals and sometimes their understanding around what is good and what's not good for the patient is incorrect."</p>	Untrained staff
<p>"Another barrier is patient's cultural backgrounds. With Maori and Pacific Islanders who come to our service food is part of their daily package. They cook a lot of food, they eat a lot of food as eating is seen as part of being wealthy."</p>	Cultural beliefs related to food
<p>"Patients get admitted to the ward with prior eating habits and so we have to do the work we have to do around buying sweets and drinks."</p>	Prior eating habits
<p>"There are all sorts of socio-economic barriers, like the food the patients eat and what they can afford."</p> <p>"When patients go out on leave or get discharged, can they afford to eat correctly? They are generally on the benefit and they resort to things like pies"</p>	Socio-economic factors

because that's all they can afford to buy. If you are hungry and you only have four dollars left, you can't afford to go buy a seven dollar tray of sushi; you are going to go and get a pie aren't you?"	
"Patients have choices on the hospital menus, but supposedly the meals that arrive are not monitored around the likes of carbohydrates and everything else."	No control over the hospital menu
"One of the barriers that I see is the resource issue around our ability to provide an exercise program. We are really stuck with being able to provide that sort of program, we have but one exercise bike locked in the middle of our activities room – a multi-purpose room."	Lack of exercise equipment
<p>"You can't always get the staff to take patients out for exercise, generally you can, but there are times that you just can't."</p> <p>"Sometimes the barrier is that it can take a lot of effort and time for nurses to work with that group of staff to change their thinking."</p> <p>"Sometimes we don't have enough staff because we are so acute."</p>	Staff resources/availability

Table 4.3: The sub-themes derived from participant's excerpts for category two: solutions to the barriers

CATEGORY TWO: SUGGESTED SOLUTIONS TO THE BARRIERS	
Excerpts from participants	Sub-themes
"All untrained staff should have to complete the mental health support workers course. This allows them to gain an understanding of the patients they are working with and where that patient might be in terms of their understanding and also what their own role is."	Education for untrained staff
"There needs to be someone doing regular education for RNs regarding Metabolic Syndrome which keeps it in focus, otherwise we tend to lose a bit of focus."	Education for RNs
<p>"More patient education around medication so they understand the side effects and things."</p> <p>"It would be good to include education about Metabolic Syndrome and its risk factors into the patient discussion groups."</p> <p>"Having a constant conversation with your patient and having open communication regarding healthy eating and regular exercise helps."</p>	Education for patients
<p>"I sometimes wonder if whether we should have a dedicated diversional therapist who did certain activities and developed exercise programmes for the patients."</p> <p>"We could employ someone who has a physical exercise qualification, someone whose focus is just physical education and have exercise programmes for all the patients."</p> <p>"It would be good to link to the physical education and physiotherapy schools – students could come in and run a couple of groups. They could do a program in the courtyard and do different things so patients wouldn't get bored – it wouldn't be hugely expensive."</p>	Manage staff resources
"We need to budget for new exercise equipment. This means not buying cheap exercise equipment, for example a \$95 warehouse exercycle that is only good for someone under 62kg."	New exercise equipment

<p>“We need to have the exercise equipment somewhere more central and then the patients might be on it all the time, i.e. if it was outside it would be more visible and more usable.”</p> <p>“Having a structured activity for the patients to look forward to in the afternoons. This might include having some options of activities written up on a whiteboard in the patient corridor.”</p>	Exercise/activity programmes for patients
<p>“There should be care plans around medications.”</p> <p>“It’s great when you see individual patient care plans targeting certain areas stating this is the reason why we are doing this.”</p>	Individual patient care plans
<p>“It is a matter of ensuring consistency of care. It might mean you have to repeat yourself four or five times a day, week in week out and it is just a way of getting the message across.”</p> <p>“Ensuring good documentation stating why a certain patient needs this done at a certain time etc, might turn around the way people work and make it easier for the next person.”</p>	Improves consistency of care
<p>“Role modelling is a big thing, especially with the level of knowledge and information – it’s a big part of nursing. When other staff members see things being done in a consistent manner, they can come up with other, sometimes better suggestions of doing it.”</p>	Good role modelling
<p>“It is all about the nursing role of assessing readiness, i.e. assessing when the patient is ready to get the information.”</p>	Assessing readiness to learn
<p>“We need to think of ideas, just different sorts of things, i.e. like run competitions etc.”</p>	Creative Nursing

Phase four and five: reviewing and defining/naming themes

The next step in the data analysis process involved reviewing and refining the themes. It was important that the data within the themes cohered together meaningfully, while still maintaining clear and identifiable distinctions between the themes. This phase involved two levels of reviewing and refining. In level one, all of the coded extracts that were related to each candidate theme were re-read to ensure they formed a consistent pattern of meaning. It was also important to ensure that for each of the individual themes, a story was able to be envisaged, (i.e. a detailed analysis) which relates back to the research question and aims of this study (Braun & Clarke, 2006). Once I was satisfied that a consistent pattern of meaning was developing from the coded extracts, I moved on to level two which involved re-reading the whole raw data set. This ensured that I did not miss any data in the initial coding phase (Braun & Clarke, 2006). When I was satisfied that I had not missed any data out, I developed mind maps (Figure 4.1 and 4.2).

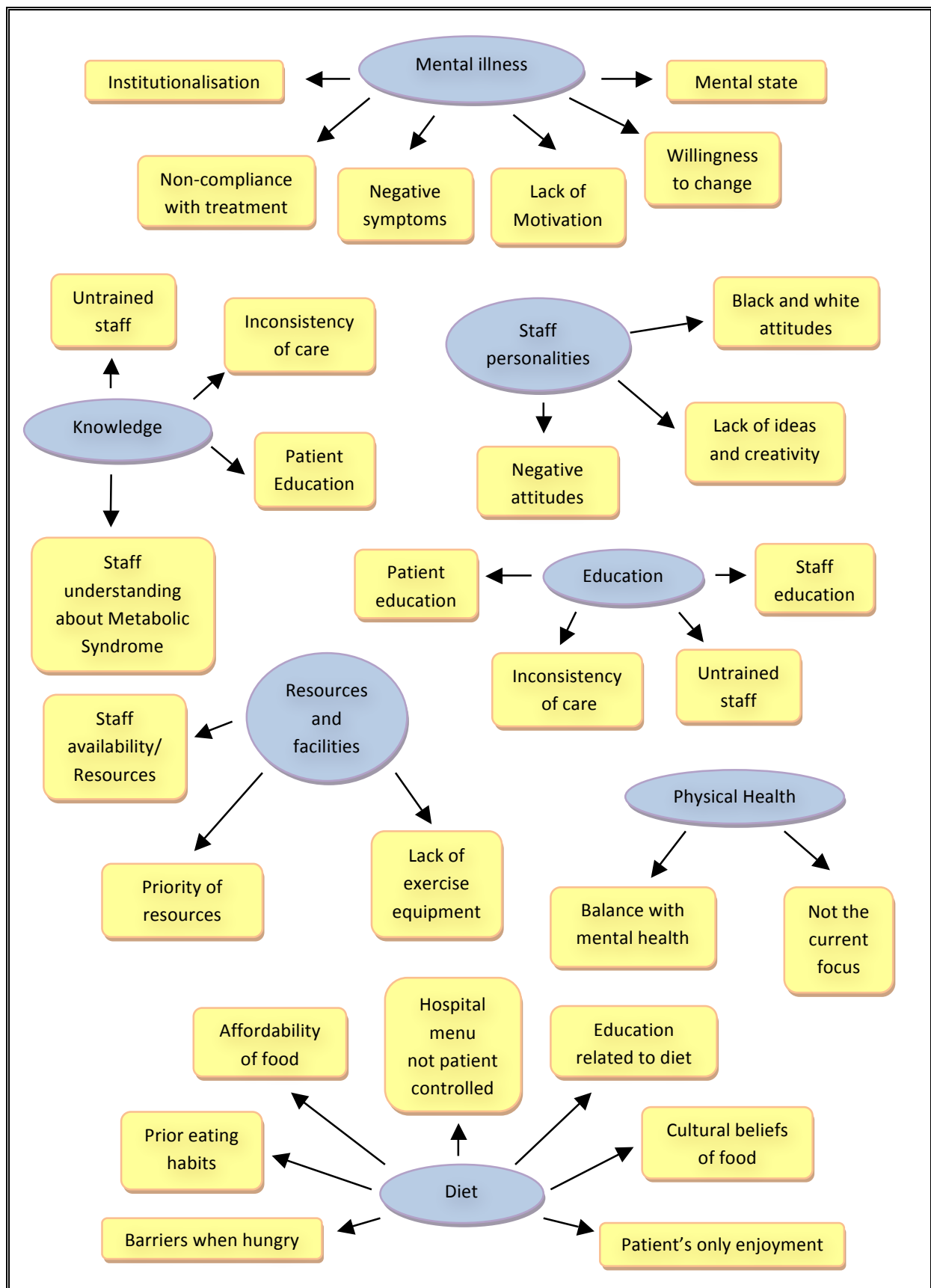


Figure 4.1: Mind map of the initial themes associated with Category One: Perceived barriers for Registered Nurses.

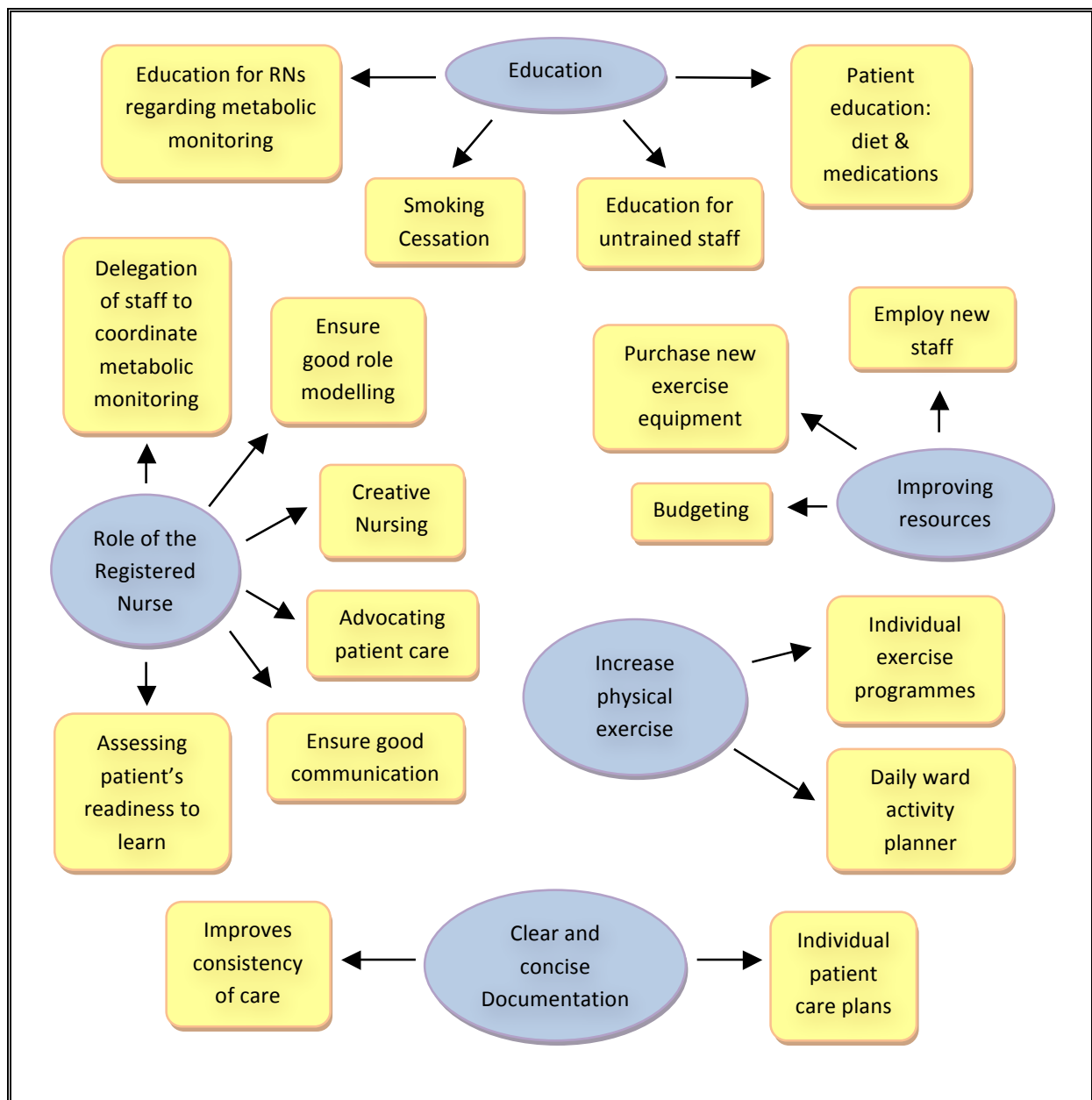


Figure 4.2: Mind map of the initial themes associated with Category Two: Suggested Solutions to Barriers.

The mind maps demonstrate the process I went through to group the sub-themes into overarching themes related to category one and two. Braun and Clarke (2006) suggest that visual representations in the form of mind maps and tables are useful in sorting out themes. The blue colours represent the overarching themes and the yellow colours represent each of the sub-themes. Some of the sub-themes were able to be linked with more than one overarching theme. At this phase it was also important to ensure that the names given to the overarching themes were concise

and immediately gave the reader a sense of what that particular theme is about (Braun & Clarke, 2006).

Phase six: producing the report

This phase involves writing up the final analysis of the themes into a story that convinces the reader of the validity of the analysis and provides answers to the research question. This process is discussed below in the results sections.

Results

When I was putting together the question guideline for the focus group interview, I had some preconceived assumptions about RNs knowledge of Metabolic Syndrome. From my own experience working in mental health, RNs were becoming increasingly aware that the physical health needs of mental health patients were not being adequately met, however awareness and knowledge about Metabolic Syndrome was still minimal. Before exploring what the RNs perceived barriers were in helping to reduce Metabolic Syndrome in patients with SMI and their suggested solutions to overcome these barriers, I wanted to first establish the level of knowledge the RNs in the focus group interview had with regard to Metabolic Syndrome. In addition I wanted to uncover if there was any active monitoring of Metabolic Syndrome occurring on the forensic unit.

I believed that this was important to establish, as not only is monitoring for Metabolic Syndrome in patients with SMI important, it is essential when providing holistic nursing care. I also wanted to explore if the RNs are integrating best practice guidelines regarding the monitoring of Metabolic Syndrome into their nursing practice. Patient education is also a significant role of the RN and again is essential when providing holistic nursing care, therefore I wanted to establish if any patient education was happening on the forensic unit.

Definition of Metabolic Syndrome

The RNs were asked if they could define Metabolic Syndrome. As previously mentioned, the RNs were not able to provide a specific definition; however, they

were able to articulate some of the risk factors of Metabolic Syndrome. For example, two of the RNs responded to this question by stating:

RN 1 *Metabolic Syndrome is associated with the negative symptoms of schizophrenia, medications, weight, cardiac disease and other illnesses associated with the extra weight gain.*

RN 2 *Metabolic Syndrome is obesity related to antipsychotic medications, cardiac problems, lipid and glucose levels.*

The other RNs in the focus group interview agreed with these two statements. However they were not able to contribute any further information themselves to this question. Before the interview continued, I provided the entire group with a clear definition of Metabolic Syndrome so they were better informed when answering further questions.

The parameters of Metabolic Syndrome

The RNs were unable to answer the question relating to whether they knew what the parameters for Metabolic Syndrome were. The RNs all responded by shaking their heads. The inability by the RNs to answer this question is highlighted as a barrier and forms part of the overarching theme of knowledge outlined in Figure 4.3. Again, prior to asking any further questions, I explained to the RNs what the parameters of Metabolic Syndrome were.

RNs' knowledge of Metabolic Syndrome

The focus group participants were asked whether or not they think RNs on the forensic unit have a good understanding of Metabolic Syndrome. This question generated some differing opinions amongst the RNs regarding their understanding of Metabolic Syndrome. One participant responded:

RN 2 *No I don't believe our knowledge of Metabolic Syndrome is good.*

This RN clearly believed that RNs on the forensic unit did not have a good understanding of Metabolic Syndrome, whereas another took the opposite position

and believed the RNs did have a good understanding. This participant clarified their argument by stating:

RN 3 *I think there is a good understanding because of all the things we have put in place on the ward to address the issues of medication, weight gain and healthy eating. I assume that there is a reasonable level of knowledge because we do all sorts of things around monitoring patients' weight, BMI and bloods.*

Another RN agreed and highlighted that there was an education session on Metabolic Syndrome in the previous year and that the majority of RNs on the ward should have an understanding of the nature of Metabolic Syndrome.

Guidelines for monitoring Metabolic Syndrome

The RNs were asked if there are guidelines available for monitoring Metabolic Syndrome in patients on the forensic unit. There was consensus amongst the RNs that there were clear guidelines which were developed by the DHB's Mental Health and Community Services Group. The guidelines, along with a metabolic monitoring datasheet were accessible to all RNs on the DBH's intranet server.

Frequency of monitoring for Metabolic Syndrome

The RNs all agreed that the frequency for monitoring Metabolic Syndrome was guided by the DHB's metabolic monitoring datasheet. This involved collecting baseline data at admission and collecting data again at different time intervals as directed by the datasheet. One RN pointed out that there was another specific system in place which ensured that the metabolic monitoring of patients is happening on the ward:

RN 4 *We have a system in place on the whiteboard in the nursing station which alerts us to when each patient is due to have their blood tests taken and vital signs measured and documented. These dates are also being recorded in the ward diary.*

Another RN acknowledged that not all of the metabolic monitoring was up to date and that at times it was difficult to obtain the data due to a number of reasons:

RN 5 *Everyone's metabolic datasheets are just about completed, except the recent new admissions. Also it is a matter of some RNs not being concerned that we haven't got the metabolic readings and some patients are also refusing consent to have bloods taken and measurements recorded.*

From this statement emerged two further barriers in helping to reduce Metabolic Syndrome. These are patient non-compliance with treatment and staff attitudes towards patient's physical health. These barriers are clearly outlined in Figure 4.3 as some of the sub-themes for the over-arching themes of mental illness and staff provision of care.

Data collection and documentation

Only one RN was able to identify what happened to the data once it was collected. The other participants agreed with this RNs' answer. The RN voiced that the data from the metabolic monitoring datasheet was being transferred onto the patient's treatment plan which alerted the multi-disciplinary team to whether or not the patient was being monitored for Metabolic Syndrome. The RN supported this further by stating:

RN 5 *During treatment plans for patients, one of the standard things that continues to emerge is whether or not the metabolic monitoring of patients is being done. It is now one of the main issues discussed in the treatment plan.*

Patient follow-up for Metabolic Syndrome

The RNs were asked if the patients received any follow up care if they were found to have Metabolic Syndrome or were at risk for developing it. One RN answered that there was a good system in place to ensure that the patients are followed up. This RN stated:

RN 2 *If the patient is at risk we have a discussion in the multi-disciplinary team meeting or treatment planning meeting for that patient and discuss referring the patient to their General Practitioner for follow-up.*

The other RNs in the focus group interview concurred with this RNs' statement.

Patient education regarding Metabolic Syndrome

The RNs were asked if there was any education being provided for the patients regarding Metabolic Syndrome and how the education was being delivered. This question forms an integral component of the Chronic Care Model of self-management support and aims to establish whether or not patients are able manage their own care in the long-term as a result of education regarding Metabolic Syndrome. During the focus group interview all of the RNs agreed that there was no formal education given to the patients relating specifically to Metabolic Syndrome. One RN in particular was very clear when it was said that:

RN 1 *To be honest, I haven't seen a lot of patient education regarding Metabolic Syndrome.*

Another RN agreed with this statement and elaborated further by stating that:

RN 2 *The delivery of education depends on the patient's mental state doesn't it?*

This RN recognised that patient education is also about assessing readiness to learn as a patient's mental state and level of wellness has an impact on the patient's ability to learn. This was identified as a further barrier to help reduce Metabolic Syndrome, as can be seen in Figure 4.3.

Despite the RNs in the focus group interview articulating that there is no current patient education being provided on the forensic unit, it became clear during the discussion that there was some level of education and information being provided to the patients. This education and information related to the individual risk factors for

Metabolic Syndrome. This is evidenced by the following two examples given by two different RNs:

- RN 1 *One patient for example, is always seeking food. He knows the risk associated with antipsychotics and weight gain and I have talked to him about it, but he still goes around asking for food.*
- RN 2 *There is information around for the patients, like weight gain and all that sort of thing, but that is more around eating rather than around Metabolic Syndrome.*

These examples identify another barrier which relates to the level of knowledge RNs have in relation to the individual risk factors of Metabolic Syndrome and is highlighted in Figure 4.3. One of the RNs did however identify that the RNs were planning to hold a series of discussion groups for the patients. This generated discussion between the RNs regarding the content of the discussion groups. The RNs agreed that it would be a good idea to incorporate Metabolic Syndrome into the discussion groups. One RN identified that it would be good to start with patient education around medications, for example:

- RN 5 *The discussion groups can be a mixture of topics. We can maybe start with talking about medications and their side effects and how some medications can contribute to the development of Metabolic Syndrome.*

Two RNs supported the importance of having the discussion groups and delivering patient education by stating:

- RN 5 *Patient education is part of our duty of care as a Registered Nurse.*
- RN 4 *I agree. I think it is important to have a constant conversation with your patient, ensuring open communication regarding healthy eating, regular exercise and so forth.*

Having regular patient discussion groups was identified as a solution to the barrier for patient education and is highlighted in Figure 4.4.

The perceived barriers for Registered Nurses in helping to reduce Metabolic Syndrome in patients on this forensic unit

During the analysis process, in relation to question four, five overarching themes and several sub-themes emerged from the data. The question involved asked the participants what they believe are the barriers for RNs in helping to reduce Metabolic Syndrome in patients on the forensic unit in which they work. The results are presented in Figure 4.4 and outline the main overarching themes, sub-themes and examples generated from the focus group interview.

The overarching themes and subthemes that emerged from this question have been grouped together to form Category One: Perceived barriers for Registered Nurses. This category highlights significant barriers that RNs need to consider if they were to reduce Metabolic Syndrome in this patient group. From my own interpretation of this category, barriers such as mental illness and staff provision of care will require changes from within individuals (both patients and staff members). This may difficult to achieve, especially for patients as they can simply not change the way they think and behave due to the nature of their mental illness. This category provides rich insights for RNs and acts as the first step in improving the health and wellbeing of patients with SMI in inpatient forensic psychiatric units. The importance of holistic nursing practice is also reflected in this category through the emergence of themes such as mental health, culture, physical health and social well-being. This emphasises that holistic nursing plays an important role in the prevention, treatment and recovery of patients with SMI in a forensic psychiatric unit.

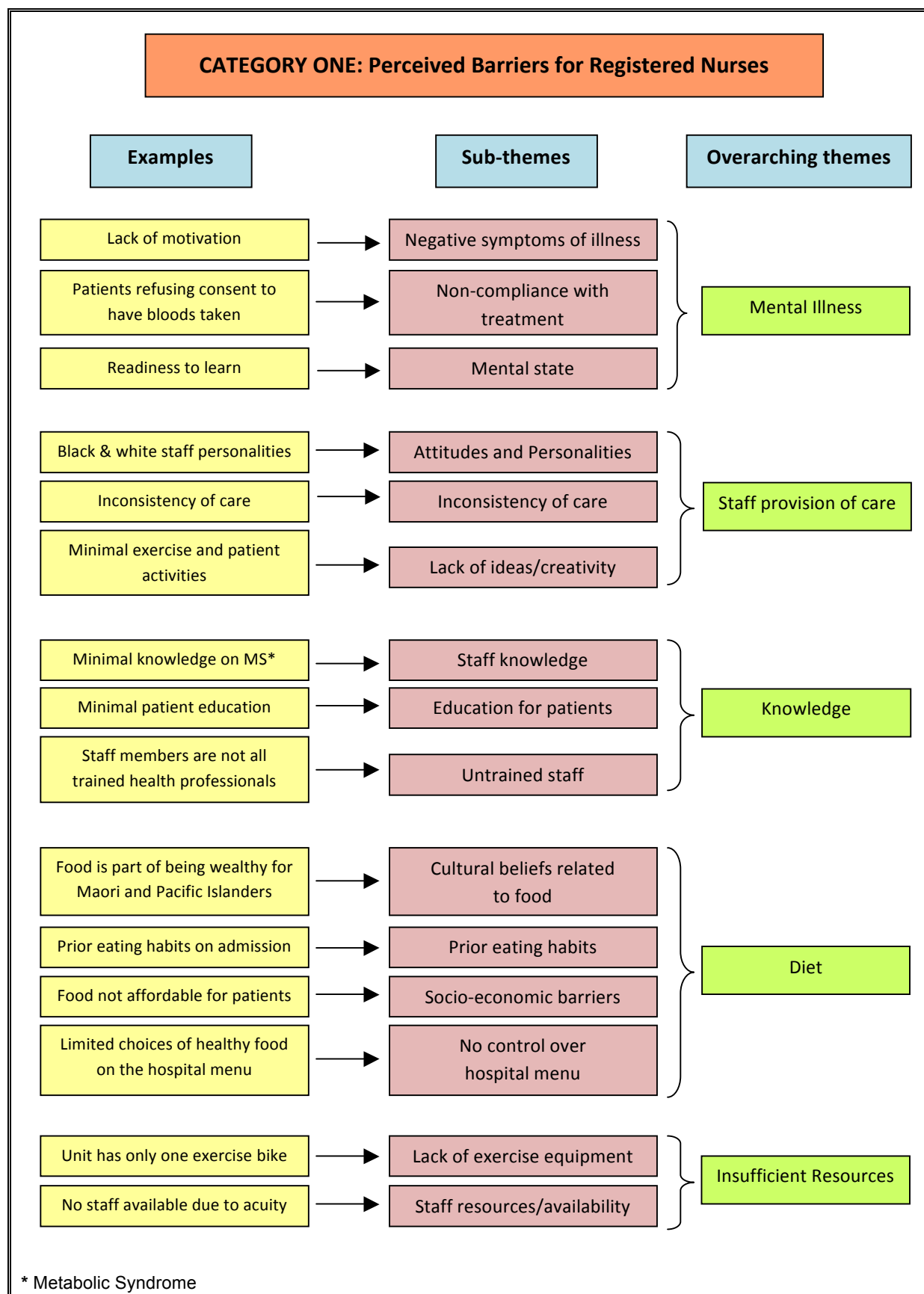


Figure 4.3: Overarching themes, sub-themes and examples identifying the barriers for Registered Nurses in helping to reduce Metabolic Syndrome in patients with severe mental illness.

The suggested solutions to overcome the barriers

During the analysis process, four overarching themes and several sub-themes emerged from the focus group interview data relating to the following question: for each of the barriers identified, what are the solutions to overcome these barriers? The participants were asked to suggest possible solutions to overcome the barriers identified in question four. The overarching themes and subthemes have been grouped together to form Category Two: Suggested solutions to barriers. The results from this question are presented in Figure 4.4. The suggested solutions that emerged from the data analysis to form this category can pave the way to help reduce Metabolic Syndrome in patients with SMI and provides insight for RNs into what can be achieved to improve the overall health and wellbeing of patients with SMI on a forensic psychiatric unit.

Focusing on the positive

The data from the focus group interview also generated information regarding the positive practices that were already in place on the forensic unit in relation to reducing Metabolic Syndrome in patients prior to the focus group interview taking place. These relate to diet and smoking cessation which reflect two of the risk factors for Metabolic Syndrome as outlined in Chapter Two under smoking and obesity. Following excerpts from the RNs highlight how these two positive inclusions came about on the forensic unit.

Diet

- RN 4 *We are providing a healthy supper and afternoon tea for all of the patients on the unit which is going very well. The patients are involved in choosing what they want for supper and they are very good at what not to have. It has definitely stopped patients from having toast and spreads at night time and that's pretty good.*
- RN 5 *Some of the patients are involved in preparing the supper in the evening – it is an opportunity for the patients to work with the staff.*

RN 3 *And that came out of a barrier because we tried for a long time to get the hospital kitchen to supply healthy suppers.*

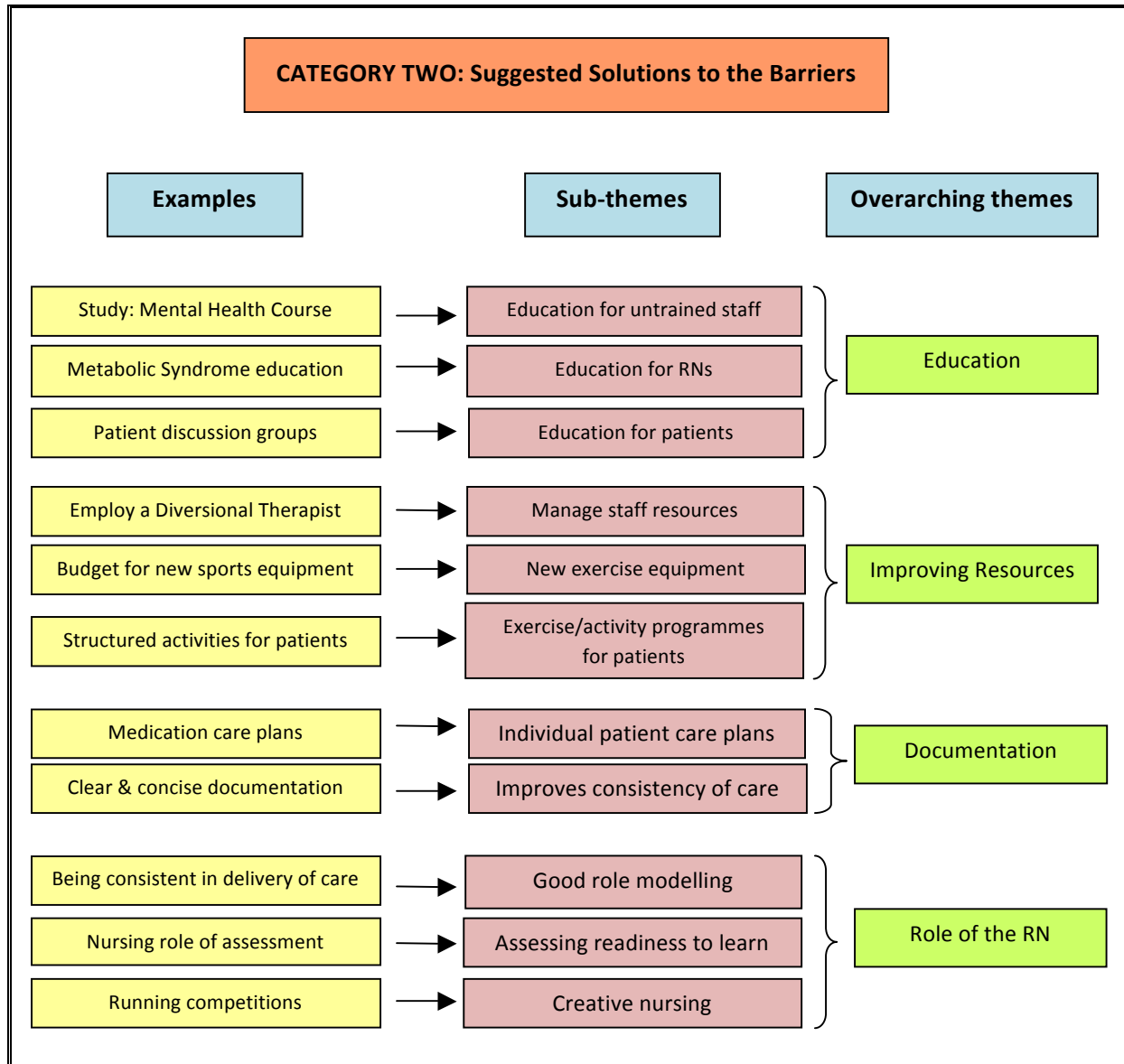


Figure 4.4: Overarching themes, sub-themes and specific examples identifying the Suggested Solutions to the Barriers

Smoking cessation

RN 5 *We are working towards targeting smoking cessation in health working areas. We have been slowly increasing the time in between patient's*

smoking breaks and this has been going well. There are posters around the unit regarding smoking cessation and there have been discussions around it. Patients are offered nicotine patches and now as part of the admission process we inform patients about the different choices regarding smoking cessation.

RN 2 *We did some work late last year which involved educating the staff around smoking cessation. The pharmacist did two education sessions on nicotine replacement therapy and these education sessions will probably be repeated again soon.*

Summary

This chapter has presented the data analysis and results from the focus group interview. The results have highlighted a number of barriers and suggested solutions to these barriers for RNs in helping to reduce Metabolic Syndrome in patients in a forensic unit in New Zealand. The results emphasise the need for a holistic approach to nursing practice on this forensic unit and offer rich insights for RNs in how they can improve the overall health and wellbeing of patients with SMI. The focus group interview data has also highlighted the positive solutions that have already been put in place on the forensic unit to help prevent the risk factors of Metabolic Syndrome in patients. The results in relation to each of the overarching themes as seen in Figures 4.3 and 4.4 will be explored further and discussed in depth in Chapter Five.

CHAPTER FIVE: DISCUSSION

Introduction

In this chapter, I will discuss the findings that emerged from the data analysis and their relationship to the literature for literature control purposes. I will discuss the main overarching themes and sub-themes (Figure 4.3) that emerged from the focus group interview in relation to Category One, the perceived barriers for RNs. I will the discuss the findings in relation to the main overarching themes and sub-themes (Figure 4.4) in relation to Category Two, the suggested solutions to the barriers. The chapter concludes with a reflection on the methodology used in this study and explores the limitations and recommendations for further research.

Category One: perceived barriers for Registered Nurses

I conducted this research as I have a strong interest in the physical health of patients with SMI. It was evident to me that in an in-patient forensic unit, the physical health needs of these patients were not being met adequately and that a holistic nursing approach is required to improve the quality of life, health and wellbeing of patients with SMI. After a thorough review of the literature within the search parameters for this research project, it was evident that there was a paucity of literature available indicating the incidence of Metabolic Syndrome in patients with SMI on forensic psychiatric units. Despite the wealth of literature produced globally involving Metabolic Syndrome, this demonstrates an evident gap in research.

The literature review revealed only one published research article (Prebble, Kidd, O'Brien et al, 2011) relating to the physical health care needs of patients with SMI on a forensic unit in New Zealand. O'Brien et al did not explore the barriers that RNs are confronted with in helping to reduce Metabolic Syndrome; however the research did aim to improve the physical health status of individuals with SMI through the introduction of a healthy living program. On reflection it is positive to learn that other

research is being conducted regarding patients with SMI on forensic units in New Zealand. This is significant in terms of forensic nursing, as research has shown that RNs spend the greatest amount of time in close patient contact (Wand & Murray, 2008) and are well positioned to prevent, monitor and manage the development of Metabolic Syndrome (Usher et al, 2006) and its individual risk factors.

A small number of published research articles were located during the literature review indicating the barriers RNs have in helping to reduce the health inequalities in patients with SMI in other mental health settings other than forensic psychiatric units, i.e. community settings (Lawrence & Kisely, 2010; Sebastian & Beer, 2007; Wheeler et al, 2009). These barriers concurred with several of the findings in my study including mental illness, mental state, diet and under-resourcing of mental health care including adequate staffing and exercise equipment. Of interest, one study in particular that emerged from the literature review described the potential barriers to implementing metabolic monitoring guidelines in the wider mental health services.

In light of this research, I was interested in establishing whether there were any particular barriers that impeded RNs from helping to reduce Metabolic Syndrome in this patient group existed. Only one study, by Sernyak (2007), surfaced from the literature that resembled a vague similarity to this study and described the potential barriers for the implementation of metabolic monitoring guidelines for mental health providers. However, these potential barriers addressed the wider mental health services and were not directly related to RNs and forensic mental health settings. Sernyak (2007) described these barriers as being: de-medicalisation of psychiatry; natural resistance to change; lack of systems support; cognitive deficits; poor communication between health professionals and coordination of care. Sernyak's study corresponded with the results from my own study by describing how patient cognitive deficits (i.e. a patient's mental health status) and staff knowledge or familiarity with Metabolic Syndrome are potential barriers for helping to reduce Metabolic Syndrome in patients with SMI. These barriers are discussed in detail later in this chapter.

During the data analysis process, significant findings emerged from my own research during the data analysis process. These findings indicated that there were

several perceived barriers that impeded RNs abilities to help reduce Metabolic Syndrome from occurring in this patient group. What follows is a discussion of these barriers for which the main overarching themes are shown in the individual headings followed by a discussion of the sub-themes.

Mental illness

The participants agreed that a patient's mental illness can act as a barrier for enabling the RNs to prevent Metabolic Syndrome in patients on the forensic unit. One of the sub-themes that emerged from the focus group interview was a patient's current mental state, which directly relates to the individual characteristics of their mental illness. It refers to the patient's current mood and affect, their thought content and perception (i.e. hallucinations), their level of cognition (i.e. memory, level of concentration, ability to interpret information) and their level of insight (Elder et al, 2005). The patient's mental state can greatly impact on their ability to receive and process information. One RN stated that a patient's mental state can influence the patient's willingness to change and take on board information and education. This can therefore impact on the patient's ability to engage in healthier lifestyle choices such as exercising and eating healthy and acts as a barrier for RNs in helping to reduce Metabolic Syndrome in this patient group.

Another sub-theme that was identified with a patient's mental state was the negative symptoms of their illness. Negative symptoms are described as being one of the main characteristic symptoms of individuals with schizophrenia and can include a lack of motivation, anhedonia (loss of feelings of pleasure associated with favoured activities), decreased self care and decreased social interaction (Elder et al, 2005). One RN identified that a lack of motivation in patients with schizophrenia was a significant barrier in helping to reduce Metabolic Syndrome. A lack of motivation has resulting implications for these patients as they are less inclined to participate in any form of exercise or engage in group and social activities (Elder et al, 2005). This consequently has a flow-on affect for the patient as they are unlikely to engage in education groups and have generally lost interest in being active participants in their own care and recovery.

Non-compliance with treatment was another barrier that emerged from the focus group interview. This has a direct impact on the RNs ability to prevent Metabolic Syndrome. Non-compliance was related to refused consent to have bloods taken to ascertain a patient's fasting lipid profile and glucose levels. Not being able to monitor these levels is significant as they are identified by the International Diabetes Federation (2009) as being two of the major risk factors associated with the development of Metabolic Syndrome. Another RN in the focus group interview also highlighted that some patients who have been diagnosed with dislipidaemia refuse to take particular medications. For example, cholesterol lowering medications such as simvastatin, which further acts as a barrier for helping to reduce Metabolic Syndrome.

Staff provision of care

Staff provision of care emerged from the focus group interview as being a significant barrier for RNs in helping to reduce Metabolic Syndrome in patients on the forensic unit. One of the sub-themes associated with this barrier was individual personalities and attitudes of the staff members who worked on the forensic unit. As the focus group interview proceeded, it became clear that the RNs descriptions of staff having 'black and white' personalities and being unable to change their thinking had a significant influence on the level of knowledge of these staff members. The findings from this study identify knowledge as another barrier which is discussed as a main over-arching theme further on in this chapter.

Individual staff attitudes and personalities had a strong relationship with the level of inconsistency in care on the forensic unit. Inconsistency of care can make it difficult for patients to learn what is and what is not considered as being a healthy lifestyle. For example, on one shift a RN may educate a patient in relation to reducing their consumption of large amounts of sugary drinks, whereas on the following shift a staff member might go out and buy the same patient a large bottle of sugary carbonated soft drink. This may well send mixed messages to the patient and in particular can make the process of patient education a lot more difficult. Later in this chapter possible solutions for inconsistency of care are suggested and discussed.

Another sub-theme that indentified with staff provision of care, was the lack of ideas and creativity on the forensic unit. The RNs perceived this was a barrier at the time of the focus group interview as they believed that no-one was actively thinking of ideas relating to exercise and structured activities for the patients. This led to a discussion between the RNs regarding suggested solutions to this barrier.

Knowledge

Knowledge was a significant overarching theme that emerged from the focus group interview. RNs working in mental health have a responsibility to obtain and maintain an adequate knowledge base that incorporates the physical health needs of patients with mental illness (Wand & Murray, 2008). During the focus group interview it became clear that RNs level of knowledge regarding Metabolic Syndrome was limited. This finding was significant as a knowledge barrier reflects my initial assumptions prior to conducting this research. The RNs were able to articulate some of the individual risk factors of Metabolic Syndrome such as obesity, glucose and lipid levels and the associated cardiac problems. However, the RNs were unable to describe what the parameters were for these risk factors which are essential in monitoring Metabolic Syndrome. This deficit in knowledge regarding the parameters of Metabolic Syndrome clearly highlighted a significant barrier in helping to reduce Metabolic Syndrome and needs to be addressed.

The lack of specific patient education relating to Metabolic Syndrome was identified as another barrier to help reduce the occurence of Metabolic Syndrome. One RN was very honest in their answer in stating “there was not a lot of patient education occurring in the forensic unit relating to Metabolic Syndrome at the time the focus group interview was conducted.” The lack of education can impact on the level of knowledge the patients have regarding the importance of maintaining a healthy lifestyle. However in contrast to this, other RNs in the focus group interview clearly articulated examples of direct nurse-patient education during general discussion relating to the individual risk factors of Metabolic Syndrome such as weight gain. This highlighted the varying levels of knowledge amongst the RNs in relation to Metabolic Syndrome.

A further barrier that was described by the RNs in the focus group interview refers to the knowledge levels of untrained health staff who worked on the forensic unit. This deficit of knowledge often impacted on that group of staff and their comprehension when it comes to understanding what was good and what was not good for the patient. For examples the types of food the patient should be eating and the level of exercise the patient should engage in. A limited understanding has also been linked to the inconsistency in the delivery of care on the forensic unit.

Diet

The RNs voiced the nature of the patient's diet as being a substantial barrier in helping to reduce Metabolic Syndrome. One RN said that there was minimal control over the hospital menu and what the patients chose from it. Despite there being a choice of healthy options on the menu, it was often very difficult to monitor carbohydrate intake for individual patients. For example, some patients could choose both pasta and a potato dish and not include any vegetables in their diet. This is especially problematic as some of the medications the patients were prescribed, i.e. atypical antipsychotics, can diminish a patient's feeling of satiety and therefore increase their consumption of foods high in carbohydrates to help them feel full (Rege, 2008). This in turn leads to weight gain and increases the patients risk for Metabolic Syndrome.

Another barrier that was voiced by the RNs in relation to diet was the difficulty in changing a patient's prior eating habits on admission. The RNs noted that many patients had poor eating habits prior to admission and that their diets consist of large percentages of foods high in sugar and fats. The RNs also indicated that socio-economic factors play a significant role in the choice of food that patients are able to eat prior to admission and again on discharge. The majority of patients admitted to the forensic unit are on a disability allowance and subsequently they can only spend limited amounts of money on food. One RN made this point very clear by hypothetically stating that "by the end of the week, when the patient has only four dollars left, they are not going to go and buy a tray of sushi or food that is relatively healthy because it is too expensive; instead, the patient was more likely to go and buy a cheap pie." This barrier also links in with poor patient knowledge and solutions for educating patients on healthy eating are discussed later in this chapter.

Cultural beliefs related to food were highlighted by one RN as another barrier in relation to diet. The RN voiced that for both Maori and Pacific Island people who get admitted to the forensic unit; food plays a significant role in their day and is a sign of prosperity and wealth. This acts as a significant barrier in terms of education in relation to healthy eating for this patient group as these two cultures represent a high percentage of the forensic inpatient population. Surveys carried out in New Zealand show that Pacific peoples make up 9% of this population (Ministry of Health, 2008) and Maori make up 50% of all users in forensic inpatient settings (Ministry of Health, 2001).

Insufficient resources

The RNs highlighted that insufficient resources also acted as a barrier in preventing Metabolic Syndrome. In particular, they noted that there was a shortage of exercise equipment available for the patients to use. One RN emphasised that the forensic unit only had one exercise bike that was often locked away in a room and was only used when staff were available to supervise it. This is of significant concern as individuals with SMI are significantly less active than the general population (Richardson et al, 2005). Additionally, patients on the forensic unit are generally confined to the unit for long periods of time and are often not able to get outside to go walking, running or swimming due to the restrictions placed on them by the Criminal Procedures (Mentally Impaired Persons) Act 2003. The RNs also voiced that there is often a lack of staff available to supervise patients with exercise activities due to the high acuity of the forensic unit which in itself can be seen as a significant barrier in helping to reduce Metabolic Syndrome.

Category Two: suggested solutions to the barriers

After identifying the perceived barriers in helping to reduce Metabolic Syndrome in patients with SMI on the forensic unit, the RNs were asked to suggest possible solutions to these barriers in order to answer the second objective of this research project. What follows is a discussion of these suggested solutions with reference to recent literature as evidence for the incorporation of these solutions into practice.

Education

The RNs in the focus group interview suggested that education for staff is a practical solution to help overcome the perceived barrier of knowledge deficit in relation to Metabolic Syndrome. The RNs thought that it would be helpful to have regular education sessions for staff on various topics related to Metabolic Syndrome. This finding concurs with studies carried out by Usher et al. (2006) and Barnett et al. (2007) who emphasise that RNs play a vital role in helping to reduce Metabolic Syndrome in patients with SMI through education. The RNs also suggested that an individual RN who has a good knowledge base regarding Metabolic Syndrome should be delegated the task of coordinating education and ensuring that RNs are keeping up to date with best practice guidelines and the monitoring of Metabolic Syndrome in the patient group. A study carried out by Wand & Murray (2008) supports the findings of this study by emphasising the importance of education for RNs regarding the physical health needs of patients with SMI, as failing to do so can have an overall negative impact on the quality of life for these patients.

Patient education was another suggested solution to overcome the knowledge barrier. The RNs voiced that more education sessions for patients regarding Metabolic Syndrome needed to occur. Regular discussion group had recently commenced on the forensic unit and the RNs suggested that these would be an ideal setting to educate patients regarding Metabolic Syndrome. It is imperative that patient education occurs as a crucial role of the RN is health promotion. Health promotion aims to reduce the disparities in health and ensures that equal opportunities and resources are provided for the patients (Wand & Murray, 2008). Printed information regarding nutrition, physical activity and smoking cessation should also be provided for the patients; especially for those commencing on psychotropic medications. This concurs with a study by Barnett et al. (2007) who suggests that all patients should be made aware of the risk of weight gain with psychotropic medications and the health risks associated with that extra weight gain. The provision of both verbal and written education should become a routine component of practice for the RNs on the forensic unit (Muir-Cochrane as cited in Wand & Murray, 2008). Through education, the patients become more aware of their own physical health needs and are therefore more likely to be active participants in their own care and recovery.

Another solution that was suggested by the RNs in the study, to help narrow the knowledge gap was to educate the staff members who are not registered health professionals. This would involve these staff members undergoing specific education at a tertiary institution and have regular education sessions from the RNs. By doing so, this will allow these staff members to gain a more in-depth knowledge regarding the patients they are working with, where that patient is in terms of their own understanding and also to learn more specifically what their own role is. This would help to close the knowledge gap improve the inconsistency of care that was highlighted as a barrier by the RNs.

Improving human and physical resources

Improving resources was another solution to the perceived barriers as suggested by the RNs in the focus group interview. The RNs highlighted that due to the high acuity of the forensic unit there was often a shortage of staff to help facilitate exercise activities and there was also a shortage of exercise equipment available for the patients. One solution as discussed by the RNs, would be to employ a new staff member who would be specifically dedicated to develop and run activities and exercise programs for the patients on the forensic unit. This staff member could be a dedicated diversional therapist or someone who specialises in physical education. It was also suggested that the forensic unit could liaise with the local university to encourage students from the physiotherapy and physical education schools to run specific groups on the ward as part of their training. Richardson et al. (2005) supports the need for physical activity programs in inpatient psychiatric units as they can aid to substantially improve the physical health outcomes of patients with SMI. Physical activity programs may also have a positive effect on a patient's psychological and social outcomes and play an important part in successful mental health recovery (Richardson et al, 2005).

As there was only one exercise bicycle on the forensic unit, it was suggested that it would be feasible to invest in new exercise equipment for the unit. The RNs highlighted that the new equipment would have to be of good quality and be able to weight bare patients who have a BMI in the obese category ($>30\text{kg/m}^2$). It was also suggested that the exercise equipment should be kept somewhere where it would be more accessible to patients on a regular basis, rather than being kept in a locked

room. Having the exercise equipment more visible and accessible to patients would most likely increase the amount of exercise the patients engage in. It is also important to educate the patients about the strong evidence that exercise plays in the facilitation of good physical and mental health (Beebe, 2008). This concurs with a study by Sebastian and Beer (2007) who suggest that the promotion of exercise and the availability of exercise equipment for patients with SMI aids in reducing their physical morbidity. To enhance exercise adherence staff could also point out to patients their observed observations in how exercise improves the patients overall physical health (Beebe, 2008). Encouraging patients to regularly participate in exercise will have a positive impact on their overall physical health status.

Documentation

Ensuring clear and concise documentation was another suggested solution to overcome the barrier related to inconsistency of care. The RNs in the focus group interview acknowledged that some of the patients on the forensic unit already have very good individualised care plans targeting certain areas such as physical health. However, they suggested that this level of care planning needs to be consistent for all patients. Good care plans covering all aspects of a patient's care, including medications, diet and physical health will ensure that the level of inconsistency of care is reduced. However, to ensure that this occurs it will be important for all staff members, including the MDT and those who are not trained health professionals to read these care plans and stay informed regarding any updates. This will maximise the continuity of care for patients and support the provision of optimal health care for this patient group.

Clear and concise documentation should include the monitoring for Metabolic Syndrome in patients. It was evident through the discussion that took place that there was a good system in place for the monitoring of Metabolic Syndrome on the forensic unit. This includes using the DHB's Metabolic Monitoring datasheet that indicates time frames in which the monitoring should occur and also incorporates methods that were put in place by the RNs on the forensic unit such as documenting reminders of when a patient's metabolic monitoring is due in the ward diary and on the nurses' office whiteboard. It was also good to learn that the metabolic monitoring process was being documented on the forensic units MDT document. This ensures

that the entire MDT is aware of the physical health status of the patients and they are able to coordinate the patients' care in a collaborative manner and arrange for follow-up care when necessary.

Role of the Registered Nurse

In a study undertaken by Fourie, McDonald, Connor and Bartlett (2005), they describe the role of a RN working in inpatient mental health settings in New Zealand as being significant, as RNs are usually the health professionals who spend the most amount of time working alongside patients. In their study, they conducted a focus group interview with staff members and used non-participant observation to try and establish the roles of RNs working in inpatient mental health units. They emphasise that the role of the RN is broad and encompasses a number of different tasks such as patient safety; good therapeutic interventions; assessment, planning and coordination of patient care; communicating with other members of the MDT; education of patients, family, non-health professionals and other health professionals working on the unit and documentation (Fourie et al, 2005).

This study by Fourie et al. (2005) relates to my study as the RNs in the focus group interview in my study emphasised that they believe the RN plays an important role in helping to reduce Metabolic Syndrome in patients on the forensic unit. In addition to the above roles, one of the RNs highlighted the importance of being a good role model for other staff members and patients on the forensic unit. Being a role model has long been recognised in nursing as one of the most powerful ways in which learning and education can occur (Davies, 1993). This is significant, as education and knowledge was widely reflected on by the RNs in the focus group interview as being one of the main perceived barriers in helping to reduce Metabolic Syndrome. The RNs emphasised that role modelling was an important factor as it also facilitates consistency of care and enables other staff members to follow good practices which improves the overall health and wellbeing of the patients. Being a good role model reflects on many areas of practice and can be demonstrated through many avenues such as good documentation, clear communication with the MDT and patients, promoting healthy lifestyles through the encouragement of physical activity and healthy eating and simply being consistent in the way care is delivered to patients.

Another important nursing role emphasised by the RNs in the focus group interview is the role of assessing readiness to learn. The RNs emphasised that it is important to assess whether or not a patient is ready to learn prior to delivering any type of patient education. Readiness to learn refers to a patient's willingness and ability to receive education to develop new skills, thinking patterns or attitudes (Redman & Whitman as cited in Dalton & Gottlieb, 2003). This is important because if a patient is too unwell, they are not going to have the cognitive ability to retain or process the information and as a result the patient may become unnecessarily distressed.

One solution that was suggested and one that ties in with the role of the RN is creative nursing. The RNs in the focus group interview suggested that all nurses on the forensic unit need to think of new ways in which they could motivate patients to become more active and engage in healthier lifestyles. For example one RN suggested that running competitions to promote physical activity will be a fun and collaborative way for both staff and for patients to improve patient's long term health outcomes.

Reflection on the methodology

Using a case study with qualitative descriptive research design in this research has enabled the exploration of RNs perceived barriers in helping to reduce Metabolic Syndrome in patients with a SMI on a forensic unit at one DHB in New Zealand. Choosing a focus group interview as the main data collection tool for this study enabled a large amount of data to be collected in a short period of time. The descriptive research design of this study together with the focus group interview provided an ideal framework which enabled the RNs to voice their opinions and interpretations of the phenomenon under study. The focus group enabled the participants to bounce ideas off each other and come up with new ideas that may not necessarily have been thought of if individual interviews were used as the main data collection tool for this study.

The RNs were well informed of what the focus group interview was going to entail as they had been provided with a detailed information sheet on the study topic and what

they were to expect during the focus group interview. The RNs in the focus group interview had also been working with each other for a significant amount of time so they already had an establishment of trust amongst each other and felt comfortable expressing their ideas and opinions. This was evident through the way they agreed with each other's comments and how they were able to generate debate amongst each other in a productive manner.

The sample size of this study was significantly less than I had anticipated as I was originally hoping to run two focus group interviews each consisting of approximately four to five RNs. However, the depth and breadth of the content that emerged from the single focus group interview which consisted of five RNs provided enough data to meet the aims and objectives of this study.

Limitations of the study

This research had several limitations:

The first of which is that the research was limited by the time constraints imposed by the academic time line of one year for this study to meet the requirements for a Masters Degree. This meant that once ethical approval was obtained, I had limited time in which to recruit participants for the study prior to conducting the focus group interview. In relation to this, time constraints were further imposed as I was not living in the same geographical area in which the focus group interview was conducted. This meant that I only had a set amount of time in which to conduct the focus group interview which may have affected the sample size.

Second, due to the small sample size in this research findings are not reflective of all the RNs on the forensic unit as only five RNs who work on the unit volunteered themselves to participate in the focus group interview. Therefore data saturation may not have occurred in this study.

The third limitation was that as there was only one focus group interview, comparisons were not able to be made with other groups.

Finally, this study is small and used a geographically contained sample. The results can not therefore be generalised for all forensic units in New Zealand.

Recommendations

This study has generated several recommendations for practice and for further research regarding the reduction of Metabolic Syndrome in patients with SMI in forensic units in New Zealand.

Recommendations for practice

The following four recommendations for nursing practice have emerged and are supported by the findings of this study.

Nurses should:

1. Establish regular education sessions for patients regarding the individual risk factors of Metabolic Syndrome. In doing so, it is important that the RNs on the forensic unit are mindful of the level of readiness to learn for each individual patient.
2. Provide education sessions or pamphlets for family members to help increase awareness regarding Metabolic Syndrome.
3. Delegate an individual RN to oversee the monitoring of Metabolic Syndrome in patients on the forensic unit and also educate RNs and other untrained allied staff regarding the individual risk factors of Metabolic Syndrome. This will help to further prevent the prevalence of Metabolic Syndrome amongst this patient group and will lead to an improvement in the level of consistency of care. The education of staff is also vital in the provision of education for the patients.
4. Explore the employment of new staff members who will be specifically dedicated to run regular activities and physical exercise programs for the patients on the forensic unit. This will help to overcome the barrier caused by staff unavailability to run such programs due to the high acuity of the forensic unit.

Finally, the findings of this study should be reported back to all education providers to emphasise the need for all RNs to focus on holistic nursing practice. This will go some way to ensure that the significant gap in the health status between the general population and individuals with mental illness continues to reduce. This will also ensure that newly registered nurses are well equipped with this knowledge, which will again help to further minimise these disparities in the health status of patients in forensic in-patient units.

Recommendations for further research

The findings from this small exploratory descriptive study have highlighted the need for further research in this area, namely:

1. Further research is recommended to explore the impact forensic psychiatric units have on patients in the development of Metabolic Syndrome as there is currently a shortage of published information regarding this topic globally.
2. This study should be replicated to include all forensic units in New Zealand to capture a broad perspective of the perceived barriers of RNs in helping to reduce Metabolic Syndrome in patients with SMI.
3. Further research is recommended to identify how RNs address the barriers identified in this study on a forensic unit.

Conclusions

The overall aim of this study was to explore RNs perceived barriers in helping to reduce Metabolic Syndrome in patients with SMI on a forensic unit in New Zealand. The themes that were generated from this study identified a number of barriers (Figure 4.3) which demonstrates that the aim of this study has been met. Furthermore, the themes have also identified suggested solutions to these barriers which may be incorporated into nursing practice.

The findings of this study are significant as the New Zealand Health Strategy (Ministry of Health, 2000) and the New Zealand Mental Health Survey in 2006 identified that there are major disparities in the health of individuals with SMI. The

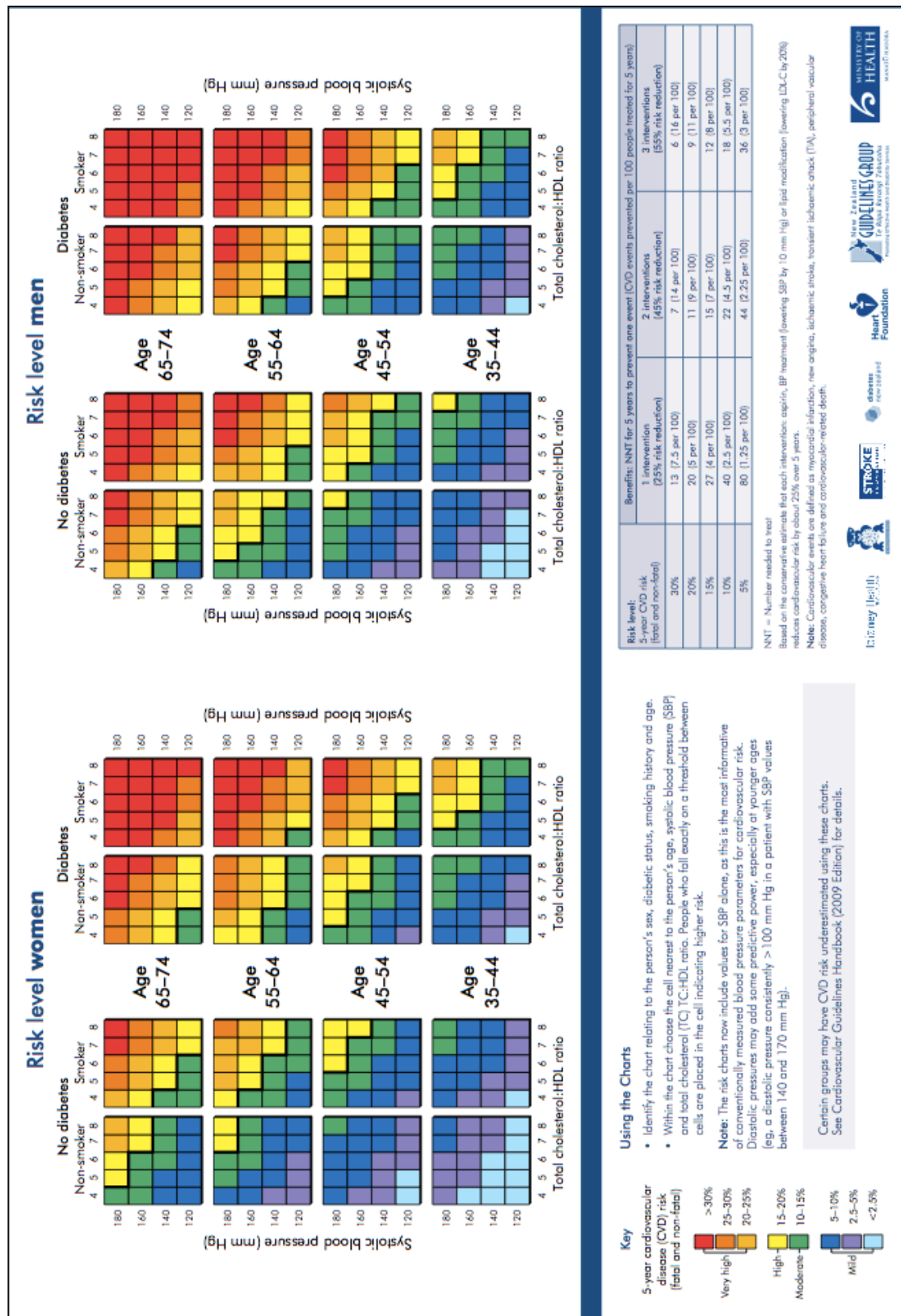
literature has emphasised that RNs are best positioned to identify and help minimise these disparities in health as they spend the most amount of time in close patient contact (Usher et al, 2006). Through holistic nursing practice, RNs can provide patients with SMI an equal opportunity as those in the general population to have improved physical health. By doing so, the overall quality of life and life expectancy for this patient group will significantly improve (Millar, 2008).

The knowledge obtained from this study will not only be a valuable addition to the practice of RNs who work on the forensic unit where this study was carried out, but will be of value to RNs who work in other forensic units throughout New Zealand. This study has emphasised the importance of holistic nursing practice and has demonstrated that good physical health is a realistic goal in patients with SMI when health professionals work together in a collaborative manner.

Finally, the findings from this study will add to the national and international body of knowledge regarding patients with SMI and Metabolic Syndrome in forensic psychiatric units. This is significant as the literature review only revealed a very small amount of published research pertaining to this area.

Appendix A

New Zealand Cardiovascular Risk Charts (Ministry of Health, 2009, p 2-3)



Appendix B

The recommended interventions, goals and follow-up based on cardiovascular risk assessment (Ministry of Health, 2009, p.18).

Cardiovascular Risk	Lifestyle	Drug Therapy	Treatment Goals	Follow-up
<p>< 10%</p> <p>(Low Risk)</p>	<ul style="list-style-type: none"> General lifestyle advice on a cardio protective dietary pattern and physical activity 	<ul style="list-style-type: none"> Treatment for smoking cessation Non-pharmacological approach to treating multiple risk factors 	Lifestyle advice aimed at reducing cardiovascular risk	Further CVD risk assessment in 5 – 10 years
<p>10-15%</p> <p>(Moderate Risk)</p>	<ul style="list-style-type: none"> Specific individualised lifestyle advice on a cardio protective dietary pattern and physical activity This lifestyle advice should be given by the primary health care team 	<ul style="list-style-type: none"> Treatment for smoking cessation Non-pharmacological approach to treating multiple risk factors 	Lifestyle advice aimed at reducing cardiovascular risk	Further CVD risk assessment in 2 years
<p>>20%</p> <p>(High Risk)</p>	<ul style="list-style-type: none"> Intensive lifestyle advice on a cardio protective dietary pattern with a dietician and physical activity. Lifestyle advice should be given simultaneously with drug treatment 	<ul style="list-style-type: none"> Treatment for smoking cessation Aspirin and drug treatment of all modifiable risk factors – BP lowering, lipid modification, glycaemic control (in people with diabetes) 	Risk factors treated to a level that will lower 5 year cardiovascular risk to less than 15%	<ul style="list-style-type: none"> CVD risk assessments at least annually Risk factor monitoring every 3-6 months

Appendix C

Barriers to healthcare provision for people with SMI (Lawrence & Kisely, 2010)

Systemic	Provider	Patient
Geographic	Effects of stigma	Illicit substance use
Managerial	Time and resource constraints	Social isolation and lack of family support
Fragmentation of care across providers	Regarding physical complaints as psycho-somatic symptoms	Minimal or no exercise
Lack of continuity of care		Obesity
Under-resourcing in mental health care		Side effects of medications
Lack of clarity regarding whose responsibility it is for the physical health care of patients with SMI		Effects of mental illness, including cognitive impairment, lack of motivation
		Diet
		Self-neglect
		Socio-economic factors

FOCUS GROUP INVITATION

To all Registered Nurses

You are invited to participate in a focus group as part of my Masters of Nursing thesis.

We will be discussing the barriers for Registered Nurses in helping to reduce Metabolic Syndrome in patients with a severe mental illness in a forensic unit in New Zealand

Please find an information sheet in your cubby holes for more details

REFRESHMENTS WILL BE PROVIDED



Dependent on the number of RN's interested there will be several focus groups held during 3 - 8 June 2010. Times and places for the focus groups will be advised at a later date

Please RSVP to Sarah Guthrie at: sarah.jane.guthrie@gmail.com
by 16th May 2010

If you have any questions regarding this research you may contact myself or my research supervisor Dr Salome Meyer on (04)[4636150](tel:4636150) or salome.meyer@vuw.ac.nz

Hope to see you there!

Appendix E

FOCUS GROUP QUESTION GUIDELINE

- 1. What is your understanding of Metabolic Syndrome?**
 - What does Metabolic Syndrome mean?
 - What are the parameters for Metabolic Syndrome?
 - Do you think Registered Nurses have a good understanding of Metabolic Syndrome?

- 2. What is the process for monitoring Metabolic Syndrome in patients in the forensic unit?**
 - Are there guidelines for monitoring metabolic syndrome in patients on the forensic unit?
 - How frequently is metabolic syndrome monitored in patients?
 - What happens to the data once it is collected and documented?
 - How are patients followed-up if they have metabolic syndrome or are at risk for developing it?

- 3. What education is given to the patients in regards to metabolic syndrome and how is it being delivered?**

- 4. What do you believe are the barriers for Registered Nurses in helping to reduce metabolic syndrome in patients with a severe mental illness on this forensic unit?**
 - i.e. Legal requirements; mental illness; diet; exercise; knowledge of staff/patients; access to medical staff; monitoring equipment; medication.

- 5. For each of the barriers identified in the previous question, what do you think would be a solution to overcome this barrier?**

Appendix F



INFORMATION SHEET FOR FOCUS GROUP

Reducing Metabolic Syndrome in patients with severe mental illness on a forensic unit in New Zealand: Perceived barriers for Registered Nurses

Dear Colleague,

You are invited to participate in an exploratory study looking into the barriers for Registered Nurses in helping to reduce Metabolic Syndrome in patients with a severe mental illness in a forensic unit in New Zealand.

This study will be done as part of a Masters of Nursing (Clinical) degree by Sarah Guthrie and is being supervised by Salome Meyer, a senior lecturer in the Graduate School of Nursing and Midwifery and Health at Victoria University of Wellington.

This study has been granted ethical approval by the Lower Southern Regional Ethics Committee, reference number: LRS/10/EXP/011.

Introduction

Over the last decade, it has become increasingly evident that people with a severe mental illness are at increased risk for developing Metabolic Syndrome. In particular there is an evident gap in the research literature regarding patients in forensic psychiatric units.

Metabolic Syndrome has a strong association with the potential development of cardiovascular disease (CVD) (Usher, Foster & Park, 2006). The metabolic risk factors include:

- Hypertension
- Type Two Diabetes Mellitus (T2DM)
- Abdominal obesity
- Dyslipidemia

The presence of three or more of these metabolic risk factors are key for definition of Metabolic Syndrome, a constellation of risk factors that greatly predisposes an individual to CVD and thus represents a significant health burden (Van Gaal, 2006). Mental health nurses spend the greatest amount of time in close patient contact and

are well positioned to prevent, detect or manage the development of Metabolic Syndrome. The time has long past when mental health nurses can afford to attend only to the presenting psychiatric illness and to do so would impact negatively on the quality of life of mental health patients (Wand & Murray, 2008).

Treaty of Waitangi Obligations

This study will underpin the three principles of the Treaty of Waitangi: protection, participation and partnership. Due to the high prevalence of Maori with serious mental illness in New Zealand (Wheeler, Harrison & Homes, 2009) and their overrepresentation in the forensic population, it is important for health professionals to protect their physical health status. By highlighting the barriers for Registered Nurses in preventing Metabolic Syndrome in the forensic unit, Registered Nurses will be better equipped not only to protect Maori health but also work in partnership with Maori patients and engage patients more frequently to participate in their own health and wellbeing.

The Question:

What are Registered Nurse's perceptions of the barriers in helping to reduce Metabolic Syndrome in patients with a severe mental illness in a forensic unit in New Zealand and what are the suggested solutions to these barriers?

Aims and Objectives:

1. To explore the barriers that Registered Nurses have in helping to reduce Metabolic Syndrome in patients with a severe mental illness in a forensic unit in New Zealand.
2. To explore possible solutions to these barriers as suggested by the Registered Nurses.

Overall research design/methodology:

This is an exploratory descriptive study that uses qualitative methods. The methods include a literature review and 2-3 focus groups of which each will be comprised of 4-5 registered nurses who work in the forensic unit.

What is involved?

- The focus group is designed to take approximately 45-60 minutes at a specified time and venue. The focus group will be facilitated by Sarah Guthrie, the principal researcher. You will be required to sign the attached consent form prior to participating in the focus group.
- Your participation in this research is *voluntary and you may withdraw from the study at any time without explanation*. You do not have to answer all of the questions. This will in no way have any impact on your current or future employment.

- No material that could personally identify you will be used in any written reports on this study and the District Health Board will also remain unidentified.
- Participants are expected to exhibit common courtesy and respect to other participants in the focus group and should at all times maintain confidentiality of the group by not discussing individuals and their comments outside of the focus group.
- The focus group will be asked several semi-structured questions regarding their perceptions on the barriers to preventing Metabolic Syndrome within patients with a major mental illness in a forensic unit.
- The focus group discussion will be recorded using a digital recording device and transcribed by the principal researcher. All of the raw data collected will be stored in a locked cabinet or as password protected electronic documents and will be destroyed 10 years after the completion of this study.
- If you have any personal issues that are raised during the interview process, an opportunity will be available for you to discuss these issues confidentially with the principle researcher after the focus group is completed. Confidential and professional advice will also be available to you via SEED – a workplace wellness service.
- An expert within the Maori Mental Health Team associated with the District Health Board will be consulted with prior to the research being carried out. To address any issues that Maori Registered Nurses may have during the interview process, a Maori advisor/expert will be available for the Registered Nurse to consult with.
- To ensure internal validity of this research, member validation will be used. This will involve sending the transcribed data from the focus group back to the individuals to ensure accuracy of the content.
- Once the results are formally published these will be offered to you in electronic form and will also be presented back to the forensic unit in which the study was conducted.
- As a small thank you for your time, you will be provided with refreshments during the focus group.

If you have any queries or concerns about your rights as a participant in this study you may wish to contact a Health and Disability Services Consumer Advocate, telephone: (03) 479 0265 or freephone 0800 37 77 66 or freefax 0800 2787 7678 (0800 2 SUPPORT) or email advocacy@hdc.org.nz.

If there is a specific Maori issue/concern please contact Linda Grennell at 0800 377 766.

Please feel free to contact the principal researcher or the research supervisor if you have any further questions about this study.

Principal Investigator:

Sarah Guthrie
Registered Nurse
Masters of Nursing (Clinical)
Victoria University of Wellington
Phone: +61 4 160 666 03
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Research Supervisor:

Dr Salomé Meyer
Senior Lecturer
Graduate School of Nursing and Midwifery
Victoria University of Wellington
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Appendix G



CONSENT FORM FOR PARTICIPATION IN FOCUS GROUP

Reducing Metabolic Syndrome in patients with severe mental illness on a forensic unit in New Zealand: Perceived barriers for Registered Nurses

- I have read and understood the attached “Information sheet for Focus Group” dated 15/03/2010. I have had the opportunity to discuss the study and ask questions with the researcher and I am satisfied with the answers regarding my participation.
- I understand that taking part in the focus group is voluntary and that I may withdraw from the study at any time without explanation. Withdrawing from the focus group will in no way affect my future employment.
- I understand that my participation in this study is confidential and no individual from the focus group will be named in any written reports. The District Health Board will also remain unidentified.
- I agreed to exhibit common courtesy and respect towards other participants in the focus group at all times and to maintain confidentiality of the other participants.
- I understand that the focus group will be tape recorded using a digital recording device and that the recordings will be transcribed by the principal researcher.
- I understand that all data collected will be stored in a locked cabinet or as password protected electronic documents and will be destroyed 10 years after the completion of this study.

I _____ (full name) hereby consent to take part in this study by participating in this focus group.

Signature: _____ Date: _____

Focus group conducted by: _____

Signature: _____ Date: _____

Appendix H



Lower South Regional Ethics Committee

Ministry of Health

229 Moray Place

PO Box 5849

Dunedin

Phone (03) 474 8562

Fax (03) 474 8090

Email: lowersouth_ethicscommittee@moh.govt.nz

13 May 2010

Ms Sarah Guthrie
16 Hawthorne Road
Kaikoura 7300

Dear Sarah

Ethics ref: **LRS/10/EXP/011**
Study title: Prevention of metabolic syndrome in patients with major mental illness in a forensic unit in New Zealand: perceived barriers for Registered Nurses
Investigators: Ms Sarah Guthrie

The above study has been given **ethical approval** by the Chair of the Lower South Regional Ethics Committee under delegated authority.

Accreditation

The Committee involved in the approval of this study is accredited by the Health Research Council and is constituted and operates in accordance with the Operational Standard for Ethics Committees, April 2006.

Final Report

The study is approved until **1 August 2010**. A final report is required at the end of the study and a form to assist with this is available at <http://www.ethicscommittees.health.govt.nz>. If the study will not be completed as advised, please forward a progress report and an application for extension of ethical approval one month before the above date.

Amendments

It is also a condition of approval that the Committee is advised of any adverse events, if the study does not commence, or the study is altered in any way, including all documentation eg advertisements, letters to prospective participants.

Please quote the above ethics committee reference number in all correspondence.

It should be noted that Ethics Committee approval does not imply any resource commitment or administrative facilitation by any healthcare provider within whose facility the research is to be carried out. Where applicable, authority for this must be obtained separately from the appropriate manager within the organisation.

We wish you well with your study.
Yours sincerely

A handwritten signature in black ink, appearing to read 'Anna Paris'.

Anna Paris
Lower South Regional Ethics Committee Administrator
dd (03) 474 8562 fax (03) 474 8090
Email: anna_paris@moh.govt.nz

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