

Original Research

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What is the experience of registered nurses in assessing people with severe mental illness for metabolic syndrome? A Qualitative Study.

Ruth CRAWFORD,¹ Sisilia F PEINI,² Teramira C SCHUTZ³

ABSTRACT

Introduction: Metabolic Syndrome is a prevalent condition in New Zealand and worldwide, affecting adult populations, especially those who are in long-term antipsychotic medications for severe mental illness. Registered nurses play a crucial role in improving the health of this population.

Methods: Five registered nurses with at least two years of working experience in the mental health settings participated in this qualitative, exploratory study, underpinned by the Kakala Research Framework. Semi-structured face-to-face interviews with the participants were undertaken to gather research data and thematic analysis was used to find common themes.

Findings: Registered nurses in mental health services are experiencing clinical and professional enablers as well as professional, organisational and systematic barriers in assessing people with severe mental illness for metabolic syndrome.

Conclusion: Skilled registered nurses in mental health services are required to take the responsibility for providing a “one-stop-shop” for people with metabolic syndrome.

Keywords: assessment, mental health services, metabolic syndrome, registered nurse, severe mental illness.

INTRODUCTION

Mental illness which includes depression, schizophrenia and bipolar disorder is characterized by a combination of abnormal thoughts, perceptions, emotions, behaviour and relationships with others. Depression is one of the main causes of physical and mental disability.¹ The New Zealand Ministry of Health estimated that mental illness affects 15% of people worldwide.² In 2016, 3.6% of the New Zealand population used mental health services (MHS). Between 2011 and 2016, there was a 0.4% increase in people accessing MHS for treatment and assessment. In the years 2014 - 2015, 161,159 people were reviewed by New Zealand’s mental health and addiction services. Of these patients, 32,610 were categorised as “long-term” patients with severe mental illness (SMI). These “long-term” patients received ongoing treatments for at least two years.³ People with SMI are at high risk of developing serious complications with life-threatening conditions such as cardiovascular disease and type 2 diabetes, as a side effect of the antipsychotic medications, the complexity of individual genetics with an unhealthy life style and poor nutritional intake.⁴

Corresponding author: Ruth Crawford,
r.crawford@witt.ac.nz

1. Director, School of Nursing, Health & Wellness, Western Institute of Technology at Taranaki Ltd, New Plymouth, New Zealand
2. Purehurehu Forensic Medium Secure In-patient Unit, Wellington, New Zealand.
3. Clinical Nursing Practice and Management, Victoria University of Wellington; Senior Nurse Lecturer for the Bachelor of Nursing Pacific, Whitireia New Zealand.

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Metabolic syndrome (MeS) is significantly higher in Pacific people (39%) compared to 32% of Māori, and 16% of Europeans. People with SMI have poorer quality physical health outcomes than the general population.⁵ The aim of this study was to explore and investigate enablers and barriers for registered nurses (RNs) in assessing people with SMI for MeS. The objectives of the study were to gain

understanding of the experiences of RNs in assessing people with SMI for MeS and to improve the assessment of MeS in people with SMI.

Literature review

A literature search was conducted electronically with one main criteria: the experiences of RNs in assessing people with SMI for MeS between 2008 and 2018. A systematic search was undertaken in 2018 using ProQuest, EBSCO, CINAHL, Gale and Science Director database and the NZresearch.org.nz and Te Pou o Te Whakaaro O Nui websites. A total of 2,455 papers were retrieved and eight research articles were found meeting the criteria. Most studies found on this search were mainly focusing on the RN's attitude, skills, knowledge, care and behaviour toward MeS, rather than experiences of RNs in assessing

MeS, adding impetus to this study, focusing on RN experiences in assessing people with SMI for MeS.

Metabolic syndrome and worldwide definition.

MeS originates from three Greek words (metabolè) meaning *change*; syn meaning together and drome meaning courses.⁶ In 2004, 21 experts from diabetes practice, public health, epidemiology, lipidology, genetics, metabolism, nutrition and cardiology met in London to establish a world-wide definition/diagnostic tool of MeS for clinicians and agreed on a MeS definition/diagnostic tool.⁷ To diagnose a person with MeS, the person must have central obesity plus any two of four other factors as shown in **Table 1**.

Table 1 . International Diabetes Federation MeS worldwide definition

Central obesity	Waist circumference- plus any two of the following: Male: 102cm Female: 88cm or BMI: of $\geq 25 \text{ kg/m}^2$
Raised triglycerides	$\geq 1.7 \text{ mmol/l}$ (150 mg/dl) or specific treatment for this lipid abnormality
Reduced HDL (high density lipoprotein) Cholesterol	$< 1.03 \text{ mmol/l}$ (40 mg/ dl) in males $< 1.29 \text{ mmol/l}$ (50 mg/dl) in females or specific treatment for this lipid abnormality
Raised blood pressure	Systolic: $\geq 130 \text{ mm Hg}$ Diastolic: $\geq 85 \text{ mm Hg}$ or treatment of previously diagnosed hypertension
Raised fasting plasma glucose	Fasting plasma glucose $\geq 5.6 \text{ mmol/l}$ (100 mg/dl) or previously diagnosed Type 2 diabetes

Source: (Alberti et al., 2006, p. 475)

Metabolic syndrome and antipsychotic medications

The metabolic effect of antipsychotic medications on people with SMI such as bipolar disorder and schizophrenia is well documented.⁸⁻¹⁰ Having MeS is a significant predictor for future cardiovascular diseases causing death and/or physical disability.¹⁰ MeS has been found to be untreated among people with SMI.¹¹ Furthermore, people with schizophrenia have a life expectancy of up to 25 years less than the general population.¹² Heavy smoking, high consumption of saturated fatty foods, and

inadequate physical activity are risk factors for developing MeS¹³ as well as high use of multiple antipsychotic medications and the combined used of mood stabilisers and anti-depression medications.^{14,15}

The literature^{12,10,16} recommended the need for urgent understanding of why the assessment of this cohort of patients for MeS is slow to improve.

RNs working in mental health settings experience barriers in assessing the physical health of people with SMI due to various reasons including their heavy workload and patient's lack of motivation.¹⁷ In addition, five major barriers that RNs were managing to improve the MeS assessment were identified: patient's mental illness, inconsistency in the provision of care, lack of knowledge about MeS, patient's poor diet (high saturated fat and sugar related to social economic factors) and insufficient resources. These barriers were reported as significantly inhibiting RNs from improving their MeS assessment.¹⁸ Patient's thought disturbances and their disengaging behaviours were identified as major barriers to conducting a thorough MeS assessment.¹⁹ RNs working in MHS are designated to improve physical health assessment of people with SMI including MeS assessment. RNs can improve their MeS assessment by educating staff and patients about the individual risk factors of MeS and providing resources such as pamphlets and posters to

educate family members to promote MeS awareness.¹⁸ The high prevalence and the serious disturbance of MeS among people who have taken antipsychotic medications.²⁰ highlights the importance of routinely assessing people with SMI for MeS in MHS.

METHODS

Using a qualitative exploratory design underpinned by the Kakala Research Framework, five RNs with at least two years of working experience in the community and/or inpatient mental health settings were recruited to participate in this study. RNs with less than two years of working experience in MHS were excluded from the study. Participants were employed in urban area of New Zealand. The study was approved by the Whitireia Polytechnic Ethics Committee with project No: RP44-2018 as of low ethical risk.

RESULTS

Six overarching themes emerged from the RN participants' experiences on the assessment of people with SMI for MeS.

1. Enablers: RNs use MeS protocols

Three RN participants reported that using the MeS protocol in their workplaces enabled them to guide and carry out the MeS assessment. One RN participant believed that knowing policy and being aware of the health provider's assessment requirements, lead to undertaking MeS assessment. RN participants believe that being aware of MeS policy in their workplace motivates RNs to complete the assessment, as does easy accessibility of policy online.

2. RNs have support to complete MeS assessment.

Another reported enabling factor for MeS assessment was the support of RN colleagues in placing the MeS assessment forms in patients' files for the team to complete. A further reported enabler for one RN participant was the availability of portable equipment such as weight scale and blood pressure machine (sphygmomanometer).

3. Barriers: RN's role in MeS assessment is unclear

Four RN participants in this study demonstrated some level of understanding that assessing people with SMI for MeS was part of their nursing role but were unclear about their role in monitoring blood tests and performing an electrocardiogram (ECG) test. RN participants

did not know who was responsible for monitoring blood and ECG tests of the patients in their practice and sent patients elsewhere for blood and ECG tests when required. In contrast, two RN participants working in an in-patient MH setting were clear about their line of responsibility regarding blood tests and ECG test (when required). However, it was unclear in the findings that RN participants employed in the community mental health services (CMHS) were able to undertake the blood tests. The unavailability of the ECG monitor (when required) and equipment for blood taking were barriers for those nurses undertaking these assessments at their CMH workplaces.

4. RNs struggle with the MeS assessment

All RN participants struggled with MeS assessment due to patient behaviour, including manifestations of mental illness such as disturbed thought processes and emotions. Four RN participants had difficulty engaging patients during the assessment process because of their impaired cognitive function. Another cause of difficulty was patient's cognitive disturbance, poor memory and socioeconomic status. Some patients had psychotic syndrome such as paranoid thoughts toward RNs, which may lead to patients refusing to cooperate in any conversation with RNs in leading up to the MeS assessment. Three RN participants wanted the patients' family to encourage the patients to engage with the MeS assessment. Some RN participants identified family support as lacking.

5. RNs need support to undertake the MeS assessment.

Resources for RNs in healthcare are an important element of care delivery. Resources such as information for MeS workshops and equipment were inadequate. RNs working in CMHS required transport to take the service to the patient at home to ensure the MeS assessment is implemented and completed. Three RN participants recommended the need to approach the MeS assessment as a team instead of the current approach of individual care as well as having a central repository in the unit for all information about MeS assessment. Information in a central repository could provide knowledge, guidance and clinical support RNs require to undertake the MeS assessment. The main support recommended by those RN participants was to employ extra RNs to share the caseload as RNs participants perceived MeS assessment was time consuming especially RNs who are practising in CMHS.

6. RNs have limited knowledge about MeS

RN participants demonstrated three different levels of MeS knowledge. Three RNs had adequate knowledge of MeS risk factors, describing the need for patients to be assessed for MeS. Those RNs were able to assess and report patients' blood pressure and body weight but did not report any experience of having to interpret patient's blood test and/or ECG test results when required. RNs had adequate knowledge of MeS and attempted to implement and assess patients for MeS but struggled with multiple challenges throughout the process, such as delay in getting blood results or waiting for the patients to get their blood tests done in the laboratory. One RN participant had adequate knowledge of MeS but gave no indication of applying this knowledge in clinical practice. One RN reported minimal knowledge of MeS and had never assessed a patient for MeS during three years of nursing care provision in MHS.

DISCUSSION

RNs working in mental health settings have a key role in improving the physical health assessment of people with SMI including MeS assessment. The purpose of MeS assessment is to enable RNs to provide early interventions and management of patients' care.²¹ The use of the MeS protocols to guide the MeS assessment enables RN participants to implement the assessment at their workplaces.⁷ RNs need to utilise MeS guidelines as a tool to guide the assessment and to improve patient health outcomes in any health setting including inpatient and CMHS.

Another enabler for the MeS assessment identified by the RN participants was the support of nursing colleagues. Undertaking MeS assessment is an important part of identifying the clinical and laboratory features of MeS.¹⁹ The early identification of MeS helps RNs to provide early intervention for better treatment outcomes. MeS remains untreated and neglected when an assessment is not carried out in a person with SMI.²²

RN participants demonstrated lack of clarity regarding their role in MeS assessment explicitly around monitoring blood and ECG tests of the patients in their practice. The limited access to laboratory and staff to perform ECG test when required were identified by some of the RN participants as barriers for the completion of the MeS assessment. Accessibility of health services are fundamental for health professionals and the public to enhance healthcare access as part of holistic care.¹⁹ Having an unclear line of responsibility for health professionals can lead to

patient care being neglected.²³ When patients' care is neglected, human rights are violated.²⁴

RN participants struggled with MeS assessment for a range of reasons including manifestations of mental illness on patient's behaviours, thoughts and emotions which characterised by paranoid thought, disengagement behaviour, lack of insight and lack of motivation. These psychological changes may result in the patients disengaging from seeking help and attending physical health check-ups.²⁰ Patients who are disengaged with blood tests disrupt the completion of the assessment and consequently early detection of MeS leading to poor treatment outcomes.²⁵

RN participants revealed that they needed the individual and systemic support as well as resources to complete the MeS assessment. Resources available, such as information for MeS, workshops and equipment were inadequate. RNs working in community services required transport to take the service to the patient at home to ensure the MeS assessment is implemented and completed.

The health system in New Zealand has not yet adequately resourced MHS to meet the physical needs of people with SMI.²⁶ Having health information available and accessible by RNs is essential to raise RN's awareness and understanding of health conditions and provide treatment strategies for patients.^{27 28} A team approach instead of the current individualised care for people with SMI for MeS is strongly recommended.²⁵ The challenges of time and motivation to sustain the MeS assessment would be more efficient with a team approach. If MeS assessment is undertaken in a timely way, the patient's outcome is significantly improved.²⁹

RNs have limited knowledge about MeS is the final overarching theme of this study. The RN participants' different level of knowledge about the MeS and the assessment process of MeS suggested a lack of awareness about the MeS as well as lack of education for the RNs employed by MHS.³⁰ Literature noted the need to educate the nursing workforce for care and skill improvement to meet the complexity of physical and mental health concerns across age groups. Having knowledge about interpreting clinical measurements of patients' MeS assessment is vital for RNs to differentiate the normal readings from abnormal and for the implementation of the assessment.³¹

Further professional development that all five RN participants of this study required; were blood taking, blood test interpretation, doing an ECG, reading and interpreting the ECG test, the

need to conduct the MeS assessment and a lack of awareness of the MeS policy in the workplace. The ability of RNs to interpret blood test and ECG results and communicate the results to the medical team is considered as part of their assessment role and clinical decision-making.³² RNs' misinformation which includes perceiving that the physical health assessment of people with SMI is the responsibility of primary health nurses, increased the risk of this cohort to have preventable health conditions such as MeS.³³

RNs' lack of awareness of the MeS policy was a further concern for some RN participants. The World Health Organisation (WHO),³⁴ refers to health policy as plans, actions and decisions for health professionals to undertake in working toward achieving specific goals. MeS policy provides RNs with plans and actions on what, how and when to assess people for MeS. Health policy outlines expected roles of different health professionals informing them of their roles and responsibilities in working toward achievement of the goals³⁴. However, despite the availability of MeS guidelines, the outcomes of the MeS assessment remains low.³⁵ Overall, the finding of this study is supporting the call for RNs working in MHS to take urgent action to improve the MeS assessment of people with SMI.

Relevance for clinical practice

- RNs employed in MHS must assess people with SMI for MeS to improve patient outcomes.
- MeS assessment must be prioritised in MHS to provide opportunities for RNs to undertake the assessment with on-going monitoring of patients' physical health.
- RNs working in MHS must demonstrate confidence and competence to initiate MeS assessment as part of their professional responsibility and provision of holistic care.
- RNs need to provide health education for patients and their families to promote awareness of MeS. Health education focuses on healthy eating, maintaining healthy body weight by increase physical exercise and improving the healthy lifestyle.

Recommendations for nursing practice

- MHS to implement a MeS assessment policy (if not in place) to guide health professionals with the assessment. The MeS assessment policy must clearly state who is responsible for the assessment as well as the assessment tool and when people with SMI to be assessed.

- MHS in New Zealand need to implement a comprehensive assessment tool to support RNs with MeS assessment.
- People with SMI undertaking treatment of secondary generation agent (SGA) antipsychotic medications must be assessed three-monthly for MeS for the first year of treatment and then annually assess, monitor and screen until further review by the patient's psychiatrist.³⁷
- MHS to have a clear communication between primary and secondary healthcare to share information about patient's physical health.
- To have an electronic alert system in-place to remind RNs the due date of the MeS assessment for monitoring consistency.
- Each MH team to establish a MeS team of two RNs with a doctor to focus on assessment, implementation and monitoring patients with and without MeS. The MeS team to organise a MeS folder with the MeS resources to support RNs and student nurses with the assessment.
- RNs to advocate for resources for the MeS assessment.
- All RNs working in MHS to engage in physical health training such as assessing patients for MeS, cardiovascular diseases, diabetic and stroke as part of their annual core competency.
- The MeS assessment to be incorporated into the audit agenda of the organisation, to ensure the audit check list is an active system to enable consistent assessment for care continuation.
- MHS to provide educational materials such as books, pamphlets, brochures, videos and posters on MeS for staff, patients and their families. Educational materials need to be written in simple and easy language to support the level of understanding of a person with cognitive impairment.

CONCLUSION

RN participants in this study were neither sufficiently prepared nor confident to undertake the MeS assessment of people with SMI. The unclear responsibility and limited access to relevant services for the MeS assessment affected RNs' motivation and confidence to undertake the assessment. Some RN participants attributed these barriers to lack of support from their employers. However, RNs have a professional responsibility to seek opportunities to learn and maintain competency.³⁶ RN

participants working in the CMH struggled with completing the MeS assessment due to multiple factors including patients' disengaging behaviours and the impact of mental illness. RN participants identified specific supports and educations that they need to improve skills, knowledge and awareness of MeS assessment and MeS policy. Registered nurses in mental health services are experiencing professional, organisational and systematic barriers as well as clinical and professional enablers in assessing people with SMI for MeS. In order to improve the MeS assessment of people with severe mental illness, RNs practising in mental health services require ongoing professional development, education and resources related to MeS assessment. Skilled RNs are essential to take responsibility for providing a "one-stop-shop" for people with MeS.

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Author contributions:

SP was responsible for the study conception and design, data collection, and data analysis. RC and TS supervised all aspects of the study design, data collection and analysis. SP, RC and TS were responsible for drafting the manuscript. All made critical revisions to the paper for important intellectual content.

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