7.4 Percentage of patients taking antipsychotic medicines who receive appropriate monitoring for the development of metabolic side effects

Purpose

This indicator addresses the effectiveness of processes for ensuring compliance with best practice recommendations for monitoring of metabolic adverse effects occurring as a result of antipsychotic use.

Background and evidence

The metabolic syndrome describes the concurrence of several closely related cardiovascular risk factors, the key components of which are visceral obesity, dyslipidaemia, hyperglycaemia and hypertension.[1] The metabolic syndrome is more prevalent in patients with schizophrenia than in population controls and is a predictor for the early development of cardiovascular disease (CVD) and type 2 diabetes mellitus.[2,3] CVD is a major cause of excessive mortality and premature death in people with schizophrenia.[4]

The causes of the metabolic syndrome and increased cardiovascular risk in patients with schizophrenia are complex. Schizophrenia itself is a risk factor; patients are more likely to exhibit risky lifestyle behaviours such as smoking and inadequate exercise and the general medical needs of these patients are often overlooked.[2,5] Importantly, antipsychotic medicines, the foundation of schizophrenia management, increase the risk of developing the metabolic syndrome as they can lead to weight gain and increase the risk of diabetes, high blood pressure and dyslipidaemia.[5,6]

Monitoring for the metabolic syndrome in patients taking antipsychotics is recognised as an important component of the overall care of these patients. Guidelines recommend monitoring of metabolic parameters at baseline and every three to six months throughout antipsychotic treatment.[5,6] However, a number of barriers to the recognition and diagnosis of the syndrome have been described,[2] resulting in the metabolic complications of antipsychotic therapy being neglected.

Key definitions

Patients taking antipsychotic medicines are defined as those patients admitted to an inpatient mental health bed for greater than 72 hours taking one or more regular antipsychotic medicine[7] by any route for any indication.

Appropriate monitoring means that all of the following parameters are measured and recorded:[6]

- waist circumference*
- blood pressure
- fasting lipids (including triglycerides and HDL cholesterol)
- fasting blood glucose (or HbA1c in patients with pre-existing diabetes mellitus).

* Waist circumference provides a more specific measure of visceral obesity in adults compared with weight or body mass index and is the preferred measure. In adolescent and paediatric patients weight or BMI is acceptable.

For patients initiating/restarting an antipsychotic, changing medicine or increasing dose during the inpatient episode, there must be evidence that these parameters were measured during inpatient treatment to provide a baseline. For patients whose existing antipsychotic therapy remains unchanged, there must be evidence that monitoring has occurred within the last six months, so either:

- all parameters have been measured during the inpatient episode; or
- there is clear documentation of results obtained within the six months prior to admission.

Data collection for local use

Please refer to the section *Using the National Quality Use of Medicines Indicators for Australian Hospitals* for guidance on sample selection, sample size, measurement frequency and other considerations.

Inclusion criteria: All adult, adolescent and paediatric patients taking at least one regular antipsychotic medicine during their inpatient episode should be included. Patients receiving regular antipsychotic medicine for indications other than psychosis should be included.

Exclusion criteria: Patients with a length of stay less than 72 hours.

Recommended data sources: Medical and pharmacy records including medication charts and pathology results.

The data collection tool for QUM Indicator 7.4 assists data collection and indicator calculation.

Data collection for inter-hospital comparison

This indicator may be suitable for inter-hospital comparison. In this case, definitions, sampling methods and guidelines for audit and reporting need to be agreed in advance in consultation with the coordinating agency.

Indicator calculation

$$\frac{\text{Numerator}}{\text{Denominator}} \times 100\%$$

Numerator = Number of patients taking regular antipsychotic medicines who receive appropriate monitoring for development of metabolic side effects

Denominator = Number of patients receiving regular antipsychotic medicines

Limitations and interpretation

This indicator requires a number of separate parameters to be monitored in order for metabolic monitoring to be deemed appropriate. It is recommended that individual components of the indicator are collected to inform post-audit interventions. The accompanying data collection tool assists the collection of these components. Barriers to appropriate monitoring such as patient refusal for blood tests may also be collected to inform post-audit interventions. The local indicator oversight group may also wish to collect data that allows consideration of this indicator in the broader context of practice intended to improve other health outcomes e.g. smoking, relevant family history.

Determination of whether appropriate monitoring has occurred may be dependent on the extent of documentation in the patient's records. Good documentation supports quality patient care.[8] Poor communication can result in adverse drug events.[9] Thus it is assumed that absence of explicit evidence means that monitoring did not take place.

This indicator looks at whether monitoring occurred, but does not assess whether abnormal results are followed up appropriately. It is acknowledged that whilst metabolic syndrome is a long term complication of antipsychotic therapy, this indicator does not assess the continued monitoring of patients post-discharge. It is strongly recommended that results of inpatient monitoring and a plan for continued monitoring be communicated to ongoing care providers and to the patient or their carer at discharge.

Further information

An evidence-based algorithm for metabolic syndrome screening and example monitoring template has been developed by Waterreus and Langharne at the University of Western Australia and published in the Medical Journal of Australia.[6] These and other tools[10,11] may assist hospitals to implement routine monitoring for metabolic syndrome in patients taking antipsychotics.

Medication Safety Self Assessment in Australian Hospitals[12] (MSSA) can help identify potential strategies for improvement with this and other indicators. MSSA encourages development of robust systems for safe prescribing, dispensing, administration and monitoring of medicines. MSSA is available at **www.cec.health.nsw.gov.au**

This indicator can be used to assist hospitals in meeting the National Safety and Quality Health Service Standard 1 [items 1.2.1, 1.2.2, 1.5.2, 1.6.1, 1.6.2, 1.7.2], Standard 4 [items 4.2.1, 4.4.2, 4.5.1, 4.5.2, 4.7.2, 4.11.1].[13]

References

1. Albert K, Zimmet P, Shaw J, for the International Diabetes Federation Epidemiology Task Force Consensus Group. The metabolic syndrome – a new worldwide definition. Lancet 2005; 366:1059–1062.

2. Lambert T and Newcomer J. Are the cardiometabolic complications of schizophrenia still neglected? Barriers to care. Med J Aust 2009; 190; S39–S42.

3. John A, Koloth R, Dragovic M, et al. Prevalence of metabolic syndrome among Australians with severe mental illness. Med J Aust 2009; 190: 176–179.

4. Hennekens C. Increasing global burden of cardiovascular disease in general populations and patients with schizophrenia. J Clin Psych 2007; 68 Suppl 4: 8–13.

5. Hert M, Dekker J, Wood D, et al. Cardiovascular disease and diabetes in people with severe mental illness: Position statement from the European Psychiatric Association (EPA), supported by the European Association for the Study of Diabetes (EASD) and the European Society of Cardiology (ESC). Eur Psych 2009; 24: 412–424.

6. Waterreus A and Laughame J. Screening for the metabolic syndrome in patients receiving antipsychotic treatment: a proposed algorithm. Med J Aust 2009; 190: 185–189.

7. eTG Complete [Internet]. Melbourne: Therapeutic Guidelines Limited; 2013 July.

8. The Good Clinical Documentation Guide. National Centre for Classification in Health, Commonwealth of Australia, 2003.

9. MacKinnon NJ, ed. Safe and Effective: The eight essential elements of an optimal medication-use system. Canadian Pharmacists Association, 2007.

10. NPS MedicineWise Antipsychotic Monitoring Tool. NPS MedicineWise, 2012. **www.nps.org.au/medicines/brain-and-nervous-system/medicines-for-psychotic-conditions/antipsychotic-monitoring-tool** (accessed 22 June 2014).

11. NSW Health Information Bulletin – Metabolic Monitoring, New Mental Health Clinical Documentation Module. NSW Health, 2012.

12. Medication Safety Self Assessment for Australian Hospitals: Institute for Safe Medication Practices USA (Adapted for Australian use by NSW Therapeutic Advisory Group and the Clinical Excellence Commission), 2007.

13. Australian Commission on Safety and Quality in Health Care. National Safety and Quality Health Service Standards. Sydney, ACSQHC, 2012.