

## Abstract

**Background:** Antipsychotic is commonly used in psychiatry in a range of mental disorders, as well as in the context of “as required” sedation in patient with poor mental state. Potential heart rate-corrected QT (QTc) prolongation effect of antipsychotic and its association with potentially lethal polymorphic ventricular arrhythmia (Torsade de Pointes) and sudden cardiac death has raised concern of clinicians and regulatory agencies. In 2014, National Institute for Clinical Excellence (NICE, 2014) published a guideline on treatment and management of psychosis and schizophrenia, with recommendations to enhance patient safety and clinical effectiveness with the use of regular electrocardiogram examinations (ECG) on patients taking antipsychotics. There was no recent data on adherence rate of electrocardiogram monitoring on patients receiving antipsychotics and its predictors in Hong Kong.

**Method:** A baseline audit was performed by analysing the ECG monitoring compliance of a large sample of psychiatric patients admitted to Kowloon Psychiatric Observation Unit who received antipsychotic treatment. Case notes of patients were reviewed and the adherence to audit criteria set according to international recommendations were determined. These findings and current guidelines of ECG monitoring on patients prescribed with antipsychotics were disseminated via a staff lecture and by individual reminders. A re-audit was

performed around half a year after the baseline audit to ascertain changes in the ECG monitoring adherence rate.

**Results:** At baseline audit, 40.2% of sampled patients had ECG examination performed in their hospital stay. The factors of advanced age of patient and frontline attending doctor were found to have association with better adherence. At re-audit, there was a statistically significant increase in the adherence rate to ECG monitoring, with 69.9% of sampled patients had ECG examination performed in their hospital stay. In addition to advanced age of patients and frontline attending doctor, new patients of public psychiatric service and patients receiving one antipsychotic upon admission were found to have association with better ECG monitoring adherence.

**Conclusion:** The local rate of ECG monitoring adherence among in-patients receiving antipsychotic was low. The improvement in the adherence rate suggested that the use of staff education lecture and individual reminders might be useful in improving awareness to good clinical practice and in turn changing ECG monitoring pattern. Re-audits should be performed at regular intervals to monitor changes, to assess the effectiveness of quality improvement interventions, and to determine further areas for improvement.

*Keywords:* antipsychotic; QTc prolongation; ECG monitoring; audit; quality assurance