

**Abstract**

**Background:** Clozapine is a unique anti-psychotic that is effective in treatment-resistant schizophrenia. However, it has many serious side effects. Regular physical monitoring effectively prevents these side effects early. Little is known about the adherence to the recommended practice in physical monitoring of clozapine therapy in Hong Kong. A clinical audit was conducted to comprehensively evaluate the practice in a local psychiatric hospital.

**Method:** A baseline audit was performed to examine the adherence to physical monitoring in a large cross-sectional sample of all psychiatric inpatients and outpatients against well-defined audit criteria based on the hospital guideline of physical monitoring of clozapine therapy in Castle Peak Hospital. After the baseline audit, a reminder system with the use of a new clozapine monitoring form, an electronic investigation folder for clozapine, individual reminders and staff education were implemented as measures for improvement. A re-audit was performed one year later to evaluate the changes in the level of adherence to the standards. A questionnaire survey was performed to collect comments and concerns among doctors.

**Results:** A total of 909 and 980 patients were studied in the baseline audit and re-audit respectively. At the baseline audit, adherence to audit criteria was unsatisfactory in general. There was significant improvement in adherence to audit criteria at re-audit. The changes in percentage of adherence were as follow: a) physical evaluation performed before the initiation of clozapine therapy: 6.99% to 49.5%; b) adjusted complete blood count (CBC) with differential count monitoring when white blood cell (WBC) count dropped in the initial phase: 20% to 100%; c) adjusted CBC monitoring when WBC dropped in the past 12 months: 0% to 94.4%; and d) annual physical evaluation: 7.15% to 64.3%. The use of the new clozapine monitoring form in the

reminder system predicted the adherence of annual physical evaluation in our re-audit sample, with an odds ratio of 21.39 (95% CI 14.47-31.61).

**Conclusion:** Clozapine is a useful drug but with potential life threatening side effects. Physical monitoring against existing guideline is thus important. In the baseline audit, the degree of adherence to the local guideline on physical monitoring for patients receiving clozapine therapy was low. Upon the re-audit one year after quality improvement interventions, a significant improvement in adherence was observed. The use of the new clozapine monitoring form in the reminder system was associated with the improvement in the adequacy of physical monitoring for patients receiving clozapine therapy. Re-audits should be performed at regular intervals to monitor change, assess the effectiveness of interventions, and to explore further areas for improvement.

Keywords: Clozapine ; Physical monitoring ; Audit