

ABSTRACT

Schizophrenia is a disease that could be considered of low prevalence, yet it elicits a high disease burden. The main treatment that are offered to help alleviate the symptoms and cure the schizophrenia would normally comprise of the utilization of antipsychotics. Unfortunately, the use of antipsychotics could lead to the manifestation of unwanted adverse drug reactions. However, this manifestation of ADR could be prevented by applying a pharmacogenetic or personalized approach towards the treatment for schizophrenics utilizing schizophrenia. This will be the main aim of this systematic review, that is find out which genes that are responsible for the manifestation of antipsychotic-induced adverse drug reactions. 4 databases (PubMed, Cochrane Library, Embase, and Ovid) were used to generate articles to be filtered further for its eligibility, where from 616 articles that were initially generated, only 38 passed the removal of duplicates, full-text filtering, and risk of bias assessment. The results were grouped based on the adverse drug reactions that were resulted – antipsychotic-induced weight gain, metabolic syndrome, extrapyramidal symptoms, new-onset generalized seizure, hyperprolactinemia, and other ADRs. HTR2C was the most frequent gene found in this systematic review results, yet it showed no significant association towards the manifestation of adverse drug reactions, whereas Leptin gene, which is the second most frequent gene was shown to have a signification association towards the development of antipsychotic-induced weight gain and metabolic syndrome. The qualitative findings of this systematic review comprised of quite a decent and diverse amount of factor. However, more quantitative research could be done to further strengthen the data that this systematic review has generated.