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Off-label diagnostic indications and antipsychotic utilization trends in Australia 2000 - 2021: a retrospective analysis

Ms Ramya Padmavathy Radha Krishnan¹, Professor Nicholas Buckley¹, Dr Christopher Harrison¹, Dr Jacques Raubenheimer¹

¹The University Of Sydney, Sydney, Australia

Objective

To determine antipsychotic utilization patterns in Australian adults from 2005 - 2021, with a focus on on-label and off-label prescription trends.

Methods

We examined antipsychotic dispensing trends in adults from 2005 - 2021 using a 10% sample of the Pharmaceutical Benefits Scheme (PBS) dataset, which contains patient-level information on medicines dispensed throughout Australia. Incidence and prevalence of dispensings were calculated and medicine usage and treatment durations were summarised descriptively. The lack of diagnostic information in PBS was substituted by analysing BEACH (Bettering the Evaluation And Care of Health) dataset, which consists of data from general practitioner-patient encounters captured through a cross-sectional national survey from 2000 - 2016.

Results

There were 4,709,852 unique dispensings for 148,004 patients in PBS throughout this period, of whom 51.6% were females and 42.1% were aged 65 years and above. Among these, 53.8% patients had >1 dispensing, with a median of 8 per patient. There was a total of 4,339,041 treatment episodes, and the median duration of a treatment episode was 59 days. There were steady increases in both the incidence and prevalence of antipsychotic dispensings, which were mainly due to oral second-generation antipsychotics (SGAs). Both first-generation (FGA) and SGA long-acting injections were administered preferentially to males, whereas the short-acting injections were skewed towards the elderly population. The most commonly prescribed antipsychotics were quetiapine, olanzapine and risperidone, accounting for a majority of the oral SGA dispensings. Analysis of diagnostic indications from BEACH indicated that only 55.8% of prescriptions for the top three antipsychotics were on-label. Common off-label indications were depression, post-traumatic stress disorder, chronic pain, dementia, anxiety and insomnia.

Conclusion

There is preferential dispensing of oral forms of SGAs over other forms. Increasing utilization of second-generation antipsychotics maybe attributed to some extent to off-label prescribing. Analysis of private dispensings, medicines dispensed under the Repatriation PBS and medicines dispensed in public hospitals, which are not covered in the PBS dataset, will give a clear picture of the true extent of antipsychotic utilization in Australia. Further research is needed to examine the antipsychotic treatment duration in off-label indications, their specific dosages, as well as the adverse effects of such treatment. The combined analysis of medication dispensings and the diagnostic indications for which they are prescribed is a novel approach and throws a spotlight on the need for additional monitoring of antipsychotics.