Antipsychotic prescribing in care homes before and after launch of a national dementia strategy

A large UK observational study which evaluated the impact of a national policy to reduce inappropriate antipsychotic prescribing in people with dementia has found no change in prescribing rates, antipsychotic type (including off-label use) and excessive treatment length over 4 years. There was a six-fold variation in prescribing rates with areas of deprivation having a higher rate of prescribing. Medicines optimisation teams should continue to explore effective ways to implement the national policy to reduce the harms from inappropriate prescribing of antipsychotics, in line with NICE recommendations from medicines optimisation and managing medicines in care homes guidance.

Overview and current advice

The risks and limited benefits of using first (typical) and second (atypical) generation antipsychotic drugs for treating dementia in people who exhibit challenging behaviours are well recognised. They have been the subject of several previous reviews and MHRA warnings, collated in the May 2012 edition of Drug Safety Update.

The NICE/SCIE guidance on dementia (currently being updated, publication expected 2017) recommends that people with dementia who develop non-cognitive symptoms that cause them significant distress or who develop behaviour that challenges should be offered an assessment at an early opportunity to establish likely factors that may generate, aggravate or improve such behaviour. NICE/SCIE advises against the use of any antipsychotics for non-cognitive symptoms or challenging behaviour of dementia unless the person is severely distressed or there is an immediate risk of harm to them or others. Any use of antipsychotics should include a full discussion with the person and carers about the possible benefits and risks of treatment. The MHRA (Drug Safety Update 2012, 5) advise that no antipsychotic (with the exception of risperidone in some circumstances) is licensed in the UK for treating behavioural and psychological symptoms of dementia (BPSD). However, antipsychotics are often prescribed off-label for this purpose.

In September 2010, the Department of Health published Quality outcomes for people with dementia: building on the work of the national dementia strategy, which is an implementation plan for their guidance published in February 2009: Living well with dementia: a national dementia strategy. These resources build on the NICE/SCIE guideline on dementia and include strategies to reduce inappropriate prescribing of antipsychotics. The National dementia and antipsychotic prescribing audit (2012) suggests that there has been an encouraging overall reduction in the proportion of people with dementia being prescribed antipsychotics in recent years (from 17.05% in 2006 to 6.80% in 2011).
The analysis provided within this report is based on 196,695 people who were coded with a diagnosis of dementia and actively registered at a participating GP practice during the 6 year audit period.

NICE guidance on prescribing antipsychotics in people with dementia is summarised in the Key therapeutic topic: Low-dose antipsychotics in people with dementia. The NICE pathway on dementia brings together all related NICE guidance and associated products on this condition in a set of interactive topic-based diagrams.

New evidence

A large-scale English retrospective observational study¹ (Szczepura et al. 2016) measured the change in antipsychotic prescribing levels over a 4-year period for older people living in English care homes (nursing and residential) following the introduction of the national dementia strategy. The baseline population was all homes in England with an electronic medicines management system designed for care homes, in place on Jan 2009. Resident details and antipsychotic prescription data were extracted from the system and analysed at 2 time points: 1 January 2009 (prior to the national dementia strategy launch) and 31 December 2012 (4 years post-strategy). The study included 31,619 long-term residents from 616 care homes (48% registered for dementia care and 52% as 'old age only'). The number of care homes implementing the electronic medicines management system increased throughout the study period (211 care homes at baseline compared with 616 at month 48). To adjust for this variable, a data subset of homes with the electronic medicines management system in place throughout the 4 years of the study was extracted (166 care homes). The mean age of participants was 84 years at baseline and 79 years at the second data collection time point (48 months) and the majority were female (72% and 68% respectively). Each prescription dosage was converted to an equivalent daily dose in milligrams and compared with an ‘indicative’ maximum daily dose (MDD), predefined for each drug. The length of exposure was estimated for each resident taking risperidone (as this was the only licensed drug indicated for the short-term BPSD). All non-risperidone use was defined as off-label. The data were evaluated for a number of different outcomes including:

- The percentage of residents prescribed at least 1 antipsychotic at each time point.
- The observed daily dosage - assessed as either ‘recommended’ (defined as equal to or less than the MDD), ‘high’ (100% to 200% greater than the MDD) or ‘excessive’ (more than 200% greater than the MDD). ‘When required’ prescribing was recorded separately.
- Length of exposure - categorised as ‘recommended’ (6 weeks of treatment or less), ‘acceptable’ (between 6 and 12 weeks of treatment) or ‘excessive’ (more than 12 weeks treatment).
- Care home neighbourhood deprivation score (as defined by the national index of multiple deprivation scoring system).

The results showed that 4 years after the dementia strategy was published prescribing rates of antipsychotics did not reduce significantly (18.0% at baseline compared with 19.0% at 48 months) and with similar prescribing rates in both nursing and residential homes. Second generation antipsychotics made up the majority of prescriptions (68%), with haloperidol being the most commonly prescribed first generation antipsychotic. Residents were very rarely prescribed more than 1 antipsychotic at the same time (0.70% at baseline and 1.67% at 48 months). For risperidone prescriptions (the most commonly prescribed antipsychotic) the majority of treatment at baseline (82.0%) was above the recommended 6 weeks, rising to 87.3% at the end of 2012, with 69.7% and 77.6% respectively above 12 weeks. However, dosages were generally within recommended maximum daily ranges (98.7% at baseline) and ‘when required’ prescriptions were extremely rare (less than 1%).

There was a six-fold geographical variation in antipsychotic prescribing rates (between 5.7% and 37.5%) and care homes with the highest prescribing rates were more likely to be located in a deprived area (rate ratio [RR] 5.89, 95% confidence interval [CI] 4.35 to 7.99, p<0.001). Care homes with the
highest rates of antipsychotic prescribing were more likely to be registered for dementia (RR 3.38, 95% CI 3.06 to 3.73, p<0.001) and be served by 4 or more GP practices (RR 1.38, 95% CI 1.30 to 1.46, p<0.001).

This is the first English study to consider the long-term impact of a national policy initiative on antipsychotic prescribing in people in care homes. It considered a large sample of people and is applicable to UK practice. However, as with all observational studies, the results should be interpreted with caution due to the potential for bias as a result of confounding factors, including:

- differences in care home characteristics (for example, only 48% were registered for dementia care)
- differences in baseline population characteristics at the 2 data collection time points
- lack of access to electronic medical records (to establish dementia diagnosis).

Consequently a number of people were included in the study that did not have dementia and who were taking antipsychotics for indications other than BPSD. Similarly it is unclear if the results would be replicated if the study were repeated in the wider population, for example an evaluation of prescribing rates of antipsychotics in people with dementia who are not residents in care homes.

**Commentary**

**Commentary provided by Lelly Oboh, Consultant Pharmacist, Care of Older People, Guys & St Thomas NHS Trust Community Health Services**

This large-scale observational study showed that 4 years after the national dementia strategy was published, prescribing rates of antipsychotics remained unchanged (18.0% at baseline compared with 19.0% at 48 months, Kolmogorov-Smirnov (KS) test p=0.60). This lack of reduction in prescribing rates is at odds with the National dementia and antipsychotic prescribing audit, which showed a significant reduction in the prescribing rates from 17.05% in 2006 to 6.80% in 2011.

Variation in the methodology and data collection may account for this difference and preclude direct comparison of the 2 studies but a closer look at the national audit result is warranted. It is likely that improved electronic coding as the audit progressed resulted in previously unidentified existing dementia patients contributing significantly to the marked increase in "newly diagnosed" patients over the 5-year period which may have overestimated both the prescribing rates presented for 2006 and the reduction in 2011.

In this study all care home patients were included and the researchers were unable to access the GP clinical records to separate those with a diagnosis of dementia. Therefore the results include patients prescribed antipsychotics for reasons other than BPSD. In people with BPSD, antipsychotic use should be limited to risperidone for severe, distressing and harmful psychoses or aggression, and for less than 12 weeks after which it can be withdrawn safely in many. This is in accordance with NICE/SCIE guidance on dementia and NICE advice on the use of low-dose antipsychotics in people with dementia and the NICE quality standard on dementia: support in health and social care. For other conditions, longer term use may be justified as well as the use of other antipsychotics like haloperidol. These limitations prevent direct application of the results to other UK care homes with different characteristics, or to people with dementia living in domiciliary settings.

The study also showed that there was no significant change in the type of antipsychotic prescribed (including off-label use) or excessive treatment lengths. Both findings may immediately be explained as being due to use for indications other than BPSD. However because of the size of the study and the fact that two-thirds of care home residents are living with dementia, we can assume that a significant number of people in the study had dementia.
As the study was undertaken in real life practice, the authors draw attention to some practical, social, demographic and institutional issues that negatively impact on prescribing rate in care homes. These issues warrant further research and development of strategies to support implementation in practice. Some of these issues have been recognised in national publications as well as local evaluations and audits.

The study suggests that in spite of robust evidence and guidance in the last 4 years to support the reduction of antipsychotics in people with dementia there are still gaps in current practice that hinder moving from guidance to implementation. Antipsychotic use in care homes is mainly driven by the need to reduce the stress caused to staff by challenging behaviour irrespective of clinical diagnosis or clinical need. Practical issues to resolve include the lack of effective strategies for safe withdrawal, the need for regular reviews by GPs, reluctance by generalists to withdraw antipsychotics without access to ready advice from specialists when needed and the lack of key prescribing information such as on target symptoms and appropriate duration of treatment.

Medicines optimisation teams should continue to explore effective ways to implement the national policy to reduce the harms from inappropriate prescribing of antipsychotics in line with NICE recommendations from medicines optimisation and managing medicines in care homes guidance.

Declaration of interests:
Lelly Oboh declared no interests.

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References