

# Neuroleptic prescribing in an adolescent psychiatric in-patient unit

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The Royal College of Psychiatrists' consensus statement suggests that prescribing high dose antipsychotic medication in children and adolescents should rarely be necessary. Our objective was to study the prescribing of antipsychotic medication in a regional adolescent unit during a three-year period. We found that antipsychotic prescribing on this unit is common in psychotic disorders and often high doses are required. This is not in keeping with the recommendations of the consensus statement. Review of clinical practice on other adolescent units is needed, together with a more comprehensive evaluation of the outcome of psychotic disorders in this age group.

The Royal College of Psychiatrists recently published a consensus statement on high dose antipsychotic prescribing (Thompson, 1994). It stated that "high dose antipsychotic medication should rarely be necessary in children and adolescents" and that "the natural history of the early onset psychosis is for the first few episodes to remit spontaneously". However, others have held that psychotic disorders in children and adolescents are not uncommonly refractive in their response to antipsychotic medication at standard doses (Green *et al.*, 1992), and adolescents may tolerate adult doses with less risk of adverse side-effects (Garraida *et al.*, 1987).

The consensus statement regarding treatment of children and adolescents was unreferenced and also at variance with UK reported experience (Will *et al.*, 1994). This study aims to provide clearer information on prescribing practices in the treatment of adolescents receiving in-patient psychiatric care.

## The study

The Irwin Unit for Young People is a 20 bed in-patient unit for teenagers with psychiatric illness in the West Midlands, serving a catchment population of approximately 5 million. The average number of admissions is between 40-50 per year. The average length of stay is 3 months. The unit is staffed with a multidisciplinary team consisting of two consultants, two senior regis-

trars, one registrar, a clinical assistant, nursing staff, a social worker and an occupational therapist, as well as teachers from a specialised school attached to the unit.

The study was a retrospective survey of case notes for all admissions to the unit over a 3 year period from January 1991 to December 1993.

Diagnosis was made by reference to patients' case notes into the following broad categories: psychotic disorders (schizophrenic, bipolar affective, schizoaffective and drug-induced psychosis), eating disorders, and other disorders (Gilles de la Tourette's disease, adjustment disorders, conduct and emotion disorders, anxiety state and Asperger's syndrome).

Information about prescribing practices was obtained from prescription cards contained within the case notes. A particular note was made of neuroleptic medication, i.e. all medication listed in the *British National Formulary* (BNF; British Medical Association & The Pharmaceutical Society, 1985) under the heading of antipsychotic drugs (section 4.2). A note of regular medication was made together with 'as required' medication. Prescription of anticholinergic medication was also documented.

The maximum dose that a child actually received over a 24 hour period during the admission was calculated, including both regular and 'as required' doses. We also calculated the maximum possible dose that an adolescent theoretically could have received, i.e. taking into account the regular medication and frequency of the 'as required' medication.

Conversion of the various antipsychotic drugs to one standard drug, chlorpromazine, was attempted using the equivalent doses of antipsychotics as instructed in the BNF and manufacturers' guidelines.

## Findings

There were 116 admissions to the unit during the study period and case notes were available on 112. This involved a total of 114 adolescents with two

being admitted twice during the study. All the notes which were unavailable had been transferred to the adult services and had not been returned to the unit. The average age for both males and females was 15.4 years with a range of 13 to 18 years. The patients fell into the following diagnostic categories: 41 psychotic disorders (20 males, 21 females); 29 eating disorders (2 males, 27 females); and 42 had other diagnoses.

All the adolescents with a psychotic diagnosis received antipsychotic medication during their admission to the unit, as well as eight adolescents from the other disorders group. The majority of the adolescents were treated with oral medication but four were prescribed depot preparations and three received atypical antipsychotics, two taking clozapine and one risperidone. Complete prescribing data for medication actually received (i.e. regular medication plus any 'as required' medication given) were available on 46 out of the 49 cases who were prescribed neuroleptic medication. Complete data on medication possibly received (i.e. regular medication and all possible 'as required' if it were to be given) were available on 36 of the 49 cases. This discrepancy was due to imprecise recording of the potential frequency of 'as required' medication, making it impossible to calculate the figure.

All doses were calculated as if taken orally, although it is possible that some may have been given intramuscularly but this was difficult to ascertain from the charts.

The average daily chlorpromazine equivalent dose of neuroleptic actually received by male adolescents was 533.5 mg (range 100 mg to 2100 mg) and for female adolescents was 687.5 mg (range 200 mg to 2000 mg). Excluding adolescents with a non-psychotic diagnosis the average dose for males was 613.2 mg and for females this remained the same at 687.5 mg. One male and one female were receiving over the maximum *BNF* guideline dose.

The average maximum possible dose a male adolescent could have received (i.e. regular and all possible 'as required', if it were to be given) was 979.3 mg (range 100 to 2800 mg) and for female adolescents it was 1180.8 mg (range 150 to 2200 mg). Again, excluding the non-psychotic males, their average was increased to 1093.0 mg. Six adolescents were prescribed more than the maximum *BNF* guideline dosages.

Thirty-one adolescents were prescribed regular anticholinergic medication, and this appeared to be independent of the dose of antipsychotic drug administered.

### Comment

This study demonstrates that prescription of antipsychotic medication is not rare on this unit.

All of the adolescents admitted with psychotic diagnoses received this type of medication during their stay. It was noted that antipsychotic medication was used occasionally in other disorders of a non-psychotic nature. Difficulties were encountered in data collection: first not all case notes were accessible, and second prescription cards were not always available. Medication doses were calculated as if given orally as the route of administration used on some prescription cards. This will of course mean that calculations are not always accurate but we believe that the minimum possible dose has thus been calculated.

Broad diagnostic categories were used rather than a formalised diagnostic classification system because this study was interested principally in prescribing of neuroleptics in a psychotic adolescent in-patient population irrespective of the more precise diagnosis. A more precise diagnosis would have been difficult in view of the method of data collection. In addition, diagnoses may be inaccurate at the early stage of the illness (Werry *et al*, 1991). Experience on this unit would concur with the practice of Will *et al* (1994) that adolescents may require neuroleptic medication to treat their psychotic illness and on occasions at high doses.

Three adolescents were receiving atypical antipsychotic medication which is most likely to imply that they had a resistant psychotic state. Four adolescents were receiving depot medication, implying that they suffered chronic illness.

The majority of adolescents received concurrent anticholinergic medication but we are unable to make any further comment on this observation as the rationale behind this prescribing practice was not clear.

This study demonstrates that the clinical practice of one adolescent unit is not in keeping with the recommendations of the consensus. Clinical practice on other adolescent units must be studied together with a more comprehensive evaluation of the outcome of psychotic disorders, enabling comparison of prescribing practices, so that the consensus statement can be underpinned by research findings rather than anecdote or unreferenced opinion.

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