

## A THREE LEVEL-INTERVENTION TO REDUCE PRN MEDICATION ON A SPECIALIST EATING DISORDERS WARD FOR ADULT FEMALE PATIENTS WITH ANOREXIA NERVOSA

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### Dear Editor,

With particular interest we read the article "Audit: Prescribing medication" by Duku Adelaide and Fathima Rawther (Adelaide & Rawther 2017) which looked at "pro re nata" (PRN) prescribing over a three month-period on two female Child and Adolescent Mental Health Service (CAMHS) wards. PRN medication is given when needed, as opposed to medication that is given at a regular time. The practice is widespread, with 20% to 50% of people on acute psychiatric wards receiving at least one psychotropic PRN medication during their admission. However, there is currently no evidence from randomized trials to support this common practice which is therefore based on clinical experience and habit rather than high quality evidence (Douglas-Hall & Whicher 2015). The use of PRN medication has been criticized as its side effects can increase morbidity and it can result in polypharmacy if inappropriately used (Hilton & Whiteford 2008). Therefore, PRN medication should be prescribed as restrictively as possible. However, the audit reported by Adelaide and Rawther (Adelaide & Rawther 2017) showed that on the two examined wards, 36% of PRN medications were not cancelled, even if they had not been used for more than one month, and 23% of these medications did not have clear indications of use. On the basis of the current literature (Douglas-Hall & Whicher 2015, Hilton & Whiteford 2008), these results do not seem to be an exemption, but a general and widespread problem of inpatient pharmacological treatment.

To tackle this issue on our ward, we carried out a Quality Improvement Project (QIP) that looked at PRN use on an 18 bed eating disorders inpatient unit for adult female patients with anorexia nervosa (AN) at the Bethlem Royal Hospital prior to and after a three level-intervention to reduce PRN medication. The Bethlem Royal Hospital belongs to the South London and Maudsley NHS Foundation Trust (SLaM), a secondary and tertiary mental health care provider in London; the QIP had been approved by SLaM's QI team.

We measured baseline data of PRN medication use over one week and found frequent use of PRN medica-

tion; the most commonly prescribed drugs were promethazine, paracetamol and lactulose. The total doses of PRN prescriptions of these medications over a one week period were as follows: 1810 mg promethazine, 23 g paracetamol and 285 ml lactulose. Promethazine is an antihistamine with sleep-inducing, sedative and anxiolytic properties (Benkert & Hippus 2017), paracetamol (acetaminophen) is one of the most popular analgesic drugs worldwide which selectively inhibits cyclooxygenase (COX) activities in the brain (Ghanem et al. 2016), and lactulose is a non-absorbable sugar used in the treatment of constipation (Carlin & Justham 2011). The frequent use of these medications is not surprising, because sleep disturbances, anxiety, pain and constipation are typical symptoms in patients with AN (Allison et al. 2016; Coughlin et al. 2008), and the majority of patients with AN is reported to want medication to help with anxiety and sleep problems (Himmerich et al. 2017).

Our intervention consisted of three levels: (1) delivery of a teaching session to nursing staff on indications for different PRN medications and on alternative non-pharmacological management of these symptoms, (2) facilitation of a similar teaching session for patients, and (3) preparation and dissemination of information leaflet for patients and staff with similar content to the teaching session which is now included in the admission packs for new inpatients and available to staff and patients around the ward.

The results from this QIP showed an overall decrease in the use of two of the main PRN medications. For example, lactulose intake could be reduced by 70%. Instead, the use of prune juice doubled, as it was mentioned as an alternative to laxatives in the teaching sessions. In a similar way, the overall use of promethazine decreased by 34% from initial baseline. Paracetamol use, however, did not change substantially.

In summary, the project carried out and reported by Adelaide and Rawther (Adelaide & Rawther 2017) and the scientific literature around PRN medication use (Douglas-Hall & Whicher 2015, Hilton & Whiteford 2008) highlighted the problem of unnecessarily prescribed medication as needed. To tackle this issue we propose a three level-intervention with a focus on education

about PRN medication and non-pharmacological alternatives to both nursing staff and patients.

An additional level of an intervention at an inpatient ward to stop the inappropriate use of PRN medication could be a monthly screening of medication charts as mentioned by Adelaide and Rawther's (Adelaide & Rawther 2017).

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