AN AUDIT OF THE SAFETY AND EFFICACY OF PRE-ADMISSION DIAZEPAM PRIOR TO GENERAL ANAESTHESIA IN OLCHC

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Introduction

Benzodiazepines may be prescribed for anxiolysis to aid a patient's journey in the hospital setting. The purpose of this audit was to assess the safety and efficacy of oral diazepam as a pre-attendance medication prior to admission for dental treatment under general anaesthesia.

A pre-admission sedation regime was implemented in the OLCHC dental department in 2013 following a succession of difficult G.A. inductions requiring intramuscular ketamine and much clinical holding. This resulted in a distressing and challenging experience for the patients, family, and staff.

Dose Regime

Fig 1: A 5mg and 10mg Diazepam tablet

20-30kg **5mg night before and 5mg morning of treatment**	**30kg +** **10mg night before and 10mg morning of treatment**

Benchmark

National Clinical Guideline Centre - Sedation in Children and Young People, 2010, and the American Academy of Paediatric Dentistry guidelines on monitoring and management of paediatric patients before, during, and after sedation, 2016.

- Benchmark set so that safety was achieved in 100% of cases, i.e. 100% of those who took the prescribed dose of oral diazepam suffered nil adverse reactions and the sedation achieved was not deeper than the target depth.
- Efficacy, i.e the extent to which a clinical intervention is active, was set so that ≥80% of those receiving the medication benefited from its anxiolytic effect. Efficacy was graded as follows: Fully effective, moderate, and not effective.
- The Richmond Agitation sedation scale used as a guide in grading efficacy.

Methodology

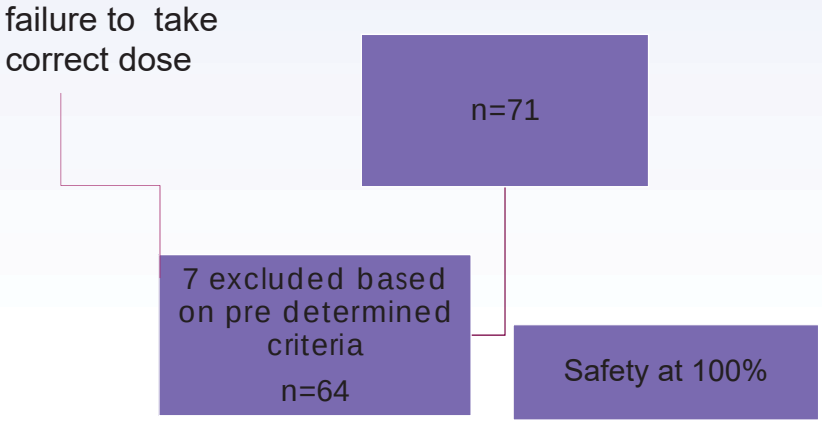
Retrospective audit
Period 2013-2017 inclusive
Sample n=71

→ Audit based on patient discharge letters.
All patients of the dental department who received sedation prescription included

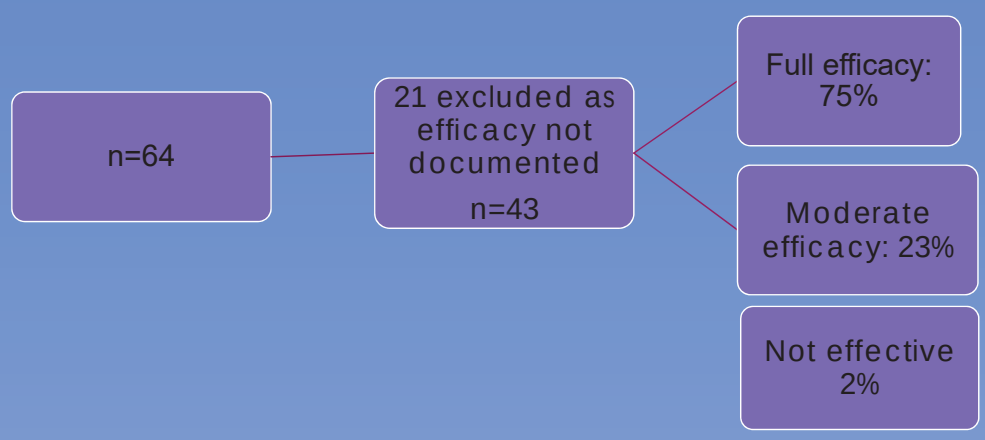
→ Inclusion/ exclusion criteria pre-determined
Data points: Demographics, prescription details, safety, and efficacy

Exclusion based on failure to take prescription and failure to take correct dose

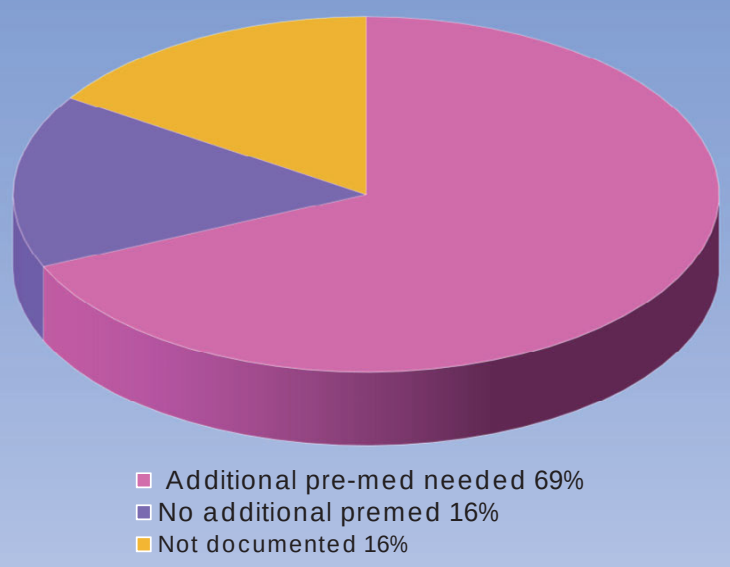
Results Safety



Results-efficacy



Results - Need for additional pre-medication



Discussion

- The ideal minimal sedation technique is one that can achieve the target depth of anxiolytic action while the patient can respond to stimuli and maintain vital reflexes.
- Safety of oral diazepam was excellent at 100%.
- Efficacy in achieving desirable anxiolysis was close to but below benchmark of 75%. Failure to document efficacy of sedation is a limitation to this outcome.
- An additional pre-medication was needed in a high percentage of cases.

Conclusion

- Oral diazepam as pre-admission sedation was found to be 100% safe with nil adverse reaction recorded.
- Efficacy was close to achieving desired benchmark of ≥80%.
- The use of oral diazepam does not negate the need for additional pre-medication.

Recommendations

1. Introduction of objective evaluation form to document sedation efficacy using multi-disciplinary approach with input from parent, clinician, admitting nurse, and anaesthetic team.
2. Re-audit in two years' time to assess for any improvements in documentation following implementation of evaluation form.

References

1. National Clinical Guideline Centre. Sedation in Children and Young People, sedation for diagnostic and therapeutic procedures in young people. 2010; Available at https://www.nice.org.uk.
2. American Academy of Paediatric Dentistry. Guideline for monitoring and management of Paediatric Patients before, during and after sedation for Diagnostic and Therapeutic Procedures: Update 2016. 2016;38(6):16-17