

# Pharmacological Treatment of Agitation in Acute Traumatic Brain Injury

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## Introduction

A diverse range of medications are used to treat agitation in patients with acute traumatic brain injury (TBI).

In a 15 month period between April 2020 and June 2021, 187 patients were admitted to The Walton Centre with a TBI.

We audited these patients' notes to determine their key demographic data and which medications these patients were treated with.

## Aims

This service evaluation aims to inform us which medications we are using most frequently in patients with Traumatic brain Injury in the initial period following admission.

## Method

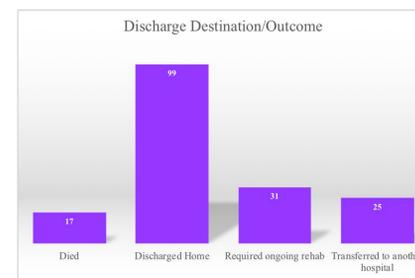
The notes of all 187 patients admitted with a TBI between April 2020 and June 2021 were audited.

Key demographic data obtained included age and gender as well as type of injury, other injuries obtained, past medical, psychiatric and substance misuse history.

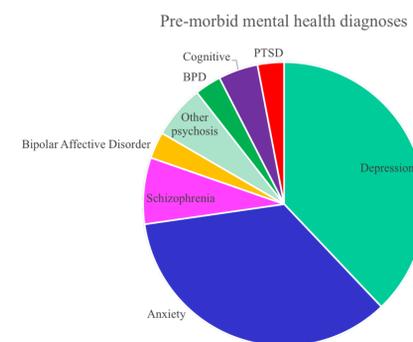
Data obtained on medication used included all antidepressants, antipsychotics, night-sedation, benzodiazepines, antiepileptics, analgesia and any other drugs felt to be relevant (eg dopamine agonists). The exact drug used was recorded.

## Results

187 patients were admitted with a TBI. 127 (68%) of these patients were male and 60 (32%) female. 17 patients died as a result of their injuries.

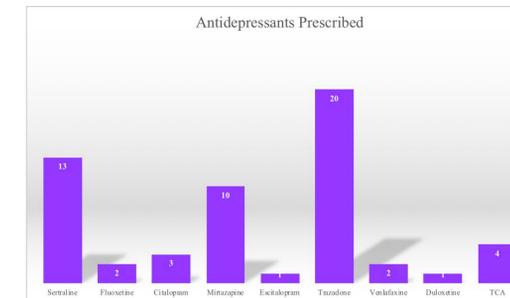


46 (25%) patients had a pre-morbid mental health diagnosis (see chart below). 39 (20.9%) patients had pre-morbid problems with substance use/addiction. Of these, 87.1% had misuse of alcohol as a primary problem.



156 (83%) patients received analgesia. Of these, 155 (99%) were given paracetamol. Just 32 patients had paracetamol alone and all other patients were prescribed opioids.

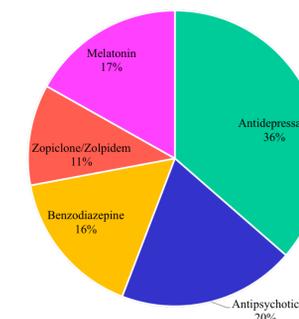
56 (29.9%) patients were prescribed antidepressants. Trazadone was most frequently used, with sertraline and mirtazapine also given frequently. 2 patients were treated with multiple antidepressants.



30 patients (16%) were treated with an antipsychotic. Of these, 80% (n=24) of patients were given atypical antipsychotics whilst 26.7% (n=8) were prescribed typical antipsychotics. Olanzapine accounted for 56.6% (n=17) of antipsychotic prescriptions.

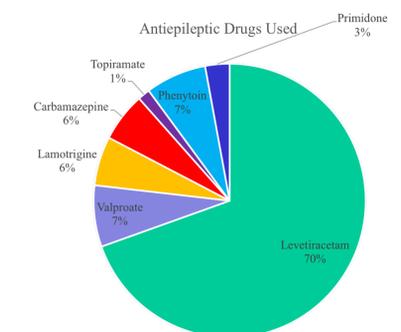
13.9% (n=26) of patients were prescribed melatonin, which was the most frequently used medication for sleep regulation with 15 (8%) prescribed zopiclone and 2 (1%) prescribed zolpidem.

Frequency of prescribing of drugs by class (excluding antiepileptic drugs)



25 (13.3%) patients were treated with benzodiazepines.

Levetiracetam was commonly used with 25.7% prescribed this. 11.2% of patients were prescribed other antiepileptic drugs.



## Conclusion

25% of patients admitted to the Walton Centre with a TBI between April 2020 and June 2021 had at least one pre-morbid mental health diagnosis.

Around 30% of patients admitted with a TBI required pharmacological treatment for neuropsychiatric symptoms, usually documented as agitation.

Antidepressants were the most commonly used psychotropic drug, with trazadone prescribed most frequently in the acute phase. Antipsychotics were used less frequently but olanzapine was clearly favoured.

Melatonin was favoured for sleep optimisation but other drugs were also used. Mood-stabilising antiepileptics were used in some patients but this was relatively infrequent.

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