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A detailed investigation of
high lethality Intentional
Drug Overdose (IDO) via
retrospective emergency
department chart review

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Connecting for Life

PROJECT TITLE

A detailed investigation of high lethality Intentional Drug Overdose (IDO) via retrospective emergency department chart review.

KEY MESSAGES

- IDO is involved in most high lethality acts of suicide presenting to Irish hospitals.
- Most IDO patients have a history of IDO.
- The majority of high lethality IDO presentations in Ireland involve prescription medications.
- Having a history of IDO and a current prescription for psychiatric medication are associated with engaging in IDO using prescription medication.
- On discharge, less than half of IDO cases using prescription medication had a prescription alteration made, with starting a new prescription being the most common alteration. A polypharmacy overdose (OD) and a current prescription for psychiatric medication are the two significant predictors of this alteration being made.
- Future research to examine the impact of such alterations, and of the follow-up care for IDO patients, is warranted.

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CONTEXT AND BACKGROUND

High-lethality acts of self-harm (HLAS) share many of the same epidemiological risk factors as completed suicide and therefore represent an important study population in the field of suicide prevention (Levi-Belz & Beautrais, 2016). Intentional Drug Overdose (IDO) is the most common method of self-harm in Ireland, accounting for roughly 62% of self-harm hospital presentations and 1-2% of all hospital admissions (Joyce et al., 2020) (Perry et al., 2012). It is associated with increased risk of premature mortality due to suicide, as well as other causes (Daly et al., 2020). The most commonly consumed drug types in an IDO are analgesics, antidepressants, and minor tranquilizers.

Drug prescription and availability in a population influences the frequency of drugs taken in IDO (Lee et al., 2018). Access to means is a major risk factor for self-harm/suicide, and restricting access is effective in reducing suicide rates. Most patients presenting with an IDO have a history of self-harm, an underlying medical condition and/or psychiatric illness, and presentations of IDO commonly involve prescription medications (Daly et al., 2018; Corcoran et al., 2013). Prescription medications therefore play an important role in patient treatment, while simultaneously providing an access to means which may require restriction if the patient's mental health deteriorates.

Though previous research has provided invaluable information regarding frequently used drugs in IDOs, there is no previous data on discharge/management plans for IDO cases in Ireland.

AIM/OBJECTIVE(S)

Aim: Conduct a detailed investigation of individuals following High-lethality acts of Self-harm/Suicide (HLAS) presenting to the emergency department via retrospective chart review, with specific focus on Intentional Drug Overdose.

Objectives: In cases of high lethality IDO;

- To describe patient characteristics, including psychiatric/medical history, history of self-harm, and previous contact with mental health services.
- To identify the characteristics of the IDO, including alcohol and multiple method involvement, the type of drug/s used, use of prescription medications, and source of the prescribed drug/s.
- To examine management plans and prescribing practices following high-lethality IDO, including psychiatric admission, out-patient follow-up, and prescription alteration.

METHODOLOGY

Data was collected via retrospective chart review of high lethality IDO patients over 18 years of age presenting to the emergency department of Cork University Hospital and the Mercy University Hospital over a 3-month period. Lethality was assessed on whether medical intervention was required and severity of objective circumstances of suicidal intent. Analyses included chi-squared tests, correlation coefficients, and linear regression analyses. Chi-squared analyses were used to measure associations between outcome variables, such as high lethality IDO using prescription medication, and patient variables.

The study population was limited – only 62 HLAS patients of which 45 were patients presenting with an IDO

RESULTS / FINDINGS

- Sixty-two patients with high lethality acts of self-harm were identified. 50% were female and 50% male. Ages ranged from 18-81 years, with a mean age of presentation of 40.39 years (SD = 13.67).
- Less than half of patients (n=26, 41.9%) had an underlying physical medical condition, 75.8% had a psychiatric diagnosis, and 78.5% were currently taking prescription medication.
- 73% of HLAS cases involved IDO, 73% had a history of self-harm, with 44% of these involving a prior IDO.
- 65% of the IDO cases were polypharmacy overdoses.
- Three quarters of IDO cases involved prescription medication, most commonly benzodiazepines and antidepressants.
- Variables associated with IDO involving prescription medication were a prescription of psychiatric medication ($p<0.1$) and a prior IDO using prescription medication ($p<.04$).
- Just under half of prescription IDO patients had their prescription altered on discharge (n=16, 47%).
- Starting a new prescription was the most common alteration (n=9, 56%), followed by a prescription medication being stopped (42.9%), alteration in dispensing of medication (38.1%), a dose increase (28.6%), and a dose decrease (9.5%).
- In the 21% (n=7) of prescription IDO cases that had a prescription stopped, 6 of these (86%) also had a new prescription started.
- Of the prescription IDO cases who had their prescription altered on discharge, only 62.5% (n=10) had an alteration to the prescription medication they took in their IDO.
- Two significant predictors of prescription alteration were a prescription of psychiatric medication ($p<0.5$) and a polypharmacy overdose ($p<.01$).
- Community mental health team referral was the most common out-patient follow-up for this group following discharge (n=9, 50.0%).
- Of those patients who were not admitted to a psychiatric unit, all but one patient was offered some form of follow-up care.



DISCUSSION

The findings support pre-existing literature which demonstrates that access to means in the form of prescription medications is a significant risk factor for a suicide attempt. There is a lack of solid instruction regarding management of these patients. Findings from this research indicate a need for novel guidelines for physicians, advising on appropriate prescribing practices and follow-up care in this vulnerable patient group. It also highlights the need for future studies looking at the effect of such management on rates of repeat self-harm presentations.

However there are a number of limitations to the study. Firstly, this study used accredited and best available tools to measure lethality and intent. However, definitions of high-lethality acts of suicide vary in the literature. Therefore, what this study deems high lethality may differ compared to other studies, making accurate comparisons of findings challenging. Though intent was measured with an accredited tool (Beck's suicide intent scale), measures of lethality depended on the patient's requirement for treatment. Lethality of an overdose can change depending on the person's physiology. Ideally, a tool such as the LSARS-II score could be employed, which incorporates the type of drug taken, the patient's body weight, and their gender (Berman et al., 2003). However, as patients' weight was not readily available in all patient notes, the LSARS-II score could not be utilized.

This study heavily relied on accurate documentation in patient notes, along with availability and reliability of such documented information. Though both electronic notes and physical charts were reviewed to minimize gaps in the dataset, certain obstacles remained such as illegible handwriting, missing notes, and sections of notes left blank or not containing the information required. Specifically, in some

cases the discharge management plan and discharge medications were not detailed fully in the patients' electronic notes, and occasionally there was extra information and/or discrepancies in the patients' physical notes.

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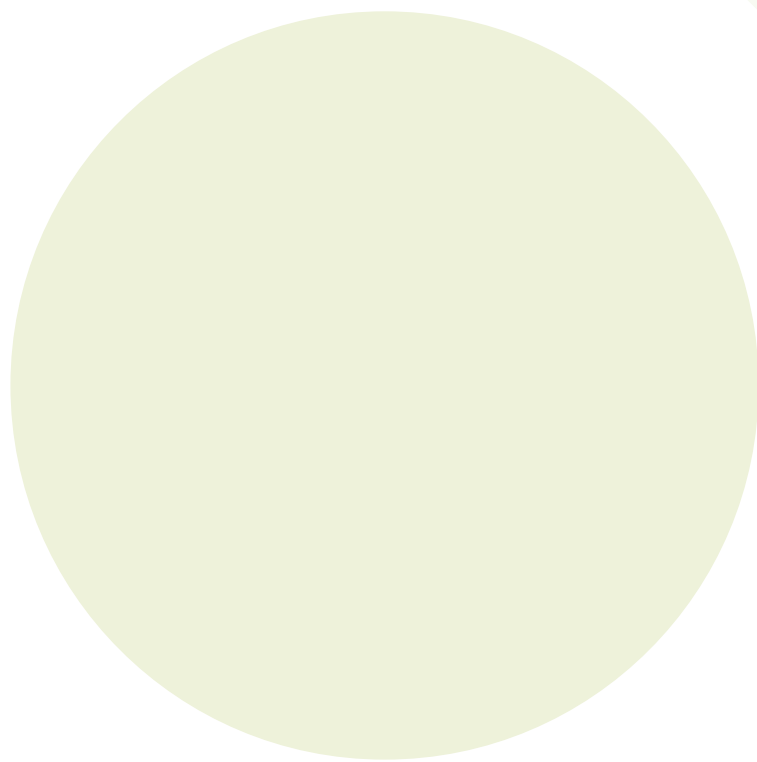
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