

Insulin self-administration errors reported to a poisons information centre: a retrospective audit

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Introduction

- Victorian Poisons Information Centre (VPIC) sometimes receives calls from members of the public after an insulin error.
- There is limited research, both locally and internationally, describing insulin self-administration errors.

Aim

- To describe insulin administration errors made by members of the public, when they occur, and how often they require hospital referral.

Method

Study design

- Retrospective call record audit.

Setting

- Victorian Poisons Information Centre.

Primary endpoints

- Number, type and time of day of insulin administration error.

Secondary endpoints

- Type of insulin and proportion of patients referred to immediate medical care.

Method (continued)

Inclusion criteria

- Calls received within VPIC hours (0800-2130) from a member of the public about an insulin error during the 2-year period from 01 January 2020 to 31 December 2021.

Exclusion criteria

- Non-human patient.
- Deliberate insulin self-poisoning.
- Administration of insulin to someone other than intended person.
- Call received from interstate.

Most insulin errors were accidental overdoses after 5pm and did not require medical referral

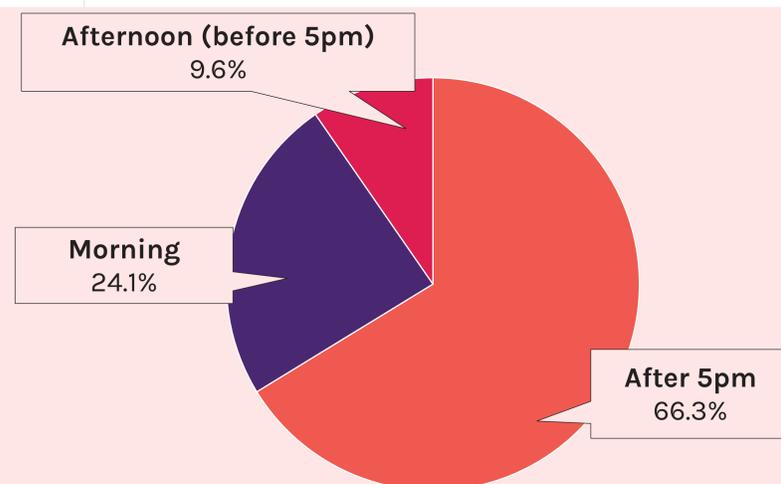


Figure 1: Distribution of errors by time of day

Results

- A total of 83 case records were analysed.
 - 48 (58%) patients were females.
 - 97% were adults; 3% were children.
- Administering more units than intended was the most common error (Table 1).

Table 1: Insulin errors by type

Type of error	No. of cases	%
Administered more than the prescribed dose of the correct insulin	31	37.3
Administered the wrong insulin	23	27.7
Administered duplicate doses of the same insulin	26	31.3
Administered a dose at the wrong time	2	2.4
Missed dose	1	1.2
TOTAL	83	100

Results (continued)

- Insulin types involved in errors is summarised in Table 2, and referral advice in Table 3.

Table 2: Type of insulin involved in errors

Type of insulin	No. of cases	%
Long-acting	29	34.9
Mixed	29	34.9
Ultra-short-acting	24	28.9
Short-acting	1	1.2
TOTAL	83	100

Table 3: Referral advice

Type of insulin	No. of cases	%
No referral	71	85.5
Referred to hospital	7	8.4
Ambulance referral	3	3.6
Other	2	2.4
TOTAL	83	100

Discussion

- Errors with insulin are common, and it is crucial that patients can access timely and accurate advice.
- We suspect that the reason why most calls were received by VPIC after 5pm is because general practitioners, pharmacies and diabetes educators are not readily accessible after-hours.

Conclusion

- Most errors reported to VPIC occurred after 5pm and involved giving too much insulin.
- Most callers were provided with advice on how to manage the situation at home, therefore potentially avoiding hospital presentation.

