

Missed opportunities for appropriate diagnosis and management of profound hyponatraemia

Audit of District General Hospital experience

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Introduction

Hyponatraemia is a common yet under-investigated metabolic abnormality in the acutely ill patients. This retrospective audit was designed to evaluate the appropriateness of initial biochemical assessment in patients presenting to the Emergency Department of a District General Hospital in the UK.

Objectives

1. To assess the incidence of profound hyponatraemia among acutely ill patients presenting to the Emergency Department.
2. To ensure that the initial investigation of hyponatraemia is in accordance with the European Society of Endocrinology guidelines.
3. To assess whether recommended investigations were carried out in a timely manner to aid further management.
4. To assess whether the diagnosis of hyponatraemia and management advice was appropriately documented, and communicated to patient's family doctor.

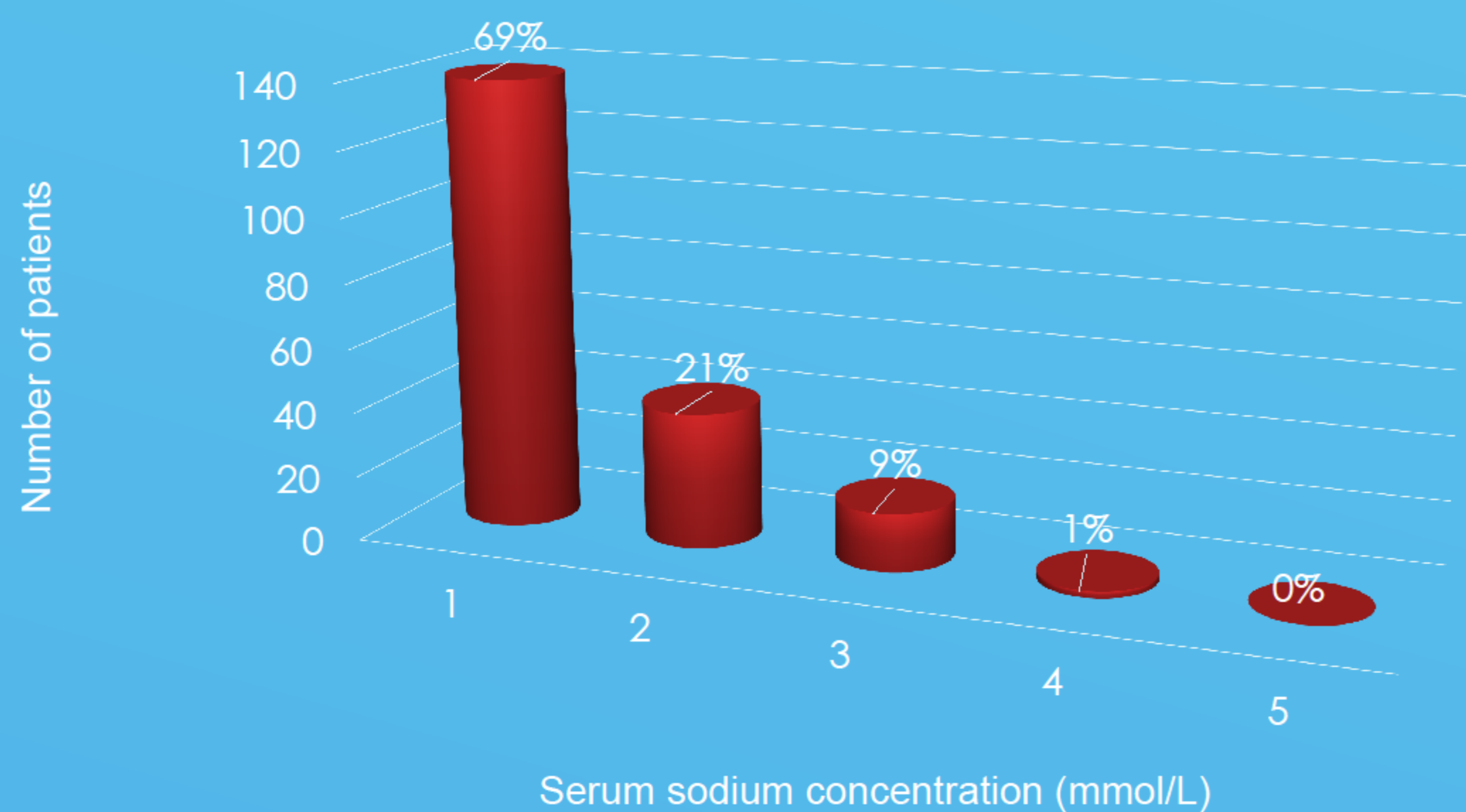
Methods

1. Patients admitted via A&E with profound hyponatraemia (serum Na \leq 125 mmol/L) from 1st November 2014 to 30th April 2015 were identified using the hospital's laboratory database.
2. Essential and supplementary investigation data were collected from the patients' electronic records on the WebV system.
3. Qualitative data was also collected from the patients' electronic records on the WebV system.

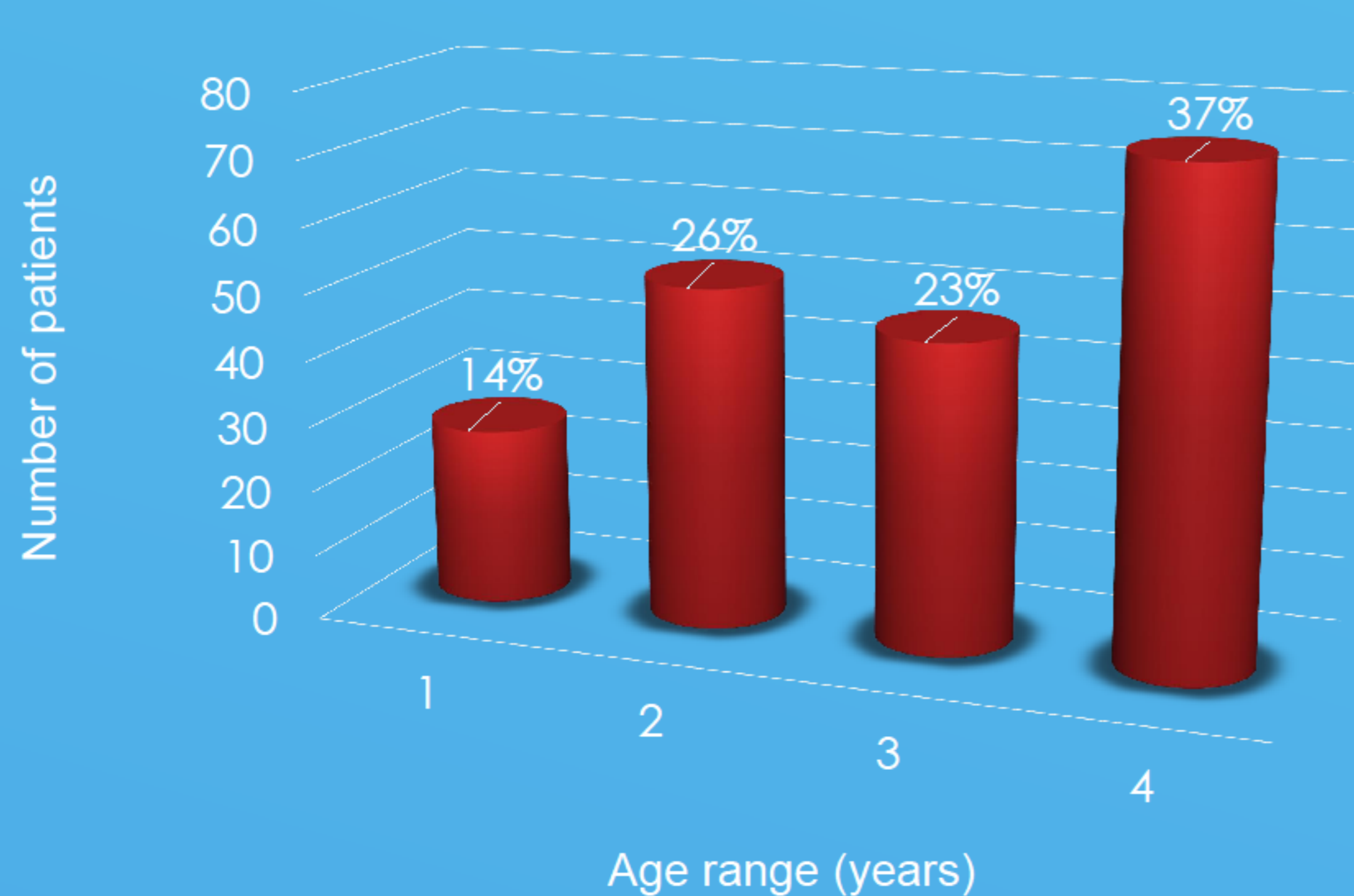
Results

- N = 201 patients (59% females) with serum sodium of \leq 125 were admitted during the six months audit period.
- Serum sodium ranged between 125 and 105 mmol/L, with 10% of sample Na <114.
- More common in older age (37% of sample was >80 years).
- Overall incidence of profound hyponatraemia in patients presenting to A&E for the audit period was 2.51%.
- In hospital mortality including 6 weeks post-discharge was 19% (38 patients).
- When deceased patients were excluded, only 32 out of remaining 163 patients (20%) had complete initial investigations. Of those only 9 patients (5%) had these investigations within a timeframe (<24 hours) that can affect further management.
- Discharge Na ranged between 120 to 146 with trend of improvement (average Δ + 7.87 %).
- For deceased patients Na level ranged between 113 to 125, with varied registered cause of death.
- Diagnosis of Hyponatraemia was documented on only 40 (31%) of patient discharge summaries, and further management advice was given in 34 % of cases.

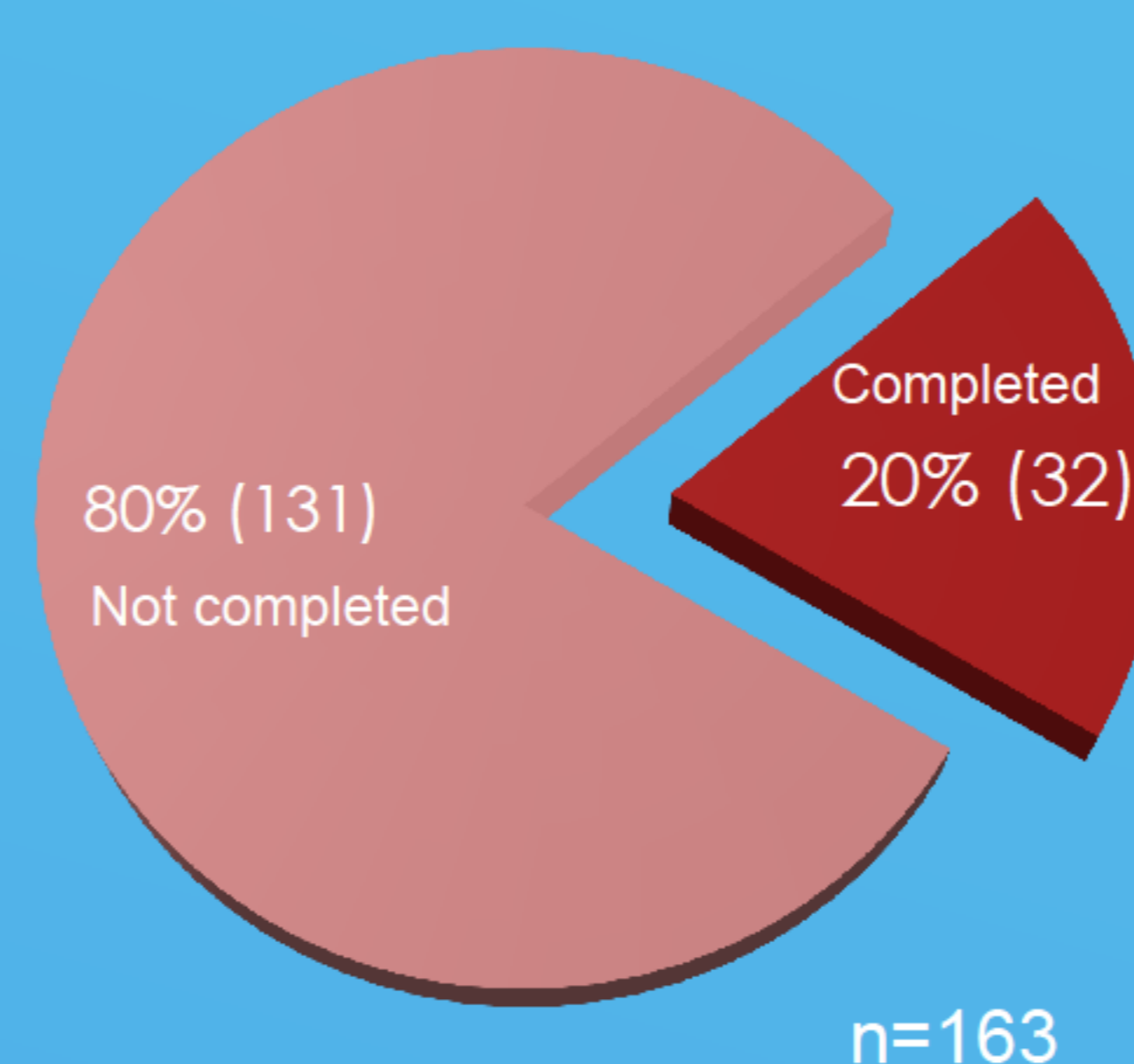
Serum sodium on admission



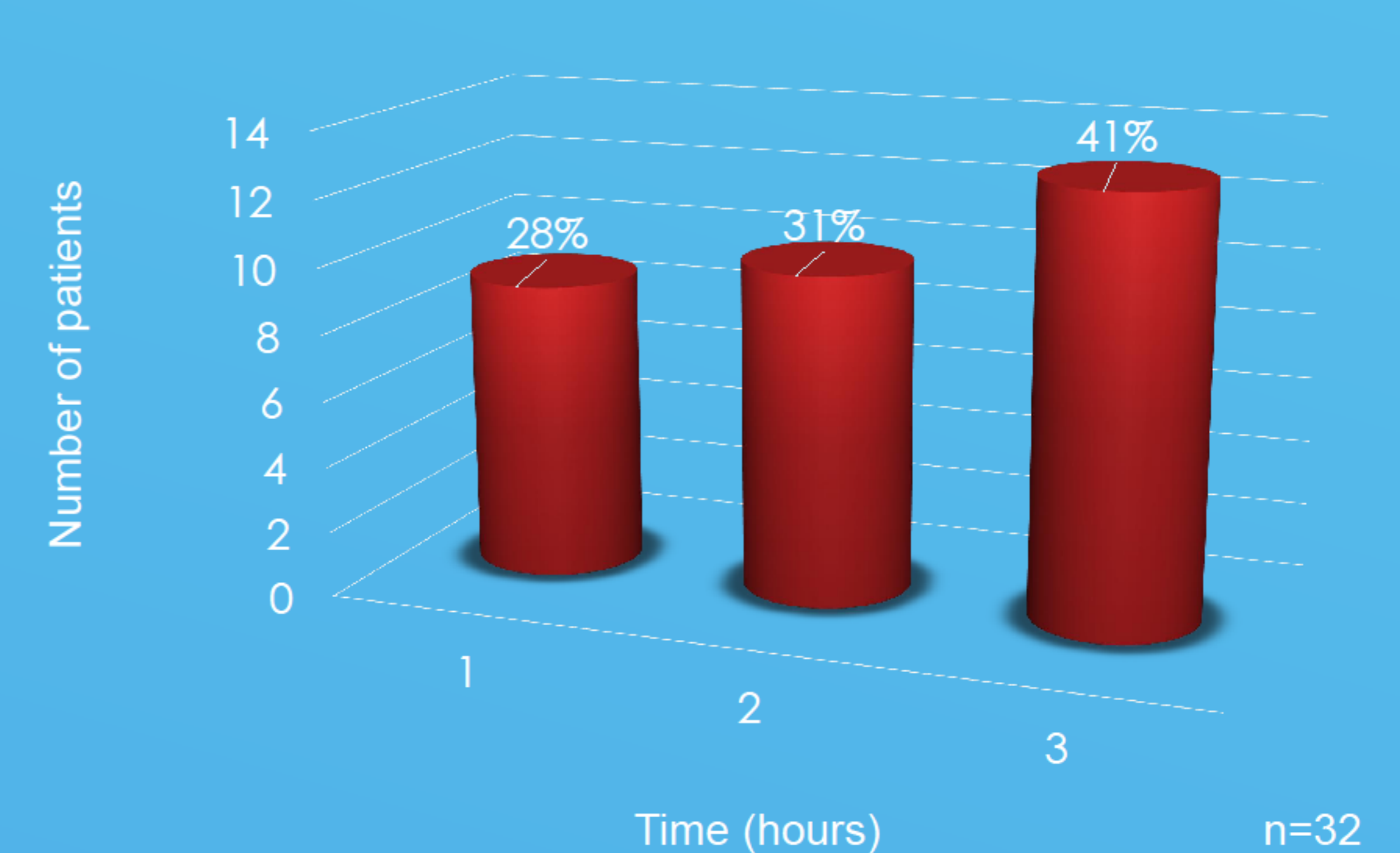
Age distribution



Essential Investigations



Timeframe of essential investigations completed



Conclusions

Significant profound hyponatraemia is common in acutely ill patients, with increased incidence in elderly, and high associated crude mortality. Current practice lags well behind the desired standard of appropriate investigation and management. Four strategies were proposed to improve management; 1) Electronic pop up alert, 2) Readily available checklist, 3) THINK SALT posters at Emergency Department, and 4) Incorporation of diagnosis in patients' records.

References:

Clinical practice guideline on diagnosis and treatment of hyponatraemia, Spasovski et al, European Journal of Endocrinology (2014) 170, G1–G47

