

Prevalence of Obesity Among Hospital Inpatients

An audit of body mass index and administrative documentation in a tertiary Australian Hospital



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INTRODUCTION

Obesity has become a global epidemic, with prevalence tripling between 1975 and 2016(1). Obesity is a complex chronic disease with profound negative impacts on individual quality of life in addition to intensified healthcare utilisation and healthcare expenditure(2).

Approximately 13 million (66%) Australian adults are classified with overweight or obesity (BMI $\geq 25\text{kg/m}^2$) recognised as the second largest cause of total disease burden in Australia(3). Research on the prevalence of obesity among hospital inpatients in Australia has largely focused on metropolitan areas, resulting in varied methodologies and substantial underreporting(4).

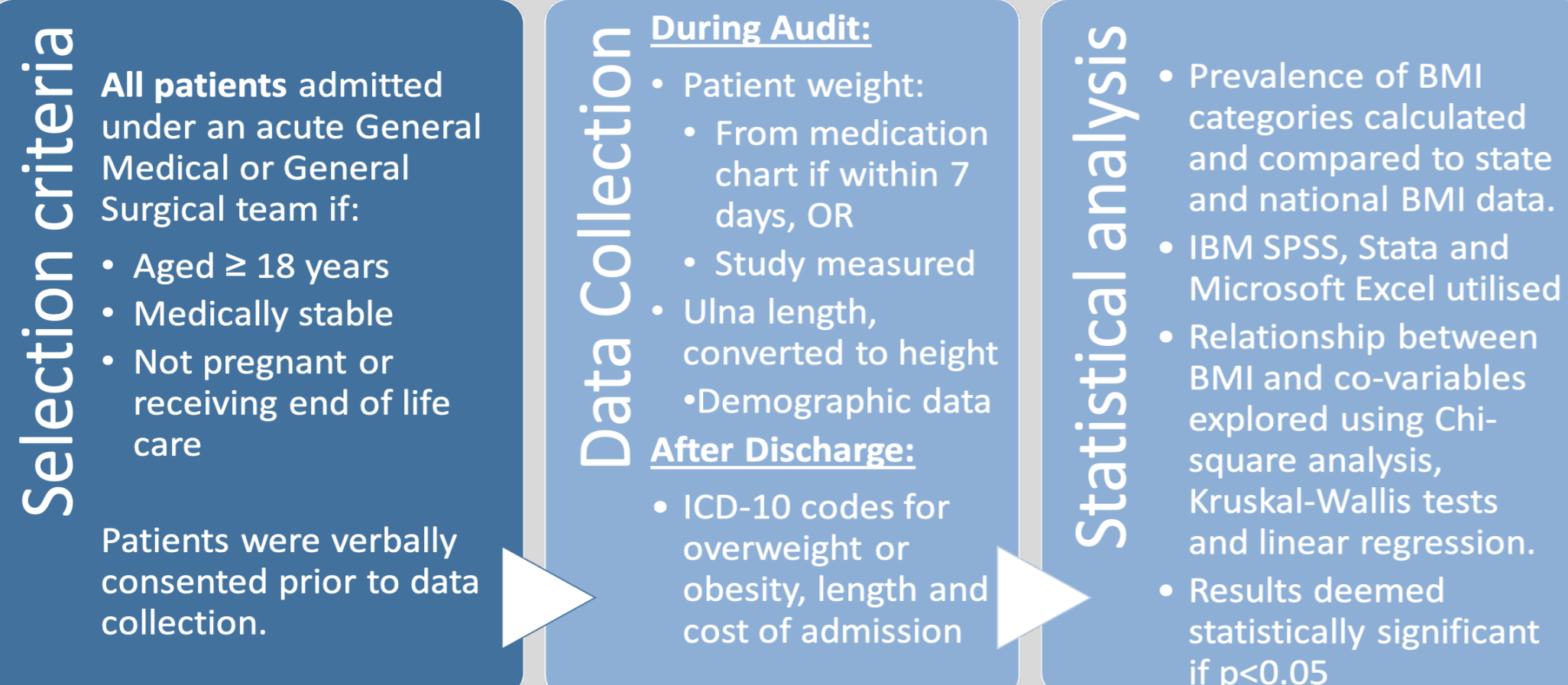
Despite rising prevalence, provision of specialised outpatient obesity services is vastly deficient(5). Greater than 90% of Australian obesity surgery occurs in the private sector(5). There are no publicly funded specialised obesity services available in Geelong, despite being the largest regional health service in Victoria.

OBJECTIVES

1. To determine the point prevalence of overweight and obesity using body mass index (BMI), among adult patients admitted to acute General Medical or General Surgical units at Barwon Health .
2. To compare the prevalence of measured BMI and hospital ICD-10 coding for overweight and obesity in the same patient cohort.
3. To assess the proportion of patients with a documented weight as per hospital policy.
4. To explore associations between BMI, length of stay, and cost of hospital admission.

METHOD

This single-site, cross-sectional audit was conducted at University Hospital Geelong, Victoria, Australia. Data was collected over a three-day period in June 2024 as detailed below:



RESULTS

163 patients were eligible for audit inclusion, 24 were excluded and complete data was obtained for remaining $n=139$ patients. The cohort had an even gender distribution and mean age of 70.3 years. English was primary language in 93.5%. Only 1 patient (0.7%) identified as being of Aboriginal or Torres Strait Islander descent.

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RESULTS (continued)

- The prevalence of obesity (BMI $\geq 30\text{kg/m}^2$) was determined as 28%, with 56.1% classified with overweight or obesity (Figure 2). There was no statistical difference in BMI categories between General Medical and General Surgical groups.
- Prevalence of obesity according to ICD-10 coding data was significantly lower at 11.5% ($p < 0.01$).

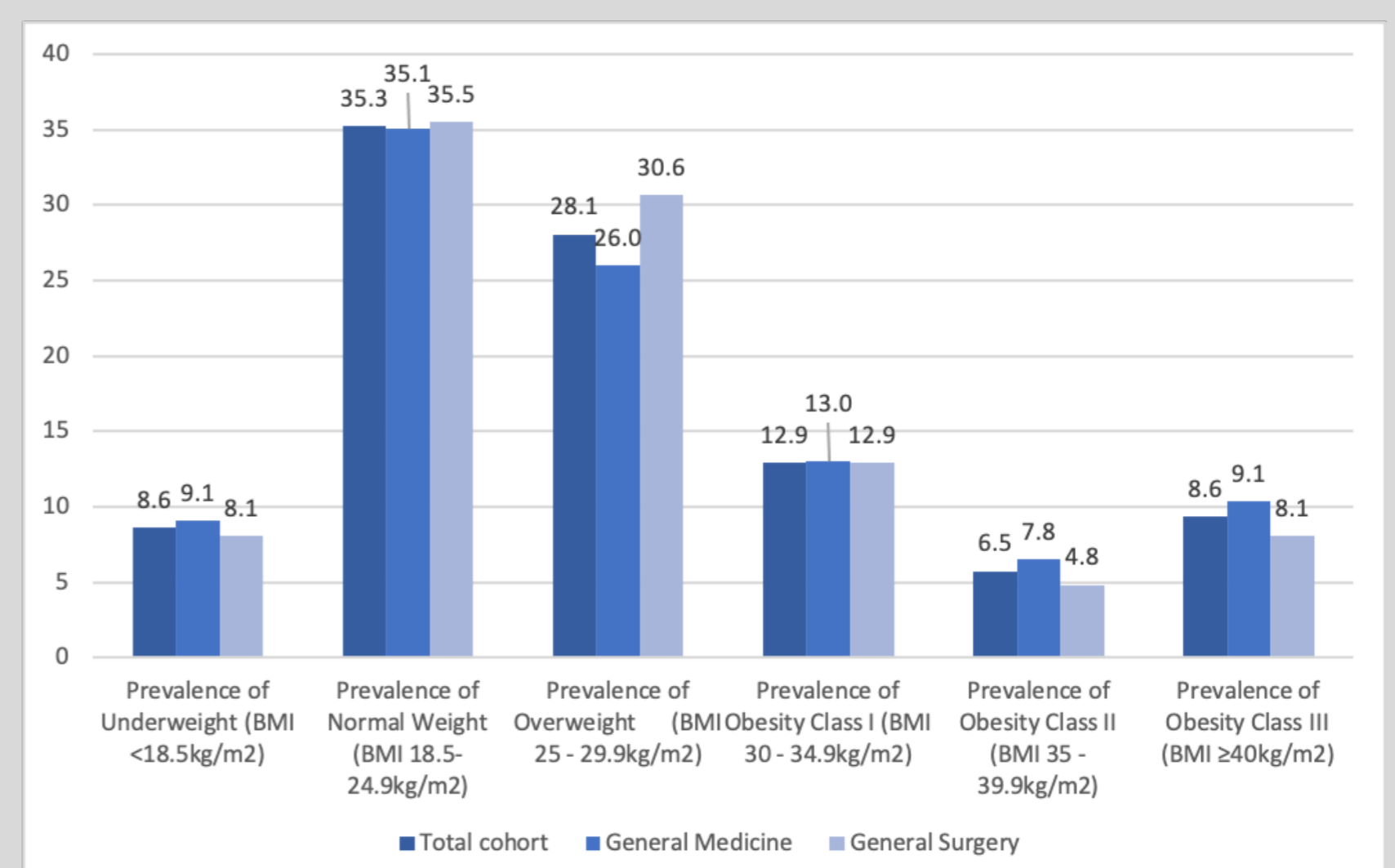


Figure 2: cohort prevalence of body mass index categories

- The study cohort had a lower prevalence of overweight and obesity compared to Victorian (68.3%) and National (65.5%) population data from 2022 ($p < 0.05$).
- Only 38% of patients had a current weight documented on their medication chart at the time of audit.
- There was no significant difference in cost of admission ($p = 0.535$) or length of admission ($p = 0.731$) by BMI categories in the study cohort, irrespective of General Medicine or General Surgery Units.

DISCUSSION

This is the first Australian in-patient obesity prevalence study in a regional hospital. Prevalence was similar to another Victorian hospital audit in 2021(6), but lower than a Queensland study(4) and general population(3) prevalence. Contributing factors may include older age of the study cohort reflecting age related sarcopenia, and different study methodologies. ICD-10 coding significantly underrepresented measured prevalence of obesity and there was no demonstrated correlation with admission costs, consistent with previous studies(4).

CONCLUSION

- The prevalence of overweight and obesity in this hospitalised adult cohort was 56.1%, lower than reported Victorian and National general populations.
- Documentation of current weight on inpatient medication charts was poor, likely contributing to significant underreporting of overweight and obesity in administrative ICD-10 coding data.
- This study addresses an important knowledge gap and findings can be used to replicate audit methodology in other inpatient cohorts, improve clinical documentation, and assist with development of obesity specific services to address a growing public health issue.

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