Eating disorder assessment and management in paediatric inpatients at a rural hospital

Dr Robert Milledge
Armidale Rural Referral Hospital, Hunter New England Local Health District

Introduction

Eating disorders are defined as excessive and persistently disturbed eating or eating-related behaviours that lead to changes in the person's consumption of food to a degree that is harmful to their health and well-being.
2.8% of teenagers are affected by eating disorders, though this number is likely to be underestimated due to previously strict diagnostic criteria in the DSM-IV. The most prevalent eating disorders in Australia are binge eating disorder (6%) and other specified feeding or eating disorders (OSFED, 5%). Anorexia nervosa and bulimia nervosa each represent below 1% of the general population[1]. There is no universally accepted consensus on the pathogenesis of eating disorders, however there are likely genetic, environmental and social factors. Short term complications of medically unstable patients with eating disorders are vast, affecting cardiovascular, endocrine, haematologic, gastrointestinal, thermoregulatory and renal systems[2]. This is a uncommon admission in a general paediatric population, however they are often extended and all require specialised approach. A consistent multi-disciplinary team with defined roles is critical.
There is a three-stage approach to management of eating disorders. Firstly, acute medical management, focusing on initial stabilisation, and working towards a healthy weight in the short term. This stage is the main emphasis of this audit. The second phase involves psychiatric rehabilitation either in inpatient facilities or as an outpatient. Finally, ongoing multi-disciplinary input in the community is then required to maintain healthy body image and weight[3].
Eating disorders are very important diagnoses in paediatric populations and can have long-lasting effects in many aspects of life. It is therefore crucial that initial assessment and management be optimised.

Aim

To assess the management, discharge planning and outcomes of paediatric patients admitted to the Doris White (Children's) Ward, ARRH.

Objectives

- To determine if medically appropriate patients are being admitted
- To examine the initial assessment of severity of medical illness in the first 24 hours of admission
- To examine if management guidelines are adhered to
- To determine if appropriate multi-disciplinary staff are being consulted during admission
- To examine the discharge planning process

Method

This was a retrospective audit assessing patients aged under 18 admitted to Armidale Rural Referral Hospital for whom the primary reason for admission was an eating disorder from January 2013 to December 2017. Data was taken from IPPM medical record diagnosis coding. There were 18 paediatric admissions coded with an eating disorder, of which 8 were excluded after reviewing medical record as eating disorder was not primary reason for admission. The excluded cases were admitted due to intentional self-poisoning, syncope, and psychiatric illness. There were 6 patients with 10 admissions in total. Data was collected from progress notes, discharge summaries and the online pathology program (Auslab).
The gold standard of care is the Centre of Eating and Dieting Disorders' Toolkit. As such, the objectives of this audit were compared to this guideline.[3]

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Results

During the study period, all patients included were female. The median age was 16.5 (11-17) and median body-mass index (BMI) 16.9 (15.1-20.9). Due to limitations to the coding system used, specific diagnoses were not recorded. However, all patients displayed restricted intake. Co-morbid psychiatric diagnoses were common.
Listed in Figure 1 are the indications for hospital admission as per CEDD guidelines. On review of cases admitted in Armidale, 60% were medically unstable (Fig. 2), 30% had failed intensive community-based treatment and 10% for rapid weight loss. It was beyond the scope of this audit to evaluate patients discharged from the emergency department following assessment.

Pulse	<50, >100 or >20bpm postural increase
Blood pressure	<70/40mmHg or postural drop >15mmHg
Temperature	<35.5
Electrolyte disturbance	Potassium <3.0mmol/L, Low serum phosphate, Blood sugar level <3.0mmol/L or other significant electrolyte imbalances
ECG	Rate <50, prolonged QTc interval
BMI	<5th centile
Weight loss	Rapid or consistent (e.g. >1kg each week over several weeks)
Fluid status	Acute dehydration or refusing oral intake
Previous treatment	Intensive community-based treatment has proven ineffective
Psychiatric history	Co-morbid or pre-existing psychiatric conditions that require hospitalisation
Suicidal ideation	Active suicidal ideation with intent and plan
Special circumstances	Other considerations such as diabetes or pregnancy

Figure 1 Indications for admission for disordered eating[3]

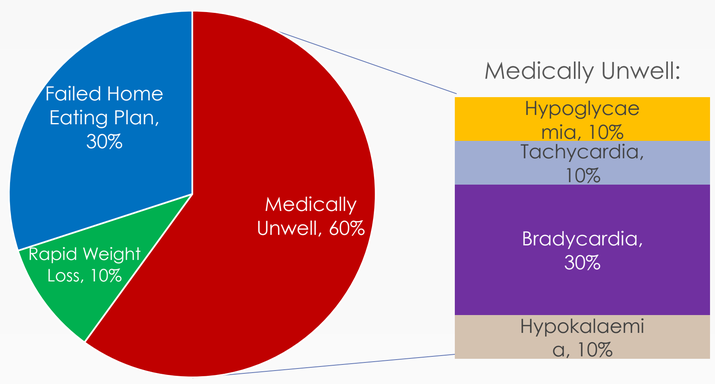

Figure 2 Reason for admission

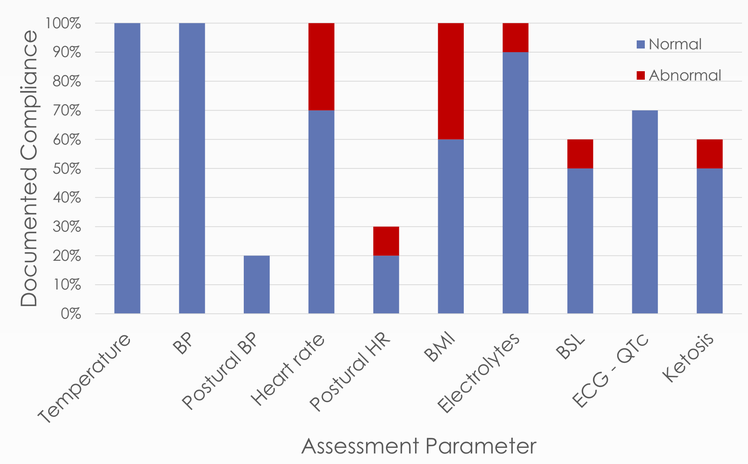

Figure 3 Documented compliance of assessment

Figure 3 shows the documented compliance of assessment in the first 24 hours of admission. It shows there was some inconsistency in documentation, particularly regarding ECGs and blood sugars. Importantly, postural blood pressures and heart rates were rarely formally requested and carried out. Patients well known to the service and planned admissions had less complete assessments.

Dietetics were involved in all admissions during the audit period. Psychology involvement was predominantly through private Psychologists (90%). The Child and Adolescent Mental Health Service (CAMHS) was involved in one admission. Psychiatry was able to be consulted in one case. On this occasion the Psychiatry registrar reviewed the patient. Physiotherapy was consulted in 70% of admissions, while MDT ward meetings were documented in all admissions.

Results cont.

Body mass index increased to a healthy weight in all but one admission, though a goal weight was only documented in 2 admissions. The majority (80%) managed as outpatients following discharge. 20% were transferred to private Psychiatric inpatient rehabilitation facilities. There was one re-admission within two weeks, due to a failed home eating plan. Follow-up with a General Practitioner was mentioned in discharge plan in 50% of admissions.

BMI on discharge (on admission)	
Range	17.0-20.6 (15.1-20.9)
Median	18.5 (16.9)
<5th centile	10% (40%)
1 Re-admission within two weeks	

Conclusions

- Appropriate patients were admitted as per CEDD guidelines
  - However, this audit did not cover assessment and management of patients assessed and discharged from the Emergency Department.
- The recommended assessment was not completed in all cases.
  - Poor documentation of ECG findings, blood sugar levels and urinary ketosis.
  - Postural blood pressure and heart rate, key indicators of haemodynamic instability in patients with eating disorders, were rarely requested or carried out.
- Only two out of six patients who were admitted secondary to medical instability were commenced on nasogastric feeds as per CEDD recommendations.
- Multi-disciplinary team meetings were productive and well documented.
- Greater input from physiotherapy and occupational therapy may be required in assessing physical capacity and needs for patients.
- Mental health services in the rural public system need to be more involved in care.
  - Psychiatric consultation recommended as per CEDD guidelines, but there is limited resource provision in rural NSW to provide this service.
- Patients treated in this hospital displayed good outcomes.
  - Only one re-admission within two weeks, due to a failed home eating plan.
  - 90% discharged with a healthy weight (BMI >5th centile)

Recommendations

- Ensure assessment proforma in CEDD guidelines completed.
- Nasogastric feeding should be commenced on admission for medically unstable patients
- Options to explore mental health inpatient input need to be explored.
  - Tele-psychiatry would be a cost-effective and efficient method to facilitate consultation with a Psychiatrist.
  - The Psychiatrist plays an important role in determining ongoing management and rehabilitation for patients admitted with an eating disorder.
  - CAMHS may have capacity to be more involved
- An Emergency Department based prospective audit would better evaluate initial assessment of patients with eating disorders.

References

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