Introduction

Anorexia Nervosa (AN) has an annual incidence of 8.1 per 100,000 population, and a prevalence of 0.3%. In Scotland, this would suggest that 413 new cases of AN will be diagnosed per annum.

Inpatient treatment for AN is expensive and time-consuming, and is usually only considered in a minority of cases with acute medical or psychiatric need. NICE guidelines (2004) recommend that when a patient does require admission, it should ideally be to a specialised unit, staffed by a multidisciplinary team, within a reasonable travelling distance from their home.

Current literature highlighted a variation in reported LOS, with means ranging from 31.2 days to 135 days.

Variables previously identified as predicting an increased LOS:
- Low minimum body weight after onset of eating disorder.
- Prolonged duration of AN on admission.
- Low BMI on admission.
- Older age at onset of AN and at inpatient unit admission.
- Presence of a comorbid disorder.
- Tube feeding during inpatient stay.

Aims:
- Examine LOS in patients with eating disorders in Scotland who are managed in specialist inpatient units.
- Explore the relationship between LOS and outcome at the point of discharge, and examine factors which may correlate with LOS.

Methods

Seven units in Scotland specialise in the inpatient management of patients with eating disorders: 4 treat adolescents (12-18 years) and 3 treat adults (over 18 years). Lead clinicians and managers from all units were sent invitations, and offered information and presentations regarding participation in our study. Affirmative responses were received from all units. Data was collected from electronic database or patient case notes.

This retrospective study includes 206 admissions, involving 172 patients, referred from Scottish health boards with a primary diagnosis of eating disorders: 4 treat adolescents (12-18 years) and 3 treat adults (over 18 years). Exploring the established Scottish collaborative multi-site setting to collect a wider range of clinical and demographic data, and assessing patient outcome for several years post-discharge.

We conducted an intention to treat analysis of all remaining cases, including admissions where the patient discharged against medical advice. Analyses regarding weight/BMI included only those cases with a BMI less than 20 kg/m² on admission, as patients above this level would not have been admitted for the purposes of weight gain. Data analysis was performed using Statistical Package for the Social Sciences v19 (SPSS).

Results

Adolescent Sample

Sample of 89 admissions for 74 patients. Seventy admissions (78.7%) were for AN; two (2.2%) were for Atypical AN; one (1.1%) was for Bulimia Nervosa; and sixteen (18.0%) were for Eating Disorder Unspecified. The majority of admissions were female (93.3%). Seventeen admissions (19.1%) were made under the MHA (2003); the remainder of patients were treated informally.

The mean LOS for adolescents was 141.4 days (SD 125.7). Figure 1 shows the mean and range of LOS.

Patients in all units gained a significantly amount of weight during their inpatient stay (p<0.001), and BMI significantly increased during admission (p<0.001).

There was a significant correlation between LOS and change in weight during inpatient stay, with an increasing LOS associated with a greater increase in weight change (p<0.01).

There are no significant differences between the adult inpatient Units in terms of LOS, patient age in admission, total weight gain, and weight gain per week. However, body weight and BMI, on both admission and discharge, varied significantly between inpatient units (p<0.01), with patients treated in the NHS adult Unit having a greater body weight and BMI on both admission and discharge compared to patients treated in private adult Units.

Global EDEQ scores significantly decreased between admission and discharge, indicating an improvement in psychopathology (p<0.01). However, there was no correlation between EDEQ and LOS, or any other variables.

Discussion

The primary aim of this study was to describe LOS in Scottish inpatients with eating disorders. Our results involve data collected from seven inpatient Units, both NHS and Private each serving either adolescents or adults, between 2009 and 2011.

The mean LOS for adolescents was 141.4 days (SD 125.7), and for adults was 113.0 days (SD 107.4). Adolescents had a significantly longer LOS than adults, although this difference was not significant if the single outlier was excluded.

One adolescent Unit had a significantly longer LOS compared to all other Units. This Unit did have younger patients than the others in this audit, but this may not explain the difference. This observation invites exploration and consideration of the therapeutic and economic policies of different inpatient Units.

This study has also shown inpatient treatment to be beneficial in terms of reducing eating disorder psychopathology; with EDEQ scores significantly improving over the course of inpatient stay. Without this it is unlikely that weight gain would be sustained. Further research could examine changes in the different sub-scores of the EDEQ; this would be particularly if all Units would agree to adopt this gold standard outcome measure.

In this multisite collaboration we have shown that, even at the extreme of illness, specialist inpatient treatment for eating disorders can result in significant weight restoration and a reduction in psychopathology. Future efforts should be invested in the establishment of prospective and follow-up studies, exploiting the established Scottish collaborative multi-site setting to collect a wider range of clinical and demographic data, and assessing patient outcome for several years post-discharge.

References


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