

# Early onset eating disorders in Australian children

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# Outline

- What do we know about eating disorders in young children?
- Why did we do this study?
- Results
- Questions raised by this study

# Eating Disorders in Children

- Selective Eating
- Anorexia Nervosa
- Bulimia Nervosa
- Food Avoidance Emotional Disorder
- Pervasive Refusal
- Weight loss secondary to Major Depressive Disorder

# Eating Disorders - Basic Facts

- Anorexia Nervosa - 0.5 to 1.0%
- Bulimia Nervosa - 1.0 to 3.0%
- The peak age of onset for anorexia is between 15 and 19 years
- Overall males make up between 3 and 10% of individuals with anorexia

# Eating Disorders in Children

- In the 10-14 year old age group rates of disorder are thought to be a third of those seen in older adolescents and adults.
- Bulimia nervosa is uncommon before the age of fourteen
- Higher proportion of males with anorexia amongst children (20-30%)

# Why look at early onset eating disorders?

- Suggestion that the incidence of anorexia nervosa is increasing and the age of onset is decreasing
- Limited amount of information on the epidemiology, phenomenology and outcome of early onset eating disorders
- Complications of severe malnutrition in prepubertal children
- Debate about definition (? DSM IV)
- Increasing public interest

# The History of Early Onset Eating Disorders

- First clear cut descriptions of eating disorders matching the modern presentation of Nervosa were in the late 19<sup>th</sup> Century
- The first descriptions of early onset anorexia were published some 20 years later, involving two children aged 7 and 11 years

A girl "seven and a half years old of healthy ancestry" who persistently refused food for ten weeks prior to her admission. The physical stigmata of malnutrition were reported but "more remarkable were the mental phenomena."

These included" deceitfulness, intense selfishness, self absorption and vanity." The seven year old was "effusively pious in conversation though she used foul language to the nurses. She concealed food in her bed and expressed herself as not wishing to improve

Collins (1894)

# Case Series

- Generally derived from specific specialist clinics
- Useful for defining characteristics of particular population
- Case series have either included early onset eating disorders as part of a larger population or have small numbers of subjects
- Do not provide information on incidence or prevalence

# Case Register Studies

- Retrospective reviews of patients presenting to defined health providers
- 2 From Denmark and 1 from Minnesota (Nielsen 1990, Joergensen 1992, Lucas et al., 1999)
- Follow up periods of 10 to 55 years
- Incidence rates (10 -14 years)
  - Females 4.2 to 25.7 per  $10^5$
  - Males 3.3 per  $10^5$

# Two Stage Studies

- The use of screening instruments in defined populations with subsequent interview of those identified as high risk
- 6 studies in children and adolescents of which only one looked at children under 14 years (Childress et al., 1993)
- Of 3175 students screened there was 1 case of AN, no cases of BN and 22 cases of EDNOS

# Key Informant Studies

- Key informants (Teachers, Doctors) are used to identify cases of eating disorders in selected populations
- Method used by the APSU
- 4 Previous studies that have included children aged 13 and under
- Studies have examined subsections of national populations ranging in size from 5075 to 151,781

# Australian Paediatric Surveillance Unit (APSU)

- Established in 1992 by RACP with data collection commenced in May 1993
- Conducts surveillance of rare diseases of childhood using Prospective Key Informant Methodology
- Primary aim is to document epidemiology, clinical features, geographic distribution and clinical management of these conditions

# Australian Paediatric Surveillance Unit (APSU)

- Each month contributors are sent a reply - paid report card or email card listing conditions currently studied
- Clinicians are asked to report on new cases of any of the listed conditions
- Disease information sheet sent prior to start of new studies
- Sent a brief questionnaire requesting de-identified information

# APSU Study of Early Onset Eating Disorders

- July 2002 to June 2005
- Looked at children aged between 5 and 13 years with
  - Determined food avoidance
  - Non-organic weight loss or failure to gain weight during a period of growth
  - July 2002 to June 2003 looked at inpatients only
  - July 2003 to June 2005 looked at in and outpatients

# Food Avoidant Emotional Disorder

- Refusal to eat associated with emotional distress (Primarily Anxiety)
- No drive for thinness or abnormal body image
- Eating returns to normal once stressful situation is addressed

# Anorexia Nervosa

- Refusal to maintain or gain weight at a level above what is a minimally normal weight (BMI<17)
- Fear of gaining weight or becoming fat
- Abnormal body image
- Amenorrhoea

# APSU Study of Early Onset Eating Disorders

- Objectives

- To estimate the incidence
- To describe range of clinical features, including cognition and behaviours
- To describe current management practices
- To compare features in this population with DSM IV criteria
- To contribute to international data

# Questionnaire

- Demographic details
- Clinical Features
  - Psychological Features
  - Physical Features
  - Physical complications
- Psychiatric Comorbidities
- Management

# Response Rate

182 Notifications

2 Questionnaires not returned

45 Duplicate questionnaires

34 Invalid Questionnaires

101 Valid Questionnaires

79 Hospitalised Cases

# Results

- Incidence ( $10^5$ )
  - overall - 1.38
  - NSW incidence - 2.35
  - 26% boys
- Mean age 11.8 yrs
- Median weight loss 6kg

# Age Distribution

Age Distribution



# Eating Disorder Symptoms

- Preoccupation with food 93%
- Denial of severity of weight loss 86%
- Fear of weight gain 77%
- Preoccupation with weight 75%
- Misperception of body shape 69.7%
- Excessive exercise 57.1%
- Self-induced vomiting 12.1%

# Physical Complications

- Bradycardia (< 50 bpm) 42%
- Hypothermia (<35.5 C) 32%
- Hypotension (Sys<80 mm Hg) 21%
  
- NG Feeding 53%

# Psychiatric Comorbidities

- Concurrent Psychiatric Illness 65%
  - Major Depression 25%
  - Anxiety Disorders 41%
  - OCD 13%
- Psychotropic Medication 34%

# Treatment

■ Outpatient	22
■ Inpatient	
■ Metropolitan general hospital	15
■ Rural general hospital	6
■ Paediatric teaching hospital	54
■ General psychiatry ward	0
■ Child and Adolescent psychiatry unit	4

# Conclusion

- Eating disorders are occurring in younger children but we suspect significant under reporting in our study
- Children are losing significant amounts of weight, particularly during time of normal rapid growth and development
- Those reported had high rates of significant medical complications

# Conclusion

- Over 70% of children demonstrated symptoms that were in fact consistent with DSMIV criteria for AN
- Other behaviours related to food and exercise described
- High rates of comorbid psychiatric illness

# Where to Now ?

- Compare results with other studies from Canada and UK which were based on the APSU study
- Focus on hospitalised patients as case ascertainment may be more reliable
- Determine the appropriate diagnostic criteria for younger children to ensure early detection, improved management and consistency in future research

# Where to now?

- Design studies to explore the long term effects of early onset eating disorders such as:
  - Changes in brain before and after treatment
  - How do changes in the brain relate to the abnormal behaviours and cognitions reported
  - Comparison in outcome between early onset and later onset eating disorders i.e. is it all the same regardless of age?