Chapter 26
Eating Disorders in Childhood
(Ages 4 Through 11 Years)
L. Lee Gislason

INTRODUCTION

Eating disorders in infancy, adolescence, and adulthood have been extensively described in the literature; however, eating disorders in childhood are reported with much less frequency. In order to restrict this chapter to eating disorders in childhood, I have focused on children aged 4 to 11 years old. This will avoid, as much as possible, disorders of infancy and disorders of adolescence. In 4- to 11-year-old children reviewed in the literature with eating disorders, as characterized in DSM-III, the major and almost exclusive category mentioned was anorexia nervosa. This chapter will therefore focus on anorexia nervosa.

Anorexia nervosa is considered to be of major importance because of its increasing frequency, its severity, and because it is one of the few psychiatric disorders of childhood that can progress to death.

In the literature examined, the diagnosis of anorexia nervosa is not made in children under age 4, and the diagnosis of bulimia is rarely mentioned [1,2].

This chapter will present a historical overview through an analysis of the literature describing children with eating disorders. Some of the articles reviewed will be set forth in tables, and comments will be made. Specific studies will then be discussed in greater detail. Later clinical issues, controversies, and future direction in this field will be explored.

DEFINITION

Eating disorders according to DSM-III are characterized by gross disturbances in eating behavior; they include anorexia nervosa, bulimia, pica, rumination disorder of infancy, and atypical eating disorder. Bulimia usually has a chronic, remitting course, whereas the other three specific disorders commonly are limited to a single episode. Two of these, anorexia nervosa and rumination disorder of infancy, may have an unremitting course that progresses to death due to malnutrition and medical complications.

Anorexia nervosa is defined in DSM-III using the following criteria: (1) An intense fear of becoming obese, which does not diminish as weight loss progresses; (2) disturbance of body-image, e.g., claiming to "feel fat" even when emaciated; (3) weight loss of at least 25% of original body weight, or if under 18 years of age, weight loss of original body weight plus projected weight gain expected from growth charts may be combined to make the 25%; (4) refusal to maintain body weight or a minimal normal weight for age and height; and (5) no known physical illness that would account for the weight loss.

Puberty will now be defined, because it has particular relevance here in that children with prepubertal anorexia nervosa will be the major focus of this chapter. It is possible that puberty has a pivotal biopsychosocial role in this syndrome. Dorland's Medical Dictionary [3] defines puberty as the age at which the reproductive or-
gans become functionally operative and secondary sex characteristics develop. Textbook of Pediatrics by Nelsons et al [4] indicates that puberty is an arbitrary point in the continuum of maturation: the menarche in girls (just under 13 years in the United States), and some less clearly defined event occurring approximately two years later in boys. Adolescence is defined as the period of time between puberty and maturity [5].

Normal developmental pubescent changes are pertinent to weight problems in 4- to 11-year-olds. These changes precede the first secondary sex changes of adolescence and are integral elements of maturation, not simply preparatory ones. Boys have slightly less subcutaneous fat during the middle years of childhood. The fat in subcutaneous tissue, which showed a steady proportionate decrease in amount from the ages of 1 to 6 years in both sexes, begins to reaccumulate as early as 8 years in girls and 10 years in boys.

A HISTORICAL BACKGROUND OF ANOREXIA NERVOSA IN CHILDREN

Morton [6], in a book published in 1694 in England, was probably the first writer to refer to this symptom complex, as he does in the chapter entitled, "Of a Nervous Consumption." This description was followed by Lasegues' [7] in 1873 in France, under the name of "l'Anorexia Hysterique." Independently, Sir William Gull [8,9] described the same condition in England in 1874, giving the condition its current name, anorexia nervosa. Twenty years later in 1894, Collins [10] described in the Lancet a 7-1/2-year-old girl who was refusing all food. She was emaciated and exhibited "morbid egotism," selfishness, vanity, and self-absorption. One year later in 1895 Marshall [11] in England recorded a fatal case in a girl, 11 years of age, in which the autopsy revealed the same absence of lesions as was found in Gull's fatal case [12-14]. The early English literature [15-17] focused mainly on eating difficulties in infants and preschoolers and therefore included only a small number of children in the 4- to 11-year-old range. After Collin's and Marshall's description of prepubertal children the most frequent publications were not in the English but in the French and German literature [18-26].

Irwin [27] in 1984 reviewed 893 cases in which the authors claim to be dealing with anorexia nervosa. Of the 893 cases there were 29 children (3% of the total) aged 8 through 11 years. My review of the literature supports Irwin's findings regarding the paucity of case reports of preadolescent anorexia nervosa in the literature.

Two tables have been made to allow the reader an opportunity to compare and review many of the papers on eating disorders in childhood. Table 1 [28-34] describes epidemiological studies of children aged 4 to 11 years. Table 2 [1,2,27,12-14,35-45] gives brief clinical comments of cases reported in the literature.

EPIDEMIOLOGICAL SURVEYS OF CHILDREN WITH ANOREXIA NERVOSA

Table 1 reviews epidemiological surveys of 447 patients. The authors of these surveys state that the patients studied had anorexia nervosa. Unfortunately, the criteria for defining the disorder were not consistent. The articles were selected after excluding numerous studies that did not have any children younger than 12 years old. The studies often do not clearly relate what percentage of children are under 12 years old. In spite of the methodological problems, it is apparent that the frequency in children as compared with adolescents and adults is small. However, of children in the epidemiological studies, girls outnumber boys (86% girls to 14% boys), and onset of symptoms was often related to disappointments in object relations. Also in this population it was observed that sexual problems and suicidal behavior were minimal [19].

THIRTY-THREE CASE STUDIES OF ANOREXIA NERVOSA IN 4- TO 11-YEAR-OLDS

Table 2, titled "Thirty-three Case Studies of Anorexia Nervosa in 4- to 11-Year-Olds" gives an overview of this topic. Parameters such as age, sex, precipitant, personaliy, treatment, and follow-up are set forth in as much detail as each case report will allow. The case studies extracted from the literature were heterogeneous in composition. In addition, they are a reflection of the many adventitious influences to which referral policies are subject. Consequently, it is difficult to arrive at conclusions without qualification. However, some general comments can be made.

In the case studies of anorexia nervosa reported in 4- to 11-year-old children, as with other age-groups, there is a preponderance of females (23 females to 9 males, or 73% to 27%, respectively). In this review of the literature there are probably more males than would be expected, because anorexia nervosa in males in this age range is indeed a rare event and publishable. The female preponderance is of special interest, because in most psychiatric disorders of childhood there are more males than females.

In 23 (69%) of the 33 cases a precipitant is described. Five were related to a birth in the family, four began after the child was teased about being fat, three were to do with separation, and three related to bereavement.
**Table 26.1 Epidemiological surveys of 4- to 11-year old children with anorexia nervosa**

<table>
<thead>
<tr>
<th>Author</th>
<th>Age of Onset</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anyan 1983</td>
<td>3 females age 10 and 1 male age 10</td>
<td>Sample of 137 females and 17 males with anorexia nervosa who were treated at the outpatient and inpatient services for adolescents at the Yale-New Haven Hospital.</td>
</tr>
<tr>
<td>Galdston 1972</td>
<td>50 patients 8 to 16. Those ages 11 and under not specified.</td>
<td>41 girls and 9 boys were all hospitalized on a children’s psychiatric ward. Only 3 of 50 were suicidal. All were able to recall a disappointment in a valued relationship that had been invested with personal ambitions. No evidence of heterosexual activity. All compliant.</td>
</tr>
<tr>
<td>Goetz et al 1977</td>
<td>Details not given</td>
<td>Sample of 30 children between the ages of 9.5 and 16 years admitted to the Childrens Hospital of Pittsburgh between 1954 and 1970 (28 females and 2 males).</td>
</tr>
<tr>
<td>Hall 1978</td>
<td>Youngest child was 12</td>
<td>Sample consisted of the first 50 patients referred to a child psychiatrist from a defined geographic area in New Zealand.</td>
</tr>
<tr>
<td>Halmi 1974</td>
<td>8% of sample were &lt; 10</td>
<td>Sample of 94 divided into groups &lt; 10, between 10 and 15 and &gt; 25 years old. The sample was a retrospective study of the files of the Iowa General and Psychopathic Hospitals, 1920-1972.</td>
</tr>
<tr>
<td>Halmi et al 1979</td>
<td>2 children age 10 &amp; 3 children age 11. Gender not given.</td>
<td>Sample consisted of 105 subjects who participated in a collaborative study. 1/3 had not reached puberty.</td>
</tr>
<tr>
<td>Pugliese 1983</td>
<td>14 children age 9 to 17. Those aged 11 was not delineated.</td>
<td>Authors state that the children had a fear of obesity resulting in short stature and delayed puberty. They claim that children did not have anorexia nervosa, which is controversial. The sample consisted of 14 of 201 patients who attended a pediatric endocrinology clinic.</td>
</tr>
</tbody>
</table>

Other precipitants are enumerated in table 2. The frequency of identification of external precipitants in adolescents and adults varies; for example, Theander [46] identified specific causes in 50%, Halmi [32] in 55%, Morgan and Russell [47] in 65%, while Casper and Davis [48] could identify precipitation factors in all their patients.

Two-thirds of the 33 children were hospitalized. Frequency of hospitalization, as with other diseases, is influenced by the patterns of practice in the community and other factors.

At follow-up there was information on 29 (89%) of the 33 cases. Of these 29, 18 (62%) were described as improved, three (10%) slightly improved, seven (24%) not improved, and one (4%) dead from anorexia nervosa. The 33 cases in my sample can be compared to Bruch’s [49] series of 38 females with anorexia nervosa. The age of onset in her sample was from 10 to 26 years. Thirteen (36%) were reported to be recovered, and 23 (64%) as not recovered. Two had died, but the cause of death was not reported.

Premorbid personalities in the case studies examined are varied. Terms such as depressed, shy, schizoid, and hysterical are used. The idea that the child is either pre-psychotic or has significant ego defects was alluded to in 6 (18%) of 33 children described.

Frequently in young adolescents with anorexia nervosa the term conscientious is used. Significantly, the term conscientious was mentioned in only two of the 33 childhood anorexia cases. In contrast, the adolescent anorexia nervosa patient is usually a high achiever, superficially compliant, and often described as conscientious.

Since table 2 was compiled, I discovered an article by Jacobs and Isaacs [56] which you will be well advised to review.

**DESCRIPTIONS OF SPECIFIC STUDIES**

Some of the early series, which reported preadolescent cases of anorexia nervosa, appeared in the late 1950s and the early 1960s. Falstein [1] in 1956 described one 9-year-old and two 10-year-old children. They were unique in that they were all males. One had a typical adolescent precipitant. Children at school began calling him “Fatso” and “Tubby,” while the other two had more atypical precipitants. One precipitant was the death of a dog that was poisoned, and the other precipitant related to family arguments.

Blitzer et al [13] in 1961 reported seven children with onset of anorexia nervosa at age 11 or before and the sex ratio was two boys to five girls.

In 1968 Warren [44] described 20 cases of anorexia nervosa in girls. Three of the girls had onset of symptoms at age 11 or before. Girls aged 10 to 15 years were divided into three groups. Eight were prepubertal, four were pubertal, and eight were postpubertal. Warren does not give a precise definition of puberty in the paper, although he states that the postpubertal girls were menstruating before the onset of illness. It was Warren’s observation regarding the 20 cases that, “as they showed...”
<table>
<thead>
<tr>
<th>Author</th>
<th>Age of Onset</th>
<th>Age When First Seen</th>
<th>Sex</th>
<th>Precipitant</th>
<th>Peromorbid Personality</th>
<th>Hospitalized</th>
<th>Outpatient Therapy</th>
<th>Follow Up</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Botella 1978</td>
<td>6</td>
<td>6-1/2</td>
<td>m</td>
<td>N.R.</td>
<td>depressed shy hysterical phobias</td>
<td>no</td>
<td>several months</td>
<td>N.R.</td>
<td>improved</td>
</tr>
<tr>
<td>Blitzer 1961</td>
<td>7</td>
<td>10-1/2</td>
<td>f</td>
<td>N.R.</td>
<td>hysterical depressed</td>
<td>5 months</td>
<td>N.R.</td>
<td>N.R.</td>
<td>recovered</td>
</tr>
<tr>
<td></td>
<td>8-1/2</td>
<td>11</td>
<td>f</td>
<td>N.R.</td>
<td>parents' separation</td>
<td>1-1/2 years</td>
<td>N.R.</td>
<td>N.R.</td>
<td>recovered</td>
</tr>
<tr>
<td></td>
<td>10-1/2</td>
<td>10-3/4</td>
<td>f</td>
<td>N.R.</td>
<td>hysterical schizoid</td>
<td>2-1/2 months</td>
<td>N.R.</td>
<td>N.R.</td>
<td>slightly improved</td>
</tr>
<tr>
<td></td>
<td>10-1/2</td>
<td>10-3/4</td>
<td>f</td>
<td>N.R.</td>
<td>schizoid compulsive phobic cheerful</td>
<td>1 month</td>
<td>N.R.</td>
<td>N.R.</td>
<td>recovered</td>
</tr>
<tr>
<td>Brown 1983</td>
<td>11</td>
<td>11</td>
<td>f</td>
<td>death of uncle, 2 friends moved</td>
<td>no</td>
<td>3-1/2 yrs</td>
<td>improved</td>
<td>a lot of fathers' attention until late latency</td>
<td></td>
</tr>
<tr>
<td></td>
<td>11-1/2</td>
<td>11-1/4</td>
<td>f</td>
<td>brother had 5 brain surgeries</td>
<td>no</td>
<td>17 months</td>
<td>improved</td>
<td>a lot of father's attention until late latency</td>
<td></td>
</tr>
<tr>
<td></td>
<td>9-1/4</td>
<td>9-3/4</td>
<td>f</td>
<td>best friend moved away father attempted vaginal intercourse and had child perform fellatio fear mother might have another child perform fellatio fear mother might have another child</td>
<td>no</td>
<td>8 months</td>
<td>improved</td>
<td>father was a chronic alcoholic and was probably mildly psychotic</td>
<td></td>
</tr>
<tr>
<td>English 1937</td>
<td>4</td>
<td>6</td>
<td>f</td>
<td>father attempted vaginal intercourse and had child perform fellatio fear mother might have another child perform fellatio fear mother might have another child</td>
<td>no</td>
<td>2 years</td>
<td>did well</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Falstein 1956</td>
<td>7</td>
<td>N.R.</td>
<td>m</td>
<td>fear of fatness</td>
<td>shy depressed prepsychotic demanding provocative hostile</td>
<td>8 months</td>
<td>N.R.</td>
<td>poor</td>
<td></td>
</tr>
<tr>
<td></td>
<td>9-3/4</td>
<td>10</td>
<td>m</td>
<td>arguments between grandparents and parents death of dog that was poisoned</td>
<td>14 days</td>
<td>none</td>
<td>mother uncooperative</td>
<td>residential placement suggested bulimic episodes; eating problems throughout childhood</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10-1/2</td>
<td>11</td>
<td>m</td>
<td></td>
<td>no</td>
<td>a few interviews</td>
<td>improved</td>
<td>distortion of body image; brief bulimic episode; mother rejecting &amp; hostile</td>
<td></td>
</tr>
<tr>
<td>Forchheimer 1907</td>
<td>6</td>
<td>7</td>
<td>f</td>
<td>N.R.</td>
<td>oppositional oppositional</td>
<td>no</td>
<td>4 weeks</td>
<td>improved</td>
<td>child intelligent and suspicious parents neurotic mother was rejecting; bulimic episodes; claims abdomen protuberant when actually scaphoid exercised excessively; interest in preparing food loss of interest in everything except cooking</td>
</tr>
<tr>
<td>Irwin 1981</td>
<td>9-1/2</td>
<td>9-3/4</td>
<td>f</td>
<td>teased about being fat</td>
<td>no</td>
<td>4 weeks</td>
<td>improved</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Irwin 1984</td>
<td>9</td>
<td>10</td>
<td>f</td>
<td>teased about being fat breast development</td>
<td>yes</td>
<td>N.R.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>11-3/4</td>
<td>f</td>
<td></td>
<td>yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Author</td>
<td>Age of Onset</td>
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<td>Comment</td>
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<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Lesser 1960</td>
<td>10</td>
<td>N.R.</td>
<td>f</td>
<td>viral illness</td>
<td>hysterical</td>
<td>1 month</td>
<td>no</td>
<td></td>
<td>uneventful recovery improved</td>
</tr>
<tr>
<td>Mintz 1983</td>
<td>9-1/3</td>
<td>10</td>
<td>m</td>
<td>began just after aunt gave birth of sibling</td>
<td>depressed</td>
<td>no</td>
<td>3 times</td>
<td>2 years</td>
<td>fluids decreased; exercise increased; drank only milk; wished to be a baby</td>
</tr>
<tr>
<td>Reinhart et al 1972</td>
<td>8-1/3</td>
<td>8-2/3</td>
<td>f</td>
<td>seemed to be reacting to her mother's urging</td>
<td>depressed</td>
<td>no</td>
<td>2 years</td>
<td></td>
<td>6 years later she was heavy but not obese; psychologically fragile: in hospital had tube feeding and ECT</td>
</tr>
<tr>
<td>Shafii et al 1975</td>
<td>7-1/3</td>
<td>8</td>
<td>f</td>
<td>gave birth to liberate her from suppressive home environment</td>
<td>passive dependent depressed</td>
<td>6 months</td>
<td>no</td>
<td></td>
<td>returned to normal weight in hospital but did not accept outpatient therapy tube feeding</td>
</tr>
<tr>
<td>Sperling 1978</td>
<td>6</td>
<td>7</td>
<td>f</td>
<td>birth of brother patient age 6</td>
<td>paranoid features</td>
<td>no</td>
<td>1-1/2 years</td>
<td></td>
<td>followed into late adolescence and she did well; had fear of cats; suspicious mother wasn't giving her good food psychoanalytically oriented psychotherapy</td>
</tr>
<tr>
<td>Sylvester 1945</td>
<td>4</td>
<td>4</td>
<td>f</td>
<td>loss of mother's attention when father returned home &amp; she became pregnant</td>
<td>shy depressed</td>
<td>7 months</td>
<td>3 years</td>
<td></td>
<td>well; psychoanalytically oriented psychotherapy</td>
</tr>
<tr>
<td>Tridon et al 1983</td>
<td>11</td>
<td>11</td>
<td>m</td>
<td>experienced an injustice; suicide of relative</td>
<td>obsessive paranoid prepyschotic</td>
<td>no</td>
<td>12 months</td>
<td></td>
<td>possible schizophrenic evaluation; he defended a friend who was bullied by peers; he was excluded from his peers; he went on a hunger strike to protest the social injustice he perceived she was followed until age 20 and was healthy</td>
</tr>
<tr>
<td>Warren 1968</td>
<td>10-1/2</td>
<td>N.R.</td>
<td>f</td>
<td>N.R.</td>
<td>shy conscientious shy &amp; anxious</td>
<td>yes</td>
<td>see comments</td>
<td></td>
<td>by age 14 she had not recovered</td>
</tr>
<tr>
<td></td>
<td>11-1/6</td>
<td>N.R.</td>
<td>f</td>
<td>N.R.</td>
<td>shy &amp; anxious</td>
<td>yes</td>
<td>see comments</td>
<td></td>
<td>by age 17 she had not recovered</td>
</tr>
<tr>
<td>Werman &amp; Katz 1975</td>
<td>11-1/2</td>
<td>f</td>
<td>f</td>
<td>father said she was a walking garbage can</td>
<td>hysterical ego defects</td>
<td>3 weeks</td>
<td>5 weeks</td>
<td></td>
<td>homosexual orientation in late adolescence; father abusive and possibly sexually involved with neighborhood children same as above except she did not have homosexual orientation</td>
</tr>
<tr>
<td></td>
<td>11-1/2</td>
<td>f</td>
<td>f</td>
<td>same as above</td>
<td>ego defects</td>
<td>no</td>
<td>no</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

N.R. = not reported
no obvious differences in etiology, in features of their illness, and in the follow-up results, they were considered together.” This study suggested that there is little differences between prepubertal and postpubertal anorexia nervosa.* It is not difficult to take issue with this hypothesis. The number in the sample is quite small and the age range of the girls is narrow (10 to 15 years). For example, two of the prepubertal girls were aged 11 years old, and two of the postpubertal girls were aged 12 and 13 years old. This study does not really compare children who are distinctly prepubertal to a group of postpubescent older adolescents who have completed all aspects of puberty. Nor does the paper clearly define puberty. Therefore, it is not surprising that differences were not found.

Sours [51] in 1979 indicated that latency-age girls tend to display besides the standard criteria for anorexia nervosa, defects in ego structure and organization along with pregenital instinctual fixation and infantile object dependency. In reference to boys, Sours mentions that these patients are usually prepubertal or early adolescent chubby boys who fear oedipal-genital feelings toward the mother. In wake of the regressive shift they experience a fear of maternal dependency and, sometimes, a merger with the inner object. They view their chubbiness as an indication of femininity, weakness, and homosexuality. A strong, negative, oedipal history and feminine identification is usually apparent. He also mentions that prepubertal onset, duration beyond five years, and persistence through adolescence are grave prognostic indicators. These areas are controversial.

Irwin [2,27] has written the only paper that presents a series of preadolescent and latency-age children. Fifteen cases of early-onset anorexia nervosa (age 12 and under) are identified based on records from Children’s Memorial Hospital between 1960 and 1980. He describes the clinical characteristics and the possible connection to affective disorder (depression) of this early-onset variant of anorexia nervosa.

**CASE ILLUSTRATION**

Mary’s family came to the University of California, Irvine, Child Study Center from a city about 800 miles away requesting treatment for their daughter. Mary, aged 10, had gone from 106 lb to 79 lb over about six months time. She had been unsuccessfully treated in her own area. Weight loss started as dieting to lose a few pounds but did not stop, becoming critical when her parents took a three-week vacation without her. Her best and only girlfriend had moved away, so she was left with adult friends of her parents.

Mary, who was depressed and obsessive, described her problem as follows: “I have a computer in my mind and stomach that says ‘You dummy, don’t eat that!’” It was an obsessive and driving voice that frightened her. She was fearful of eating, overeating, and not eating. She wanted to please her parents, but the voice inside her told her not to.

Her mother was 45 years old, overweight, serious, and dominating. Mary’s parents had been married for 27 years. They became upset with the “rat race” in California and had moved three years before.

Her father was a 48-year-old, tall, extroverted man, with a deep voice, large hands, and a beard resembling that of a biblical prophet.

Although Mary was extremely thin and on the verge of being hospitalized, she saw herself as excessively obese. Her pediatric endocrinologist indicated that she had not had menarche.

Mary was born when her brother was 10. Her mother had not wanted another child. Throughout her childhood there were several separations. Mother returned to work when Mary was 3 months old. At 15 months the entire family left her with another family for three weeks when they went on vacation. At age 2 years she was sent to nursery school against her will. Generally during her life her parents took “adult” vacations.

Mary had never been able to oppose her parents nor the adult regime, which the family followed. Although not really overweight when her diet began, she was teased by boys about being fat. Her general helplessness led her to seek control of her life by controlling her weight. She shielded herself from budding sexuality by losing weight. Mary’s depression and anorexia nervosa was contributed to by her mother’s laissez-faire attitude toward her from the time of conception. Mary’s parent’s lack of empathy and inability to make contact with their daughter also happened with their son. He had experienced a marked depression, which lasted from the third through ninth grades. It wasn’t until family therapy had started that they knew about it.

Mary received outpatient psychotherapy twice a week individually and family therapy once a week with her parents. Treatment continued for three months, when they decided to return home and resume with the former psychotherapist who was now obtaining consultation from a state facility. They telephoned a few months later to say that Mary was eating better and was happier.

**DISCUSSION OF CLINICAL ISSUES**

The course of illness in children with early-onset anorexia nervosa is different than in late adolescence and

* Similar ideas have been expressed about major depressive disorders in children. [59]
early adulthood, although there are phenomenological similarities.

Children in Piaget's [52] stage of concrete operations are more likely to generalize pathological food intake to fluid intake. In Irwin's study, three children stopped eating for an average of four days. This stage of development they are less able to abstract, and even water is thought to be "food." Therefore, these children believe that water can cause them to gain weight and they abstain. In Warren's [44] series of 20 children believe that water can cause them to gain weight before mid-adolescence found that of 35 girls and 12 boys, only 3 girls and 2 boys had an impairment of linear growth. It may be that once the chain of events initiating the pubertal growth spurt has been set into motion, only an extreme weight loss can stop it.

In 6 (17%) of the 33 cases in my sample, prepsychosis or significant ego defects were reported. This number seems high and needs to be examined in future studies.

Rapidity of deterioration characteristic of this age group has important implications for treatment. There is little time for outpatient interventions to reverse the weight loss. It is especially important in the 4- to 11-year-olds to correctly identify the diagnosis at an early stage to implement treatment on an outpatient basis to avoid hospitalization.

**CONTROVERSIES**

There is some controversy over whether lean latency-age children need to lose 25% of their original body weight to be equivalent to a 25% weight loss in older adolescents or young adults. Irwin [2, 27] has suggested that a 15% weight loss would be more appropriate as a diagnostic criterion for anorexia nervosa in pubertal children.

Is early-onset anorexia nervosa merely a variant of the more usual presentation, or is it a different entity? Irwin [27] and Sours [51] intimate the latter possibility. In Irwin's [27] study and in the cases reviewed in this chapter, although none of the children could be diagnosed as suffering from a primary affective disorder, many of the children exhibited depressive symptoms. Could early-onset anorexia nervosa be a childhood form of affective disorder?

Six of the 33 cases demonstrated prepsychotic features or significant ego defects. This could indicate that these children have another psychiatric diagnosis with anorexia as a symptom, or it could indicate the children are more disturbed than adolescents or adults with anorexia nervosa.

Is prepubertal anorexia nervosa a different disorder than the adolescent or adult form? Developmental issues are different in childhood, which in part accounts for an altered clinical presentation. Organic factors related to hormonal homeostasis are also different before puberty. I think that anorexia nervosa does occur.
in younger children and that there are both similarities and differences from the adolescent form.

FUTURE DIRECTION

It is possible that these younger children suffer in a different way than their adolescent counterparts because of the difference in developmental variables. Systematic biochemical, phenomenological, longitudinal, natural history, and family research on these children, separate from their older cohorts, will provide the basis for greater understanding.

REFERENCES

27. Irwin M. Early onset of anorexia nervosa. Southern Medical Journal, May, 1984; 77:5.
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