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Clinical presentation and outcome of avoidant/restrictive food intake disorder in a Japanese sample

Yoshikatsu Nakai [a,*], Kazuko Nin [b], Shun'ichi Noma [c], Seiji Hamagaki [d], Ryuro Takagi [d], Satoshi Teramukai [e], Stephen A. Wonderlich [f]

[a] Kyoto Institute of Health Sciences, Kyoto, Japan
[b] School of Health Sciences, Faculty of Medicine, Kyoto University, Kyoto, Japan
[c] Department of Psychiatry, School of Medicine, Kyoto University, Kyoto, Japan
[d] Takagi Psychiatric Clinic, Kyoto, Japan
[e] Department of Biostatistics, Kyoto Prefectural University of Medicine Graduate School of Medical Science, Kyoto, Japan
[f] Department of Clinical Neuroscience, University of North Dakota, School of Medicine and Health Sciences, Fargo, ND, USA

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ABSTRACT

We conducted a study of the clinical presentation and outcome in patients with avoidant/restrictive food intake disorder (ARFID), aged 15–40 years, and compared this group to an anorexia nervosa (AN) group in a Japanese sample. A retrospective chart review was completed on 245 patients with feeding and eating disorders (FEDs), analyzing prevalence, clinical presentation, psychopathological properties, and outcomes. Using the DSM-5 criteria, 27 (11.0%) out of the 245 patients with a FED met the criteria for ARFID at entry. All patients with ARFID were women. In terms of eating disorder symptoms, all patients with ARFID had restrictive eating related to emotional problems and/or gastrointestinal symptoms. However, none of the ARFID patients reported food avoidance related to sensory characteristics or functional dysphagia. Additionally, none of them exhibited binge eating or purging behaviors, and none of them reported excessive exercise. The ARFID group had a significantly shorter duration of illness, lower rates of admission history, and less severe psychopathology than the AN group. The ARFID group reported significantly better outcome results than the AN group. These results suggest that patients with ARFID in this study were clinically distinct from those with AN and somewhat different from pediatric patients with ARFID in previous studies.

1. Introduction

Avoidant/restrictive food intake disorder (ARFID) is a new diagnostic category introduced in the section on feeding and eating disorders in the fifth edition of the Diagnostic and Statistical Manual (DSM-5: American Psychiatric Association, 2013). ARFID replaces the DSM-IV diagnosis of feeding disorders of infancy or early childhood (American Psychiatric Association, 1994) to improve the clinical utility by adding greater detail to the diagnostic criteria and widening the criteria to be applicable across the lifespan (American Psychiatric Association, 2013).

Patients with ARFID may present with clinically significant avoidant/restrictive eating, leading to weight loss or faltering growth, significant nutritional deficiency, dependence on enteral feeding, or oral nutritional supplements and/or a marked interference with psychosocial functioning. These patients lack the preoccupation with body weight/shape found in patients with anorexia nervosa (AN) and bulimia nervosa (BN). The ARFID group also demonstrates behaviors and symptoms specific to this disorder, including food avoidance, selective eating, functional dysphagia, appetite loss, and abdominal pain (American Psychiatric Association, 2013; Norris, Spettigue, & Katzman, 2016).

The rates of ARFID have been reported to range from 5% to 22.5% among pediatric eating disorder programs (Fisher et al., 2014; Forman et al., 2014; Nicely, Lane-Loney, Masciulli, Hollenbeak, & Ornstein, 2014; Norris et al., 2014; Ornstein et al., 2013; Strandjord, Sieke, Richmond, & Rome, 2015). Studies have consistently demonstrated that compared to patients with AN or BN, ARFID patients are younger, show a higher proportion of males, and are commonly diagnosed with comorbid psychiatric and/or medical symptoms (Norris et al., 2016). At present, the body of literature examining the rates of ARFID in adult patients is extremely limited. One study reported that 4 out of 45 malnourished adult patients were categorized as having ARFID, but there was no clinical presentation of these patients (Tanaka et al., 2015).

Very little has been published on the treatment and outcome of patients with ARFID (Norris et al., 2016). One previous study, a multi-center analysis of outcomes in pediatric patients with a feeding and eating disorder, reported that fewer ARFID patients attained weight recovery

* Corresponding author at: Kyoto Institute of Health Sciences, Miyako Bldg 502, Karasuma Oike Agaru Higashigawa, Nakagyo-ku, Kyoto 604-0845, Japan.
E-mail address: ynakai@helen.ocn.ne.jp (Y. Nakai).

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than other groups of feeding and eating disorders (Forman et al., 2014). Another published retrospective study in pediatric patients hospitalized for nutritional deficiency revealed that ARFID patients relied more on enteral nutrition and required longer hospitalizations than AN patients (Strandjord et al., 2015). To the best of our knowledge, there is currently no report on outcomes in adult patients with ARFID. Hence, we conducted a study of clinical presentation and outcomes of patients with ARFID, aged 15–40 years, in a Japanese sample, and compared this group to a group of patients with AN, as defined by the DSM-5 criteria.

2. Methods

2.1. Participants

A retrospective chart review was conducted on a cohort of patients who sought treatment for an eating disorder at Kyoto University Hospital between 1990 and 1997. Patients were included if they met the DSM-5 criteria for a feeding and eating disorder (n = 245). The study population was predominantly female (n = 239). Patients were excluded if they did not meet the DSM-5 criteria for AN or ARFID. Using the DSM-5 criteria, 1 male and 107 female patients met the criteria for AN, and 27 female patients for ARFID. One male patient with AN was excluded, because menstrual pattern was necessary for assessing full recovery in patients of this study. Fifty-seven patients with AN and 18 patients with ARFID were teenagers, aged 15–19 years. All of the 134 female participants, aged 15–40 years, were of Japanese ethnicity. Ethical approval for this study was obtained from the Ethics Committee of Kyoto University Graduate School and Faculty of Medicine.

2.2. Study variables at entry and during treatment

Patients were assessed by eating disorder specialists prior to treatment at the first consultation, as previously documented (Nakai, Nin, Noma, Teramukai, & Wonderlich, 2016). We collected various information, including history of illness, factors related to the onset of the eating disorder, eating behaviors, social functioning, familial relationships, the presence of fat phobia, attitudes toward weight and shape, the presence of medical conditions and/or mental disorders, attitudes regarding treatment, and motivation to change, within the first 3 visits to the units. Objective weight and height were measured during the first consultation and the current BMI was calculated. Premorbid and minimum BMI in adulthood, age of onset, and duration of illness were assessed by self-reports. Age of onset was defined as the age at which a feeding and eating disorder began.

DSM-5 feeding and eating disorder diagnoses were determined retrospectively by eating disorder specialists using various information related to the diagnostic criteria of feeding and eating disorders collected from patients, family members, and other sources, and a checklist based on the DSM-5 diagnostic criteria, the Great Ormond Street criteria, and related literature (Bryant-Waugh, 2013; Kurz, van Dyck, Dremmel, Munsch, & Hilbert, 2016; Nicholls, Chater, & Lask, 2000; Sysko et al., 2015), as previously documented (Nakai et al., 2016). Differential diagnosis between ARFID and AN was made after consideration of the clinical symptoms, attitudes toward body weight and shape, and clinical course over time, because some individuals with AN deny any fear of fatness and do not recognize the medical seriousness of their low weight at the first visit, and then later admit these symptoms (American Psychiatric Association, 2013). There was no transition from the ARFID group to the AN group during the course of treatment in this study. In addition, we investigated the contributing factors of poor nutritional intake, including emotional undereating, selective eating since early childhood, fear for choking or vomiting, food allergies, sensory issues, gastrointestinal symptoms, and other reasons (Bryant-Waugh, Markham, Kreipe, & Walsh, 2010; Kurz et al., 2016; Nicholls et al., 2000; Norris et al., 2014).

We administered the Eating Attitudes Test (EAT: Garner & Garfinkel, 1979) and the Eating Disorder Inventory (EDI: Garner, Olmstead, & Polivy, 1983) to quantify eating disorder pathology and general psychopathology during the first consultation. The EAT contains 40 items, including items related to symptoms and behaviors common to patients with eating disorders, and provides an index of the severity of the disorder. The EDI is a widely used multidimensional inventory, consisting of 64 items that make up 8 subscales, 3 of which measure eating disorder pathology (drive for thinness, bulimia, body dissatisfaction), and 5 that measure psychopathology commonly associated with, but not unique to, eating disorders (ineffectiveness, perfectionism, interpersonal distrust, interoceptive awareness, and maturity fears). The validity of Japanese versions of these measures has been previously documented (Nakai, Fukushima, Taniguchi, Nin, & Teramukai, 2013).

After 3 sessions of assessments and interventions designed to increase motivation to undergo therapy, each patient began outpatient treatment. The outpatient treatment program was a combination of individual psychotherapy (supportive psychotherapy) and somatic therapy (nutritional management), depending on the patients' needs. The inpatient treatment program was a combination of individual psychotherapy (supportive psychotherapy) and somatic therapy (nutritional management and enteral feeding), depending on the patients' needs. The inpatient stay duration was <3 months in all hospitalized patients, as medical payments from insurance would be reduced in cases of inpatient stays of >3 months. All treatment episodes were recorded. Follow-up assessments during visit intervals covered eating behaviors, the presence of fat phobia, and attitudes toward weight and shape.

2.3. Outcome study

After informed consent was obtained, eating disorder specialists conducted an interview with participants and/or their parents by telephone in 2001. Sixteen patients with AN at entry had died before follow-up, but relevant information on their status at death could be obtained from their parents. Assessment of outcome was based on the Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I; First, Spitzer, Gibbon, & Williams, 1995) and the Outcome Assessment Schedule (OAS), developed by an outcome study group of eating disorders supported by the Japanese Ministry of Health, Labour, and Welfare, as previously documented (Nakai et al., 2001; Nakai et al., 2014). This assessment takes the form of a guided interview, which is concerned with clinical features central to eating disorders. It evaluates the physical state (BMI and menstrual pattern), eating behaviors (restrictive

Table 1
Comparison of clinical characteristics between the ARFID and AN groups at baseline.

	ARFID n = 27 *Mean (SD)*	AN n = 107 *Mean (SD)*	*p*
Age at entry (years)	19.0 (5.1)	20.1 (5.1)	0.307[a]
Duration of illness (months)	15.5 (10.0)	36.5 (43.7)	<0.001[a]
BMI at entry (kg/m^2)	14.2 (1.7)	14.6 (2.0)	0.347[a]
Premorbid BMI (kg/m^2)	18.7 (1.7)	19.6 (1.8)	0.021[a]
Minimum BMI (kg/m^2)	14.0 (1.8)	13.5 (1.8)	0.272[a]
	Number (%)	*Number (%)*	*p*
Restrictive eating	27 (100)	104 (97.2)	0.379[b]
Binge eating	0 (0)	45 (42.1)	<0.001[b]
Purging behaviors	0 (0)	40 (37.4)	<0.001[b]
Enteral feeding	2 (7.4)	24 (22.4)	0.078[b]
Overconcern on weight/shape	0 (0)	107 (100)	<0.001[b]
Amenorrhea	27 (100)	92 (86.0)	0.039[b]
Excessive exercise	0 (0)	69 (64.5)	<0.001[b]
Admission history	13 (48.1)	81 (75.7)	0.005[b]

ARFID: Avoidant/restrictive food intake disorder, AN: anorexia nervosa, BMI: body mass index.
[a] Two-sample *t*-tests.
[b] Chi-square tests.