
**ISSN Print:** 2394-7500
**ISSN Online:** 2394-5869
**Impact Factor (RJIF):** 8.4
IJAR 2024; 10(5): 16-20
www.allresearchjournal.com
Received: 03-02-2024
Accepted: 04-03-2024

**Varghese M Varsha**
Assistant Professor, St. Stephen's Hospital College of Nursing, Tis Hazari, Delhi, India

**Shweta**
Assistant Professor, St. Stephen's Hospital College of Nursing, Tis Hazari, Delhi, India

**Corresponding Author:**
**Varghese M Varsha**
Assistant Professor, St. Stephen's Hospital College of Nursing, Tis Hazari, Delhi, India

# Avoidant restrictive food intake disorder

## Varghese M Varsha and Shweta

**Abstract**
ARFID (Avoidant/Restrictive Food Intake Disorder) is an eating disorder manifested by highly selective eating habits, disturbed feeding patterns or both. ARFID is persistent, more severe, can involve the restriction of both familiar and new foods, and has significant physical and mental health consequences. It is common in infants and children, with some cases persisting into adulthood. ARFID is commonly misdiagnosed as picky eaters/ anorexia nervosa. Certain coormobidities with ARFID is autism spectrum conditions, anxiety disorder and/other psychiatric disorders like ADHD, intellectual disabilities, etc. Common challenges that these individuals face are; difficulty in digesting food; avoidance of specific types of food textures, colors and smells; eating at an abnormally slow pace, having lack of appetite. It often results in significant nutritional and energy deficiencies, delayed normal growth and/ no-nil weight gain. There are several evidence-based treatments that are available for ARFID and full recovery is possible.

**Keywords:** Avoidant restrictive food intake disorder, avoidant/restrictive food intake disorder, Arfid, eating disorders in children, eating disorder, sensory eating disorder

## Introduction
### Avoidant restrictive food intake disorder (ARFID)
Avoidant restrictive food intake disorder (ARFID) is the sensory based avoidance, fear or restriction of certain foods based on factors such as the appearance of the food (e.g., colour, size, shape), texture, smell, temperature, or food group. They may also restrict food intake due to early satiety (i.e., prematurely feels full) or due to past experiences, such as trauma associated with a food experience (e.g., choking). Defined by a pattern of eating that is limited in variety (e.g., avoidance of specific foods) and/or volume (e.g., restriction of amount), ARFID can make a person fall seriously ill due to extreme multiple nutrition and caloric deficiencies [1]. For example, individuals may experience medical or mental health consequences such as poor growth, diabetes, cardiovascular disease, fatigue, poor self-esteem, peer social isolation, and difficulties with school, relationships and work. This further exacerbate food avoidance and restriction and serve to maintain the illness.
People with ARFID may also be afraid of trying new foods, a fear known as food neophobia [2]. F50. 82 is a billable/specific ICD-10-CM diagnosis code for ARFID.

## History
Avoidant/restrictive food intake disorder (ARFID) is a relatively new term, that was introduced in 2013 when it first appeared in the 5th edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5; American Psychiatric Association, 2013) [1, 3]. Previously it was known as Selective Eating Disorder. Subsequently it was also included in the eleventh revision of the International Classification of Diseases (ICD-11) that came into effect in 2022 [4].

## Incidence
### Afrid in children and adolescents
ARFID is most common in infants and children, with some cases persisting into adulthood. Preliminary study shows that it may affect up to 5% of children, with boys being at greater risk for developing ARFID, according to Neuropsychiatric Disease and Treatment. Overall, an estimated 3.2% of the general population suffers from ARFID, including 14% to 22.5% of children in pediatric treatment programs for any type of eating disorder [5].

In another study conducted between 2008 and 2012, 22.5% of children between 7–17 years in day programs for eating disorder treatment were diagnosed with ARFID [6]. Prevalence among children between 4–7 years is estimated to be 1.3%, and 3.7% in females between 8–18 years [7]. A cohort study also revealed that ARFID population had BMI of 7 points which is lower than the non-ARFID population [8].

**Afrid in adults**

In adults, ARFID can cause dangerous weight loss and disrupts the normal functioning of the body. Adults with ARFID often have other mental health problems that includes, depression, anxiety and/ obsessive-compulsive disorder (OCD).

**Causes**

While the exact causes of ARFID are unknown, it is thought that people who develop ARFID have high sensory sensitivity, fear of negative consequences or a lack of interest towards eating.

**Risk Factors**

There is no single cause of ARFID but there are risk factors that increase the likelihood of it developing, which are as follows:

- People with autism spectrum conditions are much more likely to develop ARFID. Research shows children with autism are five times more likely to develop issues associated with eating compared to their peers (Koomar *et al*., 2021) [9].
- Children who have extreme sensitivity towards taste or texture of food and who didn't outgrow normal picky eating, or in whom picky eating is severe, appear to be more likely to develop ARFID.
- Many children with ARFID also have a co-occurring anxiety disorder. 36-72% of people struggling with ARFID also have a diagnosed anxiety disorder [10]. They are also at high risk for other psychiatric disorders like ADHD, intellectual disabilities, etc.
- bad experience with food – like choking or vomiting – that makes them fearful or anxious about food
- ARFID may likely run in families. One study found that almost 80% of a person's chances of having ARFID come from genetics [11].

**Signs and Symptoms**

**Physical symptoms**

| | |
|---|---|
| For adults severe weight loss; for children failure to gain weight<br>Lack of appetite<br>Abnormal menstrual periods<br>Stomach cramps and pain<br>Constipation<br>Trouble concentrating<br>Low iron or thyroid levels | Slow heart rate<br>Dizziness or fainting<br>Feeling cold all the time or having a low body temperature<br>Dry hair, skin, and nails<br>Fine body hair growth<br>Thinning of hair on the head<br>Frequent vomiting (emetophobia) or gagging after exposure to certain foods |
| Weakened immune system<br>Poor wound healing<br>Cold hands and feet<br>Swollen feet<br>Dependence on nutritional supplements and/ a feeding tube<br>Difficulty chewing food<br>Lack of appetite | Trouble digesting specific types of foods<br>Consumption of extremely small portions<br>Dependence on external feeding tubes or nutritional supplements<br>Social isolation<br>Low energy<br>Muscle weakness |

**Mental health symptoms**

- Fear of consequences associated with eating/feeding.
- Appearing to be a 'Picky eater', is fearful of, or has a phobia of certain foods.
- No evidence of being preoccupied with body shape or weight but rather experiences anxiety about the food itself.
- Anxiety and fear around food and/or eating.
- Sensory sensitivity.
- Overly sensitive to certain aspects of foods, focusing on taste, texture, smell, temperature or food group.
- May feel prematurely full while eating and lack of interest in eating or food.

**Behavioral symptoms**

- Not eating enough or skipping meals entirely.
- Is not conscious to control body's weight (e.g., lose weight, prevent weight gain, change body size/shape).
- Disinterested in food or forgetting to eat.
- Needs to dress in layers to hide weight loss or stay warm.
- Drastic restriction in the types or amount of food they'll eat.
- A hard time eating with others.
- Fear of vomiting or choking
- Trouble paying attention
- Feeling full before a meal

**Social symptoms**

- Avoiding events where food will be served or becomes distressed when preferred foods aren't available
- Drastic effects on school or work performance

**Physiological effects of Afrid**

The following are the physiological effects that are noted in cases of ARFID in the wide age-spectrum [12].

**Hair and Skin:** Dry skin, brittle nails, thin hair, bruises easily, yellow complexion, growth of thin white hair all over the body and intolerance to cold.

**Brain:** Preoccupation with food/calories, headaches, fainting, dizziness, mood swings, anxiety and depression.

**Heart and Blood:** poor circulation, irregular or slow heartbeat, very low blood pressure, cardiac arrest, heart failure and low iron levels (Anaemia).

**Bones and Muscles:** delayed growth, loss of bone calcium (osteopenia), osteoporosis, muscle loss, weakness and fatigue.
**Hormones:** late appearance of secondary sexual characteristics, irregular or absent periods, loss of libido and infertility.
**Kidneys:** dehydration and kidney failure.
**Intestines:** constipation, diarrhea, bloating and abdominal pain.

**Types**
**Avoidant**
One common type of ARFID is avoidant. In this condition, individuals avoid certain types of foods due to sensory features, causing a sensitivity or over stimulation reaction. These patients feel sensitive to the smell, textures, including soft foods or fruit and vegetables that have prickly or defined textures; or general appearance, including color of the food.

**Aversive**
Aversive ARFID creates a fear of choking, nausea, vomiting, pain and/or swallowing, compelling the individual to avoid the food.

**Restrictive**
In restrictive ARFID; the individual may show signs of little-to-no interest in food. It can even make the person to forget to eat altogether, as it is manifested by signs of a low appetite, extreme distraction during mealtime and/ extreme pickiness of foods, leading to limited intake.

**ARFID "plus"**
Individuals who are experiencing more than one type of ARFID can begin to develop signs of anorexia nervosa, including concerns for body weight and size, fear of weight gain, negativity for fatness, negative body image and preference for less calorie-dense foods.

**Adult ARFID**
Individuals with ARFID in their adulthood may still have symptoms that were experienced in their adolescent years and can be categorized as either avoidant, aversive or restrictive types of ARFID. ARFID symptoms in adults include selective or extremely picky eating, food peculiarities, texture, color or taste aversions related to food.

**Other similar diagnoses**
**Picky eating**
Children with ARFID are often misunderstood as "extreme picky eaters," but ARFID is very different. Many children will have phases of picky eating that come and go as they grow up. But ARFID doesn't just go away without treatment. It might get worse over time. The difference between a 'picky eater' and a child with ARFID, is that a picky eater won't starve themselves to death. A child with ARFID will.

**Anorexia**
ARFID is not associated with weight or shape concerns – weight loss or change in shape may occur as a result of poor nutritional intake, not because a person is intentionally engaging in weight control behaviours. Additionally, in a study analyzing the similarities between patients with Anorexia and patients with ARFID, those with ARFID were significantly younger (10.8 vs 14.1 yrs old) with an earlier onset of illness (6.2 vs 13.7 yrs old) and a longer evolution time (6.2 vs 8.4 months). Also, a greater proportion of the ARFID patients were male rather than female (60.6% vs 6.1%) [13].

**Attention Deficit Hyperactivity Disorder (ADHD)**
Those with ADHD often struggle with inattentiveness or distraction, which may lead to missing meals or forgetting to eat for long periods of time. Medication used to treat ADHD, such as stimulants, often suppress appetite, which can make ARFID treatment more difficult [14].

**Major Depressive Disorder**
Major depressive disorder often makes it difficult for patients to be interested in food. Often, food intake is resolved with improvement of mood problems. A diagnosis of ARFID should be given in addition to major depressive disorder if full criteria for both diagnoses are met and if food interest or intake does not improve with improvements in mood.

**Diagnostic tests**
**Diagnosis is associated with at least one of the following criteria**
1) Significant weight loss or failure to achieve weight gain/physical growth in children
2) Significant nutritional deficiency
3) Dependence on tube feeding (supplying nutrients directly to the gastrointestinal tract) or oral nutritional supplements
4) Marked decline in psychosocial function (e.g., impacts on daily activities).

**Assessment/Screening**
The Nine Item Avoidant/Restrictive Food Intake Disorder Screen (NIAS) has been developed to assess the presence of ARFID. The NIAS is a 9-item, self-report; that are scored on a 6-point Likert scale questionnaire that has three subscales: Picky eating (items 1–3), Appetite (items 4–6), and Fear (items 7–9) [15, 16]. Responses range from strongly disagree (0 points) to strongly agree (5 points). A score of ≥ 24 was considered a positive ARFID screen [17].

**The following diagnostic tests are also conducted apart from NIAS assessment**
- Physical Examination to check height, weight, and general health of the individual
- Medical History and an In-Depth Review of clinical information to screen for the presence of any fear, anxiety, trauma related to the food, preexisting illness/disease.
- Medical test; including; Urinalysis, Complete blood count, Liver function tests, Kidney function tests, Dental exam, etc. to screen nutrient deficiencies, hematological disorders and physiological functioning of various organs.
- Electrocardiograms to observe the function of the heart
- X-ray imaging to screen for reduced bone density
- Psychological evaluation to detect anorexia nervosa, ADHD, OCD, anxiety/depressive diorders, etc.
- Imaging scans to view changes to the heart or lungs

**Management:** There are two types of ARFID patients identified; Short-term patients are recently diagnosed with ARFID with fear of choking or vomiting after experiencing or witnessing an event, gastrointestinal problems, or both. Long-term patients have long standing history of ARFID symptoms like a history of selective or poor eating habits, gastrointestinal problems, or generalized anxiety affecting eating behaviors throughout their childhood.

Children with ARFID and extreme anxiety can benefit from a four stage in-home treatment program [18]. The four stages of the treatment are:

- **'Record Stage':** Children are encouraged to keep record of their cognitive feelings and typical eating behaviors without attempting to change their habits.
- **'Reward Stage':** It involves systematic desensitization. Children create a list of foods that they might like to have some day. These foods might not be very different from their normal diet, but will be a familiar food prepared in a different way. Since the goal is to make children try new foods, therefore the children are rewarded whenever they sample new foods.
- **'Relaxation Stage':** Children learn to relax to reduce the anxiety in presence of unfavorable foods. Children work through a list of anxiety-producing stimuli and creates a story line with relaxing imagery and scenarios. Often these stories include the introduction of new foods with the help of a real person or fantasy person. Children then listen to this story before eating new foods as a way to imagine themselves participating while being relaxed.
- **'Review':** One-on-one sessions are carried out with the child as well as with the parent in order to get a clear picture about the child's progress and if the relaxation techniques are working.

**Other Common treatment approaches include**

Cognitive Behavior Therapy (CBT) has been identified as an effective treatment for ARFID. This focuses on gradual exposure of the individual to feared foods, relaxation techniques, and support for behavior change towards eating. It aims to maintain a healthy weight, treat nutritional deficits and consume variety of other foods. The stages of this treatment are: [19].

1. Psychoeducation regarding ARFID and CBT and setting up a regular pattern of eating and self-monitoring.
2. Psychoeducation about nutrition deficiencies and selecting new foods to help fulfill the loss of those deficiencies.
3. Screening the root cause(s) of the patient's ARFID, bringing in 5 new foods to examine, describing their features and try tasting them throughout the week, lastly exposure to the foods in the sessions.
4. Evaluating progress and compiling a relapse prevention plan

**Responsive feeding therapy (RFT)**: It is an effective treatment for ARFID (children). RFT requires parents or carers to create a distraction free and pleasant routines around mealtimes, catering positive mealtime behavior and allowing the child to express hunger cues.

**Nutritional rehabilitation:** The goal is to help each individual.

- Develop a healthy relationship with food.
- Enjoy the foods.
- Eat a variety of foods in a balanced way

Since many patients are nervous or even unwilling to eat, mealtime is supervised by registered dietitians and therapists regularly throughout treatment, receiving education on food portions, food plating and nutrition fundamentals.

**Weight restoration:** The goal is to increase the caloric intake and to fulfill nutritional needs[8]. Individuals with ARFID take nutritional supplements or may even require nasogastric or gastrostomy tube feeding (long term patients).

**Medical and psychiatric stabilization:** A multidisciplinary treatment team approach (medical, psychosocial, nutritional) collaborating with referring providers/PR actioners.

All of these treatment modalities has been proven to minimize disordered behaviors leading to a more balanced diet therefore assuring long-term recovery rates.

**Complications**

- Malnutrition
- Weight Loss
- Developmental delays
- Co-occurring anxiety disorders
- Failure to gain weight (children)
- Gastrointestinal complications

**Conclusion**

ARFID (Avoidant/Restrictive Food Intake Disorder) is an eating disorder featured by highly selective eating habits, disturbed feeding patterns or both. It is persistent, more severe, can involve the restriction of familiar as well as new foods, and has significant physical and mental health consequences. It is commonly misdiagnosed as picky eaters/ anorexia nervosa. Certain co-comorbidities with ARFID is autism spectrum conditions, anxiety disorder, etc. Nine Item Avoidant/Restrictive Food Intake Disorder Screen (NIAS) is proven effective in screening ARFID. The treatment modalities that are usually found effective includes: four stage in-home treatment program, cognitive behavior therapy (CBT), responsive feeding therapy (RFT), nutritional rehabilitation, weight restoration, medical and psychiatric stabilization. Full recovery from ARFID is possible.

**References**

1. American Psychiatric Association, ed. Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision. Washington, DC: American Psychiatric Association; c2022. p. 376-381. ISBN 978-0-89042-575-6.
2. Avoidant/Restrictive Food Intake Disorder (ARFID) (for Parents) - Nemours KidsHealth. kidshealth.org. Accessed April 14 2024.
3. Internet: What is ARFID?. ARFID Awareness UK Web site. https://www.arfidawarenessuk.org//copy-of-what-is-arfid-1 . Accessed April 14 2024.
4. 6B83 Avoidant-restrictive food intake disorder. ICD-11 for Mortality and Morbidity Statistics. World Health Organization; c2023.
5. Internet: What is ARFID?. Walden Behaviour Care Web site. https://www.waldeneatingdisorders.com/ /what-we-treat/arfid/. Accessed April 14 2024.

6. Nicely TA, Lane-Loney S, Masciulli E, Hollenbeak CS, Ornstein RM. Prevalence and characteristics of avoidant/restrictive food intake disorder in a cohort of young patients in day treatment for eating disorders. Journal of Eating Disorders. 2 August 2014;2(1):21. Doi:10.1186/s40337-014-0021-3.
7. Dinkler L, Yasumitsu-Lovell K, Eitoku M, Fujieda M, Suganuma N, Hatakenaka Y, *et al*. Development of a parent-reported screening tool for avoidant/restrictive food intake disorder (ARFID): Initial validation and prevalence in 4-7-year-old Japanese children. Appetite. 2022;168:105735. Doi:10.1016/j.appet.2021.105735.
8. Goldberg HR, Katzman DK, Allen L, Martin S, Sheehan C, Kaiserman J, *et al*. The Prevalence of Children and Adolescents at Risk for Avoidant Restrictive Food Intake Disorder in a Pediatric and Adolescent Gynecology Clinic. Journal of Pediatric and Adolescent Gynecology. 2020;33(5):466-469. Doi:10.1016/j.jpag.2020.06.004.
9. Koomar T, Thomas TR, Pottschmidt NR, Michaelson JJ. Estimating the Prevalence and Genetic Risk Mechanisms of ARFID in a Large Autism Cohort. Frontiers in Psychiatry, 2021, 12. https://doi.org/10.3389/fpsyt.2021.668297.
10. Kambanis PE, Kuhnle MC, Wons OB, Jo JH, Keshishian AC, Hauser K, *et al*. Prevalence and correlates of psychiatric comorbidities in children and adolescents with full and subthreshold avoidant/restrictive food intake disorder. The International Journal of Eating Disorders. 2020;53(2):256-265. Doi:10.1002/eat.23191.
11. Internet: Avoidant Restrictive Food Intake Disorder (ARFID). WebMD Web site. https://www.webmd.com/mental-health/eating-disorders/what-is-arfid. Accessed April 14 2024.
12. Internet: ARFID. Eating disorders Victoria Web site. https://www.eatingdisorders.org.au/eating-disorders-a-z/arfid/. Accessed April 14 2024.
13. Cañas L, Palma C, Molano AM, Domene L, Carulla-Roig M, Cecilia-Costa R, *et al*. Avoidant/restrictive food intake disorder: Psychopathological similarities and differences in comparison to anorexia nervosa and the general population. European Eating Disorders Review. 2021;29(2):245–256. doi:10.1002/erv.2815.
14. Chandler (2023-04-05). Connections Between ADHD & Avoidant/Restrictive Food Intake Disorder. Eating Disorder Hope. Accessed April 14 2024.
15. Zickgraf HF, Ellis JM. Initial validation of the Nine Item Avoidant/Restrictive Food Intake disorder screen (NIAS): A measure of three restrictive eating patterns. Appetite. 2018;123:32-42. doi:10.1016/j.appet.2017.11.111. PMID 29208483.S2C ID 3616443.
16. He J, Zickgraf HF, Ellis JM, Lin Z, Fan X. Chinese Version of the Nine Item ARFID Screen: Psychometric Properties and Cross-Cultural Measurement Invariance. Assessment. 2021;28(2):537-550. doi:10.1177/1073191120936359. PMID 32608255.S2C ID 220284190.
17. Ogutlu H, Kasak M, Dogan U, Zickgraf HF, Mehmet Turcapar H. Psychometric properties of the nine-item avoidant/restrictive food intake disorder screen (NIAS) in Turkish children. Journal of eating disorders, 2024, 12(30). open access.
18. Nicholls D, Christie D, Randall L, Lask B. Selective Eating: Symptom, Disorder or Normal Variant. Clinical Child Psychology and Psychiatry. 2001;6(2):257-70. doi:10.1177/1359104501006002007.
19. Thomas JJ, Wons OB, Eddy KT. Cognitive-behavioral treatment of avoidant/restrictive food intake disorder. Current Opinion in Psychiatry. November 2018;31(6):425-430. doi:10.1097/YCO.0000000000000454