

Avoidant/ restrictive food intake disorder (ARFID) in children with autism spectrum disorder

Introduction

Autism spectrum disorder (ASD) is a lifelong neurodevelopmental condition present from birth, that impacts communication, social interaction and behaviour (Tomaszek, 2025). Autism is considered to be a spectrum as symptoms can range from mild to server and is unique to each individual (Tomaszek, 2025). The key characteristics displayed are differences in social understanding sensory sensitivity, as well as focused interests and repetitive and restrictive movements or behaviours (Inoue, 2021). Around the world, including UK the number of children receiving an autism diagnosis has risen as 1% of the population in the UK has ASD (Underwood, 2021). Statistics indicate that 1 in 100 children in the UK has autism (Inoue, 2021).

It is widely reported that children with ASD struggle with feeding difficulties this can range from mild, as a form of selective eating to severe restrictive eating patterns (Johansson, 2025). Avoidant restrictive food intake disorder otherwise known as (ARFID) has been recently sought out through clinical settings as a newer diagnostic and was officially recognised in the diagnostic and statistical manual of mental health disorders (DSM-5) in 2013 (Menzel, 2024; Smyth, 2025). Known as an eating disorder ARFID does not cause distorted body image or concerns about one's weight (Barney, 2022). An individual that has ARFID may experience sensitivity issues involved with food or can be fear based such as feeling anxious and experiencing negative consequences involved with eating, an individual may have a fear of choking or just a lack of interest in food (Sanchez-Cerezo *et al.*, 2024).

Individuals with ARFID who are also autistic often share overlapping traits that influence their eating and feeding behaviours (Johansson, 2023). Both conditions are associated with sensory sensitivities and food selectivity, which can be linked to preference for sameness and routine that can be a trait in autistic individuals (Nimbley, 2022). For individuals on the autism spectrum, eating familiar foods can provide a sense of comfort and predictability, helping to

reduce anxiety (Al-Beltagi, 2024). This need for routine and familiarity often leads to repetitive eating patterns, where only a limited variety of foods are accepted, resulting to selective eating behaviours, thus leading to a high risk of weight loss, malnutrition and poor growth (Al-Beltagi, 2024; Ramirez, 2024; Smyth, 2025).

The research indicates that eating problems within children with ASD are five times more likely prevalent than in neurotypical children (Inoue, 2021; Smyth, 2025). According to Sader, estimates of between 1 in 6 people with ARFID are on the autism spectrum (2025). It is estimated that 44% to 89% of children on the autism spectrum experience feeding challenges (Passarini, 2025). Within one study strong preferences involved with selective eating and refusal of food were the biggest concerns for the parent of the child, with the data indicating that 70% of parents expressed concerns over eating problems for their child (Inoue, 2021).

Concerning data reveals that severe nutrient deficiencies can occur in ARFID and ASD children. In one Study an inadequate intake of essential nutrients in children was not within the dietary reference values (Yule, 2021). Two of the most common nutrients deficiencies were Vitamin C and Vitamin A resulting in scurvy and eye disorders (Yule, 2021). Helping children with these conditions would mean using a team approach involving doctors, dietitians, psychologists, and speech and language therapists (Winten, 2025; Farag, 2022). Early intervention should be considered to identify and manage nutrition deficits (Farag, 2022).

Researchers found that ARFID is complex and is a mental health disorder (Smyth, 2025). It can appear for different reasons such as sensory sensitivity, anxiety, or lack of interest of food and within those reasons can lead to behavioural differences (Zimmerman, 2017). Studies have found that ARFID can also share genetics within family members this shows that ARFID should be looked at as not just one typical behaviour but as a complex and neurological disorder (Thomas, 2025; Pomoni, 2025).

ARFID can affect any individual and at any age however, there is a growing amount of evidence that children with autism have a diagnosis of ARFID too (Passarini, 2025). Studies have indicated that the data shows a high co-occurrence between autism and ARFID (Sader, 2025). Study indicates that children with early neurodevelopmental problems were found to be at a higher risk of developing ARFID, development could start after the first year of life (Dinkler, 2022). However, data relating to this subject is insufficient across populational studies underlining the link between autism and ARFID as studies and research have concluded

in their data that there is a significant correlation between the two conditions co-occurring (Sader,2025). However, there is a lack of widespread awareness of the condition of ARFID, thus resulting in health professionals miss-diagnosing people (Seetharaman, 2021).

Discussion on screening autistic individuals for ARFID and vice-versa have been pointed out for future research as this could benefit and gain better understanding on the conditions and how they overlap (Sader, 2025; Keski-Rahkonen *et al*, 2023; Zimmerman, 2017). Thus, ensuring individuals get the right help needed as ARFID can affect nutrient intake, which could lead to future health outcomes and may lead to life- threatening complications if the condition is left untreated (Fonseca, 2024).

Aims

The aim of this research is to explore whether there is a link between the factors contributing to the presence of ARFID in a group of school-aged children diagnosed with ASD.

This study will explore whether there is any connection between the sensory or behavioural issues associated with ALFID and the ASD school children.

Objectives

- To investigate whether sensory sensitivities are associated with restrictive eating behaviours in children with ASD.
- To explore the behavioural and emotional patterns that may contribute to ARFID symptoms in autistic children.
- To contribute to the understanding of co-occurring ASD and ARFID to inform future screening and intervention practices.

Hypothesis

It is expected that this study will identify a relationship between sensory processing difficulties, anxiety, and restrictive eating behaviours in children with ASD. These findings could support the early identification of ARFID in autistic children and inform improved nutritional screening and intervention strategies.

Methodology

A minimum of 20 parents or primary caregivers of children diagnosed with ASD will be recruited to complete a questionnaire.

- Age range: 3–6 years old (school-aged).
- This age range was chosen to identify whether ARFID symptoms are within this age range.

All participants will be ensured their information will be stored with anonymity and confidentiality maintained, before signing their consent. All participants will be given a pre-existing questionnaire, ARFID brief screener (NIAS) (Zickgraf and Ellis, 2018) in order to compare findings. These participants in this study will be mothers or caregivers at a Welsh primary school that the researcher has access to.

To gain more data online access to e.g. groups on social media will also be conducted using the same strategy as the face-to-face participant via email online.

- Informed consent will be obtained from all participating parents or guardians.
- Participants will have the right to withdraw at any stage.
- Data will be anonymised and securely stored under a password so all data will be protected.
- Ethical approval will be approved from the university's research ethics committee before recruitment begins.

Participants will complete a questionnaire designed to explore:

- Feeding behaviours (food selectivity, avoidance, rigidity).
- Sensory sensitivities (taste, texture, smell, and visual aspects of food).
- Anxiety or fear-related behaviours around food.
- Age, gender, diagnosis history.

Data Analysis

The NIAS assessment is a tool designed to identify ARFID to characterize an individual's eating behaviour towards food intake. All result collected will be stored using excel spreadsheet and will be organized into specific categories in three subtypes of behaviour that is linked to ARFID with their age gender and diagnosed ASD or suspected ASD the data will be analysed

and SPSS will be used for statistical analysis to identify if there is a correlation between sensory sensitivity, anxiety, or lack of interest. The mean and standard deviation will be calculated then an array of tests will be conducted an independent T-test to find to find differences in gender. A Pearson correlation test will indicate whether variables are normally distributed Pearson correlation or not distributed spearman correlation. These variables are to find out if there is a relationship between ASD-related behaviours and restrictive eating patterns between ARFID and the three subtypes linked to ARFID.

Results from this study could be used to help family members for early intervention and diagnosis for their child, and to gain knowledge to help their child. The porpoise of the study is to find strategies on how to help children with ARFID. The study aims to spread awareness to the health care industry and professionals to help identify ARFID early in attempt to ensure nutritional care is obtained and to spread awareness of the importance of early intervention to prevent nutritional deficiencies, weight loss and malnutrition among young children.

Limitations within the study, the estimated number of participants could limit findings. Relying on parent report of their child may be bias as the parent that completes the questionnaire may overestimate or underestimate their child's eating conditions. These limitations have been brought to consideration, and the goal is to ensure as many questionnaires are filled out to get a true and reliable result for the study.

Word count 1540

October - November	Proposal and ethical approval
November – January	Data collection Data collection will start after approval.
October - January	Literature review
January - March	Data analysis
March - April	Discussion
April - April	Final amendments
April	Submission

Reference list

- Al-Beltagi, M. (2024). Nutritional management and autism spectrum disorder: A systematic review. *World Journal of Clinical Paediatrics*, 13(4). Doi: [HTTPS://doi.org/10.5409/wjcp.v13.i4.99649](https://doi.org/10.5409/wjcp.v13.i4.99649).
- Barney, A., Bruett, L.D., Forsberg, S. and Nagata, J.M. (2022). Avoidant Restrictive Food Intake Disorder (ARFID) and Body Image: a case report. *Journal of Eating Disorders*, 10(1). Doi: [HTTPS://doi.org/10.1186/s40337-022-00583-0](https://doi.org/10.1186/s40337-022-00583-0).
- Dinkler, L., Yasumitsu-Lovell, K., Eitoku, M., Fujieda, M., Suganuma, N., Hatakenaka, Y., Hadjikhani, N., Bryant-Waugh, R., Råstam, M. and Gillberg, C. (2022). Early neurodevelopmental problems and risk for avoidant/restrictive food intake disorder (ARFID) in 4-7-year-old children: A Japanese birth cohort study. *JCPP Advances*, 2(3). Doi: [HTTPS://doi.org/10.1002/jcv2.12094](https://doi.org/10.1002/jcv2.12094)
- Farag, F., Sims, A., Strudwick, K., Carrasco, J., Waters, A., Ford, V., Hopkins, J., Whitlingum, G., Absoud, M. and Kelly, V.B. (2021). Avoidant/restrictive food intake disorder and autism spectrum disorder: clinical implications for assessment and management. *Developmental Medicine & Child Neurology*, 64(2). Doi: [HTTPS://doi.org/10.1111/dmcn.14977](https://doi.org/10.1111/dmcn.14977).
- Fonseca, N.K.O., Curtarelli, V.D., Bertoletti, J., Azevedo, K., Cardinal, T.M., Moreira, J.D. and Antunes, L.C. (2024). Avoidant restrictive food intake disorder: recent advances in neurobiology and treatment. *Journal of Eating Disorders*, 12(1), p.74. Doi: [HTTPS://doi.org/10.1186/s40337-024-01021-z](https://doi.org/10.1186/s40337-024-01021-z).
- Inoue, T., Otani, R., Iguchi, T., Ishii, R., Uchida, S., Okada, A., Kitayama, S., Koyanagi, K., Suzuki, Y., Suzuki, Y., Sumi, Y., Takamiya, S., Tsurumaru, Y., Nagamitsu, S., Fukai, Y., Fujii, C., Matsuoka, M., Iwanami, J., Wakabayashi, A. and Sakuta, R. (2021). Prevalence of autism spectrum disorder and autistic traits in children with anorexia nervosa and avoidant/restrictive food intake disorder. *BioPsychoSocial Medicine*, 15(1). Doi: [HTTPS://doi.org/10.1186/s13030-021-00212-3](https://doi.org/10.1186/s13030-021-00212-3).
- Johansson, M., Hermansson, J., Linnsand, P., Gillberg, C. and Nygren, G. (2023). Avoidant/restrictive food intake disorder, other eating difficulties and compromised growth in 72 children: background and associated factors. *Frontiers in child and adolescent psychiatry*, 2. Doi: [HTTPS://doi.org/10.3389/frcha.2023.1179775](https://doi.org/10.3389/frcha.2023.1179775).
- Keski-Rahkonen, A. and Ruusunen, A. (2023). Avoidant-restrictive food intake disorder and autism: epidemiology, etiology, complications, treatment, and outcome. *Current Opinion in Psychiatry*, 36(6), pp.438–442. Doi: [HTTPS://doi.org/10.1097/YCO.0000000000000896](https://doi.org/10.1097/YCO.0000000000000896).
- Menzel, J.E. and Perry, T.R. (2024). Avoidant/Restrictive Food Intake Disorder: Review and Recent Advances. *Focus/Focus* (American Psychiatric Publishing. Online), 22(3), pp.288–300. Doi: [HTTPS://doi.org/10.1176/appi.focus.20240008](https://doi.org/10.1176/appi.focus.20240008).

- Nimbley, E., Golds, L., Sharpe, H., Gillespie-Smith, K. and Duffy, F. (2022). Sensory processing and eating behaviours in autism: A systematic review. *European Eating Disorders Review*, 30(5), pp.538–559. Doi: [HTTps://doi.org/10.1002/erv.2920](https://doi.org/10.1002/erv.2920).
- Norris, M., Spettigue, W. and Katzman, D. (2016). Update on eating disorders: current perspectives on avoidant/restrictive food intake disorder in children and youth. *Neuropsychiatric Disease and Treatment*, 12, pp.213–218. Doi: [HTTps://doi.org/10.2147/ndt.s82538](https://doi.org/10.2147/ndt.s82538).
- Passarini, S., Guerrera, S., Picilli, M., Fucà, E., Casula, L., Menghini, D., Pirchio, S., Zanna, V., Valeri, G. and Vicari, S. (2025). The challenge of a late diagnosis of autism spectrum disorder: co-occurring trajectories and camouflage tendencies. a case report of a young Autistic female with Avoidant Restrictive Food Intake Disorder. *Frontiers in Psychiatry*, 15. Doi: [HTTps://doi.org/10.3389/fpsy.2024.1447562](https://doi.org/10.3389/fpsy.2024.1447562).
- Pomoni, M., Harris, G. and Coulthard, H. (2025). The Development of the Food Averse Questionnaire: A Measure of Food Avoidance in Children with and Without Autistic Spectrum Conditions. *Maternal & Child Nutrition*. Doi: [HTTps://doi.org/10.1111/mcn.70025](https://doi.org/10.1111/mcn.70025).
- Ramirez Z;Gunturu S (2024). Avoidant Restrictive Food Intake Disorder. Available at: <https://pubmed.ncbi.nlm.nih.gov/38753906/>.
- Sader, M., Weston, A., Buchan, K., Kerr-Gaffney, J., Gillespie-Smith, K., Sharpe, H. and Duffy, F. (2025). The Co-Occurrence of Autism and Avoidant/Restrictive Food Intake Disorder (ARFID): A Prevalence-Based Meta-Analysis. *International Journal of Eating Disorders*, 58(3). Doi: [HTTps://doi.org/10.1002/eat.24369](https://doi.org/10.1002/eat.24369).
- Sanchez-Cerezo, J., Neale, J., Julius, N., Croudace, T., Lynn, R.M., Hudson, L.D. and Nicholls, D. (2024). Subtypes of avoidant/restrictive food intake disorder in children and adolescents: a latent class analysis. *EClinicalMedicine*, 68, pp.102440–102440. Doi: [HTTps://doi.org/10.1016/j.eclinm.2024.102440](https://doi.org/10.1016/j.eclinm.2024.102440).
- Schreck, K. and Williams, K. (2006). Food preferences and factors influencing food selectivity for children with autism spectrum disorders. *Research in Developmental Disabilities*, 27(4), pp.353–363. Doi: [HTTps://doi.org/10.1016/j.ridd.2005.03.005](https://doi.org/10.1016/j.ridd.2005.03.005).
- Seetharaman, S. and Fields, E.L. (2020). Avoidant/Restrictive Food Intake Disorder. *Paediatrics in Review*, 41(12), pp.613–622. Doi: [HTTps://doi.org/10.1542/pir.2019-0133](https://doi.org/10.1542/pir.2019-0133).
- Smyth, M. and Hudson, L.D. (2025). The presentation of avoidant restrictive food intake disorder (ARFID) in children with complex backgrounds. *Paediatrics and Child Health*, 35(9), pp.307–310. Doi: [HTTps://doi.org/10.1016/j.paed.2025.06.005](https://doi.org/10.1016/j.paed.2025.06.005).

Tanner, A.B. and Richmond, T.K. (2024). Assessing growth in children and adolescents with Avoidant/Restrictive Food Intake Disorder. *Journal of Eating Disorders*, 12(1). Doi: [HTTps://doi.org/10.1186/s40337-024-01034-8](https://doi.org/10.1186/s40337-024-01034-8).

Thomas, K.S., Keating, J., Ross, A.A., Cooper, K. and Catherine (2025). Avoidant/restrictive food intake disorder (ARFID) symptoms in gender diverse adults and their relation to autistic traits, ADHD traits, and sensory sensitivities. *Journal of Eating Disorders*, 13(1). Doi: [HTTps://doi.org/10.1186/s40337-025-01215-z](https://doi.org/10.1186/s40337-025-01215-z).

Thomas, J.J., Holsen, L., Van, A.L., Becker, K.R., Breithaupt, L., Burton-Murray, H., Asanza, E., Gydus, J., Palmer, L.P., Stern, C.M., Freizinger, M., Shrier, L.A., Bern, E.M., Thilo Deckersbach, Misra, M., Eddy, K.T., Micali, N. and Lawson, E. (2025). Neural Response to Food Cues in Avoidant/Restrictive Food Intake Disorder. *JAMA Network Open*, 8(2), pp. e2460101–e2460101. Doi: [HTTps://doi.org/10.1001/jamanetworkopen.2024.60101](https://doi.org/10.1001/jamanetworkopen.2024.60101).

Tomaszek, N., Urbaniak, A.D., Batdyga, D., Kamila Chwesiuk, Modzelewski, S. and Waszkiewicz, N. (2025). Unravelling the Connections: Eating Issues, Microbiome, and Gastrointestinal Symptoms in Autism Spectrum Disorder. *Nutrients*, 17(3), pp.486–486. Doi: [HTTps://doi.org/10.3390/nu17030486](https://doi.org/10.3390/nu17030486).

Underwood, J.F., DelPozo-Banos, M., Frizzati, A., John, A. and Hall, J. (2021). Evidence of increasing recorded diagnosis of autism spectrum disorders in Wales, UK: An e-cohort study. *Autism*, 26(6), p.136236132110596. Doi: [HTTps://doi.org/10.1177/13623613211059674](https://doi.org/10.1177/13623613211059674).

Winten, C.G., Ross, L.J., Esben Strodl, Heruc, G. and Thomas, J.J. (2025). Dietetic-Led Cognitive Behavioural Therapy for ARFID: A Novel Approach to Avoidant/Restrictive Food Intake Disorder with Case Studies. *Journal of Human Nutrition and Dietetics*, 38(4). Doi: [HTTps://doi.org/10.1111/jhn.70087](https://doi.org/10.1111/jhn.70087).

Yule, S., Wanik, J., Holm, E.M., Bruder, M.B., Shanley, E., Sherman, C.Q., Fitterman, M., Lerner, J., Marcello, M., Parenchuck, N., Roman-White, C. and Ziff, M. (2021). Nutritional Deficiency Disease Secondary to ARFID Symptoms Associated with Autism and the Broad Autism Phenotype: A Qualitative Systematic Review of Case Reports and Case Series. *Journal of the Academy of Nutrition and Dietetics*, 121(3), pp.467–492. Doi: [HTTps://doi.org/10.1016/j.jand.2020.10.017](https://doi.org/10.1016/j.jand.2020.10.017).

Zickgraf, H.F. and Ellis, J.M. (2018). Initial validation of the Nine Item Avoidant/Restrictive Food Intake disorder screen (NIAS): A measure of three restrictive eating patterns. *Appetite*, 123, pp.32–42. Doi: [HTTps://doi.org/10.1016/j.appet.2017.11.111](https://doi.org/10.1016/j.appet.2017.11.111).

Zimmerman, J. and Fisher, M. (2017). Avoidant/Restrictive Food Intake Disorder (ARFID). *Current Problems in Paediatric and Adolescent Health Care*, 47(4), pp.95–103.
Doi: [HTTps://doi.org/10.1016/j.cppeds.2017.02.005](https://doi.org/10.1016/j.cppeds.2017.02.005).