Avoidant restrictive food intake disorder: First do no harm

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Funding information
National Institute of Mental Health, Grant/Award Number: R33-MH-097959

Abstract
Objective: This opinion piece offers some considerations, both medical and psychological, for the use of nasogastric tube (NGT) feedings in the treatment of avoidant restrictive food intake disorder (ARFID) in children and adolescents.

Method: Although there is empirical support for the use of NGT feedings in the treatment of anorexia nervosa, this evidence base does not exist for the treatment of ARFID. As such, there is need to delineate pragmatic considerations in the use of this procedure.

Results: Issues of medical necessity notwithstanding, we advise that the use of this procedure be considered more cautiously due to the oral sensitivities inherent in many individuals with ARFID and the potential psychological consequences. These sensitivities may make the experience of NGT feedings particularly aversive, with the potential of creating iatrogenic conditioned food aversions.

Discussion: This article encourages clinicians to give careful thought and attention when considering NGT feedings in children and adolescents with ARFID.

KEYWORDS
adolescent, ARFID, avoidant restrictive food intake disorder, children, conditioned taste aversion, nasogastric tube feeding, sensory aversion

In a seminal article published in Science in 1955 by Garcia, Kimeldorf, and Koelling, the pairing of aversive gastrointestinal sensations with a distinct taste resulted in a robust form of single-trial avoidance learning that has since been referred to as conditioned taste aversion (Garcia, Kimeldorf, & Koelling, 1955). This persistent form of classical conditioning may have relevance for the nutritional rehabilitation of a subset of individuals with avoidant restrictive food intake disorder (ARFID) in that the use of nasogastric tube (NGT) feedings may be contraindicated. In this opinion piece, we summarize considerations when deciding upon the use of NGT feedings in children and adolescents with ARFID.

ARFID is a diagnosis that was introduced in the “Feeding and Eating Disorders” section of the Diagnostic and Statistical Manual of Mental Disorders (5th edition) and includes a heterogeneous presentation of eating disturbances that lead to deficits in energy or nutritional intake (American Psychiatric Association, 2013). Proposed motivations for insufficient intake include lack of appetite; aversive reactions to the sensory features of food such as texture, smell, or appearance; and fears related to the act of eating, such as fear of choking (American Psychiatric Association, 2013). These disturbances can result in harmful consequences, including low weight or failure to grow, severe nutritional insufficiency, reliance on nutritional supplements, and psychosocial dysfunction. The phenomenology of this disorder for some individuals is the experience of intense, detailed perceptions of food qualities such that subtle differences in a saltine cracker can taste distinctively or be found to be aversive if it is not the preferred brand (Zickgraf, Franklin, & Rozin, 2016).

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Authors have neither published, posted, nor submitted any related papers from the same study.
The medical treatment of children and adolescents with ARFID includes nutritional rehabilitation. Although most children are able to take nutrition by mouth, NGT feedings may be considered if the child is unable to meet their energy requirements with oral feeds. To this end, reviews to guide decision-making in the use of NGT feedings in anorexia nervosa (AN) have been published and should be considered. For example, in patients with AN, it has been suggested that NGT feedings may inadvertently create or contribute to circumstances that result in conditioned food aversions. Herein, we offer considerations to help clinicians navigate these complex decisions.

1 | WHAT IMPORTANT ISSUES SHOULD BE CONSIDERED WHEN CONTEMPLATING NGT FEEDS IN A CHILD WITH ARFID?

It is critical that clinicians understand the complexity of potential issues when children and adolescents with ARFID require NGT feedings. Although the act of passing a NGT through the nare and into the stomach may be generally well tolerated, many patients with ARFID are inherently at heightened risk for aversive experiences given their profound visceral and oral-palate sensitivities (Norris et al., 2018). A detailed history characterizing these vulnerabilities is essential to understanding how individuals may be supported and to what extent additional measures (i.e., the use of sedation) may be warranted. In cases where NGT feeds are not introduced, clinicians may also consider the social and emotional context of other feeding options as this may help to guide decision-making. Edwards et al. (2016) provide an excellent summary of the management, tube weaning, and emotional considerations of tube feeding in children.

2 | SHOULD NGT FEEDS BE CONSIDERED IN A CHILD WHO EXHIBITS EXTREME SENSORY FEATURES TO NOVEL FOOD (E.G., TEXTURE) AS EVIDENCED BY FREQUENT GAGGING?

Some individuals with ARFID have an exaggerated disgust experience, an emotion that helps organize an individual to avoid contamination from pathogens (Curtis, de Barra, & Aunger, 2011). Gagging, as a rapid and effective means to eject potentially noxious foodstuffs from the body, is a frequent feature of the disgust experience (Darwin, 1872/1890/2009; Rozin, Lowery, & Ebert, 1994). As the experience of gagging itself can be aversive, food can be subsequently avoided to prevent the experience of disgust and associated gagging. It is conceivable that the use of NGT feedings with these individuals would greatly exacerbate this experience of aversive conditioning and worsen subsequent motivations to ingest food orally.

3 | IS NGT FEEDING ESSENTIAL FOR WEIGHT RESTORATION AND PEDIATRIC GROWTH AND DEVELOPMENT?

Patients with ARFID who are at low body weight have been shown to have the same physical and psychological consequences as young people with AN (Norris et al., 2014). Severe malnutrition, micronutrient deficiencies, and low body weight can result in significant morbidity and mortality. In certain cases, NGT feedings may become medically necessary when a child refuses to take enough of their nutrition orally. Under these circumstances, NGT feedings may be required as a necessary course of treatment.

Some programs institute NGT feedings to supplement oral feeds and this is believed to help promote both physical and psychological recovery. Further, other refeeding programs are based on behavioral interventions and use NGT feeds when individuals fail to consume a predetermined meal plan or cannot complete meal replacement with an oral nutritional supplement. Although the data behind both these approaches in patients with ARFID are scant, the use of NGT feedings has the potential to result in complications from this procedure. The use of oral nutritional supplements may be considered prior to more invasive procedures in these cases, barring medical necessity as stipulated above.

4 | DOES NGT FEEDING IMPAIR PSYCHOLOGICAL RECOVERY?

If the NGT feeding is deemed to be medically advantageous, an additional consideration is whether it would impair psychological recovery. For example, in patients with AN, it has been suggested that NGT feeding should only be used when a patient’s mental and physical health and body weight continue to decline despite oral refeeding efforts (Garber et al., 2016). There is a concern however, that NGT feeding only addresses the physical requirements for weight restoration and does not address psychological aspects of the disorder (Zuercher et al., 2003). Others argue that weight restoration helps to facilitate psychological recovery through improved cognitive function (Garber et al., 2016). Data in patients with AN have failed to support the hypothesis that NGT feeding impairs psychological recovery. Data are lacking in patients with ARFID. Research that explores the role of parental identity in the feeding, nurturance role; parental stress; economic burden; and changes in the endogenous drive to eat require further study in this population.

5 | HOW LONG SHOULD NGTS REMAIN IN PLACE?

The attainment of nutritional rehabilitation, including reaching a predetermined target goal weight, are important considerations in deciding
when to terminate an NGT intervention (Norris, Hiebert, Katzman, Canadian Paediatric Society, & Adolescent Health Committee, 2018). In addition, the placement of a NGT should not result in a reduction of interest or action relating to ongoing oral rehabilitation efforts. Depending on the age and developmental trajectory of a child, important feeding milestones can be missed if NGTs remain in place for extended periods. Recurrent placement of NGTs over long periods increases risk of physical injury. Further, NGTs provide a visible reminder that nutritional supplementation is required via medical means. In AN, a disorder that is ego-syntonic and where competition to be the "sickest" has been documented, public displays of illness severity may have unintended milieu consequences. Although the relative merits of more invasive procedures (e.g., percutaneous endoscopic gastrostomy feeding tubes) are beyond the scope of this document, consideration of the time course of intended treatment may warrant consideration of procedures that in other circumstances would be deemed less optimal.

6 | DISCUSSION

In summary, this article offers perspective for the consideration of NGT feedings in children and adolescents with ARFID. Although the use of NGT feedings in some children and adolescents with ARFID may be warranted, they are not without complications or unintended consequences, and should therefore be considered carefully. Attention to the need for their use and regular reassessment is critical to help mitigate problematic outcomes. Future research to ensure the development of safe and practical clinical guidelines that incorporate best evidence is needed to better inform the clinical practice of NGT feedings in children with ARFID. In the interim, clinicians need to exercise caution when considering the use of NGT feedings in this patient population.

CONFLICT OF INTEREST

The authors have no conflict of interest related to the submission.

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