

Analysis of feeding with a fork for a pupil with feeding disorders

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Executive summary

Feeding problems are a common concern for individuals on the autism spectrum disorder (ASD) and related disabilities. Food selectivity, eating a limited variety of food, unwillingness to try new foods, sensory aversions, or socially inappropriate eating habits may have a negative impact not only on the individual themselves but also on their families. It may result in poor bone growth, weight loss, constipation, vitamin and mineral deficiencies, and cause family stress and social exclusion. This case study presents a non-vocal pupil, aged 11, with strict rigid eating routines which, when interrupted, result in self-injurious behaviours.

Introduction

The pupil in question presents with learning, language, and social communication difficulties. They have a diagnosis of autism spectrum disorder (ASD) and have difficulties with sensory processing and personal care. The student currently attends a Year 7 class, Key Stage 3, at Park House School where he receives 1:1 teaching based on Applied Behaviour Analysis (ABA) and Verbal Behaviour (VB). The pupil enjoys a sensory diet of activities, such as deep pressure, being spun on an office chair, watching iPad and social attention from the familiar people. They learn to communicate their needs and desires using Picture Exchange Communication System (PECS).

This study focuses on rigid eating routines the student engages in and discusses the program that has been implemented in order to overcome the barrier. As reported by the parents and observed in the school setting, the pupil in question eats only Pringles, chocolate buttons and meat (sausages and burgers). They occasionally eat some toast with butter. The student is unable to use cutlery independently and refuses to be fed with a fork. There is a specific rigid routine

they engage in while eating meat, namely he tears it, rolls a piece in their hands, and only then puts it in his mouth. If the sequence is interrupted, the pupil engages in the following behaviour that challenges: pushing others, turning mouth away, spitting out, hitting right or left hand on the table and/or biting own hand.

Method

The initial observations indicated that socially inappropriate ritualistic behaviour (tearing meat and rolling it in hands before putting to mouth) has been maintained, at least in part, by sensory reinforcement. Following the observations and conversations with the parents, (who reported that the pupil has always been refusing to use cutlery while eating), the ABA Supervisor conducted research into available ABA literature relevant to the topic and designed an intervention, which was a systematic replication of a study by LaRue, Stewart, Piazza, Volkert, Patel and Zeleny (2011).

The aim of the feeding program was to teach the pupil to tolerate being fed with a fork, without engaging in the ritualistic behaviours. Data was collected on the number of forks with meat they tolerated in their mouth, chewed on, and swallowed, the number of spit outs, number of hand bites, and the total duration of refusal. Two people were involved in running the programme. In order to decrease the motivation to engage in the sensory response of rolling meat in hands, one person was engaging the pupil's hands in a sensory activity such as a massager toy or squeezes, while the other person was feeding the pupil a 1cm x 1cm piece of meat on a fork. Feeding sessions started at midday each school day and began with the presentation of a vocal discriminative stimulus (SD) "Eat with the fork". If the pupil tolerated the presentation of meat on a fork, put it in his mouth and chewed on it, the target behaviour was positively reinforced with the presentation of an iPad and social praise. They could watch a YouTube video of their choice as long as they engaged in the desired behaviour. The moment the pupil spat food out or engaged in a challenging behaviour, the iPad was removed and the discriminative stimulus (SD) to eat with the fork was represented. If the pupil engaged in hand biting, they were redirected to use the chewy which was placed in a Tupperware box next to them. Sessions were terminated when the duration of the refusal lasted longer than 18 minutes, because it was observed that longer periods of refusals resulted in higher frequency of self-injurious behaviours and continuous spit outs. If the pupil ate a target amount of meat presented on a fork, they were positively reinforced with the delivery of an iPad and were allowed to eat

the rest of the meat in the lunchbox in a preferred way. If the target amount of meat presented on a fork was not met, the iPad and lunchbox were removed and the pupil was requested to engage in a neutral activity of the tutor's choice, such as building blocks or puzzles.

Results

The results obtained over the course of 31 days are inconclusive. The data was variable and no trends have been observed.

Throughout the course of running the eating programme, it has been observed that different factors were influencing the obtained results. On some days, the pupil would eat the pieces of meat that were more fried resulting in a higher number of forks tolerated. On other days, however, that factor would have no direct influence on the target behaviour. Similarly, on some days the pupil would tolerate the fork with a piece of a sausage on it, while on other, they would only eat a burger. On days that the pupil would eat the first piece of the meat without exhibiting socially inappropriate behaviour, they were more likely to tolerate the following pieces presented to him. From the moment the student would start pushing the tutors and /or food away, their tolerance to the eating program would decrease and they would engage in a high frequency of behaviours that challenge. It is hypothesized that the aforementioned uncontrolled variables (confounding variables) have a direct effect on the pupil's performance.

As stated by Cooper and Heron (Cooper and Heron, 2014),

'Only continuous measurement over time yields a complete record of behaviour as it occurs in context with its environmental influences'. The eating programme will continue while a referral to a feeding clinic is made in order to explore medical side of the target behaviour.

Discussion

More data collection is required in order to determine the long-term effects of the eating programme. The analysis of the data collected on the pupil in question, has, however, allowed to determine some of the variables that influence the progress of the intervention.

References

- Cooper, J.O., Heron, T.E., & Heward, W.L. (2014). Applied behavior analysis. The United States of America: Pearson Education Limited.
- LaRue, R.H., Stewart, V., Piazza C.C., Volkert, V.M., Patel, M.R., and Zeleny, J. (2011). Escape as reinforcement and escape extinction in the treatment of feeding problems. *Journal of Applied Behaviour Analysis*. 44: 719-735.

Figure 1

