Feeding problems among children and adults with developmental disabilities

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Feeding is, for the most of us, an automated process involving:

- Opening of the mouth when food is presented
- Among babies: sucking and swallowing behaviors
- Intake of food in the mouth
- Chewing included use of tong to move food between teeth (if textured)
- Use of tong to propel food to the back of mouth thereby releasing the swallowing reflex (which also blocks intake of air or breathing)

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Eating disorders refers to a variety of problems related to behavior, and more specific: to eating behaviors:

- Provoking vomiting reflex
- Conditioned taste aversion (CTA)
- Problems with quantity, resulting in obesity, weight loss, malnutrition
- Problems related to food texture
- Problems related to food variation
- Problems with packing of food in mouth
- Eating under restricted and inappropriate stimulus control (prompt dependency, obsessive compulsive behaviors (OCD), anorexia, bulemia)

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Feeding disorders related to deficiencies in the repertoire of respondent behaviors:

- Defective swallowing reflex
- Defective reflex closing intake of air
- Gastroesofageal reflux (GERD), food that is swallowed and mixed with stomach acid is returned to the esophagus
- Problems related to paralysis of mouth, tongue or chewing muscles
- Vomiting related to food intolerance, defects of esophagus or stomach

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What then, is a feeding problem?

- Historically (medically) the definition has been linked to a failure to thrive, grow or gain weight. The reasons for this has been attributed to organic deficiencies, or to emotional disturbances linked to the caregiver
- Behaviorism defines this kind of problem as a function of a clinical judgment involving the caregiver (Kerwin, 2003). And as a problem in itself, not as a symptom of underlying psychiatric diseases.

Treatment calls for planned action during meals

- One has to hinder the child/person to leave the table, eventually reintroduce food, *id est* terminate escape. To leave the table should be made contingent upon eating, little or more. The demand to eat can gradually be faded as eating behavior occurs without prompts.
- Too rapid eating can be terminated by hand guidance. After each piece, the child is helped to place hands and cutlery at table (Leaf, McEachin, 1999).

Treatment of packing food in mouth

- Focus on swallowing behavior before next bite. This calls for control over amount of food in the mouth and observation of swallowing responses.
- Packing is disturbed by instructions or touching by trainers hand around the moth area. In extreme cases the food is redistributed by means of tooth brush (Gulotta, Piazza, Patel, Layer, 2005).
- Reduction of packing has also been reduced by introduction of less textured food, and then to fade according to texture (Patel, Piazza, Layer, Coleman, Scwartzwelder, 2005).
- Differential reinforcement of swallowing behavior.

Packing of food can be a side effect of:

- Treatment procedures for feeding problems involving escape extinction.
- Treatment of feeding disorders connected to food texture, when more coarse textured food is faded in (Patel et al, 2005).

Non-contingent reinforcement versus escape extinction

- Positive reinforcement (praise, access to toys) of eating behavior alone has not be proven adequate to get developmental disabled to eat.
- This procedure has to be combined with escape extinction (extinction of escape), and data indicates that it is this component that carries the effects (Reed, Piazza, Patel, Layer, Bachmeyer, Bethke, Gutshall, 2004).
- Positive reinforcement seems only to reduce other escape and avoidance behaviors, as for instance crying.

Escape extinction

- This procedure has been implemented by presenting food, simultaneously with blocking or hindering of escape and avoidance behaviors.
- The trainer has, calm and persistently, presented verbal and non verbal prompts to eat, until eating has started.
- Eating behavior has under these circumstances occurred under negative reinforcement, i.e. reinforced by short brakes in prompting of eating.

Treatment of food selectivity

- The meal can be arranged such, that preferred food or other positive reinforcers are presented contingent upon eating a little of the food that is to be faded in. Gradually the demand to eat the food that is aversive and associated with escape and avoidance, is increased.
- Preferred food is gradually faded out, as new food is faded in.

Treatment of quantity and resistance to food texture

- Fading. Quantity and coarser food is faded in within meals and across meals.
- Differential reinforcement of more and new food. This procedure calls for correct presentation of reinforcers, varied reinforcers, token economy systems, fading of schedules of reinforcement, conditioning of praise and other social reinforcers (by presenting praise and social reinforcers before other reinforcers, in order to fade other reinforcers in favor of the conditioned social ones).

Examples 1

- Example of treatment protocol 1
- Example of data collection form 1
- Data 1
- Video1
- Video2

Eating under restricted and inappropriate stimulus control

- Fading. Prompting (hand guidance) is gradually faded. Use of artificial reinforcers are also gradually faded.
- Obsessive and compulsive (OCD) behavior calls for especially arranged fading procedures according to these behaviors character. Compulsive behaviors cannot always be interrupted effectively, but the meal can be rearranged or reconstructed. Attempts to interrupt compulsive behaviors are most often accompanied by emotional reactions, like crying, aggressiveness, self destructive behaviors etc..

Examples 2

- Treatment program 2
- Data collection form 2
- Data 2
- Video 2
- Video 2 post treatment

Interrupting problem behaviors during meals

- To remove someone from table contingent upon problem behaviors can reinforce the behavior leading to leaving the table.
- Therefore eating at table should be reintroduced following such an interruption.
- To leave table is often not the time out (punishment) the therapist thinks it to be.
- Use of punishment during meals often has long term disadvantages, and often does not regulate eating behavior among developmentally disabled or normal persons. punishment2 punishment3

Token economy and rule governing

- In the long run appointments and token economy probably should be used as main approach to feeding problems (and replace negative reinforcement).
- Skills in following rules (rule governing) are established by use of mild interruption procedures (consequences) when rules (appointments) are broken.
- To follow a rule is to engage in the behavior the rule specifies, and thereby make contact with the reinforcers which follows.

Negative reinforcement

- Research on feeding disorders indicate that negative reinforcement of desired eating behavior is the key element.
- Instructions paired with hand guidance can establish the instruction as a threat-rule if performed correctly.

Hand guidance can lead to:

- Passive following the movement. Touching can positively reinforce behavior which leads to touching. Most often this is passivity.
- Approaching behaviors that emerges during hand guidance.
- Resistance behavior that emerges during hand guidance, resistance towards hand guidance and other forms of escape and avoidance behaviors.
- Imitation of the hand guided behavior can emerge and be reinforced.

Hand guidance has both effects and side effects that has to be taken into account during treatment.

Treatment of feeding problems:

- Calls for an analysis of what type of feeding problem that has evolved.
- The procedures for the treatment of feeding problems are always composed of many elements.
- In some cases treatment calls for close cooperation with behavior specialists to analyze, try out, write treatment protocols and data taking procedures for evaluation of treatment. Treatment will in some cases stretch over years, especially when fading has to be performed very gradually in order to prevent relapse.

Referanses

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