

THE ROLE OF THE SPEECH LANGUAGE PATHOLOGIST IN THE DIAGNOSIS AND MULTIDISCIPLINARY TREATMENT OF CHILDREN WITH FEEDING DIFFICULTIES: A NEW VISION

O papel do fonoaudiólogo no diagnóstico e tratamento multiprofissional da criança com dificuldade alimentar: uma nova visão

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ABSTRACT

The article reports the case study of a two year and six months old female patient, attended by a multidisciplinary team. Patient presented feeding difficulties such as food refusal, long lasting meals, oral-sensory defensiveness, anterior vomiting reflex and difficulties in chewing. She did not feed herself nor took part in family mealtimes. Presented gastro esophageal reflux, allergy to cow's milk protein and coughs followed by vomiting, without impairment of weight or height. The Mealtime Partners Program was method of treatment choice. After treatment of medical issues, the working method was established and initiated with oral sensorial development, followed by chewing development and associated to family guidance. Patient started having meals with the family and taking part in social mealtime routines. Duration of meals diminished and food refusal eliminated. Motor-oral system patterns improved significantly. Reassessment in 3 months showed reduction in gastroesophagealreflux symptoms and medication was removed. The nutritionist introduced dairy products with good acceptance. The Mealtime Partners Program, proved to be effective in the diagnostics and treatment of the feeding difficulties presented. The multidisciplinary team had a broad view of feeding difficulties presented by the patient, comprising motor, oral, organic and nutritional issues of feeding regarding the child's family background.

KEYWORDS: Feeding Behavior; Speech Language and Hearing Sciences; Mastication

■ INTRODUCTION

Feeding difficulties are extremely common in childhood. Studies carried out in different regions in the world show that food refusal features among the main complains – not only in pediatricians' offices but

also within specialist clinical areas such as gastroenterology and language and hearing sciences¹. Different scientific findings show that the problem affects between 8% and 50% of children depending on the diagnostic criteria used^{2,3}, regardless of age, gender, ethnicity and economic background⁴⁻⁶. To families, feeding difficulties are one of the most important concerns faced in childhood and they are often the source of conflicts in the relationships between parents and children⁷.

Aiming to throw some light on the different aspects of the problem, Kerzner⁸ suggests the expression "feeding difficulty" as a general term and proposes a screening based on reported

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characteristics, set out under seven profile categories, namely: misinterpretation by the parents, highly selective intake, vigorous child with poor appetite, fear of feeding, organic disease, child presenting psychological disorder or neglect by caregivers and crying interference with feeding. Additionally, feeding difficulties are long-lasting disorders, as they start out in a child's early months of life and last for many years, as demonstrated by Ostberg & Hagelin⁹, who followed 230 Swedish families and found out that children presenting such condition in their early years continued to do so after six months of follow-up. Due to complex alterations with different etiologies, feeding difficulties require a multiprofessional approach relying on pediatricians, nutritionists, speech language pathologists, psychologists, occupational therapists and gastroenterologists, among others¹⁰.

For a long time, speech language pathologists have been working with babies and children with feeding difficulties aiming to "get the child to eat" a specific amount of food and/or better quality items in terms of texture and consistency¹¹. Owing to reach these objectives, programs were developed for the treatment of orofacial myology focusing on the stimulation and movement of the jaw, tongue and lips with the purpose of equipping such structures so that the child can feed properly^{12,13}. This mode of action has a subjacent restricted concept underlying this type of therapy in which the goal is to improve the oral motor skills of a child to enable them to eat. From this perspective, the attention of speech language pathologists turns exclusively to the child, characterizing the way of looking at and addressing feeding difficulties in childhood. Morris¹¹ suggests that in order to better understand children's feeding difficulties it is mandatory to analyze the problem from a new angle because, as the focus point is expanded and the field of view is broadened, other aspects can be observed and speech language pathologists can have a deeper understanding of meal times and not only of the child's difficulty. This new concept integrates the Mealtime Partners Program (MPP), whose most important elements are mealtimes, children's ease and their wish to learn how to feed.

The MPP¹¹ is based on the premise that each child is born with an internal capability to feed and grow properly. During childhood, they learn how to

interact with adults, improve their abilities and take advantage of both, the food and the environment in which meals take place. Some children face a disturbance in this normal cycle due to physical, sensory and structural difficulties as well as hindrances in abilities and in the opportunities provided by the environment. For instance, coordination issues may interfere with the capability of sucking, swallowing or chewing food; difficulties in the sensory process may lead to stress and unease during mealtimes; gastrointestinal alterations contribute to a negative association between foods and desire to eat. The Mealtime Circle comprises these aspects, which are described by Morris¹¹ (Figure 1). This circle represents the total interaction and influence on the child's meal and includes all the aspects of the four complete cycles that are interconnected. In addition, it incorporates the broad aspect of the relationship between the child and their family during mealtimes.

Thus, the first step of the MPP is to identify the barrier limiting the development and ease of the feeding abilities owing to help children to go back to their natural wish to take part in meals. In order to do so, the program provides strategies aiming to increase physical coordination, the sensory integration process, gastrointestinal comfort, communication and oral motor control. All these aspects are incorporated so as to support and enable the child's abilities and wishes to eat. The diagnosis proposed by the MPP is outlined by a global view of the patient and their complaint. Along with a multidisciplinary team, the speech language pathologist carries out a specific analysis of all the components in the Mealtime Circle¹¹. From this analysis, all the information and details are interconnected, adding up to a whole, and the priorities for the treatment are set out. Further, the family plays a major role in the application of the MPP, and therefore needs to be guided and instructed on a weekly basis. Concepts such as beliefs, fears regarding the act of feeding, habits, routines and family culture are addressed so that some change is possible in the child's meal, which takes place together with the family.

This report aims to present the work of the speech language pathologist in the diagnosis and multiprofessional treatment of a child with feeding difficulties under the Mealtime Partner Program.

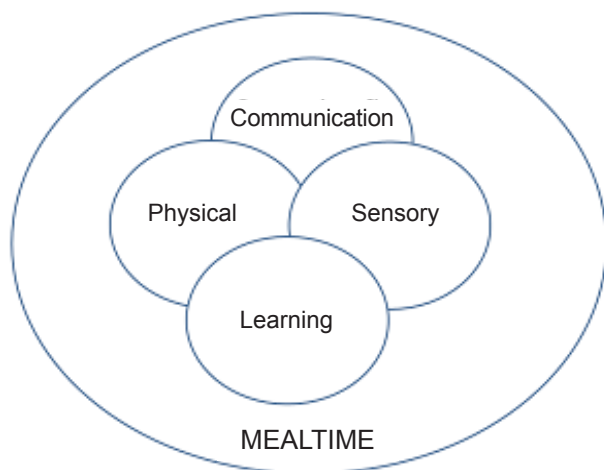


Figure 1 – Mealtime Circle

■ CASE PRESENTATION

The study case was submitted to the ethics committee of the Feeding Difficulties Center (Centro de Dificuldades Alimentares) of the PENSI Institute (Instituto de Pesquisa e Ensino em Saúde Infantil, PENSI) - Sabará Children's Hospital, under number 34409414.80000.5567.

BM is an only child; she is two years and six months old and was sent for a language pathology evaluation by her pediatrician due to complaints of difficulty in chewing solid foods. Born full-term, she was exclusively breastfed until her sixth month. After that period, she presented difficulty to accept industrialized milk offered in bottles and refusal to ingest any kind of food. Physical and laboratory tests showed normal results. She has always fed after great insistence by the family and/or caregivers. At the age of nine months, she presented otitis and the medical evaluation confirmed the diagnosis of gastroesophageal reflux disease (GERD) through radiological imaging. A clinical treatment through medication was initiated. There was a slight improvement in food acceptance but always after parents forcing the ingestion of amounts determined by them.

When the patient was 10 months old, she presented bronchospasm followed by hospitalization, which made food refusal even worse. She was admitted based on the diagnostic hypothesis of food allergy. During hospitalization, the patient presented hemorrhagic gastritis. She was discharged from the hospital diagnosed with allergy to the cow's milk protein and carrying a nasogastric tube for feeding. She fed exclusively through this tube for four months. After the tube was removed, she started oral feeding through a syringe, followed

by a spoon later on. The food offered was blended so as to facilitate acceptance. Feeding was always "forced" and "negotiated" to get her to eat.

To the present date, the patient still has feeding difficulties, now marked by long-lasting meals (over half an hour), absence of chewing and difficulty to swallow solid foods. The family offers vegetable soup blended with semi-solid foods to facilitate swallowing. BM does not feed herself nor does she take part in family meals. While she still refuses fruits cut into pieces, she puts other quite fibrous foods in her mouth but spits them onto a plate without chewing.

The parents also complain about difficulty to feed their daughter. They report that with them, she eats in smaller amounts, cries and shouts, making mealtimes even longer. This way, they have delegated the task to a caregiver, who offers the meals with the TV on all the time and sometimes, with toys to distract her. The family has changed their social habits due to the daughter's feeding issue, with a reduction of attendance of social events in restaurants, trips or family gatherings. When there is an event of the kind, the meal is offered by the caregiver before leaving the house and after their return, which is scheduled before the following meal. They also report excessive concern about the amount and quality of the food ingested by the patient, as well as about mealtimes. They require the caregivers that she eats all the food at the times predetermined by them. They call the house several times a day to know whether the daughter has eaten and how much. They keep a scale at home to weigh her on a weekly basis. BM does not go to school because her parents fear that the food offered by the institution might be harmful. Caregivers look after her all day.

Currently, the GERD has been medicated. She still presents frequent vomiting followed by coughing, mainly in the evening. She takes a nursing bottle twice a day. She breathes through her nose and does not report auditory nor respiratory pathologies. Neuro-psycho-motor development is within normal standards.

Seeking to complement the multidisciplinary approach, an assessment of the nutritional state was required to the nutritionist. The anthropometric evaluation carried out showed that BM does not present any impairment of weight or height according to her age. The mother was instructed to fill in a food journal for three consecutive days, including one day on the weekend. In this journal, the foods were annotated at the time of consumption, in the ingested amount, with a description of all utensils used and how the food was prepared. Dietary information collected from the food journal was examined

though a nutritional analysis program and compared to the recommended standards specific for her age and gender.

Speech Language Pathology Assessment

During the language pathology assessment, it was observed that the patient:

- presents excellent oral comprehension, with language and speech suitable for her age;
- presents excellent physical posture and motor coordination;
- has slight hypofunction of the orofacial muscles (mainly lips and cheeks), adequate frenulum of the tongue. Presents overbite;
- presents sharp vomiting reflex to the touch on the lateral areas of the tongue.

The family was required to bring a regular meal for assessment. The meal observed consisted of: rice, beans, minced beef, grated cooked carrots, chopped cooked zucchini and vegetable soup. The patient presented chewing characterized by mashing of the food by the tongue, quite at the front, with vertical movements of the jaw. There is no lateralization of the bolus; sometimes, there is just ruminating and no swallowing, as the food is spit out, in full, onto the plate. The caregiver adopted the as a daily instrument in all meals to facilitate the ingestion of other solid food items. The utensils used are a desert spoon and a tablespoon. There is constant refusal of food (the patient turns her head, covers her mouth with her hand and verbalizes the refusal), followed by intense verbal negotiation and distraction by the caregiver. When the food refusal is intensified, the soup alone is offered.

Identifying key points in the diagnosis and setting priorities for treatment according to the MPP¹¹

The analysis of BM's multiple feeding issues allowed the multiprofessional team to consider means to identify the key points for the treatment. The patient's difficulties, initially may be grouped under the following areas:

1. Oral-motor aspect:
 - absence of jaw lateral and rotation movements for effective chewing;
 - chewing standard consists of vertical jaw movement with smashing of food (tongue against palate);
 - chewing inefficiency for fibrous and consistent foods; consequently, the food remains in the oral cavity for a long time and instead of being swallowed, it is rejected.

2. Sensory aspect:
 - sensory defense against the touch on the lateral areas of the tongue as well as vomiting reflex;
 - compensation with anteriorization of the bolus owing to protect the oral cavity from the sensory discomfort caused by the contact of the food with the laterals areas of the oral cavity and the tongue.
3. Physical-gastrointestinal aspects:
 - discomfort associated with meals and vomiting;
 - frequent vomiting followed by coughing after meals (more frequent in the evenings);
 - GERD;
 - Allergy to the cow's milk protein.
4. Aspects related to meals, experiences and feeding routine
 - great pressure for the ingestion of larger amounts of food regardless of manner or consistency;
 - lack of confidence in her feeding ability;
 - lack of pleasant experiences during meals;
 - lack of meals outside the house and offered exclusively by the caregiver;
 - monotonous and repetitive menu (solid foods and blended soup) owing to facilitate the swallowing of solid food items;
 - distraction during meals and frequent negotiations;
 - adaptation to all food groups (cereals, fruits, vegetables, meats, vegetables, dairy products, fats);
 - inadequacy regarding consistency (semi-solid);
 - nutritious inadequacy related to the low calorie, fiber and water intake. By contrast, the intake observed by the nutritionist is satisfactory for the maintenance of the growth speed, which is adequate for her age.

From this analysis, the multidisciplinary team outlined the goals to start a treatment based on MPP¹¹, according to the description below. She underwent 30 one-hour sessions of feeding therapy, carried out twice a week.

 1. Sensory-motor-oral discomfort: to lower the sensory defensiveness; to provide pleasant oral experiences; to gradually introduce foods that enable the learning of chewing. Initially, there was use of touching and massage on the oral region followed by stimulation with varied materials (toothbrushes, gum massage brushes, teething rings, etc.). Use of visual, verbal, tactile and proprioceptive strategies to facilitate the learning of chewing. For instance, there was use of oblong and thin food items so as to facilitate the learning of lateral chewing with chewing movements modeled by the

parents and by the professional, in addition to positive verbal reinforcement when the patient performed the correct movement and use of mirrors so that she could visualize her movement, etc.

2. Shared experiences during meals: to show respect for BM's needs and desires at mealtimes; to help her build knowledge of her own needs and autonomy to learn how to feed herself; to raise awareness of the family about the meal process. The recording of the meals that took place at home was discussed with parents and aspects regarding the distracting environment, negotiations to eat and lack of participation of the child in the feeding process were pointed out. A reduction in the pressure for BM to eat was recommended and, gradually, the patient was encouraged to make her own choices and feed herself.
3. Gastrointestinal discomfort: treatment with the use of medication; to reduce stress levels at mealtimes; to respect her demonstration of fullness.
4. Nutritional adequacy: to adapt energetic density of meals after the transition of the tolerated consistency; revision of the menu (amount, volume, variety, presentation, times); increase of hydric offer and fiber intake. This way, it was requested that BM be encouraged and included, as much as possible, in the whole process of food preparation, from the purchase of products, to the preparation and help to set the table with plates, cutlery and glasses.

■ RESULTS

There was improvement in the sensory-motor-oral conditions presented by the patient, which enabled her to feed comfortably and efficiently. Gradually, BM started to better accept the stimulation and foods with characteristics that allowed the learning of chewing; she also demonstrated an interest for such activities and, little by little, started to require the preparation of some favorite dish for the meal, etc. Fruits were introduced cut up into pieces (they used to be blended with milk) and cutlery was presented so that she can feed herself. The respect for her food preferences, as well as for her demonstration of fullness, was valued throughout the process. Initially, BM rejected the foods presented and, sometimes, provoked her own vomiting due to her fear of being forced to eat. Slowly, as she started to trust the therapist, these mechanisms began to fade. With the increase in food acceptance and greater oral comfort, other fibrous foods were introduced to facilitate the learning of chewing, namely

beef, rolls, a sort of cheese buns (pão de queijo), etc.

The duration of mealtimes was reduced and the food refusal was eliminated with the treatment through medication for GERD coupled with nutritional counseling and respect for signs of fullness showed by the patient. The nocturnal vomiting gradually ceased. Both the treatment through medication and the nutritional counseling were still in progress by the moment of discharge.

All the development of the therapy was shared and discussed with the family as they slowly built the confidence to have meals with their daughter and include her in family traditions and social routines. BM had her first meal with her family at a restaurant and was no longer being fed before leaving for grandparents' and/or friends' houses. The caregiver was dismissed. The premises for the realization of the meals were modified in order to reduce the distracting stimuli such as TV and toys. Those items were replaced with a metamusic CD¹¹ to make the environment calmer favoring the relaxation of all the family.

BM was reassessed three months after the end of the program. She presented great improvement of the GERD and the medication was removed. Gradually, upon nutritional counseling, dishes including dairy were introduced also with great acceptance. The parents reported that the daughter kept feeding herself and taking part in meals with the whole family.

■ DISCUSSION

Initially, the patient presented chewing difficulties caused by the sensory issues that were identified, with frequent reflux and vomiting, which hindered the acceptance of fibrous foods and the expansion of her menu. Literature in the area^{11,13-15} point to the importance of prioritizing the sensory aspect to provide the patient with comfort and competence during chewing.

Moreover, according to these authors^{11,13-15}, the foods that spread easily onto the oral region or grater volumes that fill in the internal oral space tend to facilitate the occurrence of nausea and vomiting, causing the patient to refuse or spit them. This type of occurrence creates memories of discomfort and leads to refusal by the child who may also present specific behavior to avoid such situations (spitting, ruminating, etc.)¹³. Thus, the work on chewing was only initiated after the patient had suppressed the symptoms of oral discomfort¹⁵.

The rehabilitation of chewing was based on the offer of new food items, which enable the bilateral alternated chewing standard^{13,15}. The size of the

bites and ideal amounts to be introduced to the oral cavity were worked on so that the patient could chew more comfortably. As BM had always been fed by other people, she could not learn how to control the necessary amount to be ingested for comfortable and efficient chewing, always receiving volumes that were too large for quick swallowing¹⁶. The learning of this control also helped to mitigate the nausea and the need to spit before swallowing. We observed, according to the literature^{15,16}, the importance of child autonomy during mealtimes and when this aspect can interfere with the quality of chewing and swallowing, in addition to all the sensory and emotional aspects involved in the act of eating.

There was gradual clinical improvement in the sensory-motor-oral conditions presented by the patient, which enabled her to feed comfortably and efficiently along with the expansion of her menu and the chewing of different textures effectively.

The gastrointestinal aspects also play a major role in this case. BM felt, since she was six months old, discomfort and pain when being fed. The frequent vomiting (caused by the GERD) led to negative association with the meals. Moreover, she had to use a nasogastric tube for four months and could not be fed throughout this time. In accordance with the literature, the treatment for the GERD condition and the nutritional counseling on the allergy to the cow's milk protein should be a priority and closely monitored by the multidisciplinary team in order to mitigate possible discomfort or symptoms before, during and/or after the meals^{10,14}. The nutritional counseling also contributed for the family to feel confident to change the menu and remove the soup that used to be offered along with semi-solid food items.

This way, after treatment and counseling, the gastrointestinal symptoms were eliminated, significantly contributing to the increase of comfort and confidence as well as to the reduction of the duration of the patient's meals, the fundamental aspects described in the literature^{10,14,15} as essential to make mealtimes feasible and pleasant.

Aspects related to meals, experiences and eating routine were observed during the assessment and work as they directly impact on the result of the treatment^{1-3,11,15-17}. At first, a great pressure on the side of the family for BM to eat regardless of the manner or food consistency was identified. The lack of pleasant experiences during meals and meals outside the house were verified too. BM was

not encouraged to eat by herself and her meals were offered exclusively by a caregiver. All these elements were combined with distraction during the meals and frequent negotiations for BM to eat.

These are relevant aspects that impact directly on the success of the treatment. According to the authors^{11,17-20}, dispute for control of food intake break the mealtimes and reduce the act of eating to an unpleasant moment for all those involved. This way, besides the sensory, motor and gastrointestinal aspects, for the effectiveness of the treatment of a child with feeding difficulties, it is necessary a broader view that considers and acts on the several aspects that interfere with the meal. Such factors are clearly described in the MPP¹¹, which considers and includes all the aspects involved in the Mealtime Circle¹¹.

Therefore, as proposed by the MPP¹¹, all the development of the therapy was shared and discussed with the family, who slowly built the confidence to have meals with their daughter and to include her in family traditions and social routines.

The family, as several authors^{11,17-20} report, exercise great influence on their children's eating habits and behaviors. Currently, some authors are already exploring the influence exerted by parenting styles in their children's eating behavior as well as they influence on the prognosis of the treatment of the feeding difficulties. So, it is important to highlight that, when diagnosing and treating a child with feeding difficulties, it is mandatory to understand the habits of the family they belong to as well as their culture, background, beliefs and values.

The MPP¹¹ enabled the use of strategies to promote sensory-oral aspects, gastrointestinal comfort and, most importantly, it reestablished the effective communication between the patient and her family during mealtimes which, as a result, made mealtimes to take place in a pleasant manner for all those involved, as reported by the family after discharge.

■ CONCLUSION

The Mealtime Partners Program, proved to be effective in the diagnosis and treatment of the feeding difficulties presented by the patient.

RESUMO

O presente artigo relata o caso clínico de paciente de dois anos e seis meses atendida por equipe multidisciplinar. A paciente apresentou dificuldades alimentares caracterizadas por recusa alimentar, tempo prolongado das refeições, defesa sensório-oral, reflexo de vômito anteriorizado e dificuldade mastigatória. Não se alimentava sozinha, nem participava das refeições em família. Apresentava refluxo gastroesofágico, alergia a proteína do leite de vaca e tosse seguida por vômito. Não apresentou comprometimento pondero-estatural. Foi utilizado o Programa de Refeição Compartilhada. Após acompanhamento médico, a conduta de trabalho foi definida e iniciada pelo trabalho sensório-oral, seguido do trabalho com a mastigação, associados ao trabalho de orientação familiar. A paciente passou a realizar as refeições com a família e participar das rotinas sociais de alimentação. O tempo de refeição foi reduzido e a recusa alimentar eliminada. Os aspectos sensório-motores-orais melhoraram significativamente. Após a alta e reavaliação em três meses, apresentou melhora no refluxo gastroesofágico e a medicação foi suprimida. A nutricionista iniciou a introdução de derivados do leite, com boa aceitação por parte da paciente. O programa utilizado mostrou-se eficaz para o diagnóstico e tratamento da dificuldade alimentar apresentada pela paciente. A equipe multidisciplinar foi capaz de ter uma visão ampliada da dificuldade alimentar apresentada pela paciente, compreendendo as questões motoras, orais, orgânicas e nutricionais da alimentação da criança inseridas no seu contexto familiar.

DESCRIPTORIOS: Comportamento Alimentar; Fonoaudiologia; Mastigação

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