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Exploring a Child's History for Optimal Treatment of Food Selectivity.

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Abstract

Food selectivity is defined as “food refusal based on type, texture, temperature, or appearance of food, leading to a self-restricted diet” (Suarez, 2015). Food selectivity affects children of all ages. Food selectivity refers to when a child is eating as few as 5-10 different foods and demonstrates food refusal behaviors, which can make mealtime a challenge for children and their families (Suarez, 2015). Occupational therapy addresses activities of daily living (ADLS), therefore feeding, including food selectivity is included within the OT scope of practice. There is a need to create a comprehensive and thorough document to collect a client’s history prior to treating the client. This knowledge can help a clinician use the session time most efficiently. It is imperative for clinicians and students to know what everything is on the patient history form and how it relates to feeding. There are many mental and cognitive, structural, and physiological limitations and diagnoses that can contribute to a child’s feeding problems. This document should be used as a reference tool when administering the updated child history form at any feeding clinic. The purpose of this thesis is to develop this history form for the Finicky Feeder’s Clinic at WMU Unified Clinics. This thesis is intended inform clinicians and future students of the importance of not only knowing a full and thorough client history, but also understanding what it means and how it relates to their food selectivity concerns. By knowing this, a clinician can be better equipped to have the information to create the best treatment plan for the child.

Introduction

Many children are designated by parents as “picky eaters”. In fact, children are naturally selective eaters at different stages of their development. This pattern of intake becomes a concern when a child does not eat enough foods to obtain the nutrients their body needs. A child with a

food selectivity is different than a “picky eater”. Severe food selectivity is defined as having less than 10 foods accepted as part of the child’s regular diet (Suarez, Nelson and Curtis, 2012). Children are considered “moderately selective” if they have less than 20 foods.

Feeding therapy fits within the scope of occupational therapy because it directly relates to an activity of daily living (ADL) or daily occupation. Occupational therapists can assist with feeding by addressing oral motor limitations, sensory integration limitations, and other behavioral concerns that go along with the activity of feeding.

At Western Michigan University, there is a food selectivity clinic called Finicky Feeders. This clinic uses a protocol that uses implements a series of “just right challenges”, oral motor activities, and sensory integration activities to help increase food intake in children who are have food selectivity (WMU, n.d.). Many times, the only patient information that the clinician receives prior to the initial evaluation with a child is the child’s name and date of birth. This makes it very challenging for the clinician to properly prepare for an initial assessment visit. It is important to obtain an accurate and complete history in order to create a comprehensive picture of the child. With this information, the treatment can be more precisely tailored to each child.

This project was focused on developing a comprehensive intake form to guide food selectivity treatment. This information will be used in an online portal on the electronic medical record system (or EMR) used at Unified Clinics. This would enable the therapist and family to be able to access necessary information online easily throughout treatment. This paper will discuss the importance of knowing a patient’s full history when evaluating them as a client. It is intended to be a guide and reference to elaborate on the reason each question on the history form is asked and how they all relate to feeding. The paper follows the format of the updated client history form and can be used to explain all sections of the form in order to better help clinicians

and future students understand why the questions are being asked and why it can be helpful when treating the clients.

Basic Child Information

Height and Weight

It is beneficial to know the height to weight ratio of the client to track growth. Using an appropriate growth chart is important. As an example, patients born prematurely or diagnosed with Down Syndrome should be assessed using the chart that has been adjusted for these conditions (Morris, Klein, 2000).

Age

When documenting the child's information, it is imperative to not only know the birthdate and age of the client, but also the corrected developmental age. A corrected developmental age accounts for prematurity of a child. Milestones will be adjusted to the developmental age of the child.

Caregiver's name and contact information

Feeding therapy requires an intense amount of caregiver involvement. The large proportion of what is done in therapy is caregiver education and the teaching of home programs to practice during the week. Not much improvement can be made with only one hour of treatment a week. It is highly recommended that the family and caregivers be actively involved in therapy with the child at home throughout the week to see the most positive outcomes possible.

Conditions

As a feeding therapist, it is important to know all the child's diagnoses and to have an understanding how the diagnoses affects feeding. "Many children have acute or chronic medical

conditions that have a negative impact on their appetite or ability to eat" (Morris, Klein, 2000). Therefore, it is necessary to be aware of a child's history and diagnoses prior to treating them.

Mental and Cognitive Limitations

Sensory Processing Disorder (SPD)

Sensory Processing Disorder is made up three main subtypes, Sensory Modulation Disorder (SMD), Sensory Discrimination Disorder (SDD), and Sensory-Based Motor Disorder (SSMB). Sensory Modulation Disorder (SMD) including Sensory Over-Responsivity can often cause a child to become sensitive or avoid certain stimuli. Food and the mealtime process are often very overwhelming for a child with SPD, consequently feeding can become a challenge. They also may be sensitive to certain textures, tastes, smells, and may request a particular presentation of foods they eat. For example, a child with SPD may have a certain brand of cereal they will eat or may only eat cold foods or foods of a certain color. For a child with sensory sensitivities, "lumpy foods may feel like mouthfuls of small stones" (Morris, Klein, 2000). These increased reactions to stimuli or sensations can induce a fight or flight response during mealtimes, which can make feeding difficult for these children.

Autism Spectrum Disorder (ASD)

Similar to Sensory Processing Disorder, a symptom Autism Spectrum Disorder can include sensory sensitivities. "Up to 89% of children with autism spectrum disorder (ASD) experience challenging mealtime behaviors" (Ledford & Gast, 2006) and are "5 times more likely than their peers to have significant feeding challenges" (Sharp et al., 2013). This disruption in sensory processing skills can often cause a child to become sensitive or avoid certain stimuli. Food and the mealtime process are often very overwhelming for a child with

ASD. Children on the spectrum may also have similar heightened reactions to sensations or stimuli associated with feeding.

Obsessive-Compulsive Disorder (OCD)

OCD has been found to have a high comorbidity rate with eating disorders and picky eating because of compulsive behaviors. Children or individuals who have obsessive compulsive disorder have been known to have a fear of feeding or eating certain foods due to their compulsive nature (Pardies, Latimer, Schwalen, 2016). There are many ways that OCD can play a role in food selectivity. Individuals who have a compulsive fear of eating unhealthy foods may severely limit their food intake and may also have a fear of choking or food going down the wrong pipe (Ehmke, n.d.). These fears can be magnified due to their disorder. This disorder is closely related and can often be accompanied with anxiety or sensory processing disorder. This compulsive nature can make trying new foods or breaking a routine very challenging for children with OCD.

ADHD

Children with Attention Deficit Disorder (ADD) or Attention Deficit Hyperactivity Disorder (ADHD), often experience trouble focusing or attending to a task, making mealtimes difficult for the child and the family. Most medications prescribed to treat ADHD are stimulants and have decreased appetite as a common and concerning side effect (Morris, Klein, 2000). Consequently, these children may have a difficult time staying on task at mealtime and may not feel hungry which further complicates things. In addition, many children with ADHD also have Sensory Processing Disorder which can further contribute to their eating challenges.

Learning Disability/Cognitive Impairment

If a child has a learning disability or cognitive impairment, it can make it difficult for the child to understand the tasks involved in eating (Morris, Klein, 2000). It may be necessary to break the tasks down into steps and take the time to teach each task in a way that the client can understand. This is another example of why it is essential to create an individualized treatment plan to fit the needs of each child. Understanding the specific learning differences of the client will help to tailor the treatment to best suit the client's needs.

Behavioral concerns (Oppositional Defiant Disorder or ODD)

Oppositional Defiant Disorder is a term to label children with behavioral issues. More children are being given this label, though evidence shows that only 3% of children have this disorder ("Oppositional Defiant Disorder", n.d). Common symptoms of ODD are aggression, high levels of irritability, defiance, and intense difficulty regulating their emotions. It is helpful to look at the refusal behavior as an indicator that there may be other factors that are contributing to the feeding issues that the client may be experiencing. It is good to be aware of a diagnosis of ODD or other behavioral concerns, as they may play a contributing role to the problem. One should also see if there are other underlying reasons for their difficulties with eating such as multiple diagnoses.

Generalized Anxiety Disorder (GAD)

When a child has an anxiety disorder or is feeling stressed, their desire to eat is diminished (Morris, Klein, 2000). Anxiety can result in negative associations with feeding. This disorder can coincide with other disorders such as SPD, OCD, or complex trauma and can be triggered when presented with mealtime demands or tasks. With these children it is imperative to

ensure that the child is being presented with “just right” challenges to reduce anxiety surrounding feeding demands or tasks.

History of Trauma (physical/sexual)

If a child has experienced physical or sexual trauma, especially involving the mouth, it is essential to be cautious as feeding could be a trigger of past experiences or traumatic memories. It is good to be aware of the past and know their triggers in order to best treat the child during therapy. Complex trauma occurs from repeated adverse childhood experiences (ACEs), that cause “discomfort or dislike (that) may escalate into actual fear for some children. This may be related to intensity or repetition of the original event” (Morris, Klein, 2000). When treating individuals with a traumatic past it is important to give them control. This control will help a child to feel safe, which will in turn allow them to be a more willing participant in therapy.

Structural Limitations

Structural limitations or impairments may impact a child’s ability or effectiveness to take in, manipulate, or swallow food (Morris, Klein, 2000). The impairments may lead to difficulties breathing that can lead to aspiration, reflux, blockages, and leakages, all of which can pose a danger to the child’s health. Structural limitations can be the result of a birth defect, disorder, or can be developed throughout their life.

Craniofacial Structural Limitations

Choanal Atresia

Choanal Atresia can cause a deformation in the nasal passageway and is a genetic condition. The nasal passage way in these individuals is collapsed, which can lead to increased aspiration (Morris, Klein, 2000).

Cleft Lip/Palate

A cleft is a birth defect that affects the closure of certain sections of the facial structure. There are many different types of clefts that can affect the process eating. If an individual has a cleft palate, then the oral structures are impaired, making chewing and swallowing challenging. Food can also get stuck and get built up within the space of the palate cleft. If a cleft affects the lip, then lip closure during food intake and chewing can be impaired. Food may drain or fall out of the mouth during intake, leading to feeding problems. (Morris, Klein, 2000).

Micrognathia

This condition is a birth defect that causes a receded jaw (Morris, Klein, 2000). Micrognathia can affect the oral motor movements needed for eating.

Macroglossia

Macroglossia is a genetic condition resulting in an increased amount of muscle tissue, most commonly seen in infants as an enlarged tongue. This can affect how an infant feeds because the large tongue can make it harder to bottle or breastfeed. The larger tongue can indicate low muscle tone, which can affect oral movements, food manipulation, and swallowing. In severe cases, the enlarged tongue does not have the muscle tone to move out of the way of the airway, resulting in a blockage of the airway or pharynx making breathing and feeding impaired. (Morris, Klein, 2000).

Dental Malocclusions

Dental Malocclusions relates to the bone structure in the mouth, resulting in impaired biting or other dental patterns. For example, a child who has a dental malocclusion may have difficulty biting and chewing because of abnormal or misshapen bony tissue in the jaw or palate (Morris, Klein, 2000). This can affect oral motor movements required for feeding.

Short Lingual Frenulum

A short lingual frenulum refers to an attached band of tissue attaching the tongue to the frenulum (underneath of the tongue). This can limit the decreased range of motion of the tongue which can results in impaired development of feeding and speech skills (Morris, Klein, 2000).

Gastrointestinal Structure Limitations

Hernias

Hernias occur when there is a weakness in the diaphragm or other organs within the digestive tract. When there is a weakness, it can result in a perforation of the cavity wall. This can affect feeding because the leakage of fluids into other cavities can result in esophageal reflux or GERD. Some examples of hernias that are related to feeding are Congenital Diaphragmatic Hernias and Hiatal Hernias (Morris, Klein, 2000).

Esophageal Stricture

An esophageal stricture refers to the narrowing of the esophagus as a result of chronic reflux ("Esophageal spasms & strictures", 2017). This condition is important to know as a feeding therapist, because it can result in refusal of solid foods, gagging, or vomiting. This condition is the result of a blockage of the food from entering the stomach at a stricture or restriction site. A child may show refusal behavior as an associated response to the gagging and vomiting which occurs after they try to eat solid foods (Morris, Klein, 2000).

Pyloric Stenosis

The narrowing of the pyloric sphincter can impair the foods ability to enter the stomach. This can also cause discomfort for a child and vomiting due to inability to digest food (Morris, Klein, 2000).

Esophageal Atresia

Esophageal Atresia occurs when the esophagus does not connect to the stomach at birth (Morris, Klein, 2000). This condition requires surgical intervention to re-connect the esophagus to the stomach. The individual will need a long-term feeding tube until the reconstruction surgery. Prior to the reconstruction surgery, an esophagostomy site is placed to help improve oral motor skill development. This procedure involves bringing a portion of the esophagus to an opening in the neck where an ostomy bag can be placed to hold secretions. While waiting for the surgical reconstruction, feeding therapists can use sham feeding (feeding food and liquids but removing them from esophagectomy bag) to help teach or maintain the developmental skills required for feeding in the future.

Anal Atresia

Anal Atresia refers to the lack of opening at the anal region requiring surgical intervention. This is a birth defect, as there could be skin or other membranous material covering the opening. This condition requires the use of a colostomy bag to collect waste materials and is necessary for a feeding therapist to be aware of, as it affects the types of foods that the child can digest. It is also important to be aware of as a general precaution when selecting foods for treatment (Morris, Klein, 2000).

Tracheoesophageal Fistula

This disorder can occur when there is a fistula or hole in the connection between the trachea and esophagus. This can disrupt feeding because there is no separation between the passageway between feeding and swallowing, resulting in food entering the airway. Food in the airway results in aspiration and requires surgical intervention (Morris, Klein, 2000).

Short Bowel Syndrome

Short Bowel Syndrome occurs when a portion of the intestine needs to be removed due to infection or other illness such as necrotizing enterocolitis (Morris, Klein, 2000). This removal can impair a child's ability to process food. A child may then require Parenteral Nutrition (PN), which involves a nutrient solution being entered directly into the bloodstream to support nutrition intake, during reintroduction of food, which can be a slow process. A child may also require a long-term feeding tube. This can affect a child's appetite and development of oral-motor feeding skills. A therapist should be aware of this condition and when it occurred as it may be a contributing factor to the feeding problem (Morris, Klein 2000).

Structural Respiratory Limitation

Tracheomalacia/Laryngomalacia

This condition refers to the obstruction of the larynx or trachea which interferes with the airway passage, leading to decrease of endurance during feeding (Morris, Klein, 2000). Therapists should look for wheezing or other noisy sounds, called stridors, as it may be a sign of this impairment (Morris, Klein, 2000).

Cardiac Structural Limitations

Structural blockages in the veins and arteries going to the heart can affect the blood flow to the lungs and body, impacting endurance of feeding, leading to fatigue throughout feeding sessions. There may also be a hole or perforation in a vein or arteries that can occur at birth such as; *Septal Defect (ventricular or Arterial)* or *Tetralogy of Fallot.* Other cardiac structural impairments that occur prenatally or at birth, to be aware of when treating a client are, *Patent Ductus Arteriosus, Hypoplastic Left Heart,* or *Transposition of the Great Arteries* (Morris, Klein, 2000). All conditions are important to be aware of, as they could affect the blood

flow and oxygen levels that help to determine a child's ability to maintain endurance while participating in feeding.

Skeletal/Muscular Structural Limitations

Scoliosis or kyphosis and hypotonia/hypertonia

Postural Stability is important to feeding and can be affected by different skeletal or tone disorders due to birth defects. The lack of postural stability can cause poor feeding positions. If a child does not have proper body mechanics while eating, it can lead to aspiration or choking. Postural stability can be affected in clients who suffer from a curvature of the spine (scoliosis), or an increase or decrease in muscle tone (hypertonia/hypertonia). (Morris, Klein, 2000).

Physiological Limitations

Oral-Pharyngeal Physiological Limitations

Aspiration

Aspiration is very commonly seen in children who suffer from eating problems and can be very dangerous as it may decrease lung health. "Aspiration occurs when the pharyngeal movement is not active enough to clear all food from the walls after a swallow, the remaining residue may eventually end up in the airway" (Morris, Klein, 2000). The can be indicative of an impairment in the swallow pattern that should be assessed further. Aspiration can be identified through a Barium Swallow Study or other fluoroscopic swallow studies. Poor body mechanics or feeding positions can place a child at a higher risk of aspirating.

Gastrointestinal Limitations

Dysphagia

Dysphagia occurs when a bolus of food cannot be swallowed. This can be due to a weakness of throat muscles, blockage in the passageway, or increased irritation of the throat from acid reflux. Dysphagia creates a large choking hazard for children and must be monitored closely (Morris, Klein, 2000). As a feeding therapist it is beneficial to look for signs of food refusal, vomiting, or choking. If a child has this condition, it is important to modify the types of foods that a child is eating, and the preparation of the foods being eaten (ex. cut into small pieces). Dysphagia can also be caused by poor feeding positions. As a feeding therapist, it is imperative to know if a client has a history of dysphagia, in order to properly set up the environment to ensure the client is safe during treatment and at home (Kagaya, Inamoto, Saitoh, 2011).

Gastroesophageal Reflux Disorder (GERD)

This condition refers to the increase of acid traveling from stomach up into the esophagus. GERD occurs to all individuals occasionally and can be treated over the counter medications or a change in lifestyle, such as eating different types of foods. If the problem still occurs, it could be caused by the weakening and loosening of the lower esophageal sphincter (Morris, Klein, 2000). This can be side effect of some medications. It can also be seen in individuals with genetic disorders such as cerebral palsy ("Symptoms & causes of GER ", 2015).

Esophagitis

When acid from vomiting or reflux stays for an extended amount of time in the esophagus, it can cause irritation and inflammation. This inflammation is known as esophagitis. This may make eating or swallowing painful for a child. (Morris, Klein, 2000).

Achalasia

In this condition, the Lower Esophageal Sphincter (LES) does not loosen to allow food to pass through. This can lead to vomiting or other difficulty swallowing a bolus of food due to the inability for the LES to open properly. This requires surgical intervention (Morris, Klein, 2000).

Disorders of Stomach Motility

These conditions refer to abnormal stomach muscular digestive activity (Morris, Klein, 2000). If the muscles of the stomach do not contract and move in a well-timed and coordinated way, it can lead to stomach motility problems ("Stomach: Gastric tests" 2016).

Delayed Gastric Emptying. Stomach motility can result in a delayed emptying of the bile and waste from the stomach. This is important to know as a feeding therapist because if an individual's stomach is not processing foods in an organized way, it can lead to vomiting, pain, and other reactions to eating (Morris, Klein, 2000).

Chronic Intestinal Pseudo-Obstruction (CIP). This is the most severe of stomach motility disorders. It is a result of poor muscle strength and coordination of muscle contractions in the intestines, preventing the food from digesting properly. It is imperative to look out for poor appetite, nausea, vomiting. heartburn, abdominal pain, or constipation. Most children with CIP will require long-term feeding tubes for the life, while other may outgrow this condition (Morris, Klein, 2000).

Constipation/Diarrhea. Constipation and diarrhea can be indicators of intestinal motility issues. When the intestines do not remove enough water during digestion, it can result in diarrhea. If the intestines remove too much water during digestion, it can result in constipation (Morris, Klein, 2000). This is important as a feeding therapist to understand as it may prompt a therapist to look further into digestive concerns with the client.

Hirschsprung Disease

This disease is related to a lack of nerves in the wall of the bowel which can result in stool becoming trapped in the colon. The lack of nerves makes releasing or holding stool challenging. This disease can cause discomfort from chronic constipation. Surgical intervention may be needed to remove the affected area and reconnect the portions of the bowel. Prior to surgery, the child will require a colostomy bag, but most children do not require long-term-intervention post-surgery. Occupational therapists should be aware of this in a child's past and look out for signs of chronic constipation while treating the child (Morris, Klein, 2000).

Respiratory and Cardiac Limitations

Bronchopulmonary dysplasia

Bronchopulmonary dysplasia refers to fewer alveoli in the lungs, which can result in decreased endurance and increased fatigue during feeding session (Morris, Klein, 2000). Other respiratory and cardiac conditions can result in difficulties with endurance during feeding due to compromised or diminished lung capacity and blood flow.

Visual Limitations

"Visual impairment and blindness affect the development of independent eating skills and play a major role in the way in which the feeder and child interact" (Morris, Klein, 2000). Vision is crucial for a therapist to be aware of as it directly relates to a child's ability to be able

to see what they are eating. An essential part of mealtime is the caregiver and child interactions. Children watch their family eat, and learn skills from them, such as how to eat with utensils, manners, and other eating skills. If a child has impaired vision, this can result in a delay in typical feeding skill development. It is also possible that a child who cannot see well, can result in a sense of fear not knowing what they are eating. Therefore, it is important to engage the child in feeding skills and age appropriate play to encourage interactions with food to make the child more comfortable with the foods and feeding process (Morris, Klein, 2000).

Allergies and Medications

Allergies or other dietary restrictions

Whether a child has allergies is imperative to know as a therapist working on feeding since food will be involved in therapy. This question should be asked before treating any client. As a medical professional, it is good to be aware of and stay away from anything that can induce harm to the client. It is also good to know if the child is intolerant of any foods. A child who is being fed foods that are hard for them to digest, can increase pain or discomfort (Morris, Klein, 2000). This discomfort can become a negative association with food and can affect their participation in the feeding process.

Medications

It is paramount to know what medications a child is taking because the medications can affect how a child behaves or interacts in therapy/mealtimes. It is also important to know the precautions of the medications they are taking. Certain medications may also have side effects of reducing appetite or other side effects that may impact feeding. For example, medications taken for ADHD can reduce a child's appetite (Morris, Klein 2000). Some foods can also diminish the effectiveness of the medication itself. Medications may also have a bad taste. A child may have a

decreased desire to eat after consumption of bad tasting medication. A child can associate the experience of eating with the bad tasting medicine, especially if the medication must be taken with food or at every meal. This negative association can create refusal behaviors or anxiety around mealtimes (Morris, Klein 2000).

Family History

Family History

Feeding disorders, such as Bulimia Nervosa (BN) or Anorexia Nervosa (AN) have been found to have a significant genetic component linked to them. “Estimates from the most rigorous studies suggest that greater than 50 percent of the variance in liability to eating disorders and disordered eating behaviors can be accounted for by additive genetic effects” (Berrettini, 2004). It is beneficial to inquire about family history of eating disorders because it is helpful to know if they have the genetic markers that can lead to one of these conditions. Even though the child may not be presenting signs at the current time, it is good to be aware of the risks going forward. There has also been research to show that depression and anxiety disorders have found to share some etiology, suggesting there may be links between the two conditions (Berrettini, 2004). It is also important to be aware if the mother was suffering from an eating disorder during pregnancy, as it can affect the baby. Having an eating disorder during pregnancy can result in a premature labor and low birth rate. Premature babies have a higher likelihood of developing a feeding disorder or experience feeding problems (“Premature birth”, 2019).

Birthing History

Pregnancy Complications

It is helpful to know if the mother had any pregnancy complications in order to gain a better understanding of the child’s history, and if there were any indicators of concern that may

have contributed to the feeding problems. If a child is born prematurely, they may need to have a breathing tube, or a nasal-gastric (NG) tube placed while in the neonatal intensive care unit (NICU). A premature infant could have a higher risk of developing a feeding disorder due to their developmental delays. Along with feeding problems, premature babies are more likely to develop behavioral and psychological problems, impaired learning, vision and hearing problems, gastrointestinal problems, and other long-term medical conditions ("Premature birth", 2019).

Breastfeeding

Breastfeeding provides a child nutrients and antibodies that they would not get otherwise. This can help an infant to create a stronger immune system. Knowing how the child breastfed or bottle-fed can provide information to the therapist regarding oral-motor skills. Breastfeeding has been proven to improve the mother-baby relationship through skin-to skin contact. "This, early, loving touch can provide a foundation of trust and closeness upon which to build a feeding relationship" (Morris, Klein, 2000). As a feeding therapist, it is necessary to look at the feeding history from the beginning to assess the oral motor skill level of the child and if there may be any limitations or problems that may be impacting the child's feeding skills.

Procedures and Surgical History

Diagnostic Procedures/Surgical Procedures

It is helpful to know any diagnostic procedures or surgical procedures the patient has had, or is planning to have, relative to feeding to obtain an understanding of what has been tried and what the results are relative to the occupational therapy treatment going to be provided (Morris, Klein, 2000). It is also crucial to know of any precautions from any of the past procedures or surgeries that may need to be kept in mind when treating the child.

A *Barium Swallow Study* is a fluoroscopic video that looks at the swallow phase of an individual, using a Barium liquid added to thickened liquids. This look at the body mechanics. The video looks at the esophagus and epiglottis, looking for signs of aspiration. This is important watch for coughing during feeding, as the food may not be fully being cleared during swallowing (Morris, Klein, 2000).

An *Ultrasound* can assess the oral prep and oral phase of the swallow. The imaging can look at how the structures of the mouth are interacting to address oral motor concerns from a physiological perspective (Morris, Klein, 2000).

A *Fiberoptic Endoscopic evaluation of swallowing (FFES)* looks at the laryngopharynx and upper aerodigestive tract to assess the opening and structural concerns. This test is done when a patient is under anesthesia. A swallow is induced, and the scope looks at the structures and movements of the swallow (Morris, Klein, 2000).

A *PH probe* is used to test the PH levels in the stomach to help assess the frequency and duration of gastroesophageal reflux. The probe is kept in 24 hours to assess levels during all activities of the day. It can also be used to assess the differences in PH levels when the body position during feeding is altered (Morris, Klein, 2000). This diagnosis tool can be very helpful with patients with GERD.

An *upper gastrointestinal endoscopy* can provide a visual of what is happening in the upper gastrointestinal tract. The probe can be used to look at the integrity of the linings of the upper GI tract, which can be affected by GERD. It can also assist is placement of feeding tubes (Morris, Klein, 2000).

A *gastroesophageal scintigraphy* is a non-invasive procedure that uses radiation to measure the rate of gastric emptying. The longer it takes for the stomach to empty, the higher risk the child is for GERD (Morris, Klein, 2000).

Adaptive Equipment and Communicative Devices

Adaptive Equipment

It is good to be aware of any adaptive equipment a child uses to be able to best modify the therapy to accommodate their needs (Morris, Klein, 2000). This is especially important to know when creating any gross-motor obstacle course, games, or other therapeutic activities, which are used in the Finicky Feeding Protocol at the Unified Clinics at WMU tools to modulate arousal level and as reinforcement.

Developmental Milestone History

Fine Motor

A child must have adequate grasp and hand control to self-feed (Miller, Fuller & Roetenberg, 2014). Fine motor skills are used to hold utensils and finger-feed. If a child has inadequate pinch or grip skills, self-feeding becomes challenging. If a child is struggling to feed them self, he/she can easily get frustrated by the feeding experience. This can contribute to feeding problems, as this can make mealtimes difficult for the child and the family. This can result in an increase in refusal or other negative behaviors during mealtimes.

Gross Motor

Gross motor development can indicate postural stability levels. Postural stability is helpful as it relates to the position of the child during feeding (Miller, Fuller & Roetenberg, 2014). If a child has poor core strength or postural stability, feeding may be a challenge because of improper body mechanics. Having an inadequate feeding position can lead to dysphagia, as

evidenced by a study conducted in 2011 (Kaygaya, Inamoto, Okada, and E. Saitoh, 2011). Other gross motor milestones that are good to be aware of as a therapist would be when a child crawled and walked, as these milestones can indicate a general developmental delay.

Speech and Communication

It is helpful to know about when a child began to speak as it can indicate a developmental delay or speech impairment that can impact the communication in therapy. If a child struggles with expressive speech, a therapist should inquire about current compensatory strategies as necessary, such as visual aids or pictures schedules, or adaptive equipment, such as a communication board. If a child struggles with receptive speech, a therapist should seek to identify to what level the child can understand, by asking how many words a child can comprehend. This can better prepare the therapist to set up sessions to best communicate with the child (Miller, Fuller & Roetenberg, 2014).

Medical Team

As most health practitioners do not work alone, occupational therapy is no exception. Occupational therapy works best using an interdisciplinary approach, meaning that occupational therapists often work alongside members from different fields in order to receive input on treatment plans and inventions for the child. This is done to ensure that all members are on the same page and providing the best treatment specifically for the child. With feeding, a nutritionist, gastroenterologist, psychologist, case worker, speech therapist, physical therapist, primary physician, cardiologist, teachers, social worker, and another occupational therapist may be involved in the treatment of the child and should be consulted throughout treatment process (Morris, Klein, 2000).

Other input that team members can provide is information regarding structural or other physical concerns that may be affecting the child's ability to eat, or nutritional status, as provided by a nutritionist (Morris, Klein, 2000).

Other therapy services

When treating a client, it is helpful to know any other therapeutic services they have previously received. It is good to inquire about speech and language therapy, physical therapy, occupational therapy, as well as if they have seen a nutritionist. This can provide information on what they have tried, what has worked or has not worked, to have a better starting point when treating this child (Morris, Klein, 2000).

School

Knowing a child's educational history can help provide information about other support and services a child may be receiving. This can provide an insight to what type of support this child has or may need during treatment. The Michigan Alliance for Families is a helpful resource for clinicians and families to reference about information regarding the current classifications for an IEP plan in Michigan ("Eligibility categories", 2019).

Child Interests

In occupational therapy, therapists strive to take a client-centered approach when it comes to treating clients. Knowing what a child likes and dislikes are can help to spark the motivation and encourage active participation in therapy sessions. The children coming to feeding therapy, most likely have negative or aversive reactions or associations to food. This can make eating not enjoyable and even scary for some children. Therefore, it is so important to include aspects of what a child likes into the treatment. Occupational therapists focus on improving occupational-based performance, which for children is play (American Occupational

Therapy Association, 2014). Therefore, when working in pediatrics play-based treatment is used frequently in efforts to boost motivation and create a playful and positive therapeutic environment.

Goals

It is imperative to obtain information on what the caregivers want to see come out of therapy, as they will play a large part in the treatment process. This will help assist the therapist to address concerns of the caregivers as well as what the therapist observes, when creating the goals for the treatment. During feeding therapy, caregivers should be asked to identify three to five "goal" foods, that they would like to be included in treatment. These should be foods that the family eats often that they would like their child to eat as well. The foods should be chosen to represent a balanced and well-rounded diet (Suarez, Nelson, Curtis, 2012).

Mealtime Strategies

Before treating a child and their family for feeding therapy, it is crucial to have an understanding to what a typical mealtime looks like for the family. It is beneficial to ask about different cultural beliefs or traditions that can come into play at mealtime. "Children who grow up from different culture that value interdependence over independence may develop self-care skills a somewhat later time" (Morris, Klein, 2000). These factors are essential to look at, as they fall within client factors as specified in the occupational therapy practice framework or OTPF 3rd (American Occupational Therapy Association, 2014). It is helpful as a therapist to know what strategies the caregivers have been utilizing during mealtime, what has worked, and what has not worked. This will be a helpful starting point for treatment. It is important to ask about routines and if the family sits down and eats together during meals. Family mealtime can provide a physically safe, supported, and comfortable feeding environment and are sources of

encouragement (Morris, Klein, 2000). It is helpful to assess mealtime from the perspective of the family dynamic. Mealtime is generally a time for the family to connect with one another. It is a time to talk about their day and share their thoughts and feelings. which enhances the quality of the mealtime and the family's relationships. If it is found that the family has inconsistent mealtime routines, it is harder to set boundaries, which can result in behavioral problems surrounding meal times.

Conclusion

It is beneficial for a feeding therapist to have a comprehensive form to collect history information that will guide the evaluation process. This thesis project centered around the creation of this intake form, allowing the clinician to have the information necessary to begin developing the best strategy for therapy right away. This can allow for a clinician to use "best practice" to ensure that they are getting the most out of each session spent with the child. Generally, insurance companies cover only a limited number of therapy sessions, which again highlights the importance of making the best use of the time spent in a therapy session. This reference document should be used to further the understanding of the clinicians and students on the many possible contributing factors to a feeding disorder they may impact their client. The history form should be used as a physical reminder to look in depth into all aspects of the client's history to fully be able to understand what may be contributing to the feeding problems. The importance of knowing a child's full history is like solving a puzzle where all the pieces together create the full picture.

As occupational therapists, we should commit ourselves to putting in the full effort to understand all aspects of a child's history and contributing factors that impact the child's feeding problem so therapy can have the most positive impact possible for that child. This

project creates a comprehensive document to educate feeding therapists on how the importance of knowing a complete history prior to treating the child for food selectivity.

References

American Occupational Therapy Association. (2014). Occupational therapy practice framework: Domain and process (3rd ed.). *American Journal of Occupational Therapy*, *68*(Suppl.1), S1-S48. http://dx.doi.org/10.5014/ajot.2014.682006

Berrettini W. (2004). The genetics of eating disorders. *Psychiatry (Edgmont (Pa.: Township))*, *1*(3), 18–25.

Esophageal spasms & strictures (2017). Retrieved from https://my.clevelandclinic.org/health/diseases/15575-esophageal-spasms--strictures

Ehmke, R. (n.d.). More than picky eating. Retrieved from https://childmind.org/article/more-than-picky-eating/

Eligibility Categories. (2019). Retrieved from https://www.michiganallianceforfamilies.org/eligibility-categories/

Kagaya, H., Inamoto, Y., & Saitoh, E. (2011). Body positions and functional training to reduce aspiration in patients with dysphagia. *Japan Medical Association Journal,54*(1) 35-38.

Ledford, J., & Gast, D. (2006). Feeding problems in children with autism spectrum disorders: A review. *Focus on Autism and Other Developmental Disabilities*, *21*(3), 153–166. https://doi.org/10.1177/10883576060210030401

Miller, L. J., Fuller, D. A., & Roetenberg, J. (2014). *Sensational kids: Hope and help for children with sensory processing disorder (SPD)*. New York, NY: Penguin Group.

Morris, S. E., & Klein, M. D. (2000). *Pre-feeding skills: A comprehensive resource for mealtime development*. Austin, TX: Pro-Ed.

Oppositional Defiant Disorder (ODD) (n.d.). Retrieved from https://www.anxietytreatmentnyc.org/odd.cfm.

Pardies, A. A., Latimer, K. M., and Schwalen, S. (2016). OCD and eating disorders. Retrieved from https://www.mirror-mirror.org/ocd.htm

Premature birth (2019). Retrieved from, https://www.mayoclinic.org/diseases-conditions/premature-birth/symptoms-causes/syc-20376730

Sharp, W. G., Berry, R. C., McCracken, C., Nuhu, N. N., Marvel, E., Saulnier, C. A., . . . Jaquess, D. L. (2013). Feeding problems and nutrient intake in children with autism spectrum disorders: A meta-analysis and comprehensive review of the literature. *Journal of Autism and Developmental Disorders, 43* (9), 2159–2173. https://doi.org/10.1007/s10803-013-1771-5

Stomach: Gastric tests (2016, March 24). Retrieved from https://www.aboutgimotility.org/motility-testing/stomach.html.

Symptoms & causes of GER & GERD in children & teens (2015, April 01). Retrieved from https://www.niddk.nih.gov/health-information/digestive-diseases/acid-reflux-ger-gerd-children-teens/symptoms-causes.

Suarez, M. A. (2014). Multicomponent treatment for food selectivity in children. *Nutrition in Clinical Practice, 30*(3), 425-431. doi:10.1177/0884533614553638.

Suarez, M.A., Nelson, N.W., & Curtis, A. B. (2012). Associations of physiological factors, age, and sensory over-responsivity with food selectivity in children with Autism Spectrum Disorders. *Open Journal of Occupational Therapy, 1(1).* doi:10.15453/2168-6408.1004.

Western Michigan University (WMU) (2019). Unique feeding clinic helps families. Retrieved from https://wmich.edu/unifiedclinics/feedingclinic.