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Communication between children and carers during mealtimes; what can we learn to improve communication opportunities for children with learning disabilities?

Background

Dysphagia is the term used to describe difficulties with using the tongue, lips and jaw during eating and drinking as well as problems with swallowing. If not managed, people with dysphagia can aspirate food and fluid into the lungs causing chest infections and ultimately death (p 320 RCSLT: 2006).

People with learning disabilities have a higher tendency to have; difficulties eating safely and swallowing efficiently, poor nutrition, and are susceptible to dehydration, asphyxiation and aspiration (Harding & Wright, 2010). They also are frequently reliant upon the support of others to help them sustain their health, interpret health needs and to evaluate health status (Emerson et al, 2001).

Mealtimes provide an opportunity for the development of independent skills, social interaction and language learning for children (Bowerman & Levinson, 2001). It is also a time where young children can learn to develop their oral motor skills by being introduced to new textures and tastes (Aukhurst & Snow, 1998; Ferm et al, 2005). The focus of mealtimes for people with learning disabilities is more directed towards managing the dysphagia rather than on social exchange (Chadwick et al, 2003). This suggests that the quality of communication and interaction opportunities within mealtimes is reduced for people with learning disabilities (Ferm et al, 2005; Mathisen, 2001; Martin & Corlew, 1990; Pan Alexander et al, 2000; Parker et al, 1996; Tulviste et al, 2000; Venes et al, 2007). This is in contrast to normal children, where communication may focus around the mealtime in relation to developing independent eating and drinking skills, maintaining appropriate eating abilities or discussion of important events meaningful to the carer and the child (Aukhurst & Snow, 1998). Research suggests that if communication is used effectively in a mealtime context alongside appropriate eating and drinking strategies with people who have learning disabilities, then risks associated with swallowing are reduced (Harding & Halai, 2009; Mathisen, 2001).

The evidence to support the notion of promoting communication alongside difficulties with eating and drinking is not supported in the literature. This paper examines normal mealtime communication with six preschool children aged between 0; 8 months and 3; 06 years of age. A normal pre-school population was selected to gain a baseline of children who have developing communication and who may also use mainly preverbal language. Gaining this data can provide valuable insight into natural communication during a functional context. This can be used to consider the best communication styles to support and improve quality of life, interaction opportunities and reduce risk for children with learning disabilities.

Normal Language Development

The process of language acquisition begins at birth with the infant's non-verbal skills presenting a pragmatic platform to stimulate interaction between carer and baby, (Bochner & Jones, 2003). Feeding times as well as other routine events such as nappy changing, bath time and so on provide opportunities for interaction to take place through use of eye contact facial expression and the use of non-specific vocalisations that carers respond to and use reciprocally. Such skills offer important pre-cursor strategies of joint attention, gaze following and later tracking and following gesture, (Tomasello & Carpenter, 2007). These skills of shared attention and interest in gesture are recognised as important in the acquisition of word knowledge and first words, (Tomasello & Carpenter, 2007). Turn taking, both at the pre-verbal and verbal stage relies on interaction both for shared experience and social interaction, (Bochner & Jones, 2003).

Mealtime socialisation

Some studies have explored the nature of communication during the mealtime context. Family mealtimes can vary from between 20 minutes to over 45 minutes depending on the context and age of the child, (Fiese & Schwartz, 2008). Research has suggested that due to the functional and routine aspect of mealtimes, they have an important role in vocabulary growth and consolidation especially if there is an absence of background noise and distraction, (Beals & Snow, 1994; Fiese & Schwartz, 2008).

Comparing communication at mealtimes between typically developing children and their carers with children with disabilities and their carers, more social communication may occur with those without disabilities such as narratives and extended dialogue, (Fiese & Schwartz, 2008). Mealtimes have been defined as being important for providing opportunities to learn, develop and socialise (Bowerman & Levinson, 2001).

Aukhurst & Snow (1998) considered mealtimes within a social context as in choice making and the possibilities for narrative discussion as well as explanation. By narratives, the authors were interested in discussion about events at home or pre-school as well as discussion about previous or future events. Explanations referred to spontaneous comments linked to functional and social issues, e.g. "pick up your spoon" or comments on behaviour, emotions or competence, e.g. "You are using your fork well. Good!" The authors chose two similar groups, 22 Norwegian children (average age 3.3 years) and 22 American children (average age 3.6 years) matched for age and gender. Data collection included number of utterances and mean length of utterance per person. Norwegian families used a significantly high number of narrative utterances related to social routines and recent events compared to their American counterparts ($t = 2.956, p < .01$) whereas American parents produced significantly more explanatory utterances related to child behaviour and recent family events outside of the immediate context, ($t = 4.77, p < .001$) compared to the Norwegian families. However, both countries had mealtimes as a focus for social language development and social exchange. The multifunctional value of the social setting, the sitting and attending and the vocabulary learning through discussions around

past events or events that have yet to take place was recognised by parents as important (Aukhurst & Snow, 1998).

Communication with children who have communication disabilities

There are a range of studies that show clearly that communication and interaction between caregivers and children with disabilities differs greatly from that of their typically developing peers and carers. Communication exchange for children with disabilities, particularly those using Augmentative and Alternative Communication (AAC) in everyday settings is likely to be more about prompting, guiding and teaching the child to use their communication rather than general social interaction (Pan Alexander et al, 2000; Tulviste et al, 2000; Ferm et al, 2005; Veness et al, 2007).

Children with disabilities and feeding problems have been described as being at risk of a higher number of disruptive mealtime behaviours (Sanders et al, 1997). Difficulties could include food refusals, playing with food rather than eating it and limited interaction (Sanders et al, 1997). Sanders et al (1997) evaluated mealtime interaction with parents and children aged between 12 – 84 months who had cystic fibrosis compared to normal children matched in age. Mother to child interaction styles differed significantly with mothers using aversive language, i.e. making negative comments about the child's eating style ($(F2, 61) = 2.33, p < .05$) compared to the mothers of children with no difficulties (Sanders et al, 1997). Mothers supporting children who have cerebral palsy during mealtimes produce language to direct the child rather than engaging them in conversation, e.g. "open" and "eat it all up now" (Veness et al, 2007). Mothers used a significantly higher level of initiations per minute regardless of the child's level of ability, (mean of 2.71; SD, 2.25; range 0.10 – 8.14) compared to the children's initiations (mean of 0.92; SD, 0.85; range 0 – 3.48, $p = 0.004$) (Veness et al, 2007). This compares to the Ferm et al (2005) study where 71% and 80% of initiations came from the carer of the child with communication difficulties in the observations carried out, compared to 53% and 65% with the normal dyad.

One hypothesis is that if AAC strategies are encouraged within a mealtime context to support communication, consistent eating and drinking skills can be consolidated with a more balanced communication exchange taking place (Harding et al, 2010). In this particular study, two children with profound and multiple learning disabilities were introduced to various AAC support within the mealtime context. Child K showed a significant improvement in his initiation of communication during mealtimes ($p = < 0.05$) after AAC was introduced consistently as did Child B, ($p = < 0.05$) (Harding et al, 2010).

Ferm et al, (2005) investigated the naturalistic mealtime interaction of a parent-child dyad where the child had no known difficulties and a parent-child dyad where the child was defined as having complex communication needs which required the support of AAC. The child used word approximations and a Blissymbolics board with a substantial vocabulary set of verbs, nouns, adjectives and the means to access grammatical functions. Conversation for the child with no specific difficulties involved events outside

of the mealtime. For the child with the complex communication needs, the conversation was more about the mealtime itself and the carer used language to discuss issues around the immediate context. Fewer opportunities to develop extended narratives or explore use of vocabulary beyond the immediate event was observed.

Summary

Research has shown that mealtimes are an important opportunity for language learning and development. It is a social activity that occurs frequently and offers language learning beyond naming within an interactive context. Few studies have evaluated the benefits for children with learning disabilities within this context. This study explores the non-verbal and verbal communication of typically developing children and their caregivers and raises some points that may be of importance when developing the skills of children with disabilities in the same situation. This paper adds to the current literature on this subject as it has a greater focus on what the potential benefits of using communication strategies in a consistent and focused way could be for children with disabilities. Normal data can reveal important elements of the mealtime context that can be introduced into the mealtime management of children with learning disabilities to improve quality of life.

Method

This study was approved by the ethics committee at City University's School of Health. Caregivers were informed that the mealtime recording and data obtained would remain confidential. Parental consent was obtained for each child.

The criteria for inclusion were for the participant to be typically developing with no known learning disability or significant illness in the last 3 months. This was confirmed by each parent who reported that the children had not seen a health care practitioner for the difficulties just outlined. An informal questionnaire asked parents about early feeding history

Six children participated and were aged between 0; 8 months and 3; 06 years of age. They were recruited from an inner city area. Each child and their caregiver are monolingual English and had lived in the UK since birth. The ethnic backgrounds of the children are black Afro-Caribbean (4), mixed black and Caucasian (1), and black African (1). The sample size was small but participants included three girls and three boys.

- Put Table 1 about here -

Procedure

Before being video-recorded, parents were given a questionnaire. This was to identify if any of the children had had early infant feeding problems such as reflux which could have had an impact on the development of mealtime communication. Following completion of the questionnaire, each dyad was video-recorded having a typical meal at home. A Samsung c20 memory card camcorder was used to record each mealtime interaction. Caregivers were instructed to support their child to have the meal as they usually would, including using the same feeding utensils, and managing the mealtime in the usual way. The objective was to gain typical analysis of a mealtime session and so it was important that caregivers conducted

themselves as naturally as possible. Mealtime videos lasted for up to 30 minutes and the researcher was present to supervise the recording but did not participate in any mealtime conversations. Where other members of the family would usually participate in the mealtimes (i.e. siblings) they were not present during the mealtimes analysed for this research. Each video was analysed using the Discourse Analysis method (Wooffitt, 2006) adapted by Pennington & McConahie (2001) and a transcript was produced by the researcher of the words spoken and actions observed. Analysis of the video transcripts included the identification of the following communicative features (Pennington & McConahie, 2001):

1. Caregiver comments to child about appropriate mealtime behaviour (directive communication)
2. Child verbal/nonverbal initiation with regard to the meal (social communication)
3. Caregiver questions about child's enjoyment of the meal (social communication)
4. Caregiver comments about child's enjoyment of the meal (social communication)
5. Caregiver praise of child (social communication)
6. Caregiver use of repetition to coax feeding (social communication)

Results

Results from this study consisted of; i) findings from the parent questionnaire, and ii) findings from the analysis of transcripts of each mealtime using Discourse Analysis method (Wooffitt, 2006) adapted by Pennington & McConahie (2001). Descriptive statistics are used to summarise the findings.

Questionnaire Results

The informal questionnaire revealed that all of the children were developing within normal parameters with language and feeding skills. However, some subtle early difficulties were identified with some of the children. Each child was born at term and breastfed from birth for at least one month. For Child A and Child F, nutritional intake was still supplemented with breastfeeding at least once a day at the time of the study. Three children had demonstrated early feeding difficulties for up to 6 months. Caregivers were asked about the amount of support their child required during mealtime; each child, apart from Child D, was supervised or supported by an adult. Child B, Child C, and Child E were able to self-feed with little or no support. Child A and Child F were fully supported and spoon-fed during mealtimes. Child D's mother reported that he was mostly able to feed independently.

Parents were asked whether their child had ever demonstrated any early feeding difficulties. This was specified as being up to the first two years of life including, but not limited to, concerns about weight gain, vomiting, and sucking skills. Two parents reported that their child had colic and reflux, whilst one parent reported that their child had reflux alone; the final three parents

reported that their child had not demonstrated any early feeding difficulties. Due to 50% (n=3) of the participants having demonstrated identifiable early feeding difficulties (EFD) the researcher made comparisons between those who had early difficulties with those who did not, (Figure 1)

- Put Figure 1 about here -

Transcription analysis

The video recording of each mealtime interaction was watched and analysed by the researchers to identify nonverbal as well as verbal communication. The descriptive statistics obtained from the parental questionnaire were used to group and analyse the data. Each Mother-child (MC) dyad was assigned to different groups to enable comparisons; verbal and nonverbal children, reported Early Feeding Difficulties (EFD) and Typical Early Feeding (TEF), independent (self) feeders and dependent feeders, and across individual participants. The time of each meal varied from 8.04 minutes to 23.30 minutes.

- *Comments about Appropriate Mealtime Behaviour (directive communication)*

Core across all dyads were comments made by carers to each child about mealtime behaviour and verbally managing an aspect of the mealtime. This was defined as the caregiver commenting on behaviour exhibited that disrupted the mealtime and where the child needed direction to carryout a task.

Instructions about behaviour were also classified as comments because at the time of communication the objective was to decrease the inappropriate behaviour immediately, (e.g. Parent B */you're the one that needs to eat/ blow it and eat it/ and /make sure you chew properly/*).

Comments were counted for each dyad mealtime; tally of the features identified per mealtime were then grouped into EFD, and TEF groups. Results indicate that the caregivers of children who demonstrated early feeding difficulties made more comments to guide and manage the child's behaviour in relation to the current mealtime (EFD n=50 > TEF n=14) (figure 2).

- Put Figure2 about here -

- *Child Verbal and Nonverbal Initiation*

Child initiations with specific regard to the meal or meal episode were identified and counted. Initiation was classified as seeking or gaining the caregivers attention to make a verbal or nonverbal indication about the meal or meal interaction (e.g. *Child C moved forward and reached for his bowl*) and */it's hot/*). Participants continued to be assigned to the EFD and TEF groups for comparison. The number of times a child initiated within each group during mealtime was calculated. Results do not indicate a considerable difference in verbal/nonverbal initiations by children with EFD during mealtimes compared with those with TEF. (Figure 3)

- Put Figure3 about here -

- *Caregiver Questions and Comments about Meal Enjoyment*

Verbal communication from the caregiver was divided into questions, comments and statements. The features of this verbal communication which were counted were specific to the child's enjoyment of the meal. Questions were often basic asking whether the child was enjoying the food (e.g. */is it nice/*); comments counted included nonverbal sounds to communicate meaning (e.g. */mmm/ yum/*).

Participants were grouped according to being verbal or nonverbal. The three youngest nonverbal children were asked more questions about whether they were enjoying the meal; similarly their caregivers made more comments about their enjoyment of the meal (e.g. */mmm/* and */here...you'll like it/*). The verbal group included two children with EFD; the small number of questions and comments asked in this group were produced in these EFD dyads. Nonverbal group: 10 questions + 8 comments > Verbal group 3 questions + 1 comment (Figure 4).

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- *Caregiver Questions about Meal Enjoyment*

Following on from the results obtained about the number of questions asked by caregivers regarding the child's mealtime enjoyment, the researcher assigned participants to new groups; self feeders and dependent feeders. This was to evaluate any differences within other categories which represent typical paediatric feeding development. Caregivers asked more questions about the child's enjoyment of the meal if they were feeding them. Caregivers asked self feeding children 1 question on average whereas dependent feeders were asked 3 questions on average. (Figure 5)

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- *Caregiver Praise, and Repetition to Coax Feeding*

Comparisons were made between dyad interactions individually. Children were listed in order of age in months and years (i.e. 0; 8 months to 3;05 years). The researcher identified and tallied the number of times in each mealtime interaction that the caregiver praised the child. This mainly comprised of praising 'good boy/girl' with regard to the child's presentation at the meal/ and/or feeding. The number of times that each caregiver immediately repeated herself with the objective of coaxing the feeding was also counted (i.e. */finish your dinner first/finish your dinner please/*). Repetition for coaxing was limited to immediate repetitions (e.g. (1.0) or less), and that a majority of the words were identical to the previous utterance. These features were compared across participants and indicated that the older children (aged 2;07 and 3;05 years) received no praise by their caregiver ; similarly the oldest child received no repetition to coax. There was no indication of a considerable difference between caregiver praise and repetition to coax in the children with EFD versus TEF.

Conclusion

The objective of this study was to identify features of communication which were prevalent across the mealtime interactions between carers and normal pre-school children. Results tentatively indicate that there may be some differences in the way caregivers communicate with children with EFD and compared to those with TEF. This may support the initial idea that analysis of communication during mealtimes with children who do not have learning needs may provide support for understanding the nature of feeding and communication difficulties in children with disabilities.

The results explored the differences in dyad relationships during mealtimes. Children who demonstrated EFD seemed to be given more directive communication from carers in relation to eating their meal and feeding "well". The carers of these children were observed to be more concerned about how the child was 'presenting' at the meal such as issuing directive communication comments about how to establish a successful meal; e.g. Parent B */you have to blow it first/* and */ok have some juice when you're ready/*.

In one particular dyad (Parent - Child D) some specific differences were evident. It is difficult to state if the results were idiosyncratic or because this child was older than the others in the sample. In many of the categories the Child D dyad did not demonstrate the same range of communicative features as the five other participants. Child D did not have any EFD and his dyad contained the only caregiver who actually participated in the mealtime through eating her own meal.

The core aspects relevant for further discussion from the results are documented below with examples from the dyad data:

- *Caregiver comments to child about appropriate mealtime behaviour (directive communication)*

Caregiver comments about mealtime behaviour were the most substantial feature to identify across dyad mealtimes. Comments varied more than any other features identified. This area requires further investigation as considerably more comments were made by caregivers of children who had EFDs. Appropriate mealtime behaviour included; sitting properly/attending to the meal, an appropriate pace of feeding, appropriate use of utensils, and appropriate ratio of drink to meal. Comments included:

Parent A: *'/don't play with your food missy/* and */finish what's in your mouth/*

Parent B: *'/blow it and eat it/* and */see what happens when you don't eat properly/*

Parent C: *'/sit up close all right/* and */make sure you chew properly/*

Parent D: *'/mind your arm in the food on the table/*

Parent Child E: *'/hold your plate so the plate don't move/* and */don't put the spoon in your hair/*

Parent Child F: *'/no, sit up/* and */no, you've got food in your mouth/*

- *Child verbal/nonverbal initiation with regard to the meal*

Child initiation with caregivers was the only data which was counted as a child communicative behaviour (i.e. the other areas ended up focusing on how the caregiver initially or responsively interacted with the child). Children sought and gained the attention of their caregiver at times when there had been a mess created or seemingly because the child wished to resume a pace of the meal (i.e. another mouthful).

Child A: *(moves forward and reaches out towards bowl)*

Child B: *'/my knees is all messy/ and /it's a big one/'* (referring to size of spoonful she had created)

Child C: *'/unclear/'* (picking bits of food of the table)

Child D: *'/oh mummy it keeps dropping/'*

Child E: *(puts finger in yoghurt bowl and shows M)*

Child F: *(stretches out hands out forwards towards bowl)*

- *Caregiver questions and comments regarding the child's enjoyment of the meal*

Carers gave comments about and asked how much the child was enjoying the meal. Carers possibly discussed the satisfaction of the meal with nonverbal children (Child A, Child E and Child F) more than verbal children as a form of reinforcement to feeding, as the child would be unable to respond (i.e. essentially telling them they were enjoying the meal). This may relate to general caregiver practice during mealtimes with children with disabilities to support the mealtime quality and it would be useful to compare this with the concern about adequate nutrition in children with disabilities.

Parent A: *'/is it nice/'*

Parent B: *'/nice/'*

Parent C: *'/is it nice/'*

Parent D: *'/is that nice/'*

Parent F: *'/are you enjoying your dinner/'*

- *Caregiver praise of child*

This aspect focuses on how the caregiver relayed to the child that they were participating well in the meal as an activity. The actual language used to praise the child was very similar across the age bands. The caregivers of Parent A and Parent F told them that they had 'done well' in participation of the meal and feeding.

Parent A: *'/good girl/ and /you've done very well/'*

Parent B: *'/good girl/'*

Parent E: *'/good girl/' and /yay/'*

Parent F: *'/good boy/' and /well done Mr. /'*

- *Caregiver use of repetition to coax feeding*

Caregivers regularly instructed the child to either attend to the meal or increase the pace of both independent and dependent feeding. The utterances which were repeated were to verbally prompt the child. It is likely that whilst some of the repetition was subconscious on the part of the caregiver (e.g. not intentionally repeating an instruction), utterances were mostly repeated to reinforce what had already been said and likely to support the child's understanding.

Parent A: *'/here/ here you go bubba/'*

Parent B: *'/ok next one B/next one now/'*

Parent C: *'/eat first/ finish eat first/'*
Parent E: *'/eat that up/ eat up/'*
Parent F: *'/come on chew chew/'*

Previous Findings

Ferm's study (2005) of naturalistic mealtime interaction stated that conversational topics in a typically-developing child's mealtime are less 'anchored' to the immediate setting. Conversely, mealtime conversational topics with children with complex communication needs were less likely to extend beyond the immediate mealtime. Unlike the literature reviewed, the conversational topics of the normally developing children and their carers in this study seemed to focus on the mealtime situation. However, the verbal children with EFD appeared more likely to initiate with a topic outside the immediate mealtime context. For example, Child B (2; 05 years) discussed a television programme and Child C (2; 07 years) initiated a comment about his favourite toy which was across the room. It can then be argued that as a result of an adult possibly interpreting topic change as a possible avoidance-technique the carer is predictably more likely to make comments or issue instructions about the meal to re-direct the child's attention.

The Sanders (1997) study of children with cystic fibrosis highlighted that caregivers are more concerned about adequate nutritional intake in children with feeding difficulties. This is supported by the present study, in that caregivers of children with EFD were more likely to make comments about appropriate mealtime behaviour with the perceived objective of coaxing feeding and/or increasing the feeding pace. It is not clear from the research data and the literature to date if children respond specifically to the parents' comments or re-focus as a result.

Implications of this study

This is a small-scale initial study; it provides conversational extracts of a typical mealtime which can be used to identify communicative features that may be specific to the mealtime of a typically developing preschool child. The present study suggests an association between EFD in typically developing children and the verbal and nonverbal communication which takes place between them and the caregiver during mealtimes. It can be argued that the children with EFD seemed to have a more 'disruptive' mealtime with more directive comments made by their caregivers about how to participate 'well' in the mealtime. In addition, the literature on mealtime communication in normal populations is not extensive and the sample in this study does not have similar features compared to the other normal population studies, (Aukhurst & Snow, 1998; Ferm et al, 2005).

Understanding the immediate implications of this study directly related to disability and dysphagia issues is necessary to support the initial idea that communication during mealtimes can influence and improve a child's mealtime experience. The nature of the EFD which had been reported by caregivers via the questionnaire (i.e. colic and reflux) was arguably common and short-term. It is possible that EFD could still have influenced the way caregivers interacted with the children even though their feeding problems had resolved. Disability issues such as swallowing safety and adequate

nutrition will more than likely impact on the verbal and nonverbal interaction of children with disabilities and their carers during mealtimes.

The length of each mealtime in the study varied; whilst the researcher identified more communicative features between children with EFD and their caregivers, these were some of the longer-lasting mealtimes and so interaction lasted longer resulting in more communication. For example, Child B, aged 2;05 years with EFD was praised 6 times by caregiver throughout the meal, but Child C aged 2;07 with EFD was not praised throughout a much shorter mealtime of less than 10 minutes.

Another implication of this study is that the nature of communication during a typical mealtime is didactic rather than discursive linked to events outside of the mealtime as found in previous literature (Aukhurst & Snow, 1998; Ferm et al, 2005). However, it does not reliably account for the nature of communication as a family (i.e. siblings, other parent). The quality of interaction tentatively seems to be affected by whether or not EFD were reported. This suggests that it would be necessary to explore whether the inclusion criterion of typically developing preschool children should be divided into two groups, EFD and TEF. This study leads to a further hypothesis that a young child's communication with a carer is likely to be affected by the nature of the EFD, including the length of time the EFD lasted. Further research based on this initial study is necessary to obtain more information about the nature of the communication observed.

Future Research and how children with complex needs can benefit

This initial study provides useful information regarding mother-child interaction during mealtimes. A larger sample of participants would increase the scale of the study and results would be more representative of the ethnic and cultural diversity in the UK. Additional carer questions to provide descriptive statistics about the social-economic status, cultural, and caregiver opinion on the nature of communication/ interaction during typical mealtimes would be useful.

The findings of this study have been considered in relation to eating and drinking difficulties within the learning disabled population. Mealtimes are important as they provide an opportunity for the development of independent skills, oral motor skills, social interaction and language learning for children, (Bochner & Jones, 2003; Bowerman & Levinson, 2001; Fiese & Schwartz, 2008; Tomasello & Carpenter, 2007). The literature suggests that the quality of communication and interaction opportunities within the mealtime context is reduced for people with learning disabilities with carers focusing on managing the dysphagia rather than on social exchange, (Venes et al, 2007). A developing notion is that if communication is used effectively in a mealtime context, then risks associated with eating and drinking are reduced (Harding & Halai, 2009).

The question remains as to how this research is relevant to parents and carers of children with complex needs? Studies that have looked at normal communication interactions do reveal some subtle cultural differences but a core element appears to be the use of narrative relevant to the children's

lives and less about the process of eating and drinking (Aukhurst & Snow, 1998; Beals & Snow, 1994; Fiese & Schwartz, 2008). In contrast, studies that include people with disabilities inevitably focus on the didactic and directive nature of communication during interactions (Pan Alexander et al, 2000; Tulviste et al, 2000; Ferm et al, 2005; Venes et al, 2007). This paper does not propose that narrative conversation should be embedded within mealtime interactions with children who have learning disabilities and eating and drinking difficulties. The nature of the children's needs are inevitably going to include receptive and expressive language delay, cognitive delay and potentially the need to use AAC to support language understanding and expression. Proposed steps to developing methods of supporting and improving communication during mealtimes includes understanding the nature of the eating and drinking difficulties alongside the child's preferred communication style. These steps are outlined in Table 2. As demonstrated in the literature review, children who have access to AAC tend to have poorer language interaction opportunities and outcomes (Harding et al, 2010).

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Parents find functional goals easier to implement if they are embedded within an everyday context (Limbrick-Spencer G, 2000). Eating is stressful if children have significant eating and drinking difficulties and if goals are functional then they are more likely to be implemented (Limbrick-Spencer G, 2000). It cannot yet be determined whether the type or degree of early feeding impairment is instrumental in how typically developing preschool children and caregiver interact during mealtime, however Veness et al (2007) suggested that feeding impairment does have a 'bearing' on aspects of interaction. If communication is a main focus of intervention during mealtimes then perhaps AAC use would be enhanced; learning and language opportunities could be present in the mealtime context; independence would be maximised; risk of aspiration potentially could be reduced, (Harding & Halai, 2009).

The authors recommend that future research about children with disabilities and their carers during mealtimes should explore the issues raised. A suggested approach would be for children to be video-recorded both in their homes and in school. This would involve mealtimes with a parent as well as a learning support assistant (LSA) in familiar environments. Parents and LSAs could also be given a questionnaire to complete about their understanding of mealtime difficulties to ascertain how much training about dysphagia they had received. The following methods could be used to analyse the data; i) conversation analysis to explore communication during the mealtime and provide qualitative data on the language and interaction occurring and any communication strategies used that enable a child to respond effectively, ii) questionnaire data on parents and carers perceptions of dysphagia which would be compared and iii) descriptive data on how many spoonfuls of food children completed, time of day of meal, number of coughing events, and the % amount of the meal eaten. Images of the meals could be photographed before and after each meal and then analysed with reliability data to judge how much had been eaten.

This initial study provides a measure against which to compare interactions between caregivers and respective typically-developing children and children with disabilities, during mealtimes. It could be the basis for discussion and to develop a specific approach that will benefit children and their carers during the mealtime context and therefore improve the quality of communication during this time, provide language learning opportunities and contribute towards reducing risk with children who have learning disabilities.

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Table 1: Information describing each participant

Participant	Gender	Age (year / months)	History of early feeding difficulties
A	F	0;9	N
B	F	2;5	Y
C	M	2;7	Y
D	M	3;5	N
E	F	1;8	Y
F	M	0;8	N

Table 2: Proposed steps to promoting improved communication during mealtimes for children with complex learning needs.

Area to identify	Action required
1. Identify with the speech and language therapist the key elements of the nature of the eating difficulties	Observe a mealtime to observe; i) best position to feed the child and therefore postural stability , ii) child's level of independence, iii) pace of the mealtime, iv) carer language style and response to child and v) any risk signs, e.g. coughing, colour change, etc.
2. Identify specific dysphagia goals and how they can be made functional	Gain a clear understanding of the types of goals being implemented such as motor with swallow strategies, sensory modifications and compensatory approaches.
3. Identify the child's level of independence	How much can the child feed themselves, and can they independently utilise any AAC to communicate need during the meal?
4. Identify the child's level of functioning	What is the child's level of cognition and their receptive ability? How can these areas be supported? Does the child need language modification, repetition, visual supports, auditory supports, etc?

Figure 1: Pie chart showing the types of EFD caregivers reported

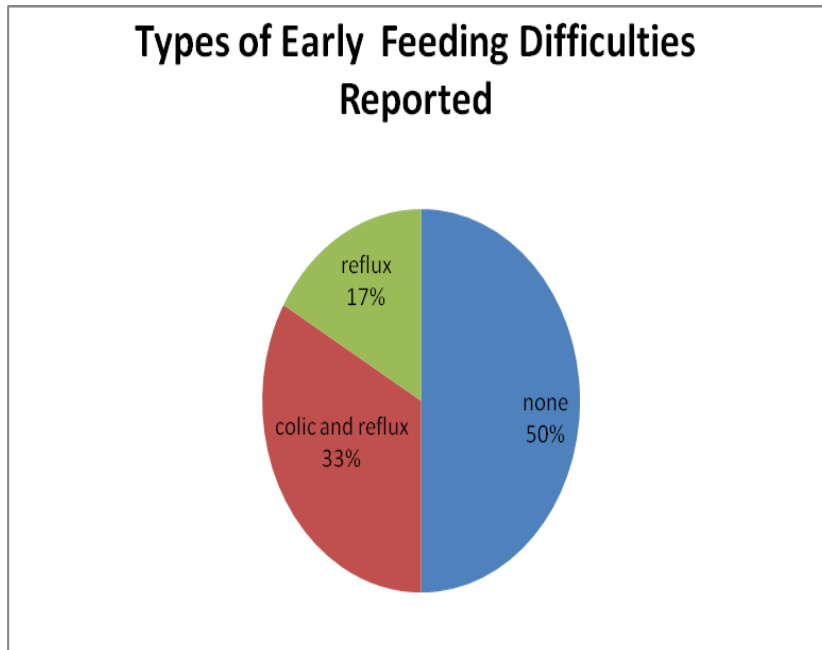


Figure 2: Caregiver comments about appropriate mealtime behaviour

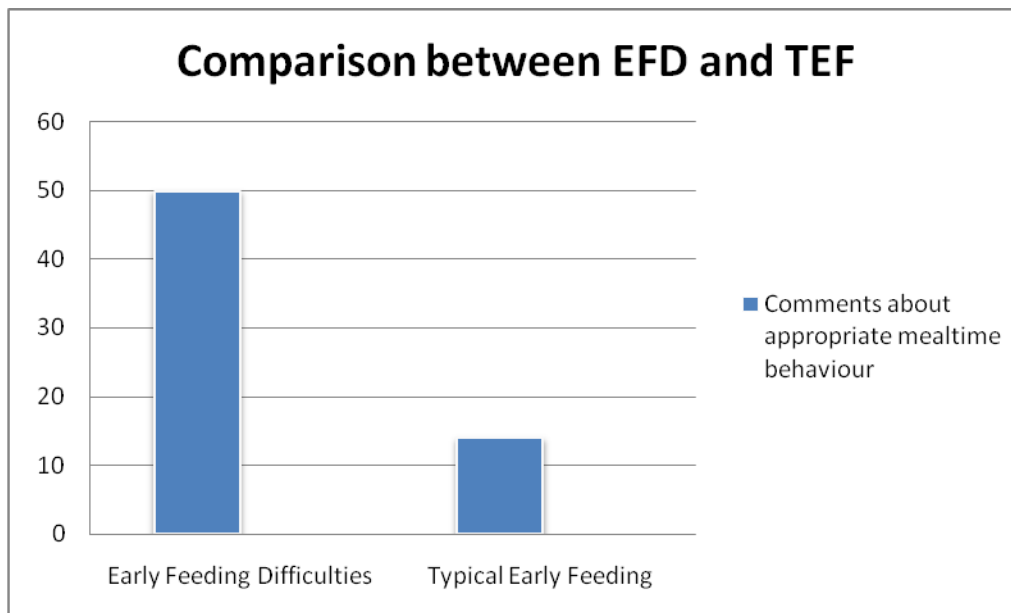


Figure 3: Number of child verbal/nonverbal initiations with caregiver

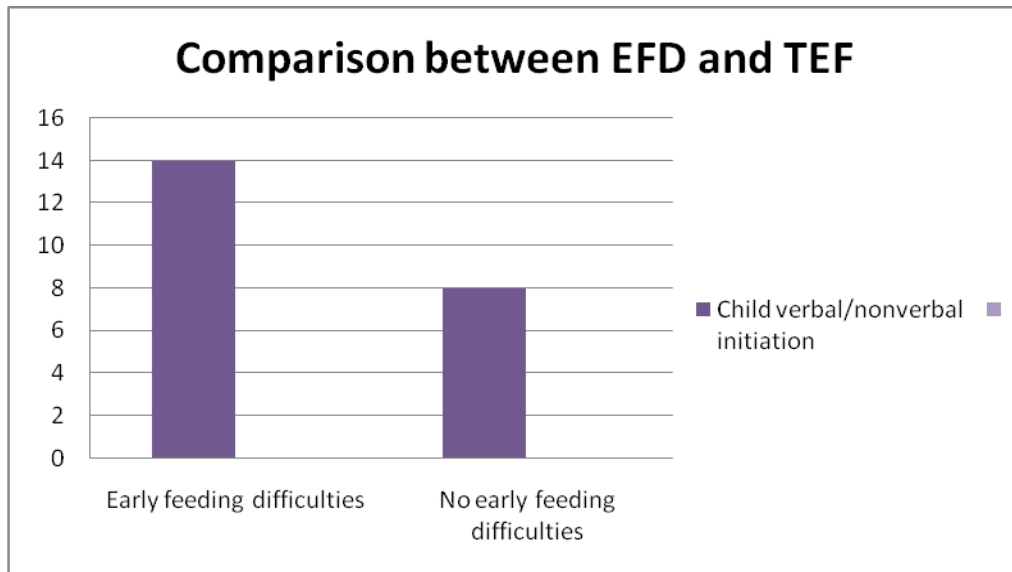


Figure 4: Caregiver questions and comments about child mealtime enjoyment

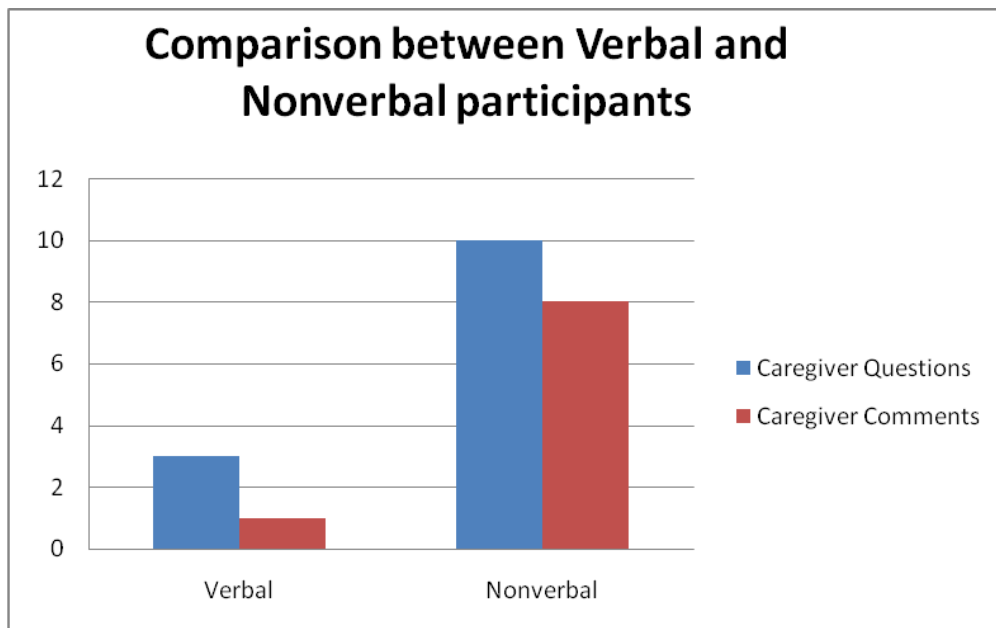


Figure 5: Average number of caregiver questions about meal enjoyment

