A QUALITATIVE INQUIRY INTO THE DEVELOPMENT AND USE OF KNOWLEDGE IN PAEDIATRIC OCCUPATIONAL THERAPY

by

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ABSTRACT

A qualitative inquiry into the development and use of knowledge in paediatric occupational therapy

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Current occupational therapy literature focuses on empirical knowledge instead of the everyday knowledge used by practising therapists. Therefore, a qualitative approach was needed to inform therapists about the other types of knowledge essential to best practice. This study utilised a grounded theory approach and constant comparative method of analysis, to examine the processes and factors that influence infant feeding evaluations from the perspective of occupational therapists. In-depth, semi-structured, face-to-face interviews were carried out with thirteen experienced occupational therapists practising in the Greater Toronto Area. Three main themes emerged from the data: (a) the art of occupational therapy feeding evaluations, (b) relational aspects of the infant feeding evaluation and (c) environmental influences. Therapists described a holistic approach where their own knowledge development directly influenced their practice. By validating the intuitive, interpersonal and experiential knowledge embedded in therapists' practice, this study highlights the skilled everyday knowing of occupational therapists.

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"It is good to have an end to journey towards;
but it is the journey that matters in the end."
by U. LeGuin

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CHAPTER 1

INTRODUCTION

Current occupational therapy literature focuses on empirical knowledge instead of the everyday knowledge used by practising therapists. The occupational therapy national associations have broadened their definition of "best practice" beyond empirical knowledge to include expert consensus and professional experience (Canadian Association of Occupational Therapists, Association of Canadian Occupational Therapy University Programs, Association of Canadian Occupational Therapy Regulatory Organizations, & Presidents' Advisory Committee, 1999). Therefore, research is needed to uncover therapists shared expertise and validate the intuitive, interpersonal and experiential knowledge essential to experienced therapists' practice.

This study arose from the interests of the investigator, a paediatric occupational therapist who specialises in infant feeding. The infant evaluation process was delimited further by looking specifically at the use and development of occupational therapists' knowledge in the area of young infant feeding assessments. "Feeding disorders" is a term used to describe infants who are unable or refuse to eat certain foods due to neuromuscular, metabolic, skeletal and/or psychosocial dysfunction (Babbitt et al., 1994). More than 300 infants under three months of age received occupational therapy feeding assessments at The Hospital for Sick Children within a two year period (1996 to 1998). Given that occupational therapists carryout a large number of feeding assessments, this area of practice provides ample opportunities to study occupational therapists' best practices. Therefore, feeding evaluations were used as one example whereby the issue of knowledge use and development in occupational therapy could be explored.

Specific assessment practices may vary amongst occupational therapists due to a range of factors including but not limited to therapists' training and experience, conceptual orientation, and clinical reasoning skills. In addition, experienced therapists who specialise in infant feeding

evaluations typically practice in isolation, hence limiting their opportunities to compare clinical observations. As therapists continue to provide service to these infants and their families, research is needed to inform therapists about the knowledge they need for best practice.

Purpose of Study

This study's objective is to identify the processes and factors that influence occupational therapists' infant feeding evaluations.

Assumptions

In reviewing the literature one paradigm was common. A paradigm is a set of beliefs and assumptions which guide actions (Guba & Lincoln, 1989; Guba & Lincoln, 1994). Positivism is the dominant paradigm found in the literature on clinical reasoning and infant feeding. Guba and Lincoln describe a positivistic paradigm as being based on three common beliefs: (1) that there are rules that can explain human behaviour; (2) that the investigator remains objective and attempts to reduce any influence she may have on the subject and; (3) that the investigator poses questions and carries out tests to verify them.

A clinical reasoning approach explains how therapists solve problems. This approach is consistent with a positivistic paradigm, since it is assumes there are rules that explain skilled human behaviour. The Canadian Model of Occupational Performance (CAOT, 1997) is an occupational therapy theoretical model, used to describe occupational therapy knowledge and practice. It was assumed that a clinical reasoning approach combined with an occupational therapy practice model such as the Canadian Model of Occupational Performance (CAOT, 1997), was the most appropriate framework for organising the processes and factors that may influence therapists' infant feeding evaluations. Therefore, this literature review section is organised within the framework of these two models.

LITERATURE REVIEW

A Clinical Reasoning Framework

One of the most common positivistic approaches used in the literature is the view of clinical reasoning as a cognitive process of information processing (Crabtree, 1998; Robertson, 1996a) with a focus on problem solving or goal directed reasoning. This model of problem solving used to process information has been referred to as hypothesis testing and involves four stages: 1. the acquisition of cues, 2. generation of hypotheses, 3. interpretation of cues and 4. evaluation of hypotheses (Crabtree, 1998). However, a clinical reasoning approach does not account for the experiential knowledge and intuitive aspects that may influence the occupational therapists' approach to infant feeding evaluation.

The literature on clinical reasoning distinguishes experienced therapists from their counterparts. It has been suggested that experienced therapists have more than two years of clinical experience (Jensen, Shepard, & Hack, 1990; Robertson, 1996b). Expert therapists have been defined in the clinical reasoning literature as therapists with twelve or more years of experience (Shepard, Hack, Gwyer, & Jensen, 1999).

The Scientific Knowledge Base of Occupational Therapy

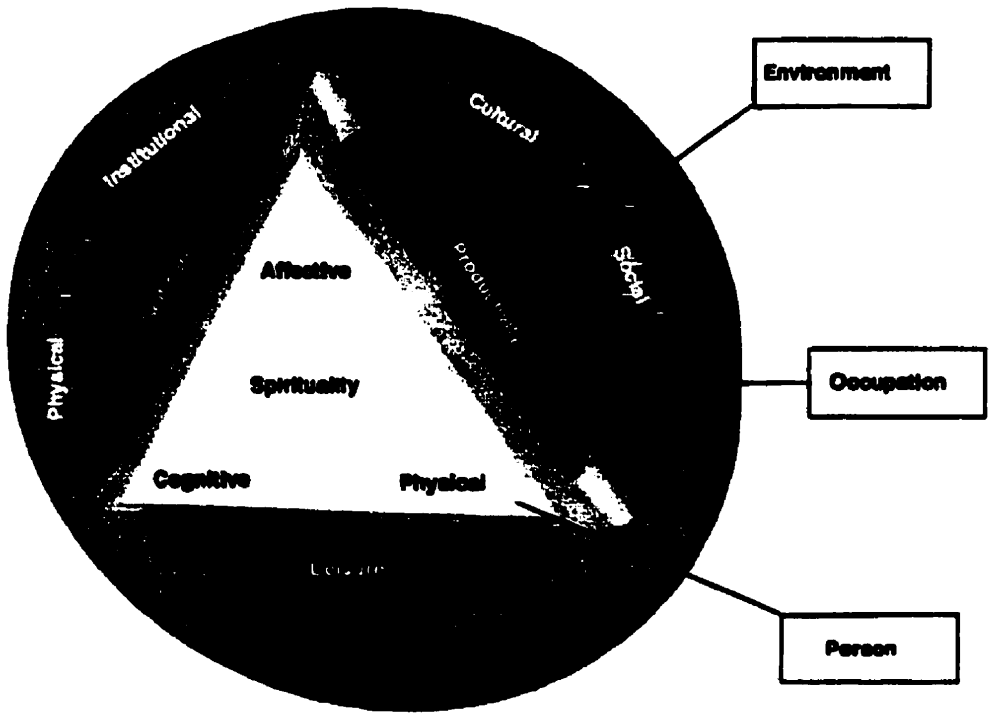
The Canadian Model of Occupational Performance illustrates the dynamic relationship between persons, their environment and occupation (CAOT, 1997). The scientific knowledge base of occupational therapists who assess infant feeding, is organised and presented within the framework of this model.

The Canadian Model of Occupational Performance

Occupational performance represents the dynamic interdependent interactions between the person, environment and occupation as shown by The Canadian Model of Occupational Performance (see Figure 1). The person is the integrated whole of their affective, cognitive and

physical performance components. The environment refers to those contexts and situations that occur outside individuals and elicit responses from them (CAOT, 1997; Law, 1991), and encompasses cultural, institutional, physical and social elements. Occupational therapists use the

Figure 1: Canadian Model of Occupational Performance



Note. From Enabling Occupation: An Occupational Therapy Perspective (p. 32), by Canadian Association of Occupational Therapists, 1997, Ottawa, ON: CAOT Publications ACE. Copyright 1997 by CAOT Publications ACE. Reprinted with permission.

word "occupation" to refer to everyday tasks and activities that are meaningful for their clients. The three main purposes of occupation are self-care, productivity and leisure. (CAOT, 1997) Although the Canadian Model of Occupational Performance does not inform us about what happens at a pragmatic level for the individual therapist, it is included in the national guidelines

for client-centred practice in occupational therapy titled "Enabling occupation: an occupational therapy perspective" (CAOT, 1997). The Canadian Model of Occupational Performance is used within this document to reflect the concepts of occupational performance and provide an occupational therapy perspective of health and illness.

The ability to feed or take in food is one of the most important occupational performance outcomes during infancy. Since oral feeding is indeed a part of an infant's daily routine, normally developing infants readily acquire fundamental or underlying component skills and behaviours within the motor, sensory-integrative, cognitive, psychological and social domains, through their active engagement in feeding. These skills are critical because they provide a foundation for skill development and subsequent occupational performance roles. For example, feeding is one activity through with the parent-infant relationship is established.

Many infants face challenges that interfere with their ability to feed, and are therefore restricted in this basic occupational performance area. Physical risk factors for early feeding difficulties may include increased need for respiratory support, interventions such as delayed oral feeding or endotracheal intubation, prolonged nutritional supplementation, gastroesophageal reflux and neurological disturbances (Hawdon, Beauregard, Slattery, & Kennedy, 2000). Affective factors such as poorly organised infant behaviour can influence the parent-infant interaction system (Goldberg, 1979). Early feeding difficulties frequently result in emotional stress for the family and may contribute to nutritional problems such as failure to thrive (Hawdon et al., 2000).

In applying the Canadian Model of Occupational Performance to this study, it was anticipated that occupational therapists reflect on the transactive relationship between person-environment and occupation when assessing a client. It was expected that the participants would identify the physical and affective performance components as key components they evaluate.

The social, cultural and institutional environments were also expected to be key factors that contributed to therapists' evaluations.

Physical Component of the Canadian Model of Occupational Performance

The feeding literature assumes that an infant's ability to organise their feeding functions is a reflection of the integrity of the central nervous system and peripheral structures. For example, the infant's level of arousal is controlled by the reticular activating system (Crossman & Neary, 1995). An optimal state for feeding is one that does not interfere with the infant's ability to feed (Wolf & Glass, 1992). Motor functions are also indicative of central nervous system functioning. Head and trunk control contributes to an infant's feeding abilities by setting up an optimal position for feeding (Frappier, Marino, & Shishmaniam, 1987). The infant should have balanced muscle tone that allows for smooth co-ordinated movements.

The ability to suck and swallow effectively is necessary for infant feeding and is controlled by the central nervous system and its peripheral structures. The main principle of sucking is that fluid moves as a result of pressure changes (Wolf & Glass, 1992). A normal sucking pattern consists of alternating suction and expression (Lau & Schanler, 1996; Wolf & Glass, 1992). Infant feeding patterns have been classified as normal, disorganised and dysfunctional (Braun & Palmer, 1985; Hawdon et al., 2000; Palmer, Crawley, & Blanco, 1993). A disorganised sucking pattern reflects a normal but immature organisation of behaviours and responses; meaning that the sucking pattern is normal but needs to develop further. A dysfunctional sucking pattern is an abnormal pattern indicative of an underlying neurological problem. The co-ordination of sucking, swallowing and breathing is dependent on changes in breathing patterns. Therefore, any abnormalities of respiration, cardiac function or change in the baby's face colour should be noted as part of the feeding assessment (Hawdon et al., 2000).

Pathological states have the potential to cause impairments at different anatomical levels. For example, oral-motor dysfunction can result from a lesion at any anatomical level from the cerebral cortex to the muscles supplied by cranial nerves V, VII, IX, X and XII (Braun & Palmer, 1985; Hill & Volpe, 1981). Disruption in the infant's ability to suck and swallow may occur alone or with disorders of ventilation, muscle tone or cranial nerve abnormalities which can all result in feeding difficulties (Hill & Volpe, 1981). Inefficient or compromised breathing patterns make co-ordination of suck-swallow-breathe difficult, which may precipitate fatigue and lead to an inability to consume food in sufficient quantities (Frappier et al., 1987).

Affective Component of the Canadian Model of Occupational Performance

The early contact between mother and baby through feeding is believed to foster an affective tie between the mother and infant (Goulet, Bell, Tribble, Paul, & Lang, 1998). Therapists must combine their understanding of the infant's physical and/or neurological difficulties with a parent-infant interactional approach, in order to effectively assess and treat infant feeding problems (Weaver, 1999). Of particular interest is Goldberg's (1998) suggestion that an infant's temperamental characteristics exert both direct and indirect influences on attachment rather than an infant's medical condition (Goldberg, 1998). For example, premature infants have been found to spend less time alert and are more difficult to keep awake and alert; consequently, parents of premature infants have been found to be less actively involved with their babies and have had to work harder during feedings in the first four months than parents who had responsive infants (Goldberg, 1979).

Recent literature has discussed the use of the internal working model construct to help organise and explain mothers' goals and behaviours (Pridham, Knight, & Stephenson, 1989; Pridham, Limbo, Schroeder, Thoyre, & Van Riper, 1998; Pridham, Schroeder, & Brown, 1999). The purpose of the internal working model construct is to explain how mothers think. The

mother's internal working model of caregiving has been described as a social construct developed from past experiences, that is used to come up with an action plan in order to achieve a goal (Pridham et al., 1989). One can explore a mother's working model of infant feeding by talking to the mother about her views on feeding. A mother's goals, actions and behaviours are all part of her internal working model.

Pridham and colleagues (1999) suggested that an adaptive mother would reflect on her expectations of her infant and herself. They examined maternal adaptiveness by interviewing mothers and exploring the following: the mother's view of feeding, the response and acknowledgement of the infant, how the mother supports the independence of the infant in feeding skills, and how feeding decisions are made and evaluated. This approach to caregiving can be used to shed light not only on the parent-infant interactions but also methods by which therapists can facilitate the caregiver's own occupational performance.

Socio-cultural Environment

Specific literature relating the socio-cultural environment to feeding is limited. Maternal-child attachment has been related to the affective, cognitive and physical well-being of the child and is influenced by the individual, social and environmental characteristics (Fuller, 1990). Parenthood itself is dependent on individual and family resources, social differences and support systems (Goulet et al., 1998). Therefore, attention to social nuances and cultural expectations is necessary to build a collaborative working relationship with the family.

The ability to feed one's infant by mouth is not only central to the role of the mother but also has significant social and emotional meaning for the mother. Spalding & McKeever (1998) found that not only do mothers feel solely responsible for feeding their children, but that their feeding practices were often challenged by husbands, health professionals and other family members. The mothers appreciated it when the importance of eating by mouth for them was

recognised, and when they were encouraged to participate in feeding their child orally. Therefore, the assessment process should be collaborative and recognise the expertise of the mother. As mentioned earlier, a therapist who acknowledges the dyadic relationship between the infant and mother, will be able to incorporate that information into her assessment.

In some cultures certain foods are believed to foster infant growth and development and may be different from what would be recommended by the medical community. Professional and family goals may also be different. For example, Lieberman (1998) found differences between Anglo professionals who were trying to protect and foster the child's individuality and mothers' child rearing practices that were aimed at fostering close family bonds before autonomy. Perhaps observing social etiquette and respecting the differences between the family's and therapist's own cultural beliefs and values forges collaborative relationships.

Institutional Environment

Institutional environments includes social institutions, organisational practices, political and economic components (CAOT, 1997). The institutional environment may place an overemphasis on infant feeding and impose a feeding schedule for the mother to follow, which causes mothers to disregard their intuitive awareness of the infant's needs in response to institutional pressures (Fuller, 1990). For example, mothers may feed their infants on a schedule imposed by the hospital rather than on demand feeding based on the infant's needs. This is especially true of infants who are not gaining weight and are given a higher calorie formula from a bottle. Therefore, the impact of the institutional environment will depend on where the feeding assessment is done.

Successful feeding is often discussed in terms of the time it takes the infant to feed and the volume of milk fed. For example, Case-Smith, Cooper and Scala (1989) defined efficient feeders in their study as infants who were able to consume almost two thirds of their ideal

feeding intake in the first five minutes. For some infants such as those infants who are not safe to orally feed, the outcome may be an improved parent-infant interaction and other developmental changes. The targeted outcome may vary depending on the setting and where the infant is at in terms of their rehabilitation.

Evaluation of feeding

Evaluation is important to show clients the degree of change and to identify focus for further change (Fearing, Law, & Clark, 1997). Since scientific knowledge is assumed to ultimately be verifiable, the literature tends to focus on the description and classification of infant feeding concepts. This section presents the literature on current feeding assessments, clinical guidelines and outcomes research.

A global assessment of infant feeding abilities does not exist; although there are tools that assess specific components of infant feeding. There have been numerous studies examining sucking abilities in infants by using a special nipple connected to a transducer to measure the rate, rhythmicity and sucking strength (for example, Dubignon & Cooper, 1980; Ellison, Vidyasagar, & Anderson, 1979; McGowan, Marsh, Fowler, Levy, & Stallings, 1991; Medoff-Cooper, Weininger, & Zukowsy, 1989; Pollitt, Consolazio, & Goodkin, 1981). Weber, Woolridge and Baum (1986) used ultrasound to assess infant sucking functions. The assessment methods used to describe feeding abilities in these studies are useful and have informed us about the anatomical and physiological substrates of specific functions (e.g. sucking).

In reviewing the rehabilitation literature, only one clinical feeding assessment for infants less than three months of age was found. The Neonatal Oral-Motor Assessment Scale (Braun & Palmer, 1985; Palmer et al., 1993) is an observational assessment tool used to identify and classify neonatal oral-motor behaviours. Preliminary reliability results were reported as percentage agreements ranging from 59% to 100% on characteristics of jaw movement and 50%

to 97% on tongue movements (Palmer et al., 1993). Preliminary validity results indicate that nutritive and non-nutritive scores are higher in efficient feeders ($z=3.05$, $p=0.002$) than inefficient feeders ($z=2.65$, $p=0.008$) (Case-Smith, 1988; Case-Smith et al., 1989). Therefore this scale has potential to be used as an outcome tool to evaluate oral-motor behaviours in infants. However, further reliability and validity testing is needed.

In addition to the standardised assessment tool mentioned above, published clinical guides have been developed by different therapists to guide the assessment and management process of infant feeding problems. For example, Wolf and Glass (1992) suggest areas for the therapist to evaluate and how the information should be interpreted. Morris (1987) describes typical feeding problems and suggests possible assessment and treatment strategies. While these guides are clinically useful, there are no evidence-based data available to validate their use. These guides also do not address how to assess the mothers' working model of caregiving.

Given the limited number of assessments and the variability in terms of scope available to clinicians, it is not surprising there have been few outcome studies of occupational therapy feeding interventions. Case-Smith (1988) evaluated the efficacy of occupational therapy treatment with three high-risk infants using a single-subject research design. The occupational therapy intervention used in this study involved the use of tactile, vestibular and proprioceptive input. The Neonatal Oral-Motor Assessment Scale (NOMAS) was used to measure sucking ability. She reported that although the infant sucking patterns did improve, it was difficult to delineate whether these changes were a result of intervention or due to normal infant maturation.

The concept of client centred practice and the importance of spirituality is reflected in the philosophical underpinnings of the occupational therapy profession (CAOT, 1997). Within the Canadian Model of Occupational Performance, therapists believe in recognising and respecting a persons values and beliefs as an expression of their spirituality (CAOT, 1997). When applying a

client-centred approach to an infant feeding evaluation, the occupational therapist also considers the needs of the infant as well as the family unit within an environmental context. As a result, the experienced occupational therapist focuses on understanding the experiential meaning of disability for the family. Occupational therapy theories provide an occupational and client-centred perspective, while the scientific literature offers description and classification of infant feeding concepts. Together this literature offers excellent theoretical explanations that are scientifically verifiable.

Conclusion:

Current occupational therapy literature focuses on empirical knowledge and has not fully uncovered the other types of knowledge necessary for occupational therapy practice. While it is necessary to teach therapists the scientific knowledge they need to understand infant feeding, therapists require more than this to meet the challenges of everyday practice. In order to establish occupational therapy's best practice, current occupational therapy knowledge and practice must be documented. This study aims to uncover the processes and factors that influence infant feeding evaluations from the perspective of occupational therapists.

CHAPTER 2

RESEARCH DESIGN

Overview of Study

Research objectives

The purpose of this qualitative research study was to investigate what processes and factors contribute to occupational therapists' infant feeding evaluations, including what therapists assess and what procedures they use to carry out their evaluations.

Study methodology

This study required a qualitative approach for a number of reasons. The research objective was to find out what factors influence therapists' evaluations, suggesting that the purpose was to describe what was going on. Since current literature did not have theories to explain why therapists may use different approaches, a qualitative inquiry was needed to obtain a detailed understanding of the processes and factors that influence practice. The investigator also wanted to tell the story from the participant's viewpoint. Therefore, a qualitative approach was more appropriate for this study than a quantitative approach.

There are a variety of qualitative research approaches that were considered prior to choosing a grounded theory approach. A biography and case study approach were not appropriate since the research objective was to explore the experiences of a group of occupational therapists. The investigator did not know what factors influenced practice, therefore using a phenomenological approach to explore the meaning of the factors was not feasible. An ethnographic approach could have been used to look at occupational therapy as a culture, however this approach would have been limited to simply describing therapists' practice. Grounded theory was chosen as the most appropriate approach because it would allow the investigator to uncover the processes and factors that influence therapists' process of evaluation.

Grounded theory is defined as concepts and hypotheses that are generated from systematic data collection and analysis using a constant comparative method (Corbin & Strauss, 1990; Creswell, 1998; Glaser & Strauss, 1967). Grounded theory assumes an inductive and iterative process where data collection and analysis occur concurrently, and the theory emerges from the data (Creswell, 1998). One challenge identified prior to data collection was the need for the investigator to set aside theoretical assumptions gained from the literature review. However, the constant comparative approach to analysis ensured that the results were grounded in the data, instead of being influenced by the investigator's theoretical perspective.

Phases of study

This study was performed in a pilot and a study phase. The pilot phase was carried out with two therapists between September and October 2000. The study phase involved interviews with eleven therapists between November 2000 and January 2001. Member checking was conducted with six therapists upon completion of the preliminary analysis (see Appendix A for ethics approval). In addition, two therapists read the final version of the result chapters as the final member check. The details of each phase are discussed further in the following section on procedures.

Procedures

Sample size

According to Morse (2000), the sample size estimate in qualitative research depends on the following factors: scope of the study, the nature of the topic, the number of interviews per subject, the qualitative method and study design, the quality of the data, and the amount of useful information obtained from each participant. The scope of this study was specific to experienced occupational therapists evaluation of infant feeding. Many experienced therapists are accustomed to describing their assessments to students and families, therefore it was anticipated that this

information would be easily obtained in an interview. The study design of a single interview per therapist produced less data than multiple interviews, however the quality of the interview data was expected to be rich since the therapists had experience and expertise in the evaluation of infant feeding. The on-going analysis influenced the direction of subsequent interview questions (Glaser, 1978; Wimpenny, 2000), allowing the investigator to fill in any data gaps. Based on the above discussion, an initial sample size of eight to ten therapists was estimated. Although concept saturation occurred on the tenth interview, thirteen interviews were completed in total to ensure that saturation had in fact been achieved.

Selection of participants

Purposeful sampling refers to the intentional selection of information-rich cases to fit the study (Coyne, 1997). The thirteen participants involved in this study were occupational therapists with two or more years of clinical experience performing infant feeding assessments. A distinction between experienced and expert clinicians was not made since the majority of potential participants for this study had not been practising more than twelve years. Occupational therapists who had expertise but did not spend at least 50% of their time in direct patient care were excluded because they would not have as many experiences to talk about. In order to describe common and specific features of occupational therapy feeding assessment practice, it was necessary to interview therapists who practised in a variety of settings. The number of therapists from each setting were also limited to ensure that the results represented the broad scope of occupational therapy practice in a specific region rather than what happens in one particular setting. A feasible catchment area was identified as The City of Toronto (defined as the Old City of Toronto, North York, Etobicoke, City of York, East York and Scarborough) since therapists would be easily accessible for the face-to-face interviews and this area would include

therapists practising in a variety of settings. The last therapist was recruited from the surrounding area since the list of potential participants within the City of Toronto had been exhausted.

Thirteen of the seventeen therapists contacted were recruited. Of the therapists contacted who were not recruited, two did not respond and two did not meet the inclusion criteria set by the investigator. Eleven of the thirteen therapists were interviewed at their work setting. Two therapists were interviewed at a setting chosen by them.

Recruitment process

This study underwent ethical review at The Hospital for Sick Children and ethics approval was obtained prior to recruitment of the therapists (see Appendix A for ethics approval). A list of potential participants was identified by the investigator's knowledge of therapists working in the field and from talking to other therapists and managers who identified possible key informants. The therapists were recruited by direct contact with a letter inviting them to participate (see Appendix B invitation letter). A follow-up phone call was made by the investigator a few weeks later to ensure that the individual received the letter and to answer any questions if necessary. The above procedure was repeated until saturation was achieved resulting in a total of thirteen therapists being recruited out of seventeen letters sent. The investigator chose six therapists to participate in the member checking, with two therapists from each setting (i.e. hospital, rehabilitation and homecare). Two of the six therapists were then asked to read the final result chapters.

Consent methods

When the therapist agreed to participate, an interview time was set-up at their convenience. Consent forms were signed prior to beginning the interview (see Appendix C1 for occupational therapist consent form and C2 for sound recording consent form). A separate

consent form was either personally given to or faxed to the therapists who participated in the member checking component (see Appendix C3 for member checking consent form).

Data collection methods

The two methods of data collection included an in-depth semi-structured face-to-face interview and a participant data sheet. Semi-structured interviews were useful in this situation because the investigator had some general questions but could not predict the answers (Morse & Field, 1995). An interview guide was developed by the investigator based on the study objectives (see appendix D for interview guide). In order to ensure that the categories and their relationships were fully developed, the interview guide was changed over the course of the study to incorporate concepts and issues that had already emerged and to reflect new informant-initiated topics (Coyne, 1997; Glaser, 1978). Focused, in-depth interviews were chosen to allow the investigator to clarify questions and allow therapists to expand on their responses based on their non-verbal and verbal feedback. Each therapist completed a data sheet at the end of the interview (see Appendix E participant data sheet). While the information on the data sheet was often covered in the interview, the structured questions did help to clarify and fill in the details of information regarding educational resources.

Pilot phase

Since the interview process can influence the quality of the data collected (Wimpenny, 2000) and the investigator was inexperienced in qualitative interviewing, the pilot phase was incorporated into the procedures to allow for reflection and peer examination of the interview process. The pilot phase enhanced the interviewing skills of the investigator by providing feedback on the interviewing process and questioning styles used. For example, discussions with two experienced qualitative researchers allowed the investigator to reflect on assumptions made in the semi-structured interview guide and how to explore topics in depth. Since the debriefing

after the first two interviews was used as a strategy to establish credibility and the questions in the interview guide were not changed, the data collected in these interviews was included in the analysis.

The first two individuals who agreed to participate were used for the pilot interviews. Interview times were set-up at the therapist's convenience, informed consent was obtained prior to the interview commencing and each therapist was asked to fill out a data sheet after the interview. The pilot interview was performed using a semi-structured outline and possible prompts, and an audio-tape was created as a record of the interview and transcribed. Data collection for the pilot phase began in September 2000 and was completed in October 2000.

Study phase

The investigator set-up interview times for the remaining eleven therapists who agreed to participate in the study. The interviews were scheduled at convenient times for the therapists. Prior to commencing the interview, informed consent was obtained and the therapist was asked to fill out the participant data sheet. Consistent with a grounded theory approach, the interview guide was modified over the course of the study to elaborate and expand on developing codes. The interviews were audio-taped and then transcribed verbatim. Data collection for the study phase began in November 2000 and was completed in January 2001.

Member checking

After analysing the last interview, member checking was carried out with two therapists from homecare, rehabilitation and hospital settings for a total of six therapists. The therapists who participated in the member checking highlighted what they felt were unique experiences, however the final themes incorporated the issues brought up by all the therapists. For example, one therapist reported that her experiences with a physician may not be experienced by other therapists, however similarities were identified in other interviews as well. A final member check

was done by having two of the six therapists read the final results chapters. The final member checking of the result chapters identified one inconsistency. Both therapists reported the impact of power structures was evident in the quotes, however they did not have similar experiences. Therefore, the write-up was changed to identify the exact number of therapists who reported power structures in order to make it clear that this was not the experience of all therapists.

Confidentiality

Replacing the names on all audio-tapes and transcripts with file codes preserved confidentiality and anonymity of the therapists. Each case included the transcribed interview and the corresponding participant's data sheet. The cases were referenced at the top of the page (for example, P1 for Pilot 1 or S1 for Study 1). Master copies of the transcripts and data sheets were kept on paper and the text was coded and saved in a database using Ethnograph. All data was kept in a locked file cabinet separate from the coding information. The first three transcripts were given file codes prior to reviewing them with two experienced qualitative researchers. Therefore, only the investigator had access to the coding list and the transcripts. Any presentations of the study results will use pseudonyms to protect the anonymity of the therapists who participated.

Data Analysis

The data was prepared for analysis by transcribing the tapes and coding the data using a computer program. One pilot interview and two study interviews were transcribed and checked by the investigator for accuracy. The remaining ten interview transcripts were transcribed by a hired person and checked by the investigator for accuracy. The text and interpretations were coded using computer software called Ethnograph v5.0 (Seidel, 1998). In addition to the investigator having easy access to a computer with Ethnograph, using software like Ethnograph has many advantages for analysing and managing the data. The software can be used to make single, multiple and overlapping codes, as well as conduct multiple searches using one or more

codewords (Coffey, Holbrook, & Atkinson, 1996). In addition, the use of a computer to manage the data was much more efficient than using manual techniques, especially for refining the codes and carrying out repeated searches.

The analytic process involved immersion of the investigator in the data. The investigator transcribed three interviews verbatim and read through all the interview transcripts which totalled over 14 hours of audiotapes. The audit trail includes field notes, analytic memos, an analytic journal and coding notes. The investigator wrote field notes for all the interviews documenting a description of the interview setting, if any interruptions occurred during the interview, how the investigator felt about the interview and any comments that were made by the therapists after the tape had been stopped. Analytic memos were made directly on the transcripts to document any thoughts or questions regarding the data and the emerging theory. An analytic journal was also kept to document thoughts pertaining to the investigator's conceptualisation of the theory. In addition, the investigator made notes regarding any coding changes made, in order to document the evolution of the coding list.

The interview data was collected and analysed concurrently using an inductive constant comparison method. The constant comparative method is a method of data analysis used in grounded theory whereby analysis begins as soon as the first bit of data is collected and new data is constantly compared to emerging categories (Corbin & Strauss, 1990; Creswell, 1998; Glaser & Strauss, 1967) This method involves a four-stage process involving: comparing incidents within the appropriate categories, integrating the categories and their properties, reducing the theory and categories, and writing the theory (Glaser & Strauss, 1967).

Strauss and Corbin's (1998) book was used to guide the analysis of the data. Initial data analysis involved reviewing the first three interview transcripts line by line to generate the initial categories. For example, in the second pilot interview, the word "assessment" was coded. An

analytic memo was then made beside the word "assessment", questioning it's usage and whether the therapist meant the teaching of a medical evaluation or if there was another underlying meaning to what an assessment entailed. Through further analysis, it was found that therapists used the word "assessment" to refer to formats varying from structured checklists to more subjective clinical observations. Analysis of a word or phrase allowed the investigator to focus on themes that appeared to be significant and explore alternative explanations. The use of questioning also allowed the investigator to compare and reflect on the properties and dimensions of each category within each interview and in comparison across interviews.

Open coding was performed concurrently to identify concepts and their properties. To ensure that the investigator had accurately interpreted the data, the investigator compared the analytic memos and coding from the first three transcripts to the hand-coding done by two experienced qualitative researchers. Initial coding was based on the therapists' wordings in the transcripts, in order to reflect the meaning therapists ascribed to their experiences. As the coding list grew in size, the investigator began the process of grouping some codes under more abstract codes. For example, "environment" was used as an abstract code with "cultural", "physical", "institutional" and "social" underneath it. The code list was also revised to reflect insights gained from subsequent interviews and by re-reading previous interviews.

Axial coding was also used to relate categories to subcategories and to compare across categories. For example, whether the therapist focused on parent-infant interactions appeared to interweave with the environment as a whole and relate to the influence of the environmental subcategories. The definitions of the codes were also constructed from words used in the therapists' transcripts and by explaining the investigator's interpretation.

Selective coding was used to integrate and refine the categories. Deciding on central categories was a difficult process. By discussing the descriptive details of the study with two

experienced qualitative researchers; the investigator was able to consider the multiple perspectives highlighted and prevent researcher bias. For example, instead of conceptualising the hospital, rehabilitation centre and home care settings as main constructs, the discussion allowed the investigator to see the environment as a significant construct with an institutional element. By examining the data as a whole, larger categories and themes requiring further development were identified. Further development of themes was achieved by re-reading transcripts and using this information to direct subsequent interviews.

As mentioned at the beginning of this section, a constant comparative analysis method was used. Therefore, while the coding strategies are presented in order, the analysis actually occurred by shifting between different types of coding. The investigator used subsequent interviews to build and develop previous interpretations and vice versa. Even in writing the result chapters for this study, the investigator re-examined the transcripts and coding to compare incidents within categories.

The final step in writing the thesis involved comparing the findings to existing theory. After completing the data collection and analysis, the investigator returned to the literature during the writing stage in order to confirm the findings and identify where the findings of this study extended current literature. Since the themes described by the therapists did not fit with the initial literature review, new literature was reviewed. Returning to the literature as the final stage of data analysis is consistent with a grounded theory approach (Strauss & Corbin, 1998).

Strategies Used to Establish Trustworthiness

Trustworthiness has been discussed in the qualitative literature as evaluative criteria for qualitative studies (Guba, 1981; Krefting, 1991; Lincoln, 1995; Lincoln & Guba, 1985). In order to evaluate the quality of this study, Lincoln and Guba's (1985) model of trustworthiness is used.

The variety of strategies used to establish the credibility, transferability, dependability and confirmability of this study are shaded in grey (see table 1) and are discussed in detail.

Table 1: Strategies to establish trustworthiness

	Credibility	Transferability	Dependability	Confirmability
Reflexivity				
Triangulation				
Member Checking				
Peer Examination				
Interviewing Process				
Nominated Sample				
Dense Description of Sample				
Dense Description of Methods				

Credibility is established if the results represent an accurate picture of the therapists' experiences. While one of the major criticisms of qualitative research is the effect of researcher bias, it was recognised that bias can be used positively as a tool to facilitate the research process (Morse, 1989, 1991). The investigator had six years of experience evaluating infant feeding and had approached the study from a clinical reasoning framework. Therefore, the investigator took an active stance of inquiry and did not offer any perceptions during the data collection. Assessment of the investigator's influence was maintained by using case memos. For example, one case memo documented that the therapists interviewed for the pilot phase reported they knew the investigator was an experienced therapist. By purposefully informing the therapists in subsequent interviews that the goal of the study was to uncover their lived experiences, it was noted that the therapists no longer commented on the investigator's clinical experience. There are four types of triangulation used to establish credibility, including triangulation of methods, data sources, theories and investigators (Creswell, 1998; Krefting, 1991). Triangulation of sources

maximises the variation in data, thus allowing for a complete understanding of the phenomenon (Krefting, 1991). In this study, triangulation of sources was achieved by recruiting therapists from different settings to obtain a broad understanding of therapists' experiences. Member checking and peer examination was used to ensure the investigator had accurately interpreted the data. Finally, credibility was established by repeating or reframing interview questions and using feedback on the investigator's interviewing style from the thesis committee.

Transferability refers to whether the findings can be applied to other contexts. Member checking was used to ensure the results accurately captured therapists' experiences. The therapists who participated in this study were recruited from a variety of clinical settings and experience levels in order to identify therapists who typically assess infant feeding. Finally, a detailed description of the sample is provided to allow the reader to assess how transferable the findings are. While generalisation is not the goal of a qualitative study (Morse & Field, 1995), it is anticipated that the results from this study may have applicability to other contexts.

Dependability refers to whether the results are consistent in similar contexts. Member checking was carried out to ensure the consistency of the findings. Peer examination was used to check the research plan and implementation. Finally, the methods are described in detail therefore allowing for the study to be easily repeated.

Finally, confirmability refers to whether the results are free from bias. Reflective case memos were made to document the investigator's objectivity. The investigator's discussion of insights and working hypotheses with two experienced qualitative researchers allowed for a reflective analysis. Confirmability was also achieved through a constant comparative method of analysis to ground the results in the data.

CHAPTER 3

RESULTS

Description of Participants

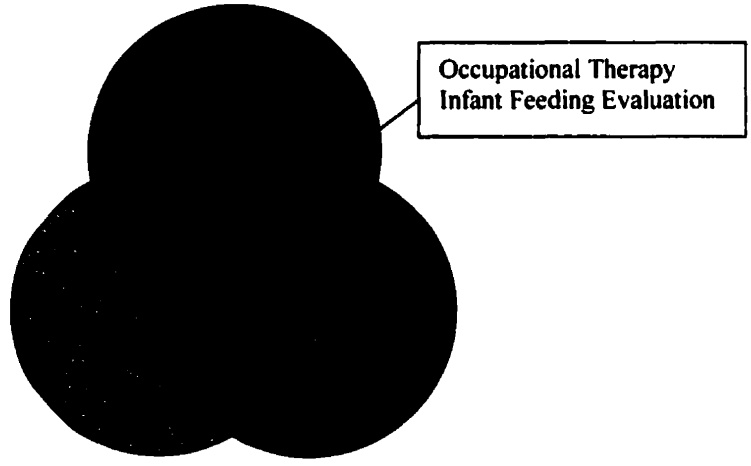
The following descriptive information was collected from the participant data sheets. Three of the therapists had been performing infant feeding assessments for two to three years, four had five to six years of experience and four had ten or more years of experience. Six therapists worked in a hospital setting, four providing inpatient services only and two providing inpatient and outpatients services. Four therapists worked in rehabilitation settings, two providing inpatient services and two providing outpatient services. Three individuals worked in a community setting providing services in a home setting. Thirteen therapists identified colleagues as an important educational resource. Twelve therapists mentioned courses they had been on to further their education. Five therapists identified working groups and books as educational resources. Two therapists talked about learning when they taught others. Other education resources identified by individual therapists included experience, developing feeding protocols, and on the job training.

Overview of Results

The therapists interviewed were asked questions about what they look at when they carry out a feeding assessment, how they go about finding out this information, and the factors that influence the process of their evaluations. A large amount of rich data was produced from the semi-structured interviews. A constant comparative approach was used to analyse and ground the results in the data, from which the following three themes emerged: (a) the art of occupational therapy feeding evaluations, (b) relational aspects of infant feeding evaluations and (c) environmental influences.

Overall, the results highlight the importance of all three themes individually, and as an interactive whole in shaping the occupational therapists' experiences evaluating infant feeding (see Figure 2). The art of occupational therapy reflects the intuitive and experiential aspects of

Figure 2: Interaction between artistic, relational and environmental aspects of therapists' infant feeding evaluations



knowledge discussed by the therapists. The relational aspects encompass therapists' interpersonal relationships that impacted on the process of their feeding evaluations. Finally, therapists described their experiences related to their work within a social, cultural, institutional and physical environment. The results are divided into three chapters representing the three main themes. Within each chapter, the relative sub-themes are discussed.

The Art of Occupational Therapy Feeding Evaluations

Therapists' knowledge and creative skills were found to contribute to their feeding evaluation experiences. Nina (pseudonyms are used to maintain confidentiality) described occupational therapy feeding evaluations as "an art, not a science". Since art may be defined as the human creative skills or its application, and science as a branch of knowledge conducted on objective principles involving the systematised observation of phenomena (Barber, 1998). We

may conclude that the tacit knowledge therapists gain through experience, make feeding evaluations more an art than a science.

All the therapists discussed looking at the same types of empirical information as part of their evaluations, including the infant's behaviour, developmental skills, oral-motor function and swallowing (see Appendix F infant feeding assessment). Their empirical knowledge mainly came from courses they had been to and books they had read. However, the narratives focused on their experiences recognising and interpreting the mother's story in order to make sense of what was happening with the infant's feeding. Therefore, understanding the mother's expectations and experiences feeding the infant were of utmost importance to the therapists interviewed.

The "human aspect" of occupational therapy practice was described as a creative process that was experienced rather than expressed. Kathy remarked "when it comes to feeding assessments...this is not just a mechanical thing. It's much more, it's much deeper than that." Cindy described this artistic knowledge as something that is difficult to put into words: "it's stuff that seems so obvious to you and that you see but it's hard to explain to other people when they're doing an assessment". Therapists' awareness of what was important information to assess came from their lived experiences. The narratives suggest that therapists' understanding of the whole picture were internalised at an unconscious level.

All the therapists reflected on experiences that allowed them to take into consideration the various factors that influence infant feeding, and determine their relative importance. The therapists had no formula to uncover the family's story. Cindy remarked "things are grey and it's not black or white...there's no recipe...you can't make up one [feeding program] that you can use with every baby because they're all going to be slightly different". Consequently, therapists used methods that allowed them to adapt and respond to changes quickly. For example, they all preferred using clinical observations rather than a standardised assessment. Their narratives also

suggest that clinical pictures do not capture the nuances of their clinical practice. For example, therapists talked about the typical clinical presentation of premature infants, but then they used an adaptive approach to evaluation that allowed them to incorporate their intuitive feelings about a situation instead of relying solely on their clinical pictures.

This chapter illustrates that the key to the occupational therapy feeding evaluation is the therapist's ability to watch, and allow herself to wonder about what is going on. The first artistic sub-theme relates to the value therapists' place on their clinical observation skills. The second artistic sub-theme highlights the need for an adaptive trial and error approach.

The value of clinical observation skills

This section demonstrates that therapists valued observing the infant feeding. They all described a preference for clinical observations rather than using a particular assessment. The importance of observing what was going on was described by Kathy: "I don't think I'll do any good treatment unless I'm a good observer and listen and pay attention to what I'm seeing so that to me is a key and I value that skill almost above anything else." Sonia reported a similar perspective that valued the ability to recognise and perceive clinical situations:

> Instead of me doing it I like to watch, I like to let them do it, like to see what they're doing and then offer suggestions ... I like to observe the parent because...they're the one's who are feeding the child, not me. I like to see what they're doing, how they're holding the baby, how they're positioning themselves, if they're comfortable, how they're approaching you know the baby, how they decide to stop feeding to burp, if they do that.

Sonia's narrative suggests that therapists' used their observation skills to understand the mother's story. Sonia talked about observing the parent and the infant, and watching for who reaches out and when. Therapists viewed the ability to combine their observations of the subtle family

nuances with the reason for the referral, as a necessary step in recognising and understanding the family's story.

The importance of observing the infant feeding was explicitly described in all the narratives. Jackie reported that her observations enabled her to take into account relational and environmental factors:

> I guess that's what I mean by just being able to observe, you're not only observing the baby, how they feed or how you feed them, you need to observe everything else around them and that's almost more important, what's going on around them and who the person is that feeds them and what's the environment that they're in and how they respond to help, to information and tips and suggestions, then actually what the problem is with the feeding.

Similarly, all the therapists described their feeding evaluations as an investigative process. It appears that parents are not always able to tell therapists what is going on, but are able to show therapists in subtle ways that things are not right. While Jackie watched and wondered, she constructed a different interpretation of what is going on:

> Until I really see it, until it's really visualised and observed what they're really talking about, it's really hard to give very accurate or very helpful information...They can be describing one thing but what they're actually describing is totally different than what is actually really happening.

Jackie's comment highlights how therapists' personal experiences watching infants feeding, contribute to their interpretation of the feeding problem. In essence, therapists described their interpretations as an observer of how the infant and mother "experienced feeding".

Therapists described a need to observe and experience feeding the infants themselves. However, the more experienced therapists reflected on the social consequences of them feeding

the infant. For example, Diane had been practising for two years and described her need to feed the infant herself:

> I felt that I could do better observations if I was feeding the child...just by being able to really observe with the infant right in front of me and me feeding them and being able to feel and track what they were doing, then I had a much better idea what they were doing.

In comparison, Jackie had been practising for eleven years and preferred to watch the mother feeding the infant. She remarked:

> I try not to feed the baby for very long or have the baby in my arms for very long, especially in the home, because I find moms, especially when they are young infants, they want to know that they can do it and they don't want to see me or grandma or anybody doing it 'better'...so [I] always try to just do it pretty quickly and get a handle on it and then pass the baby back to the mother.

Therapists struggled with how to teach these observation skills to new clinicians. Cindy reported it was difficult to explain observation skills that had become second nature to her:

> Like certain things that you've figured out really work, and you try to explain it to someone else and you do it and it just doesn't really work properly. Because it's just stuff that sort of becomes second nature to you. It's hard to really explain how you position the baby, where you put the pressure, you know.

Therapists discussed how their observations resisted empirical descriptions because their awareness of what was important came from their lived experiences. It was also difficult for therapists to teach others how to observe because their skilled knowledge allowed them to look at the whole picture while understanding the multifaceted aspects of infant feeding at an unconscious level. As a result, therapists used an adaptive approach to assessment that allowed them to combine what they observed with other information they knew.

The need for an adaptive trial and error approach

All the narratives described how therapists engaged themselves in an adaptive approach to assessment. According to all thirteen therapists, mastery of one's knowledge and skills requires an adaptive trial and error approach. Trial and error was described by Susanne as a process of elimination:

> Process of elimination. Really. Looking at what he's doing orally. So then, what are available nipples and well, Playtex? No too short. This is another kind of nipple and no, it's too hard. This is what he's doing and he's not handling this much fluid in his mouth so what's the flow and really process of elimination.

Jackie's narrative described trial and error as a productive problem solving process:

> Like educated trial and error I guess you call it because that's what feeding basically comes down to because it's not a recipe thing, even with the stuff that you can clinically assess, you know, you can feel one thing and assess one day and it can change so even with the real clinical kind of stuff that you're assessing, it can change and you have to be really adaptable but even more so with the intangible kind of things.

Jackie's reference to the "intangible kinds of things" suggest that while she has a emerging sense of what is going on, her extensive experience enables her to wonder whether she has truly uncovered what is happening.

A trial and error approach suggests that therapists require recognition and perception that is gained via experience, in order to build a whole picture of feeding itself and their role in the evaluation of infant feeding. Therapists' awareness of what was important came from their lived experiences. Therapists talked about developing clinical pictures, observing the infant feeding, formulating a hypothesis, trying an intervention, evaluating its usefulness, and if needed implementing a different intervention strategy. For example, Cindy described using her

knowledge of medical diagnoses to develop clinical pictures that she used when she problem solved:

> The babies who are hypertonic tend to posture in extension and then it's very difficult for them to latch onto the nipple and to get a rhythmical suck. So, you need to work on decreasing their posturing and reducing their tone of course before working on their bottle feeding.

The use of clinical pictures was echoed by Diane when describing her experiences:

> If there was definitely one where you know, the baby was either a prem [premature infant] or had some kind of a neurological diagnosis or something, then I would often take our forms up with me and go through those check lists and try to figure out what oromotor issues there were...So I tend to do a little bit more standardising if I knew that there was probably going to be issues but if I knew there probably wasn't going to be oromotor issues, I just did a general observation.

The therapists' narratives demonstrate how they used their empirical knowledge to single out important information for their assessments.

On another level, even the most experienced therapists struggled with their ability to single out important information and gain an intuitive understanding of how everything fit together. Therapists identified what was important in one situation was not always important in another. For example, Cindy described her frustration trying to predict an infant's success:

> It's frustrating because ... you can't always predict if the baby's going to be able to do it. Some babies ... just suddenly pick up and can feed. And ... you feel like you should be able to do that with all babies, and then that doesn't always work.

Kathy expressed frustration differently; she feared she would not be able to fully understand the larger conditions and experiences that make feeding complex:

> I like anybody else, get frustrated, lose patience, I want to deal with this right now? You want to solve problems and it can't always be done initially. ... sometimes I can't always figure out what's going on, and I guess that, that's always a big fear that you're going to go in and you're not going to be able to figure out what's going on, and if you can't figure out what's going on you can't assess it properly, how can you figure out what to do?

Therapists often attributed their lack of success with an infant, to their inability to see what was wrong in the first place. Through her ten years of experience evaluating infant feeding, Kathy discovered that she must match her wonder for what is going on with respect for the family's unique story. While therapists' intuition and experiences contributed to their knowledge development, they still struggled with how to adapt their assessments in order to account for those unpredictable situations where scientific knowledge alone could not explain what was happening. The aim of their struggle was to fully grasp the complex nature of the feeding problem.

Summary:

This chapter has demonstrated that therapists' internal perceptions and experiences influenced their infant feeding evaluations. Therapists used an investigative approach to their evaluations by observing and then developing different interpretations for what was going on. The narratives highlight those aspects of decision making that come from intuitive feelings and the importance of recognising and understanding the family's experiences. As a result, feeding evaluations seem to be less about theory and more about the therapist's heightened awareness to recognise a family's story.

CHAPTER 4

RESULTS

Relational Aspects of the Infant Feeding Evaluation

This chapter illustrates how therapists' interpersonal relationships contributed to their ability to explore and uncover the family's story. The narratives identified three sub-themes: the importance of making a connection with parents, conditions that challenge parent-therapists relationships and the impact of power structures. Therapists' construction of feeding as a concept is described in relation to their interpretations of their social interactions.

The importance of making a connection with parents

An adaptive approach to evaluation required that the therapists develop a rapport with the mother in order to understand the mother's working model of infant feeding. Therapists' interest in the mother's adaptability with care giving was apparent in all the narratives, particularly the narratives of home care therapists. Therapists specifically talked about the mother's ability to recognise the infant's cues and respond to them accordingly. The impact of location on the social construction of feeding is discussed further, in the chapter on environmental influences.

Therapists focused on parental adaptation to infant feeding. They discussed the mother's adaptability in terms of her ability to incorporate information from the therapist, and use that information in different situations. Jackie's narrative illustrates the importance of developing a relationship with parents in order to gain knowledge about parental adaptive skills:

> So I think one of the most important things is, that almost divides between a family and a baby that you're going to have success with, and a family and a baby that you might, but it's going to be difficult or you won't at all, is the parents' ability to take information and learn, and try and build on it.

Jackie attributed her success with a family to her knowledge of the family's adaptability and working model of infant feeding. Other therapists also described a similar interpretation and encouragement of parental behaviours. Sue talked about giving a mother "lots of feedback about how her excitement or eagerness would really be impacting him [the baby]." Often therapists described varying the amount of information they gave according to the parent's personal characteristics and communicative styles. For example, Jackie remarked:

> There's kind of three groups, [one] we will give you lots of information but it's of no use at all, or [two] give you like no information because they [parents] have no clue and they really don't know...and then the third group...they're observing, they're saying 'yeah, you know, he always seems to do that, I don't know why' You can tell that they've noticed it for one, thought about it, have maybe tried to figure it out...so depending on the type of information you get from the parents, you have to kind of hit things at a different angle.

All the therapists viewed the mother as the most active participant in the feeding evaluation. For example, Beth talked about exploring the mother's expectations and goals for the infant and herself:

> One of the things I was looking at, what were her concerns and her questions, when you know, what did she need to see the baby able to do before she felt the baby was ready to go home. You know, some moms want to take the baby home no matter what it takes and some other moms really want theses babies to be fairly competent. To get an idea of what she wanted this baby to look like.

Therapists identified functional issues in their evaluations when describing experiences when the mother was present. For example, Jackie described her focus in the home as "so how are we actually going to feed this kid functionally at home and what's easy, what's safe, what's doable at

home". Therefore, the mother's presence and ability to communicate her expectations and goals gave the therapist a social understanding of what constituted desired outcome.

Therapists described positive clinical experiences when they were able to foster collaborative therapist-parent relationships. These relationships were important in helping therapists observe and explore the subtleties of what they experienced with families. Sue commented that making a connection with a family meant they shared their story with her:

> I found a good connection with families who wanted to share their story and were interested in having us listen to what they had to say and what they wanted for their child so I think a lot of times, they weren't always just talking about feeding but we were, it's more the bigger picture, how things were going on in other parts of their life too.

Therapists' ability to be supportive and empathetic to the family's issues was important to their facilitation of the mother's trust and understanding. As a result, the interpersonal relationships therapists created with mothers enabled them to shed light on some of the larger issues families were facing.

Some therapists expressed frustration when a good connection with parents was not made. Diane commented: "I never felt that I got a good connection with both of those parents even though trying some stuff but sometimes you got to let go as well and let another person go in." Others described their sense of frustration when families were unable to follow through at home. When therapists were unable to develop a good relationship with the family, they reported having unfulfilling clinical experiences. It appears therapists always developed a relationship with parents, but that a "good connection" was necessary for therapists' perceived success.

Therapists perceived their interactions with parents as unsuccessful when their goals were incongruent. Diane internally perceived that her recommendations were incongruent with some parents' interpretations and understanding of their infant's feeding problem:

> Part of working with families was the feeding studies where you would have to tell them that they couldn't feed their child anymore. That was the hardest by far. That was the worst part of my job ... Just because there was nothing you could, I mean, there were things that you could give them but especially for those parents of kids who were very severely delayed and they had been feeding them up to this point ... we're taking away the one thing that your child likes the most in a lot of cases for those kids, so that was really tough. ... I had to take away something that was really important obviously to the family and they were fine after the fact but I think it took a few days to understand and to come to terms with taking that away.

There is an interesting shift in Diane's language from "you" to "I". Perhaps Diane experienced an internal conflict between her recommendations and her own expectations. Ultimately, therapists developed close relationships with parents in order to understand the family's story and satisfy their own drive to feel purposeful. While the interaction between the parent and therapists allowed for sharing and understanding of each other's perspective, therapists still expressed a sense of loss and frustration when their own working model of infant feeding did not match with their recommendations.

Conditions that challenge parent-therapist relationships

Two therapists talked specifically about making tough moral and ethical decisions that challenged their relationships with families. Susanne struggled with making the "right" decision in an intense relationship with a mother, where the boundaries were blurred between the mother and herself. She reflected on her personal conflict with the mother's decision:

> I completely respect the quality of life issue. I really do. ...But then my own issues got involved in terms of you know, can I feed this child and walk away knowing that I may be doing harm to them. Can I morally and ethically do this? And ultimately, no I couldn't,

> knowing that it was going to really endanger her. ... It's a real tough decision. It's hard. It's very hard.

She talked about how she liased with her supervisor, looked into the facility's policies and consulted her professional college; in order to make her final decision that her ethical obligation to do no harm preceded her ability to collaborate with the mother's wishes. Sandy reflected on the possibility of experiencing a similar moral dilemma:

> We have talked about what would we do if we felt a child really wasn't safe with oral feedings...[and] we had evidence that they still were being fed. What [do] you do in a situation like that? Where the child's life really can be at stake and that's something that fortunately we haven't really come up against but you know would be a very challenging situation.

In summary, therapists' ability to make moral and ethical decisions were conditions that impacted on their relationships with parents.

The impact of power structures

Therapists described power structures within the healthcare system that influenced their feeding evaluations, including but not limited to how their work was organised, the social expectations of their role and social class relations related to their work. Both nurses and doctors were described as powerful people who imposed social control. For example, they were both described in relation to the control they maintained over therapists' feeding evaluation procedures and practices. Some of the narratives suggest that therapists resisted the "medicalization" of feeding evaluations by developing their knowledge, specifically with respect to fostering collaborative relationships within their workplaces. The therapists' perspectives are discussed with respect to their relationships with nurses and physicians.

Some therapists described nurses as influential team members who held a lot of power and control in mainly hospital settings. Many therapists commented that the nurse "buying in" to the therapist's assessment and plan was necessary in order for the interventions to be successful. The narratives suggest that therapists depend on nursing for important information because nurses are at the bedside and provide the majority of the infant's care. As a result, therapists described experiences where they spent a considerable amount of time trying to engage nurses in dialogues to develop a rapport, so they could gain nurses' co-operation and trust.

Many of the narratives illustrate the importance of developing relationships with nurses and making collaborative care plans. For example, Beth commented that at her hospital, nurses have refused to use a certain bottle because it costs too much. She remarked: "they have to believe that that's the best way to do it, before they really are prepared to go through all the work of doing that and to do it shift after shift." Beth also talked about the influx of new nurses with her hospital's reorganisation and how it was harder for her to do her assessments because neither of them had experience working with each other. Beth commented that it was easier to work with nurses that already knew what she did because they were able to work more collaboratively. Other therapists described similar frustrations when nurses were not willing to follow through on assessment recommendations. Consequently, therapists' relationships with nurses were perceived as a potential support or a barrier to a successful evaluation.

Therapists made implicit remarks about the relationships that they had with physicians within institutional contexts. In many cases, the division of power where the therapist practised significantly influenced the relationship between the therapist and physician. Sue talked about working in an environment dominated by a male physician. She commented: "he often felt that he was the one who had primary control over what he would call the medical components of the assessment...usually the physician wanted to take charge of asking all the questions." The power

in medical settings appeared to lie primarily with male physicians who were in leadership positions, while all the therapists who carried out the evaluations were women.

Many therapists talked about how their interactions with doctors made their evaluation experiences more complex. Nina commented: "this doctor would listen to my opinion and sometimes he'll just do what he wants. I was saying with the complex cases, ...what makes them more complex is my interactions with the doctor." Therapists' narratives illustrate how power differentials with physicians led to frustration and resentment when therapists were not involved in the decision making or when their roles were challenged. Sue reflected on the inconsistencies between her perceptions and the physician on her team:

> I think sometimes the team dynamics came down more to issues in perception about who was able to provide what type of information, particularly because we had a physician on the team...Things that he would say were more within his boundary were definitely things that were within an OT [occupational therapist role]...so we had some discussions around team roles and to this day, they are still not worked out because of the people who are on the team.

Nina functioned in an environment where despite the physician's reliance on her expertise, there was even less collaboration:

> The doctor here said no because...he didn't feel that it was necessary. So, I said alright fine, whatever, you know, I had it stated in all my notes, you know, video fluoroscopy recommended, video fluoroscopy recommended, thicken the formula because I feel this baby is aspirating and if the doctor doesn't want to do it, what else can I do besides document it. .... I definitely was frustrated with the whole thing about that doctor not wanting to do the video. What's the point of having me go up there and do an evaluation if you're not going to listen to my recommendations. And then in the end, he did what I

> wanted him to do. So that was frustrating, I found that very frustrating. ... I remember wanting to thicken up the formula there as well and the doctor didn't want us to do that because he didn't want to adjust the calories that this baby was taking in.

Half of the therapists talked about frustrating experiences when physicians limited their professional autonomy. Consequently, the power differentials within the political structures of medical institutions allowed some doctors to define the tasks and boundaries of therapists' practice.

Therapists also spoke about positive experiences when doctors asked for their input and demonstrated an interest in their perspectives. Despite her negative experiences, Nina related her confidence in two physicians to her history of social interactions with them: "one of them is our paediatric neurologist...he really, really values our input because he works very closely with us." Diane had similar positive experiences, and felt that persistent social relationships opened up more possibilities for her:

> I actually had quite a positive relationship with a lot of the residents, especially when I got to know them again and again. They actually relied on me a lot more. ...I guess they just got a little bit more confident in me and they would ask me to do things that they wouldn't have normally. I guess once they got to know what I did.

Cindy related the physician's respect to his trust in her perceptions and judgement. As a result, Cindy felt comfortable taking more risks when making clinical decisions: "I think that we're very well respected here. ... I think maybe here I would tend to take a little bit more risk because you feel like you have a team backing and they're okay with what you do." Therapists who experienced collaborative therapist-physician relationships described feeling more confident making clinical decisions.

Therapists described experiences when physician's control of discharge decisions influenced the therapist's comfort level and follow-up with families. Beth commented:

> So then the doctor came and said that's great, she can go home. ... There had been no meeting for discharge planning and the parents were given a call and said okay, you need to come in and do rooming in this weekend, she'll go home on Monday and they went. ...then on the Monday they went home after I demonstrated you know all the positioning and all the baby seat stuff. And that one, even the nurses said I wonder how she'll do you know and so some babies go home and you really are not comfortable.

Beth's comment suggests that she felt a different course of action should have been taken but that she felt limited by what she could do. In many of the narratives, physicians were perceived to possess a legitimate power status that enabled them to make decisions in conflict with therapists' recommendations.

Doctors' expectations of what evaluation information was important also influenced the way in which occupational therapists conducted their assessments. For example, amount fed and time to feed were identified as measures of efficiency largely by the occupational therapists who worked with physicians. The physician's presence also shifted the focus of the therapist's evaluation from a holistic client-centred model to a medical model approach. As a result, therapists who worked closely with physicians focused their evaluation towards identifying symptoms, making a diagnosis and recommending treatment. In comparison, therapists who did not work closely with physicians focused their evaluation more on the parent's expectations.

Summary:

This chapter has illustrated how therapists' perceptions of their interpersonal relationships influenced their feeding evaluations. Therapists perceived their relationships with parents as an important step to understanding the mother's lived experiences and working model of infant

feeding. By developing a close relationship with the family, therapists were able to gain an understanding of the family's story. Two therapists related their relationships with families to their ability to make moral and ethical decisions. Therapists also worked at gaining the trust and co-operation of nurses and doctors in hospital and rehabilitation settings, in order to cope with and limit the number of power differentials they experienced. Therefore, therapists' knowledge of the impact of social relationships was gained through their experiences and added an important dimension to their evaluations.

CHAPTER 5

RESULTS

Environmental Influences

The environmental context was found to influence therapists' feeding evaluation process. The environment is conceptualised as those contexts and situations which occur outside individuals and elicit responses from them (CAOT, 1997; Law, 1991). The environment encompasses social, cultural, institutional, and physical elements. Jackie highlighted the importance of looking at the environment: "you're not only observing the baby, how they feed or how you feed them, you need to observe everything else around them.". This chapter presents the environmental aspects as they relate to the following sub-themes: the importance of feeding in society, the social significance of the mother-infant relationship, cultural influences on the occupational therapy evaluation, the impact of working in institutional contexts, and physical environment influences.

The importance of feeding in society

This section illustrates the ways in which the symbolic meaning of feeding within society has been internalised and reproduced in the therapists' narratives. Occupational therapists believe that people are social beings whose occupations shape and are shaped by the environment (CAOT, 1997). Therapists described "feeding" as both a personal and very public phenomenon, which the mass media conveys. Feeding is symbolised as a parent's ability to nurture their infant. The impact of social perceptions on the therapist's conceptualisation of feeding is reflected in Jackie's comment on the "job of feeding":

> Feeding is such a primary job of a parent in infancy, and it's such a focus just socially, you know, being able to feed your baby, and how do you feed your baby and what do you feed your baby and all that kind of stuff, it's so you know high-profile, with breastfeeding

> and everything that when you're not able to...for some parents it doesn't matter why, it's just not good enough.

This theme of people shaping and being shaped by dominant social ideologies was echoed in different ways by many of the other therapists.

Therapists talked about differences between societal views surrounding feeding and their own experiences. The impact of what feeding means within society was explicitly described by therapists. For example, Sandy reflected on how mass media functions as agents of symbolic socialisation:

> I think...the movies, the books, all the prenatal books talk about, and I know friends of mine and my siblings who have had children say you know, even for them, it's stressful at the beginning because you know, T.V., the books, they put the baby on the mother's breast, it latches on and it feeds and we all know that this doesn't happen, even in normal situations it doesn't happen that way so I think it's really important as therapists for us to be very sensitive to the mothers, not just to the child's needs but to the mother's needs too and to reassure them that it's not just a parenting thing.

Other therapists expressed similar sensitivity to the different ways in which social expectations place enormous stress on the mother. For example, Jackie reflected on her own mothering experiences, and talked about her frustrations as a new mother having difficulty breastfeeding, despite the fact that she was a health care professional with expertise in infant feeding. She reported how her own experiences had changed her clinical approach when working with families. Through her own experiences, she had developed an understanding of what it meant to be a mother and the stresses that mothers feel in response to dominant social pressures:

> When you're a father or a mother, it is such a bonding, feel-good thing for both of you that if you can't experience that or get to where you can actually feel like you're doing

> something for your child and feed them, then it's very, very stressful...especially if you see others being able to feed your infant, either a family member or health professional or whatever, that just compounds it.

Similarly, other therapists identified their understanding of dominant social ideologies as an essential part of their evaluation process, regardless of whether or not they were enhanced by their own mothering experiences.

The ability to focus in on the meaningful everyday experiences of families was valued by the therapists interviewed. Sue felt that parents would seek help when it came to feeding because it was socially important to them:

> It seems to be an area like walking or talking, ... it's something that's necessary first thing but also seems to be an area, whether it be socially driven...parents really can see that something is wrong in many instances and they want to get the input and try to make things different.

Sue's narrative reflects therapists' belief that parents should be involved in the decision making process. Although Sue comments that feeding is "socially driven", she suggests that parents have the ability to make a difference. In cases when infants are not safe to feed by mouth, this sets up an unrealistic expectation of the parent. The narratives also reflect therapists' tendency to focus on the parent's ability to adapt to their social reality rather than examining the larger social constructs at work. So rather than understanding the social meaning of feeding, feeding is sometimes viewed as a reflection of the mother's parenting skills.

The social significance of the mother-infant relationship

Therapists' adaptive approach to evaluation allowed them to not only wonder about what was going on with the infant, but also view feeding as a didactic relationship. Feeding was viewed by therapists as the most common social activity through which mother-infant attachment

was fostered. The mother-infant interaction was described as a critical element in the occupational therapy feeding evaluation and management. Sue reflected on her view of feeding as a primary role for the mother in establishing infant attachment:

> I think what is such a huge part of infant feeding was maybe start thinking of feeding being such an important role for families and primary role for their baby and I think that as a mother is trying to establish a bond with their child, feeding is often where that bond is firmly established.

Michelle's remark echoed a similar sentiment: "being a mom myself, knowing that you know that feeding time, especially with a newborn, you know, talking about, I guess all the mother baby books talking about bonding and stuff".

Therapists incorporated a social perspective of feeding in their evaluations of feeding in "at-risk" infants. All the therapists tended to focus on the mother's role in feeding, suggesting that feeding is a social role expectation for the mother. They described that part of their role with families was to observe mothers' adaptive skills as they responded to their infant's cues. They suggested that by enabling a mother to observe and interpret the infant's cues, the mother would form a secure attachment with the infant. Jackie described her perceptions of bonding:

> So along with being able to take information and use it and learn from it, also being able to see your infant as someone who's trying to communicate to you and you need to just learn what could it be, so instead of automatically jumping to feeding, trying to eliminate some other things ... so people who are able to kind of understand and see the benefit of just holding your infant and consoling them, changing their position, playing with them, doing things that aren't around feeding but actually trying to bond with them and I think that over time, if you're bonding with your baby outside of feeding time, you're better able to feed them because you have more of a relationship.

Sue recalled an experience where she observed the interactions between the mother and infant:

> I think the thing that really stuck with me the most was the way that the parent/child interaction affected the feeding situation; and that's probably why I remember that situation the most because we were able to really make a big impact by looking at the social environment that was around the feeding even for such a young infant.

Sue empathised with the mother's efforts to interact with her child. Sue's narrative demonstrates that therapists' assessment of the mother-infant interactions was an important factor in the evaluation process.

Therapists specifically described their experiences when the mother's emotional state and readiness to participate in feeding, influenced the therapist's goals. Cindy remarked:

> So, if you have a family, with a mother who is highly anxious then you know having a really hard time coping with her baby and you suggest that the mother should pull the n-g [nasogastric] feed and feed the baby every feed, it's going to completely fall apart.

Cindy's attempt to see the mother's perspective illustrates how therapists attend to and derive meaning from the mother's experiences. Susanne talked about how parents guide the evaluation process and goals: "I mean if the parents decide no, this is not what we want, we don't want to risk it, then obviously we respect that and we don't go ahead with that." Beth summed up therapists' expectations when she said: "I guess the plan is not only for the child to become a competent feeder but also for the mom to feel comfortable and start bonding with that infant."

The quality of the parent-infant interactions influenced therapists' approach when they worked with families. Jackie reflected on her experiences when the quality of the mother-infant interaction influenced her assessments:

> We can have the exact same kid and two different mothers and the issues end up being totally different....you can observe and see one mother feed the identical kid and the mother is relaxed and interacting...not stressed by other things and it's a really supportive environment and holds the baby well and truly is connecting and bonding with the baby ...and the feed can go so much better...versus another mother who is totally opposite...stressed not only with the baby but with other stuff in her life...tends to be a mom who doesn't really warm up or bond or hold the baby very comfortably at all, you know, all those kind of negative things that make feeding so much more difficult.

Jackie's comment reflects therapists' belief that the mother's interpretation of the feeding problem contributes to how the mother experiences it. Sue commented directly on the mother's emotional interaction with the infant:

> So they start to get uptight because they're not fulfilling the primary role that they see themselves needing to do as mothers. So, it becomes somewhat of a cyclical problem because the infant is having problems with the feeding and then that leads from what I've seen to the mother being more uptight which then the child appears to react negatively by getting more irritable or which then leads to the mother. So, it really is a cyclical issue with more of the social role.

Her reference to "the primary role" suggests a belief that mothering itself is a social role expectation linked to the mother's ability to bond. While therapists described the impact of illness on feeding, they often attributed it to the mother's personality features and her concept of self; hence creating conflicts within their relationships with mothers.

Therapists were responsive to the influence the attachment patterns between the mother and baby had on the infant's feeding. Therapists' knowledge of the interactions between the infant and mother also gave them information about the mother's working model of infant

feeding. Whether their knowledge was enhanced by their own experiences or understood from their social interactions with mothers, therapists described mothering as a social role. As a result, therapists' described the mother's role as a critical component of the occupational therapy feeding evaluation that shaped the assessment goals and therapists' interactions with the family.

Cultural influences on the occupational therapy evaluation

Therapists' evaluation practices were influenced by the cultural environment. Some therapists had experiences where the family's culture influenced the focus of their evaluation. Kathy talked about her experiences when she felt pressure from certain ethnic groups:

> I would say in addition, there are extra pressures I think in certain ethnic groups around feeding and that's sometimes difficult to deal with because they aren't overt, you know they are there because of past experience but they are difficult to deal with. ... There was an elderly grandmother in the home from the old country who didn't speak English and who maintained these practices and I just couldn't get past that, that's the way it was, and I guess you know she wasn't in really immediate danger, and eventually this was going to be repaired and probably everything was going to be okay. So, that was part of my assessment ... I could make a few small suggestions, but I didn't think I was going to make any in-roads there.

Kathy pointed out some of the subtle information therapists observe and wonder about when they carryout their assessments. Jackie reflected on her perceptions of feeding including her own experiences with other cultures: "...I mean certain cultures have different expectations for their children but also feeding in certain cultures is much more important, not as more important but it takes higher precedence or whatever than in other cultures." Therapists often encountered cultural values that were different from their own. As a result, incorporating a culturally

important perspective to the evaluation of feeding was found to be the practice amongst many of the therapists interviewed.

A few therapists talked about the impact the cultural environment had on their assessments. Diane struggled with the cultural milieu of the hospital setting and wondered if some mothers found her watching them breastfeeding intrusive: "doing an assessment on a child who breast-fed I found very hard, especially in the beginning because it was just a bit more intrusive." Diane said "they didn't speak English so it was very difficult to communicate like are you okay with me coming in to watch you." Beth talked about a similar type of experience:

> That brings out just some of the other issues as well as language barrier and cultural differences of feeding the baby like this mom was out there. She wanted to breast-feed but she wasn't going to do it in the hospital because of her own body, you know, discomfort with that and also cultural stuff.

Therapists demonstrated sensitivity to cultural beliefs especially when they assessed a mother and infant breastfeeding.

Jackie compared the cultural milieu in a home versus hospital setting: "there's a whole bunch of other stuff that goes around going into a family's home to deal with issues with feeding, especially when there is a very different culture involved that you don't have to deal with in the hospital." Jackie talked about feeling more like a visitor going into someone's home: "I consider myself a guest". Assessing an infant in a home setting allowed Jackie to see a family's cultural practices more readily: "it's much more evident...like putting on the weird slippers they have for all of their visitors to wear in their house." By observing and respecting the family's customs, many therapists suggested that it helped them to fit in and gain credibility with the family. The therapists who worked in hospital settings suggested that a family's adaptation to the hospital culture made it harder for them to see the family's cultural practices.

The impact of working in institutional contexts

The institutional environment encompasses the societal institutions and practices therapists work in (CAOT, 1997). Therefore, institutional processes and practices are discussed in relation to therapists' feeding evaluations in settings such as hospital, rehabilitation centres and at home. Therapists described the formation of their roles as created by everyday practices ordered through time. Consequently, therapists developed habits and routine in order to adapt to time constraints. Clark (2000) suggests that habits are reflected in one's occupations and occur at an unconscious level, while routines refer to a kind of habit or social process. The routine activities and practices therapists described are discussed first, followed by a discussion of how therapists' practice was ordered through time.

A few therapists described organisational structures where routine procedures legitimised their status and reinforced medical ideologies. Unlike most therapists, Nina did not rely on a physician to make the occupational therapy referral: "we don't require physician referrals. ... we have a standing order to see any baby 33 weeks or under, any baby with neonatal seizures, any baby that for some reason we need to see and we don't need a referral." Conversely, at Sonia's hospital, the referral process required the physicians or nurses notify her of any infants needing a feeding evaluation: "we don't have a blanket referral for the NICU [neonatal intensive care unit]. We just see them on an as need basis ... we only go over as we're needed." In many cases, therapists described organisational procedures that were linked to hierarchical power structures, and ultimately defined the tasks and boundaries of their practice.

A few therapists talked about organisational routines that influenced the evaluation process. For example, Michelle talked about the medical routines that influenced her assessments:

> It's in the Emergency. Basically how the clinic runs is you have your stretchers and you've got your curtains and you know all the children are lined up so that all the team members, dentistry, orthodontist or ENT, your plastics, speech therapist, myself, are going to go from bed to bed and then when one bed leaves, another one is filled up with another client so it's hectic, it's busy but that's the way it is.

Sue talked about her experiences working in a feeding clinic: "we would do the full assessment and step out of the room and talk as a team." She said "no one ever really outright said why are there so many people in the room". Sue expressed feelings of conflict because she disagreed with this process and how it excluded the family. She reported that she had to sacrifice more compared to her team members, in order to adapt to the tasks and boundaries defined by the physician in her workplace. Many of the therapists who worked with doctors experienced organisational procedures that were linked to physician's powerful status in healthcare.

Therapists also described a feeding evaluation as a task requiring temporal adaptation. For example, most therapists felt that ideally the feeding evaluation began when the infant was hungry and alert; however this was often difficult due to time constraints. Therapists faced difficulties in scheduling their evaluations to coincide with an infant's feeding schedule. More than half of the therapists talked about planning to assess an infant but being unable to. Jackie talked about her experiences trying to schedule when she could go into a family's homes:

> I usually try to go when it's feeding time so I always try to set my time to be a little bit before they would be pretty hungry and that way I can see how you know, how the mom kind of reacts to feeding time, like feeding time coming and getting ready and what the house is like and the stress level and that kind of stuff.

Susanne described similar difficulties timing her assessments in a hospital setting:

> Usually we have to keep postponing and postponing because if they're asleep and you don't want to wake them up and then we don't have enough time to spend 15 minutes waking them up then we just have to come back later.

The narratives demonstrate two aspects of therapists' adaptation to time. They described their efforts to adapt to the infant's sleep-wake cycle by coming at a time when the infant was awake. They also talked about habits and routines they developed in response to time constraints.

Time was described as an inescapable boundary around which all the therapists structured their daily behaviours. Therapists appeared to adapt to meet some external expectation of how they carried out their job. For example, Sonia quietly described how often she saw clients:

> How often I see them depends on unfortunately my time availability. I mean, I don't have time allotted to go in, I don't have any blocks of time a day to go over, so I try to catch them whenever I can. It could be daily, it could be twice a day, it could be once every two or three days. That varies, it depends on my time unfortunately.

Sonia's remorse reflected the stress she felt having to book unpredictable inpatient assessments into her outpatient schedule. Sue commented on how she sometimes spent longer with families than was expected: "We probably ended up with much longer visits than we should have ... I think that the time that we were able to give to the family was important in the connection." Sue's narrative suggests she did not always adapt to time constraints, especially when she felt it was important to spend more time developing a relationship with a family.

Therapists described their habits and routines they developed in response to processes or policies that restricted their use of time. Jackie talked about planning to make a few visits before expecting to actually see the baby feeding:

> When you're in the home, sometimes it takes me like three visits to actually assess because you're coming in, they want you to drink tea, Grandma drops over, you know, the older sibling is playing in the corner, you know, you're talking to them, the mother has to go to the bathroom, you know, like your 40 minutes are over ... so it takes a lot longer.

Although Jackie's visits were limited to 40 minutes, she had adapted by planning to see the family a few times before she expected to see the baby feed. Sonia talked about her experiences trying to anticipate hospital routines by "calling over" in the morning:

> It's hard, so like I call over in the morning and find out what the baby's feeding schedule is like and try to get in at that time but then that's not to say that the child will be whisked off to another test at that time.

Despite her attempts to adapt to her time constraints, there were always some temporal boundaries like hospital routines that were unpredictable.

Time was described by therapists as a limitation of feeding evaluations. The narratives suggest that not knowing how long the assessment would take made it difficult for therapists to schedule feeding evaluations. As a result, therapists adapted to their time constraints by developing their knowledge of organisational processes and practices. They also developed habits and routines that allowed them to be flexible in response to the changing environment.

Physical environment influences

The physical setting impacted on the therapist's evaluation process. In many cases the physical environment posed many barriers. The work environment often did not promote a "natural setting" for infant feeding. For example, Kathy talked about how her presence made the feeding experience unnatural: "I never see it the way it normally happens. Just by the very fact that I'm there is not the way it would happen, and that changes it. ... it's just not a natural situation." Even though Kathy worked in the home setting, she still did not feel she had a true

picture of what it was like for her families. Kathy reflected on the impact she had by being present in the home and how that influenced her observations: "I think, you know, kids are aware that somebody is there and watching the situation and it's not normal ...they're often looking over their shoulder, not feeding as well as they should, that's difficult, that observation part."

Therapists expressed a need to reorganise the physical environment when they changed the function of the setting. For example, therapists described some distractions in the home setting as ringing phones in the background and siblings interrupting the assessment. Mary talked about adapting the environment to make it more comfortable for the mom:

> There's not too much noise or too much brightness and that it's a calm environment...the telephone is not ringing, that they have other kids not jumping in and trying to look at that. So those kinds of environment things and if that's happening, then you need to look at how you can adapt it.

These were considered "distractions" because the therapist had changed the setting from a typical family interaction to a backdrop for an occupational therapy feeding evaluation. Michelle described difficulties she faced in a hospital setting "you could be feeding right beside a phone, and you know, of course you have bright lights." Michelle talked about how ideally she would like a non-stimulating environment, but that her environment was "not that easy to change".

Therapists described physical environments that did not create an ideal setting to assess infant feeding. They felt it was important for them to try and create a natural environment for the infant to feed. While the therapists did not always have the ideal physical environment, they described creative ways of adapting to their environment in order to create as natural a setting as possible for the mother and infant to feed.

Summary:

The environment was found to influence therapists' feeding evaluation process. Social perceptions of feeding were internalised by therapists and reflected in the importance they placed on social relationships with the parents. Some therapists displayed sensitivity to a family's cultural values and beliefs. Evidence was offered to demonstrate that therapists respond to institutional processes and policies by developing habits and routines that allow them to adapt to time constraints and pressures. Finally, the physical environment did not always create a natural setting for the feeding evaluation, and as such influenced how therapists performed their assessments.

CHAPTER 6

DISCUSSION AND CONCLUSIONS

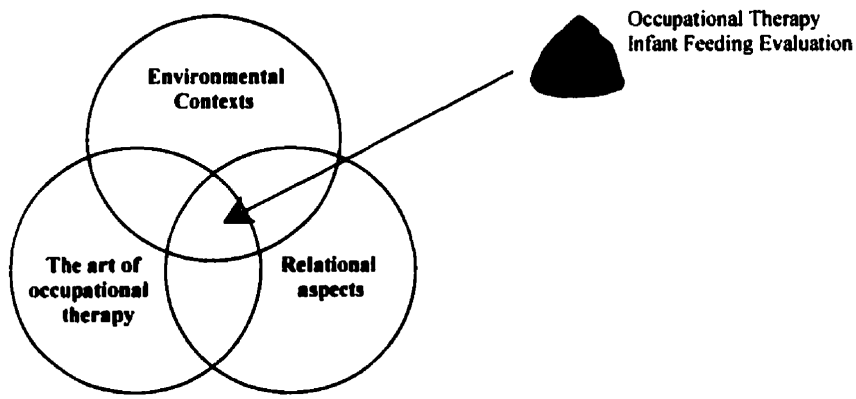
This chapter summarises the findings of this study and discusses how these findings confirm and extend current literature. Implications for occupational therapy practice, research and theory are also discussed.

Summary of Findings

Therapists' knowledge from conceptual models, books, courses and research studies provided them with abstract principles to explain characteristics of infant feeding. Therapists included the following components of infant feeding into their evaluations: behavioural state, physiological functions, development, sensory functions, oral-motor skills and co-ordination of suck, swallow and breathing (see Appendix F infant feeding assessment). While therapists' scientific knowledge provided them with the groundwork necessary to carryout their evaluations, the narratives suggest that therapists need to reflect on their knowledge and experiences in order to become competent practitioners. Therapists focused more on an area of their assessment based on their intuitive feelings about the situation, the relationships they were engaged in at the time and the environmental influences they experienced. The findings of this study contribute to an understanding of how people shape and are shaped by their relationships and environment. The three main themes illustrate the various types of knowledge, which influence therapists' feeding evaluations individually and as an interactive whole (see Figure 3).

The art of occupational therapy reflects the intuitive and experiential aspects of knowledge discussed by the therapists. The relational aspects encompass therapists' interpersonal relationships that impacted on the process of their feeding evaluations. Finally, therapists described their experiences related to their work within a social, cultural, institutional and

Figure 3: Interaction between artistic, relational and environmental aspects of therapists' infant feeding evaluations

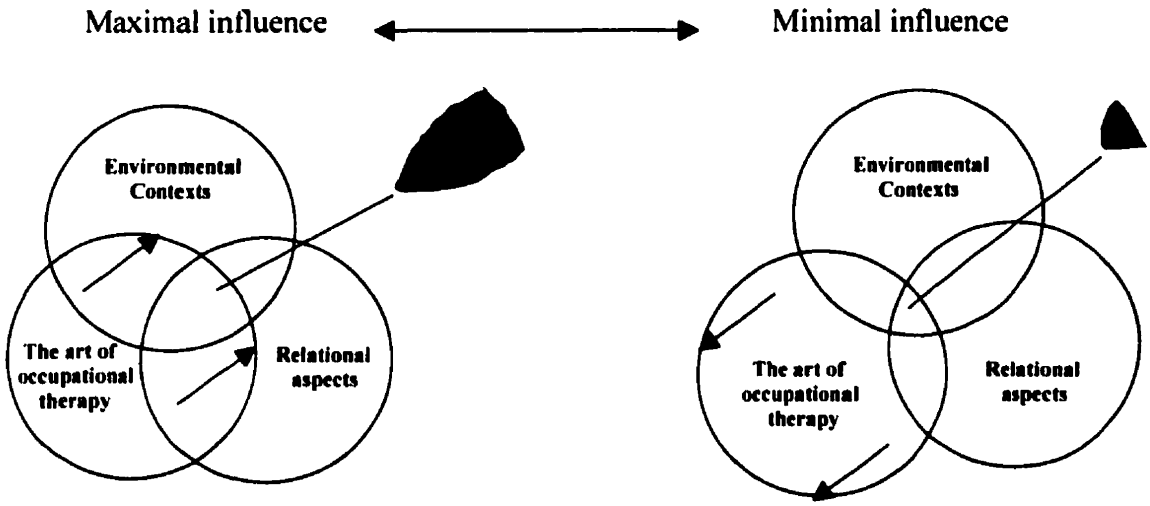


physical environment. There is a fluid interaction between the artistic, relational and environmental components suggesting that certain types of knowledge impact more in different situations.

The art of occupational therapy practice goes beyond current empirical discourse in order to discover the subjective experiences that make clinical decision making complex. Therapists' emphasis on an adaptive trial and error approach reveals the importance for therapists to engage in reflective strategies that allow them to effectively assess infant feeding. When the therapists were asked to reflect on their typical and challenging experiences, they reflected on the concept of intuition by describing those aspects of their practice that were hard to describe and had become tacit knowledge. The findings of this study provide evidence supporting the belief that an intuitive grasp comes from a deep understanding of a clinical situation developed through one's experiences. The therapists awareness of their perceptions enabled them to bring to light those aspects of decision making that came from intuitive feelings, and the art with which therapists interpret what information is relevant to their assessment.

Therapists need to observe the infant feeding and engage in an adaptive trial and error approach influences their feeding evaluations. Figure 4 illustrates how the art of occupational therapy influence can range from maximal to minimal. Therapists described experiences when

Figure 4: Influence of the art of occupational therapy on the occupational therapy feeding evaluation



the art of their practice influenced their evaluations. The main factor that determined the magnitude of the influence was therapist's experience evaluating infant feeding. Therapists' experiences evaluating infant feeding appeared to be related more to the number and variety of cases they had been involved in rather than their years of experience. For example, the therapists with more experience evaluating infant feeding preferred to observe the mother feeding the infant and reflected on the impact they had as a participant in the feeding process. Therapists who had fewer experiences to draw on described how their ability to understand the feeding experience included them feeding the infant. They did not reflect on the impact they would have on the feeding experience if they fed the baby instead of the mother. In addition, the more experienced therapists tended to explicitly describe the concept of intuition; whereas less experienced therapists were more implicit in their descriptions of intuitive knowledge. Therefore, the art of

occupational therapy was more influential for therapists with a variety of past experiences and less influential for therapists with fewer experiences to draw on.

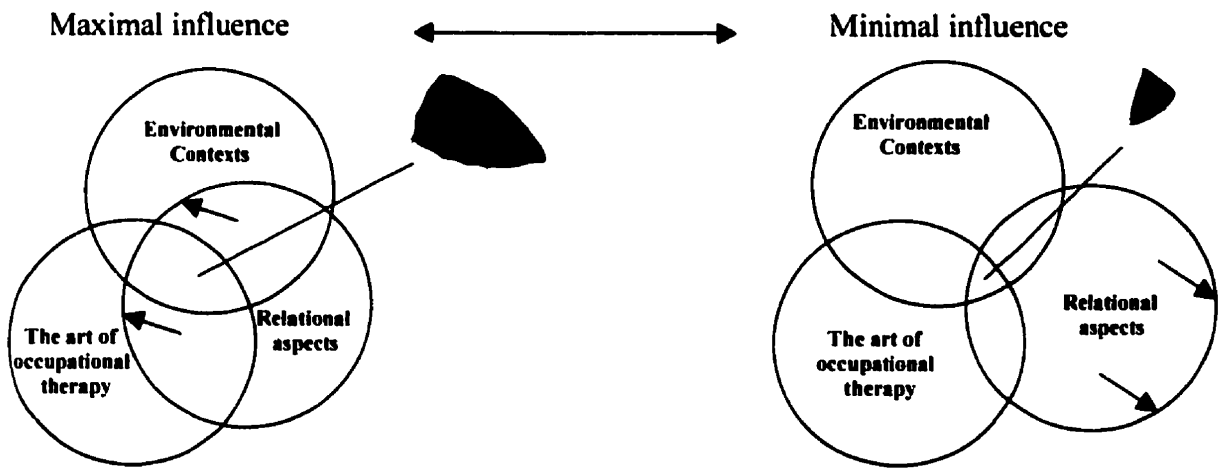
The results from this study indicate that therapists' interpersonal relationships significantly influenced their evaluations. The findings suggest that collaboration with caregivers and colleagues enable therapists to reflect on their practice and improve their clinical decision making. Therefore, therapists establish relationships with caregivers and their peers to facilitate their clinical feeding evaluations. There are several situations in which therapists use their interpersonal relationships to gain knowledge of the environment. Firstly, this knowledge adds the uniqueness of the individual to their understanding of the dynamic relationships between person-environment and occupation when assessing a client. Secondly, therapists use this knowledge to help them understand the impact of social experiences. It is this intrinsic dimension of practice that enables therapists to understand what motivates their clients, and what they need to do in order to enable their clients' occupational performance. Thirdly, this knowledge allows them to make inferences about client and societal attitudes that shape parent expectations.

Collaboration with the caregiver also enables therapists to develop client-centred goals. When applying a client-centred approach to an infant feeding evaluation, the occupational therapist considers the needs of the infant as well as the family unit and the environmental context. Although the literature on clinical guidelines and infant feeding research focuses on the infant's feeding skills, nine therapists evaluated parent-infant interactions as part of their assessment. Therapists attributed their successful and challenging experiences to parental involvement and an understanding of the caregiver's expectations. This study provides evidence that therapists' assessment experiences are shaped by maternal stress, cultural feeding practices, and social supports.

The therapists also perceived nurses and physicians as influential people. Half of the therapists described experiences where doctors and nurses carried the control around feeding decisions within hospital and rehabilitation settings. Five therapists also experienced hierarchical power relations with male physicians within their organisation, which negatively impacted on their ability to perform their evaluations. The narratives suggest that therapists experienced conflict when establishing new relationships with nurses and doctors or when they felt their opinions were not respected.

Therapists' relationships had the potential to significantly influence or minimally influence their evaluations (see figure 5). One factor that influenced the impact of therapists' relationships was the setting the assessment took place in. The settings therapists performed their assessments were in the home, outpatient settings and inpatients settings. For example, the therapist-parent relationship appeared to be most influential in the home, moderately influential in the outpatient setting and least influential in the inpatient setting. Conversely, therapists' relationships with nurses and physicians were related to political structures of medical institutions. Therefore, it makes sense that their experiences with nurses and physicians influenced their assessments more in an inpatient and outpatient setting than when they carried

Figure 5: Influence of the relational aspects on the occupational therapy feeding evaluation



out their evaluations in the family's homes. Another factor that determined the magnitude of the relational influence was therapists' amount of experience. The greater number and variety of experience therapists had to draw on, the less of an impact the relational aspects had. For example, therapists' relationships with nurses were more influential when they were engaged in a new relationship with a nurse and less influential when they had worked with the nurse before.

Therapists' emphasis on parent-infant interactions was related to their work with families, particularly in a home environment. Therapists listened to mothers and reflected on each mother's working model of caregiving to gain an understanding of parental expectations and values, which then served as a symbol of the social meaning of health and illness. Results of this study demonstrate therapists' knowledge and subsequent approach to health and illness is produced from their social relationships within an environmental context.

As a result, professional knowledge is viewed as a context specific construct. It is important for therapists to be aware of the social context in which they practice and to form relationships which will facilitate the assessment process. Although feeding difficulties may have a neurological basis, they appear to be conceptualised within a social context. As a result, feeding is viewed as a very personal and public phenomenon. This social view of feeding was apparent in therapists' descriptions of feeding as a role expectation for the mother, their reference to the media in publicising this social expectation and their reflections about their own mothering experiences. The findings highlight therapists' values and beliefs, and provide evidence that the social construction of feeding shapes what therapists evaluate and how they go about assessing infant feeding.

Specifically, the therapists suggested the central meaning of the feeding problem for the family influences the caregiver's response. Therapists assumptions about what was important to the caregiver may reflect the impact of lay health beliefs. The majority of therapists come from

middle class backgrounds, which may explain why their definitions of health were sometimes different from their clients. It may be argued that therapists experienced resistance from parents with regards to following through on recommendations, when their medical beliefs were different from parents' beliefs. Therapists' cultural beliefs and values regarding feeding may also have been different from the families they saw. Differences between the therapist's viewpoint and social perspectives appeared to cause friction and make the therapist's evaluations more difficult to carry out. Therefore, an understanding of the caregiver's perspective and expectations is needed in order to facilitate a successful experience for both the caregiver and the therapist.

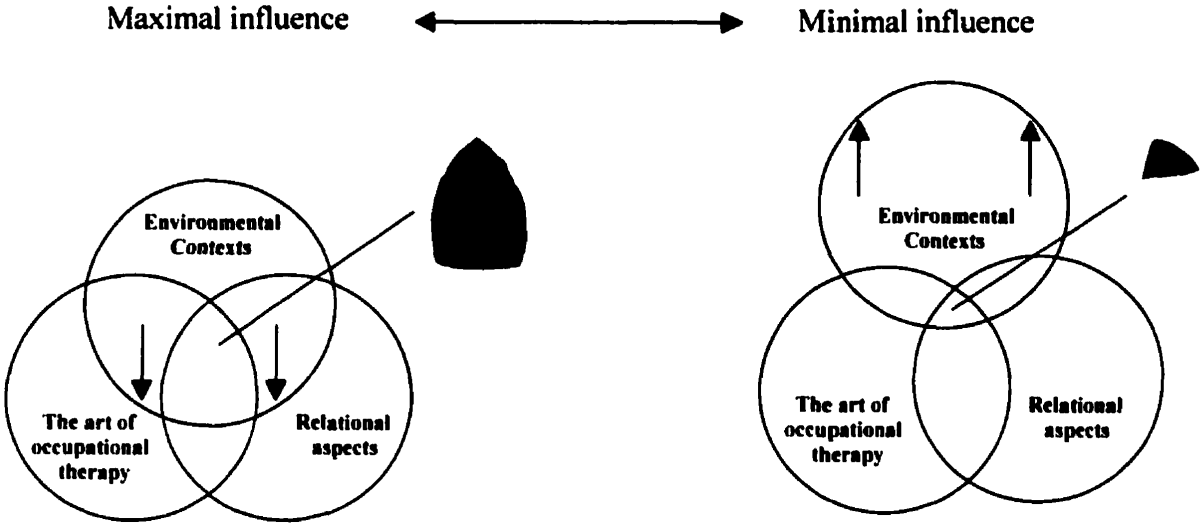
The institutional context also influenced therapists' feeding assessment practices. The therapists discussed their everyday experiences in relation to processes that empowered and limited their practice. Therapists described being restricted by temporal boundaries and having to develop routines and habits in order to adapt to the environment. They also discussed institutional procedures that limited and expanded their roles within hospital settings. Therefore, therapists' organisational context influenced their practice.

Physical barriers influenced how and when therapists carried out their evaluations. Therapists experienced difficulties setting up developmentally supportive feeding environments on a day to day basis. Broader institutional processes and relational factors influence these physical barriers. For example, it was difficult for therapists to initiate developmentally supportive care if the nurses and hospital administration did not provide the personal and financial support needed. In addition, the common location of the occupational therapy department away from the inpatient units may reflect the organisational power relations and social organisation of hospital institutions.

Consequently, the environment also had the potential to limit or facilitate the therapists' evaluation process (see figure 6). The setting was one factor that determined the influence of the

environment on the therapist's evaluation. For example, therapists who practised in a hospital setting experienced more institutional and physical processes and less social and cultural influences. On the other hand, therapists who worked in a home setting experienced more social and cultural processes and less institutional and physical factors. Therapists past experiences also determined the magnitude of the environmental influence. For example, therapists who had experienced social pressures either through their own mothering roles or interactions with parents, reflected more on the social importance of feeding.

Figure 6: Influence of the environmental contexts on the occupational therapy feeding evaluation



Subtle examples of ethical dilemmas were inferred when therapists discussed the safety of an infant's swallow and how their interventions protect the infant from aspirating. Only one therapist specifically identified a moral conflict she had experienced in a relationship she had with one mother. Even in this case, the therapist's resolution of the conflict required her to reflect on her values, consult with colleagues, increase her knowledge of institutional systems and seek out new knowledge pertaining to professional regulations. Another therapist reflected on the possibility of experiencing a moral dilemma. The therapist who identified a moral dilemma represents an outlying case. Since the therapist talked about her experience within the context of

a significant relationship, it was hypothesised that ethical or moral situations take place within therapists' relationships and could therefore be included in the relational theme. However, other explanations are also possible. Perhaps therapists do not experience moral dilemmas or they do not influence therapists' evaluations. Or maybe moral dilemmas are an important yet sensitive topic for therapists to talk about; in which case, the exclusion of this topic from the other narratives is a critical finding.

Confirming and Extending Current Literature

Consistent with a grounded theory approach, the findings of this study were compared and contrasted with current literature after data analysis was completed (Strauss & Corbin, 1998). The study findings were more consistent with the literature on patterns of knowing and development of professional knowledge than a clinical reasoning framework. Therefore, the following discussion will draw on new literature relevant to the findings.

Much of the literature on the construction of knowledge has been in the field of nursing (Benner & Tanner, 1987; Benner & Wrubel, 1982; Berragan, 1998; Carper, 1978), with more recent additions in the occupational therapy literature (Errington & Robertson, 1998; Hagedorn, 1996). Current literature on the construction of knowledge assumes a constructivist paradigm as opposed to the positivist paradigm used in a clinical reasoning approach. Using a constructivist perspective, knowledge is assumed to be created from how people make sense of their social experiences (Swandt, 1994). Therefore, the findings represent the consensus of multiple interpretations (Guba & Lincoln, 1989). It is also recognised that bias can be used positively as a tool to facilitate the research process since the investigator and participant are interconnected. In order to understand the participants' perspectives, a constant comparative method was used to help the investigator understand the shared meanings within the group.

This study highlights the importance of therapists' knowledge. In the following sections, the findings are discussed in relation to the literature on patterns of knowing and development of professional knowledge. This literature was reviewed as the last step of the analysis during the writing phase.

Using the concept of "patterns of knowing" to understand therapists' experiences

Carper's (1978) fundamental patterns of knowing provide a theoretical framework for understanding the experiences of occupational therapists who evaluate infant feeding. Carper described knowledge in the context of four patterns of knowing: empirics, esthetics, personal and moral knowledge. She described empirics as the scientific knowledge of a profession, which includes explanatory models, research and other sources that explain observed facts. She referred to esthetics as an experiential and subjective process of discovery. Personal knowledge is described in the literature as the discovery of self-and-others through reflective practice where one combines perceptions with what is known (Carper, 1978; Moch, 1990). Finally, Carper (1978) discussed moral knowledge as one's right and wrong actions in connection with caring for clients. While Carper described the concepts of empirical, esthetic, personal and moral knowledge, Moch (1990) further defined personal knowledge to include intuitive, interpersonal and experiential components. For the purpose of this discussion, esthetic knowledge is used to describe the intuitive aspects of therapists' practice. Personal knowledge is used in this discussion to highlight the interpersonal and experiential elements of therapists' feeding evaluations.

The findings have demonstrated that while therapists used their empirical and moral knowledge, their feeding evaluations were significantly influenced by their esthetic and personal knowledge. Bowman (1990) suggested that occupational therapists use art and science equally in their practice. The findings from this study would indicate that therapists do in fact need both

artistic and scientific knowledge in order to practice. The evaluation components described by the therapists in this study were similar to Glass and Wolf's (1994) global perspective on feeding assessment. In fact, the majority of therapists reported using the Wolf and Glass (1992) book in their practice. However, the narratives indicated that therapists needed more than their empirical knowledge to carryout their evaluations.

Similar to the art of occupational therapy theme, Carper (1978) discussed the art of nursing. Carper suggested that nurses perceive what is important for the patient by understanding the meaning behind the patient's actions and behaviours. Similarly, the art of occupational therapy goes beyond recognition to enable the therapist to understand the patient's perspective. Errington and Robertson (1998) suggest therapists need to trust their own intuition and learn the art of practice through experience. Since the narratives highlighted the intuitive aspects of therapists' adaptive trial and error approach, the findings of this study support a constructivist approach where an intuitive grasp is believed to come from a deep understanding of a clinical situation developed through one's experiences. Although the importance of intuitive reasoning has been theoretically discussed in the occupational therapy literature (Steward, 1996), this study provides evidence of the intuitive and experiential aspects of therapists' esthetic knowing which shape their evaluation experiences.

Knowledge gained through interpersonal relationships has been identified as an influential factor in clinical decision making (Jenks, 1993), consistent with the findings of this study. Relational factors described by the therapists are similar to Jenks description of personal knowledge nurses gained through their relationships. Jenks found that nursing relationships with patient, fellow staff and physicians influenced their decision-making abilities. Antonovsky (1992) suggested some of these organisational power relations are beyond an individual's internal control. For example, Kennedy, Oakland and Brotherson (2000) found parents viewed

physicians as the authority figure who carries the control around feeding decisions in the hospital setting. Interestingly, nurses have reported similar experiences with physicians (Jenks, 1993) as the therapists in this study. In comparison to the nursing literature, this study extends current understanding of the impact of social relationships by documenting that there is range of experiences and contributing factors that must be considered. For example, the impact of relationships was influenced by the environmental context. Since the impact of occupational therapists relational knowledge has not been studied, this study provides new insight into therapists' personal knowing.

The significant influence of therapists' relationships with parents and the importance of the parent-infant interaction to the therapist, suggest that therapists individualise their care to meet the needs of the caregiver and infant. Similarly, Jenny and Logan (1992) discussed how nurses' knowledge of the patient enabled them to individualise their patients' care. Pridham (1988) suggested that in addition to maternai experience, cultural and social sources of support and stress influence maternal goals and evaluation of feeding. The findings from this study provide evidence that therapists consider these factors when assessing infant feeding. The concept of internal working models has been described in the literature as a framework for understanding the caregiver's goals, thoughts, actions and expectations of the infant and the mother. (Pridham, 1993; Pridham et al., 1989). It is suggested that the concept of internal working models may be a useful method for therapists to understand and document the caregiver's experiences.

In support of the Canadian Model of Occupational Performance (CAOT, 1997) which views function as the effect of the person and environment interactions, this study provided evidence of the interaction between the therapist, family and environment. The inclusion of environmental knowledge is an extension of current literature on personal knowing. The findings

acknowledge the role of the environmental context and the need to take a holistic approach to knowledge development, which is consistent with an occupational therapy practice model such as the Canadian Model of Occupational Performance (CAOT, 1997).

Nettleton (1995) suggested that social circumstances constrain and ground all social actions. The social construction of feeding highlighted in this study provides evidence that therapists' knowledge is created and shaped by their social experiences. Townsend (1996) discussed how organisational context shapes occupational therapy practice. Similarly, the findings from this study suggest that the institutional context influences therapists' evaluation process. The importance of setting up the physical environment has been highlighted in the literature on developmentally supportive care (Als, 1986; Als et al., 1986) and was also supported by the narratives.

Carper (1978) used the term moral knowledge to refer to situations where traditional principles contradict with a patient's goals. The outlying case suggests that client-centred practice does not mean a therapist disregards these obligations. Therapists described the challenges they face examining the potential risks and consequences of feeding an infant by mouth. The therapist and parents' goals signify each persons underlying values (Carper, 1978) and their philosophical position about the importance of feeding. In some situations such as the outlying case, the occupational therapist may refuse to carryout a client's request if she feels it is unethical (CAOT, 1997). Therefore, therapists' clinical judgements are inevitably based on an ethical code of conduct (CAOT, 1997). This conceptualisation of therapists' clinical judgements as conditions for relationships extends current theory on moral knowledge.

Understanding therapists' development of professional knowledge

In reviewing the different patterns of knowing therapists discussed, the narratives highlighted therapists' development of professional knowledge, similar to the literature on skill

acquisition (Benner, 1994; Dreyfus & Dreyfus, 1996). First, therapists were able to use their past experiences to help them apply the abstract principles they had learned from books and courses. Second, with more experience they saw feeding as a whole where some parts were more relevant. Third, they were able to move from viewing themselves as simply observers to a more reflective understanding of how they were participants in the feeding process. This section elaborates on these three aspects of professional knowledge development.

Therapists' descriptions of their knowledge development suggest that they engage in a process of reflection in their everyday practice. The therapists used the words "trial and error" to reflect a decision making process that drew on their intuitive, experiential and empirical knowledge. Consequently, therapists' adaptive trial and error approach is more congruent with Schon's (1983; 1990) concept of reflection-in-action than an approach such as hypothesis testing. Therapists used an adaptive trial and error approach to feeding evaluations since there was no recipe for assessing infant feeding. Although Saylor (1990) suggested that reflection should not be called trial and error because it is based on theoretical knowledge and clinical experience, this study provides evidence that a trial and error approach is in fact a reflective decision making process based on intuitive, experiential and empirical knowledge. By making this link to their clinical experiences, therapists were able to use their past experiences to help them apply the abstract principles they had learned from books and courses.

Therapists' experiences evaluating infant feeding were related more to the number and variety of cases they had been involved in rather than their years of experience. Therapists, who had more experiences to draw from, appeared to view the feeding experience as a whole where some parts were more relevant. As a result, they were able to respond to changes in their interpersonal relationships and practice situations. Their adaptive approach to feeding evaluation suggests that there are many ways of looking at a feeding problem, and that therapists need to

reflect on systemic issues on a daily basis. Consequently, an understanding of feeding as the sum of many parts is developed through rich clinical experiences.

The narratives also provide evidence that more experienced therapists were able to move from viewing themselves as simply observers to a more reflective understanding of how they impacted the feeding experience. By adopting a constructivist view, it is assumed that therapists perceive and make sense of situations according to their transactions with their practice world. The narratives suggest that experienced therapists also reflect on their impact as an observer. In other words, they started to view themselves as a participant in the feeding process who shapes and is shaped by the feeding experience.

The semi-structured interviews allowed the therapists to reflect on their experiences, and bring their own unique professional knowledge to discourse. They described their esthetic knowledge as the art of occupational therapy. The relationships and environmental influences the therapists highlighted reflect their personal patterns of knowing. Therefore, therapists' esthetic and personal knowledge significantly influenced their infant feeding evaluations. The results also highlight that therapists develop their knowledge by reflecting on their past experiences and seeing infants with a variety of clinical problems.

Limitations of the Study

Although this study has uncovered new information about occupational therapists' development and use of knowledge, a number of limitations remain. The sample size for this study was small. However, therapists in this study were able to provide sufficient information-rich data in the face-to-face interviews. Purposeful sampling was used to recruit a cross-section of experienced occupational therapists in the area of infant feeding. The interview guide was revised and a constant comparative approach to the analysis was used to allow for the data gaps to be filled with a smaller sample.

Maintaining a balance between objectivity and sensitivity is problematic in any qualitative research study (Strauss & Corbin, 1998). Objectivity was maintained in this study using a variety of strategies. In order to ensure trustworthiness, two researchers who both had extensive experience with qualitative research reviewed samples of the transcripts and coding. To counteract the influence of the investigator's theoretical assumptions and previous working relationships with some of the therapists, the investigator took an active stance of inquiry and did not offer any perceptions during the data collection. Triangulation of sources was achieved by recruiting therapists from a variety of practice settings allowing for variation in therapists' experiences. Member checking was carried out with six of the thirteen therapists by showing them a summary of the main themes and discussing whether or not the themes accurately captured their experiences. Finally, member checking was carried out with two therapists who read the final results chapters and provided the investigator with their feedback.

Sensitivity refers to the discovery of meaning within the data (Strauss & Corbin, 1998). This study's exclusive use of verbal reports is a common limitation of qualitative studies where data collection is limited to verbal discourse (Dreher, 1994). Future studies could use observation as well to document the therapist's evaluation process, however this approach would be more open to researcher bias. In this study, the investigator made interview notes and reflections immediately after each interview to identify reappearing patterns in subsequent interviews and analyse her influence within the context of the research. Notes were also made to document the investigator's thoughts, hypotheses, decisions about methods and her rationale. The two researchers with qualitative experience were also consulted during the analysis and helped the investigator to question and compare the emerging results.

While generalisation is not the goal of a qualitative study (Morse & Field, 1995), it is anticipated that the results of this study can be applied to other contexts. This study provides

insight and understanding into the processes and factors that influence infant feeding evaluations from the perspective of occupational therapists themselves. By acknowledging the conditions of the study and grounding the results in the data, the investigator is confident that the suggestions made are worth pursuing.

Implications and Contributions to Occupational Therapy

Practice

This study exemplifies current occupational therapy feeding evaluation practices and recognises the value of therapists' multi-variant knowledge by blending the artistic and scientific components of practice. Furthermore, the results from this study are empowering for practising occupational therapists because it validates their clinical knowledge. The findings can be used to provide practical suggestions for occupational therapists who assess infants at risk for feeding difficulties. First and foremost, stronger links must be made between therapists practising in different settings. Collaboration with colleagues emerged as an effective method in which therapists developed their feeding assessment knowledge and skills. Since observation and experience is the key to infant feeding evaluations, then feeding assessment strategies should be taught hands on in the form of clinical cases with collaborative support and feedback. Most therapists tend to practice in isolation and need years of practice to experience the variety of cases they need to develop their expertise. Therefore, it is also suggested that therapists make an effort to form and become involved in larger feeding interest groups, so they may learn from each others' experiences and further develop their expertise. Direct collaboration between therapists is necessary, if therapists hope to develop and document the knowledge required for best practice.

Insights from this study also contribute to the development of more appropriate practice models for occupational therapists. Exploring and understanding different viewpoints is a critical preliminary step to uncovering the richness embedded in therapists' practice. This study not only

raises the awareness of different types of knowledge therapists use, but also highlights the need for therapists to reflect on their practice in order to uncover these types of knowing. It is suggested that therapists need to incorporate reflective models of problem solving in order to capture those aspects of knowledge currently missing in feeding guidelines and assessments. Adding a reflective component to current assessment strategies may lead to more realistic practice models and validate therapists' professional expertise.

Therapists emphasised the social importance of feeding as a primary role expectation for the mother, and incorporated the mother's role performance into the assessment process. Feeding performance was therefore evaluated based on the mother's competencies and comfort rather than solely on the infant's skills. The findings of this study suggest that internal working models could be used as a framework for understanding the caregiver's approach to feeding (Pridham, 1993; Pridham et al., 1989). Anticipatory guidance strategies could then be used to develop caregiver competencies (Pridham, 1993; Pridham et al., 1998). It is recommended that occupational therapists explore the use of these practice models to help them understand maternal problem solving and increase their success in facilitating caregiver skills. An understanding of the caregiver's expectations and facilitation of caregiver involvement will lead to successful experiences for both the caregiver and the therapist.

One of the major contributions of this work is its validation of including the environment in therapists' assessments. Current educational practices and feeding literature tend to focus on theoretical knowledge of the anatomical and physiological substrates of infant feeding. Since therapists described feeding within a social context with an emphasis on the parent infant interactions during feeding, it is evident that therapists require knowledge of environmental constructs in order to perform their evaluations. Therefore, an evaluation of parent infant interactions must be included in clinical guidelines, infant feeding assessments and clinical

teaching. Education of occupational therapy students must also foster a critical awareness of the socio-political factors and other environmental influences that shape therapists' professional development.

Therapists' personal knowledge influenced the development of their professional skills. Specifically, their relationships with other health care professionals impacted on their decision-making process. Since relationships develop with time, current educational practices such as student placements or therapist mentoring programs should be reviewed to ensure that they allow students and therapists enough time to develop strong and supportive interpersonal relationships. Clinical teaching practices should also encourage development of interpersonal communication skills to enable therapists to set professional boundaries and resolve conflicts effectively. If therapists are able to experience and establish supportive relationships, they will make more effective clinical decisions.

Research

Traditional feeding research has taken a quantitative approach. The new insights gained from this study support the use of qualitative methods to study occupational therapy assessment practices. The nature of the interviews allowed the therapists to express their thoughts around their lived experiences that would not have been discovered through a quantitative approach. While some therapists expressed difficulty answering unstructured open-ended questions, all of them were able to reflect on their practice and talked about the issues that mattered most to them. These issues add an important dimension not yet discussed in the current literature on infant feeding. Research approaches that continue to observe and explore the everyday practices of occupational therapists will continue to interest therapists, and assist them to blend research and practice together.

Therapists' practice has been shown in this study to be socially organised. For example, the inclusion of parent-infant interactions in a feeding assessment is necessary within a social context that values nurturing of its young. In particular, attention must be made to the social construction of infant feeding. Studies exploring the influence of media on parents and therapists perception of feeding would facilitate a deeper understanding of this important aspect of infant feeding. This study has also highlighted the need to address the differences between the beliefs and expectations of caregivers and therapists. Identification of these similarities and differences could potentially increase therapists awareness of their own values and beliefs, and lead to the development of feeding assessments that are clinically relevant and practical for the therapist, infant and family. Future research should also investigate the socio-political structures, which shape occupational therapy practice. For example, an ethnographic approach may provide valuable insights into environmental factors that shape policy and practice.

The esthetic and personal knowledge highlighted in this study provide a new perspective on occupational therapists' knowledge. Additional qualitative studies specifically exploring therapists' intuitive, interpersonal and experiential knowledge will add new insights to the current understanding of occupational therapy knowledge highlighted in this study. For example, we do not know if all therapists develop intuitive knowledge, as they become more experienced. We do not know if the relational factors identified by therapists in this study are experienced by occupational therapists practising in other speciality areas. The extent to which hierarchical power relations and gender relations influence therapists' evaluation of infant feeding also require further study. The results of this study have just scratched the surface in terms of providing evidence of the esthetic and personal knowledge therapists need for best practice.

Theory

Occupational therapy literature on clinical reasoning focuses on the cognitive information processing aspects of decision making. Recently, there has been a move in the profession towards more of a reflective approach to learning where professional development is seen as the journey one experiences, rather than a means to an end. While this study supports this move towards reflective practice, more work is needed to further develop and validate reflective models appropriate for occupational therapy practice.

The results of this study contribute to the occupational therapy literature by providing a more comprehensive picture of therapists' experiences evaluating infant feeding. Differences have been identified between occupational therapy practice and current literature. Clinical guidelines and literature on infant feeding define feeding assessment practice within a medical framework, focusing on the anatomical and physiological substrates of feeding. Whereas, this study has demonstrated that therapists' intuitive feelings about a situation, their relationships with others and the environmental context play a larger role in influencing therapists' feeding evaluation. As a result, this study has uncovered those aspects of therapists' practice, which have previously evaded conventional discourse.

Occupational therapy literature on knowledge development is sparse and lacks the conceptualisation, depth and evidence of professional knowledge found in the nursing literature. The broad scope of factors identified in this study provides evidence of the comprehensive knowledge occupational therapists need to carryout their everyday practice. By identifying occupational therapists' patterns of knowing, this study extends current professional theory by documenting the knowledge essential to best practice and fills the current gap in the literature on occupational therapists' patterns of knowing. Consequently, these findings have important

implications beyond the occupational therapy feeding literature and may be used for general occupational therapy theory development.

Summary of recommendations

In summary, the following recommendations provide strategic directions for occupational therapy practice, research and theory:

- Direct collaboration and stronger links between therapists are needed in order to develop and further document the knowledge required for best practice.
- Practice models such as reflective thinking, maternal working models and anticipatory guidance strategies need to be incorporated into occupational therapy practice.
- An evaluation of parent infant interactions within a social context must be included in clinical guidelines, infant feeding assessments and clinical teaching.
- Education of occupational therapy students must support and foster a critical awareness of relational and environmental influences.
- Additional qualitative studies should focus on other types of occupational therapy assessment practices, parental and professional perceptions of feeding, institutional processes and further explore therapists' intuitive, interpersonal and experiential knowledge.

This study has shown that therapists require intuitive, interpersonal and experiential knowledge for best practice. The model developed in this study, highlights aspects of occupational therapy evaluation absent from current feeding literature and extends our current understanding of occupational therapy knowledge development and use. Furthermore, the dynamic interactions suggested by this new model illustrate how therapists knowledge development is based on their experiences and influenced by the settings in which they practice. Therefore, this study validates therapists' esthetic and personal knowledge and offers a starting

point for future research and theoretical conceptualisation of occupational therapy knowledge development and use.

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APPENDICES

APPENDIX A ETHICS APPROVAL
THE HOSPITAL FOR SICK CHILDREN
RESEARCH ETHICS BOARD

Approval & Terms of Agreement

APPLICANTS: Ms. K. Subramaniam, Drs. D. Reid, D. Kenny, N. Young & B. Kirsh

PROJECT TITLE: **An investigation of one component of clinical reasoning used by experienced occupational therapist when evaluating infants at risk for feeding problems**

FILE NUMBER: **2000/292**

MEMBERS OF THE BOARD*:

Dr. Max Perlman, Chair	Mr. R. Sugarman
Ms. J. Clarkson	Dr. L. Stermac
Dr. M. Rossi	Mrs. B. Benoliel
Dr. A. Taddio	Dr. R. Zlotnik Saul
Dr. D. Bagli	Dr. C. Cirilli
Ms. S. Serena	Mr. J. Beyene
Dr. B. McCrindle	Dr. M. Freedman
Dr. M. Crawford	Dr. A.Feigenbaum
Ms. S. Doyle	Dr. L. Komar

*Meeting may not have been attended by all members.

I agree to carry out the proposed research involving human subjects in accordance with the protocol approved by the Research Ethics Board using the approved consent form/s. I shall notify the department/division chief and the Research Ethics Board prior to implementing any modifications in the protocol and of any adverse or unexpected events as soon as possible.

SIGNATURE (INVESTIGATOR) Kala Subramaniam DATE Nov. 9th/00

I agree to monitor the protocol on an ongoing basis, and to notify the Research Ethics Board as appropriate.

SIGNATURE
(DEPARTMENT/DIVISIONHEAD) D Crawley DATE Nov 9/00

The Research Ethics Board of the Hospital for Sick Children has reviewed and approved the above-named project.

Chair, Research Ethics Board Max Perlman DATE Nov 13, 00

DATE OF APPROVAL SEP 14 2000

EXPIRY DATE SEP -- 2001

555 UNIVERSITY AVENUE
TORONTO, ONTARIO
CANADA M5G 1X8
PHONE (416) 813-1500
www.sickkids.on.ca

THE HOSPITAL FOR SICK CHILDREN
University of Toronto Faculty of Medicine

Max Perlman
MB, BS, FRCP(Lond), FRCP(C)
Staff Neonatologist
Chair, Research Ethics Board
The Hospital for Sick Children

Professor of Paediatrics
University of Toronto
Phone (416) 813-6340/5492
Fax (416) 813-5245
mperlman@sickkids.on.ca

RESEARCH ETHICS BOARD

September 14, 2000

Ms. Kala Subramaniam
Department of Rehabilitation Services
The Hospital for Sick Children

Dear Dr. Subramaniam

Your study "An investigation of one component of clinical reasoning used by experienced occupational therapist when evaluating infants at risk for feeding problems"

REB File No. 2000/292

On behalf of the Research Ethics Board, I hereby provide expedited approval to the above noted protocol.

The protocol will be submitted to the next meeting of the REB for final approval. In the unlikely event that any substantive concerns are raised at that time, we will discuss them with you. On behalf of the Research Ethics Board, I hereby provide expedited provisional approval to the above noted protocol, and you may proceed with the research.

Yours sincerely

Max Perlman
Chair, Research Ethics Board

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RESEARCH ETHICS BOARD

December 5, 2000

Ms. Kala Subramaniam
Department of Rehabilitation Services
The Hospital for Sick Children

Dear Ms. Subramaniam

> Your study "An Investigation of one component of clinical reasoning used by experienced occupational therapists when evaluating infants at risk for feeding problems"
>
> REB File No. 2000/292

On behalf of the Research Ethics Board, I am writing to provide approval for your study amendment as described in 30 November 2000 correspondence.

Yours sincerely

Max Perlman
Chair, Research Ethics Board

CELEBRATING 125 YEARS

APPENDIX B INVITATION LETTER

Dear Occupational Therapist,

I am inviting Occupational Therapists who have had two or more years of experience working with infants under three months of age who have feeding difficulties, and provide clinical services for at least 50% of their caseload, to participate in a pilot research project that is being conducted at The Hospital for Sick Children, Toronto. The project is titled "An investigation of one component of clinical reasoning used by experienced occupational therapists when evaluating infants at risk for feeding problems." I am an Occupational Therapist at The Hospital for Sick Children and a Master's of Science candidate; and am supervised by Dr. Denise Reid, an academic supervisor from the Graduate Department of Rehabilitation Science at the University of Toronto.

The purpose of this descriptive study is to uncover one component of the clinical reasoning used by experienced occupational therapists when evaluating infants with feeding problems. I propose to use qualitative research methods and interview occupational therapists working with these clients to learn about the occupational therapy feeding assessment and what influences your practice. The interview will last from 45 to 60 minutes and will be arranged at a time that is convenient for you. I will need your permission to audio-tape the interview to enable us to transcribe the interview for qualitative analysis.

I look forward to hearing from you and welcome your participation in this exciting project. **Please call me at (416) 813-6755 ext. 6-3 by _____ if you are interested in participating.**

Sincerely,

Kala Subramaniam
Occupational Therapist, The Hospital for Sick Children
Master's of Science student, The University of Toronto

APPENDIX C1 OCCUPATIONAL THERAPIST CONSENT FORM

CONSENT FORM FOR PARTICIPANTS

Title of Research Project: **An investigation of one component of clinical reasoning used by experienced occupational therapists when evaluating infants at risk for feeding problems.**

Principal Investigator: Kala Subramaniam, B.Sc.O.T., O.T. (C)
Graduate Department of Rehabilitation Science, University of Toronto
Staff Occupational Therapist
Department of Rehabilitation Science, Hospital for Sick Children
555 University Avenue, Toronto, Ontario, M5G 1X8
813-6755 ext.6-3

Academic Supervisor: Denise Reid, Ph.D., O.T. (C)
Full Professor, Faculty of Medicine,
Departments of Rehabilitation Science and Occupational Therapy,
University of Toronto (416) 978-5937

Purpose of the Research:
The aim of this study is to uncover one component of clinical reasoning used by experienced occupational therapists when evaluating young infants at risk for feeding problems. This study will have three important results. First, this study will increase our understanding of occupational therapy feeding assessment practice. These insights will form important groundwork that may be useful for the future development of evaluation tools that can be used by paediatric occupational therapists. Finally, findings from this study may have the potential to improve educational practices with occupational therapy students and practising occupational therapists.

Description of the Research:
The study will take place out of the Department of Rehabilitation Therapy at The Hospital for Sick Children. Information will be gathered from ten occupational therapists who routinely perform infant feeding assessments. If you decide to participate in this study, the principal investigator will meet with you and obtain your consent to participate in this study. You will be requested to participate in one interview that will take approximately 45-60 minutes. The interview will take place at a location at your request and convenience. You will be asked a number of open-ended questions regarding the components that you assess in an infant feeding assessment. Your interview will be audio-taped requiring that a separate consent form be signed.

Potential Harms:
There are no known harms associated with this study. Scheduling the interview may be an inconvenience, however the investigator will attempt to schedule the interview at your convenience. The interview may be uncomfortable for some participants because you are being asked to talk about your practice with a colleague. You may stop the interview at any point and chose to withdraw from the study if you do not feel comfortable.

Potential Benefits:
You will not benefit directly from participating in this study. It is expected the study will take one year to complete. Your participation in this study will help to contribute to the occupational therapy literature on the assessment of infant feeding. This information can potentially lead to the generation of clinical assessments and recommendations for future practice.

Confidentiality:
Confidentiality will be respected and no information that discloses the identity of you or the other subjects will be released or published without consent unless required by law. For your information, the interviews will be transcribed for data analysis and will be kept in a locked cupboard along with the audiotapes. The information obtained from the interviews will be used for research purposes only in the context of this study.

Participation:
Participation in this research study is voluntary. You are free to withdraw from the study at any time.

Consent:
I acknowledge that the research procedures described above have been explained to me and that any questions that I have asked have been answered to my satisfaction. I have been informed of the alternatives to participation in this study, including the right not to participate and the right to withdraw. As well, the potential harms and discomforts have been explained to me and I also understand the benefits (if any) of participation in the research study. I know that I may ask now, or in the future, any questions I have about the study or the research procedures. I have been assured that all records relating to me will be kept confidential and that no information will be released or printed that would disclose my personal identity without my permission unless required by law.
I hereby consent to participate.

Name of occupational therapist	Signature of occupational therapist
Name of person who obtained consent	Signature of person who obtained consent

Date:

The person who may be contacted about the research is: Kala Subramaniam
Who may be reached at telephone no.:(416) 813-6755 ext.5-3

Please retain a copy of this letter for yourself.

APPENDIX C2 SOUND RECORDING CONSENT FORM

SOUND RECORDINGS CONSENT FORM FOR PARTICIPANTS

Title of Research Project: **An investigation of one component of clinical reasoning used by experienced occupational therapists when evaluating infants at risk for feeding problems.**

Principal Investigator: Kala Subramaniam, B.Sc.O.T., O.T. (C)
Graduate Department of Rehabilitation Science, University of Toronto
Staff Occupational Therapist
Department of Rehabilitation Science, Hospital for Sick Children
555 University Avenue, Toronto, Ontario, M5G 1X8
813-6755 ext.6-3

Academic Supervisor: Denise Reid, Ph.D., O.T. (C)
Full Professor, Faculty of Medicine,
Departments of Rehabilitation Science and Occupational Therapy,
University of Toronto (416) 978-5937

I hereby consent to be audio-taped during participation in this research project. These tapes will be transcribed, creating a written record of the interview which will enable the analysis of the information collected by the investigator. I understand that I am free not to participate in this study and that if I agree to participate I am free to withdraw from this study at any time.

_____
Name of Participant

_____
Signature

_____
Name of person who obtained consent

_____
Signature

_____
Date

The Person who may be contacted about the research is:
Kala Subramaniam
Who may be reached at telephone #:
(416) 813-6755

In addition, I give permission for this tape to be used for:

❒ Other research projects.

❒ Teaching and demonstration at HSC.

❒ Teaching and demonstration at professional meetings outside HSC.

❒ Not to be used for anything else.

In giving permission for the use of the tape(s) beyond the current research, I have been offered the opportunity to view/hear the tape(s) and I understand that I am free to withdraw my permission for other uses of the tape(s) at any time.

_____
Name of Participant

_____
Signature

_____
Name of person who obtained consent

_____
Signature

_____
Date

The Person who may be contacted about the research is:
Kala Subramaniam
Who may be reached at telephone #:
(416) 813-6755

APPENDIX C3 MEMBER CHECKING CONSENT FORM

MEMBER CHECKING CONSENT FORM FOR PARTICIPANTS

Title of Research Project: **An investigation of one component of clinical reasoning used by experienced occupational therapists when evaluating infants at risk for feeding problems.**

Principal Investigator: Kala Subramaniam, B.Sc.O.T., O.T. (C)
Graduate Department of Rehabilitation Science, University of Toronto
Staff Occupational Therapist
Department of Rehabilitation Science, Hospital for Sick Children
555 University Avenue, Toronto, Ontario, M5G 1X8
813-6755 ext.6-3

Academic Supervisor: Denise Reid, Ph.D., O.T. (C)
Full Professor, Faculty of Medicine,
Departments of Rehabilitation Science and Occupational Therapy,
University of Toronto (416) 978-5937

I hereby consent to participate in reviewing the results with the investigator of this research project if so requested. The purpose of the review is to ensure that the results are reflective of the participant's perspective. I understand that I am free not to participate in this study and that if I agree to participate I am free to withdraw from this study at any time.

_____
Name of Participant

_____
Signature

_____
Name of person who obtained consent

_____
Signature

_____
Date

The Person who may be contacted about the research is:
Kala Subramaniam
Who may be reached at telephone #:
(416) 813-6755 ext. 6-3

APPENDIX D INTERVIEW GUIDE

Introduction:
Thank you for agreeing to talk to me today.

Identifying and defining the key components in an occupational therapy evaluation of infant feeding (research question 1 and 2).
Let's start with the feeding assessment, I mean anything you look at when you evaluate a young infant's ability to feed. First I would like to know as an occupational therapist, what do you look at when you do a feeding assessment?

probes:
- ask for details of components or areas mentioned
- can you describe what that is
- how important is it – very, somewhat, not
- why is it important

The procedure of the feeding assessment (research question 3).
We've talked about what you look at in a feeding assessment and why you think its important. Can you tell me about how you go about finding out this information? What do you actually do?

probes:
- what equipment/tools are used
- how long does the assessment take each/all
- who feeds the baby
- where is the assessment done
- when is the assessment done

*Note: For each component described, continue with description of procedures prior to discussing next component. Repeat until all components are mentioned by the therapist are discussed fully.

<u>Influences on your process (research question 4)</u>

What are some of the things that make it easier or allow for you to do your feeding assessment?

probes:
- ask for specific examples (e.g. cases that come to mind)
- describe why some things make it easier to do your assessment e.g. tools, setting, people, institutional factors, social factors, personal factors
- describe any people that help make it easier to do your assessment
- your theoretical orientation
- your experience level or training

What are some of the things that make it harder for you to do your feeding assessment?

probes:
- ask for specific examples (e.g. hospital discharge)
- describe things that make it hard to do your assessment
- describe people that make it hard to do your assessment

APPENDIX E PARTICIPANT DATA SHEET

Case #:

Full Name: _____

Employed at : _____
Name of facility

_____
Street

_____ Ontario _____
City Province

_____ ( )- - _____
Postal Code Phone Number

Location of Services Provided (please check most appropriate one):

- ❒ hospital
- ❒ rehabilitation centre
- ❒ community

Years of Experience working in the area of infant feeding: _____

Current area of practice: _____

What continuing education in the area of infant feeding have you participated in?
Informal: _____
_____
Formal: _____
_____

Thank you for your time.

APPENDIX F INFANT FEEDING ASSESSMENT

Therapists included the following components of infant feeding into their evaluations: behavioural state, motor control, physiological control, sensory function, oral-motor skills and co-ordination of suck, swallow and breathing. The evaluation components described by the therapists in this study were similar to Glass and Wolf's (1994) global perspective on feeding assessment. However, the focus of the therapists' evaluation of infant feeding varied across settings, and is highlighted in bold where appropriate.

MEDICAL HISTORY:
Therapists reviewed the medical history for previous and current diagnoses. For example, therapists noted if the infant had a cardiac condition, seizures, nausea or gastroesophageal reflux. They also checked if the infant was on medications and the possible side-effects from the medication. Therapists paid particular attention to any enteral feeding or special feeding instructions the physician had ordered. **Therapists in hospital and rehabilitation settings gathered this information from the family, chart or forms sent to the family. Therapists who worked in a home setting gathered this information mainly from the family.**

CLINICAL OBSERVATIONS:

BEHAVIOUR	Therapists observed the infant's behaviour in response to environmental stimulation during feeding. Since, an optimal state for feeding is one that does not interfere with the infant's ability to feed (Wolf & Glass, 1992). For example, therapists reported that they watched for eye closure, irritability, alertness, crying, nasal flaring, poor eye contact with mother and if the infant turned away from the mother when feeding. Therapists also commented on the infant's physiological level of alertness (e.g. drowsy, awake). Similarly, Als (1986) has discussed this relationship between an infant's state/ behavioural cues and the infant's organisation and stability for intervention.
MOTOR CONTROL	Therapists talked about how they viewed feeding in the context of the infant's overall development. Wolf and Glass (1992) suggested that while it is not important to know the exact developmental level of an infant, that it is important to know the approximate level or if the infant is developmentally delayed. Therapists specifically evaluated muscle tone, muscle strength, movement patterns, quality of movement, fatigue, reflexes and the infant's stress signals. Wolf and Glass (1992) also described evaluation of motor control in terms of muscle tone, reflex activity, postural control, motoric behaviours specifically in response to stress, and achieving an optimal position for feeding. Head and trunk control contributes to an infant's feeding abilities by setting up an optimal position for feeding (Frappier et al., 1987). Therapists talked about the importance of preparing the infant for feeding. For example, bundling the infant with the chin tucked in midline, using sidelying or a semi-reclined position for feeding. Wolf and Glass (1992) also discussed the importance of the head and neck position for respiratory function, oral-motor and swallowing control.

PHYSIOLOGICAL CONTROL	When recalling their assessments, therapists identified any abnormalities in respiratory rates, heart rates, oxygen saturation, breathing patterns, breathing effort and endurance. For example, therapists observed if the infant had nasal flaring, gasping, stridor, and cyanosis or blueness around the lips. The co-ordination of sucking, swallowing and breathing is dependent on changes in breathing patterns. Therefore, any abnormalities of respiration, cardiac function or change in the baby's face colour should be noted as part of the feeding assessment (Hawdon et al., 2000).
SENSORY FUNCTION	Therapists described behaviours related to sensory issues, particularly tactile input. For example, therapists observed a lack of response to the nipple, excessive gagging, and difficulty with textures during their assessments. Appropriate perception of tactile input and adaptive responses to stimulation is needed for successful feeding (Wolf & Glass, 1992).
ORAL MOTOR SKILLS	Therapists evaluated tongue, jaw, lips/cheeks and palate movements as part of their evaluations. Therapists often talked about assessing non-nutritive sucking on their finger or a pacifier. Then therapists evaluated nutritive sucking on a bottle or while the infant was breastfeeding. The main principle of sucking is that fluid moves as a result of pressure changes (Wolf & Glass, 1992). A normal sucking pattern consists of alternating suction and expression When looking at the tongue, therapists often referred to their observations of tongue movements and tongue cupping in relation to a weak suck. Morris and Klein (1987) commented on a similar evaluation of tongue movements such as a humped tongue or abnormal deviation of the tongue to one side. Therapists also talked about watching for a change in rate between non-nutritive and nutritive sucking. This is because the rate of sucking is slowed with nutritive sucking (Burke, 1977).
COORDINATION OF SUCK, SWALLOW AND BREATHE	Therapists observed the infant for incoordination of sucking, swallowing and breathing characterised by nasal flaring, coughing, and loss of liquid. Therapists also specifically looked at swallowing function by observing for clinical signs of aspiration and/or pooling such as coughing gagging, gurgling or wetness in breathing or vocalisations, stridor and cyanosis. **Therapists who worked in rehabilitation or hospital settings also used other methods to evaluate swallowing and described their evaluations of swallowing in two levels.** Their first level involved observing for clinical signs of aspiration. Some of the therapists used cervical auscultation to listen to the swallow and the co-ordination of suck swallow and breathing. When evaluating patients with tracheostomies, therapists discussed the use of methylene blue dye to colour the food and identify aspiration if blue dye is suctioned from the tracheostomy. The second level of evaluation of swallowing involved a videofluoroscopic feeding study which was only carried out in two hospitals and one rehabilitation setting due to equipment needs.

	The feeding study is a radiological test used to assess the swallow where a moving video is taken of the swallow using videofluoroscopic techniques. This is considered the gold standard for confirming clinical impressions of swallowing function. However therapists did comment that the radiology room was an unnatural setting for feeding to be observed. Wolf and Glass (1992) described the use of videofluoroscopic swallowing study's to evaluate pharyngeal function and the use of cervical auscultation to listen to the relationship of swallowing to sucking and breathing.
PARENT INFANT INTERACTION	Therapists referred to parent infant interactions as the relationship between parent and child whereby the mother-infant bond is firmly established. For example, therapists watched if the infant was influenced by the tone of voice of the mother, whether the mother was tense and how she responded to the baby's cues. Weaver (1999) suggested that therapists must combine their understanding of the infant's physical and/or neurological difficulties with a parent-infant interactional approach, in order to effectively assess and treat infant feeding problems. **Therapists assessment of infants in a home setting were much more focused on the social aspect of feeding particularly the parent infant interactions than therapists who worked in a hospital or rehabilitation setting.**
ENVIRONMENT	Therapists discussed the importance of understanding a family's customs and traditions, feeding practices, values and beliefs, and if they had special foods they fed the infant. Fuller (1990) suggested that maternal-child attachment is influenced by the individual, social and environmental characteristics. Spalding and McKeever (1998) specifically discussed the importance of health professionals understanding of mother's feeding practices.
EQUIPMENT	Equipment used as part of the assessment included: bottles, nipples, positioning aids, donuts, specific seat, formulas, thickening agents, different spoons and a pacifier.
GENERAL INFORMATION	**The assessments of therapists who worked in hospital and rehabilitation settings were medically driven and centred on the infant's ability to feed safely. They also focused more on outcomes such as length of time feeding and amount fed. Whereas, therapists who worked in a home setting focused more on what the family wanted help with and the social aspects of feeding.**

PERMISSION TO REPRODUCE CANADIAN MODEL OF OCCUPATIONAL PERFORMANCE

Canadian Association of Occupational Therapists
Association canadienne des ergothérapeutes

CAOT Publications ACE

April 30, 2001

Dear Ms Subramaniam,

Further to your letter requesting permission to reproduce the Figure 1 (Canadian Model of Occupational Performance),

which was published in the
Enabling occupation: An occupational therapy perspective. **(1997)** page 32
by the Canadian Association of Occupational Therapists

to be included in your thesis - "Artistic, Relational and Environmental Influences on Occupational Therapy infant feeding evaluations".

Permission for the above is granted on a one time basis only, and provided that you acknowledge the source and ensure that a full reference is printed close to the text to indicate that it is reprinted with the permission of CAOT Publications. This does not include the right to translate, revise or any electronic publishing rights of this figure.

Thank you
Yours sincerely,

L. Sheehan

Lisa Sheehan
CAOT Publications Administrator