

# Sensory strategies: Practical support to empower families

Elizabeth Dunstan and Sian Griffiths

## Abstract

This single case study investigated one family's experiences of using sensory integration strategies at home. Four key themes were identified following analysis of data from semi-structured interviews. Results illustrate that occupational therapists have an important role to play assisting children and, educating and reassuring family. The findings suggest that when providing family-centred services in the community, the goal is to empower parents to take control of their child's therapy. Occupational therapists can offer valuable education on sensory strategies that enable a child to carry out everyday occupations within the family context. Recommendations include the need for flexible services to accommodate varying family needs.

## Key words

Qualitative research, case study, occupational therapy, sensory integration, family-centred practice

Occupational therapists have been involved in sensory integration since it was introduced by Dr. A. Jean Ayres in 1972. Ayres viewed sensory integration as a complete process from registering and organising sensory information in the brain, to engagement in meaningful and purposeful daily occupations (Ayres, 1972). In the early 1980s, researchers began questioning the positive outcomes of Ayres' research (Arendt, MacLean, & Baumeister, 1988; Hoehn & Baumeister, 1994; Polatajko, Kaplan, & Wilson, 1992; Schaffer, 1984). Despite the large number of studies, no definitive conclusions were made about the efficacy of a sensory integration approach. Spitzer, Smith Roley, Clark, and Parham (1996) acknowledged that although recent studies had been less supportive, they did not disagree that there was still a need for sensory integration intervention. Spitzer et al. (1996) noted that therapists and families reported positive outcomes of intervention that were not evident in the results of efficacy studies. Spitzer et al. suggested that by examining sensory integration using a rigid quantitative approach, the individual variation required to increase the motivation of each child was lost. Further research using descriptive single case studies and naturalistic inquiries was recommended (Stonefelt & Stein, 1998). Studies since have tended to focus on measuring the effectiveness of sensory integration in relation to functional outcomes and have focused on small sample sizes and case studies (Case-Smith & Bryan, 1999; Cohn, 2001a; Cohn 2001b; Cohn, Dunphy, Pascal, & Miller, 2001; Edelson, Goldberg Edelson, Kerr, & Grandin, 1999; Fertel-Daly, Bedell & Hinojosa, 2001; Frolek Clark & Ward, 1999; Linderman & Stewart, 1999; Vandenberg, 2001).

Over the last 20-30 years, the nature of occupational therapy intervention has changed in response to a global shift towards the provision of family-centred, community-based services. Traditionally, children with a long-term disability received child-

focused intervention and health professionals set goals designed to bring about changes in the child separate from the family (Rosenbaum, King, Law, King, & Evans, 1998). This approach changed dramatically in the 1970s when it was recognised that parental involvement could improve the outcomes for the child. Legislation changes in many parts of the world were driven by parental advocacy to support integration and access for children with disabilities. As service providers began to listen to the needs of families, attitudes towards parent participation evolved. International research further investigated the purpose of family-centred services, identifying the strengths and subsequently recommending approaches such as best practice (Bazyk, 1989). Over time occupational therapy theories and models of practice have started to reflect the value of family-centred services. A family-centred service recognises that intervention is a dynamic process that is provided through a partnership between the parents and the professional (King, Law, King, & Rosenbaum, 1998).

In striving to follow best practice guidelines and in response to

**Elizabeth Dunstan**, BHSc. (OT)  
Christchurch

**Sian Griffiths**, MSc., DipCOT  
Senior Lecturer  
School of Occupational Therapy  
Otago Polytechnic  
Dunedin

Correspondence to: Elizabeth Dunstan  
Email: libbydunstan@gmail.com

parental demand for involvement in service provision, paediatric services in New Zealand have also started to move towards a family-centred approach. Whilst there is no specific legislation in New Zealand to direct how services are provided, Government strategies and current Standards of Practice for Occupational Therapists reflect the value of family involvement. One of the key objectives of The New Zealand Disability Strategy (2001) is to "Value families, whanau and people providing ongoing support" (Ministry of Health, 2001, p. 7). In line with this principle the central questions being investigated in this study were:

- How does the family perceive the use of sensory strategies in the home environment, and how does the use of such strategies affect the family as a whole?
- What implications do the family's experiences have on the implementation of community paediatric occupational therapy services?

## Literature review

As a result of the changing demands in practice, the provision of sensory integration intervention has evolved over time (Spitzer et al., 1996). For example, therapists started considering sensory strategies for use in the home and school environments (Cohn, Miller & Tickle-Degnen, 2000). Recent literature on best practice recognises that therapists may be required to act more as educators to families, than as 'therapists' (Campbell, 1997). Dunn (2000) supported this view, commenting that community-based therapists play an important role in educating family members, teachers and others about the principles of sensory integration theory and the practical sensory strategies that may benefit their child. Chow (2002) proposed that consultative approaches which help parents understand their child's needs may be more beneficial in the long-term.

It is difficult to define what constitutes a sensory integration based approach, as classifications have been inconsistent in the literature and therapists worldwide apply a broad range of sensory based techniques. A common sensory integration approach used by occupational therapists in the community is based on the concept of a sensory diet, introduced by Julia and Patricia Wilbarger. A sensory diet is a planned activity programme designed to meet a child's individual sensory needs throughout the day, enabling them to regulate their attention and therefore consistently engage in daily activities (Nackley, 2001). The diet is commonly used with children who have difficulty with sensory modulation; such as the ability to organise and regulate incoming sensory information (Dunn, 2000). Sensory modulation difficulties generally present as a child who either lacks responsiveness (hypo-responsive) or is sensitive to sensory stimulation (hyper-responsive). Therapy input for children with tactile sensitivities usually focuses on providing calming, deep pressure input and recommending environmental modifications to allow the child to feel safe at home and school/playcentre (Dunn).

Thompson (1998) recognised that the literature advocated for a family-centred approach to therapy, however few studies questioned families about their experiences of such services. Thompson built on the work by Hinojosa (1990), and also that of

Case-Smith and Nastro (1993), by exploring mothers' perceptions of the impact of occupational therapy on family life. Thompson concluded that to be truly family-centred, therapists need to identify the concerns expressed by the families. Higgins (1999), and Piggot, Hocking and Paterson (2003) continued research in this area, with parents of children with cerebral palsy. Higgins' New Zealand based study supported previous results; the time consuming nature of home programmes and the negative impact these programmes had on the family. Parents in Piggot, Hocking and Paterson's study described involvement in their child's therapy as having two phases. The first phase involved coming to terms with their child's disability, being totally overwhelmed by emotions and unable to carry out the prescribed home programmes. In the second phase parents felt more able to work in partnership with the therapist.

Two similar studies were recently carried out to investigate parents' perceptions of sensory integration interventions. Cohn et al. (2000) reported that parents hoped intervention would provide them with strategies to support their child, as well as validating their personal experiences. For their children, parents hoped for gains in social participation, self-regulation and perceived competence. In another study Cohn (2001a) sought to gain an understanding of parents' perspectives of the impact of sensory integration therapy on a child and their family. The parents reported that their children made gains in the areas of "abilities, activities and reconstruction of self worth" (p. 288).

A review of the literature identified gaps in the current research, and highlighted the fact that little research has been carried out in a New Zealand context. Previous studies have investigated parents' perspectives of intervention received in outpatient clinic settings, however little research has been carried out to gain an understanding of how families experience community-based paediatric occupational therapy services. There is a need for further research that investigates how implementing sensory strategies affects the family. Furthermore, no record was found of any research that has included a child's perspective on the use of sensory strategies in the home environment. This is surprising given that in 1990 numerous countries supported the development of the United Nations Convention on the Rights of the Child (UNCROC), which was ratified by New Zealand in 1993. Of particular significance is Article 12, which reinforces that children should have their views listened to in a respectful and serious manner (Taylor & Henaghan, 1997).

## Method

This study adopted a qualitative approach, shaped by a constructivist paradigm. This enabled the researcher to explore the 'lived experiences' of the participants. Readers can draw their own conclusions from the raw material provided (Miles & Huberman, 1994).

An embedded single case study design was adopted; to look at multiple parts of a single case (Depoy & Gitlin, 1998). The single case was represented by the family, within which the subparts are the parent, the child and the two siblings. Pseudonyms have been used to protect the identity of the participating family.

### Participants

Prior to making contact with participants, the researcher received ethical approval from the Otago Polytechnic Ethics Committee, and consent to undertake the study from the Board of Trustees of the service provider through which participants were recruited. A purposeful approach to gaining participants was employed, the power of which lies in the ability to learn a great deal about the issue of central importance (Patton, 2002). The inclusion criteria for participation were:

- The child must have received and completed sensory integration based intervention from an occupational therapist within the last twelve months;
- The child was aged between six to twelve years old and had an ability to communicate verbally at a basic level;
- The parent/guardian(s) of the child were involved in implementing the home programme;
- The family included a sibling who was willing and able to talk with the researcher;
- The family were willing to have the researcher in their home if this was their preferred interview environment.

Recruitment was facilitated by an occupational therapist at a local community service provider. The researcher had previously spent eight weeks with the service provider on a student placement. An occupational therapist within the service was asked to identify families who met the inclusion criteria and s/he subsequently contacted the families by mail to explain the purpose of the study and thus avoid coercion. One family expressed an interest in the study and requested the researcher contact them. The researcher had no previous contact with the family and the occupational therapist subsequently played no further part in the study. The participating family consisted of six people: Mum (Lucy), Dad, Jane (15 years), Rose (11 years), Simon (5 years) and James (4 years). The two boys had been diagnosed with autism and in discussion with Lucy, it was agreed that the study would focus on the younger of her sons (James), as it was more convenient for Lucy to be present during meetings with James. This meant that the age of the participating child was four. The two committees were informed of the proposed change and no concerns were raised by either group.

Lucy signed two consent forms; one stating that she agreed to participate in the study, and a second giving permission for her children to participate. The siblings and child were also asked to sign a consent form. Right 7(3) of the Code of Health and Disability Consumers' Rights (1996) states that children must be consulted in regard to the extent appropriate to their level of competence (Ministry of Health, 1998). An adapted consent form was signed by the two siblings. Lucy felt that James would not be able to competently provide his consent and therefore the researcher did not continue with this consent form.

### Participant assessment

Prior to the study the family had received an occupational therapy service which began with an interview carried out in

their home. The concerns raised by Lucy at that time indicated that a sensory based approach would be beneficial. A thorough sensory assessment was carried out by a therapist skilled and knowledgeable in the areas of sensory assessment and intervention. The assessment consisted of: medical and developmental histories, observations of James at home and at play centre and interviews with education staff. A sensory assessment (Lawson & Shaw, 2001) consisting of a number of interview questions addressing James' responses to different sensory situations was also completed with Lucy. This multifaceted assessment approach provided an in-depth picture of James' ability to organise and interpret sensory information in daily life. The assessment indicated that James demonstrated intense avoidance reactions to tactile experiences. For example, he held onto a small toy for long periods of time, disliked having his nappy or clothes changed and tolerated a very limited range of foods. James avoided all water tasks such as having a bath, washing his hair and brushing his teeth. These behavioural responses indicated that James was tactile defensive, or hyperresponsive to touch sensations. Research indicates that children with Autism Spectrum Disorder are often sensitive to touch, taste, smells, auditory or visual information (Miller & Lane, 2000).

### Data collection

Semi-structured interviewing was used to facilitate in-depth exploration and allow participants to discuss their experiences according to their own level of comfort (Daly, 1992). A progressive, focusing style of interviewing was used, whereby subsequent questions were guided by previous interviews (Kvale, 1996). Each interview was audio-taped and transcribed verbatim to ensure reliability of the data. Data was also collected from written documents including copies of the assessment results and information sheets provided to the family. A total of seven interviews and two observation sessions were carried out over a five week period within the participant's home. See Table 1 for the interview timetable.

### Data analysis

The analysis techniques used in this study were guided by the work of Miles and Huberman (1994), Patton (2002), and Thomas (2003). Specifically, a thematic inductive analysis strategy was adopted. The aim was to let the data tell the story through detailed descriptions and rich quotations.

After each interview the transcripts were returned for the participants to make any corrections. The researcher then identified key quotes in each interview and transferred these onto cue cards. The cards were used to create categories of similar themes. Each category was labelled using "in vivo" coding, whereby the names of the categories were actual phrases from the text segments (Thomas, 2003). Working coding tables were constructed to record the proposed themes.

Once the final interview was completed the researcher began the second stage of analysis - cross case coding. The process involved creating categories of similar themes with the combined cue cards. The researcher then reread the original transcripts and finalised four main themes. Each theme cluster was further grouped into

**Table 1: Interview Timetable**

Week	Participant	Interview/ Observation	Duration (mins)	Location	Focus
1	Lucy (Mum)	Interview	80	At dining table.	- Introduction to family - Overall understanding of parent's experiences
1	James (4 year old child)	Observation	45	On floor in dining area	- Play games - Develop rapport
1	Jane (14 year old sister)	Interview	35	Lounge	- Establish rapport - Understanding of language used - Introduction to experiences
1	Rose (11 year old sister)	Interview	25	Lounge	- Establish rapport - Understanding of language used - Introduction to experiences
2	Break – Transcribe interviews, prepare guides for subsequent interviews.				
3	James	Observation	85	At dining room table	- Observe - Informal chat; likes/dislikes, comments about sensory preferences.
3	Jane	Interview	25	Lounge	- Understanding of perspective - Follow up comments from first interview - Investigate comments made by Lucy.
3	Rose	Interview	25	Lounge	- Understanding of perspective - Follow up comments from first interview - Investigate comments made by Lucy.
4	Lucy	Interview	90	At dining table	- In-depth understanding of experiences based on previous comments
5	Lucy	Interview	90	Lounge	- Clarify comments made previously

sub-themes. Data display tables were constructed for each theme containing: name of theme and sub-theme, transcript quotes, location of the quote, and memos. To ensure validity of the results, two samples of the transcripts were independently analysed and coded by the research supervisor. See Table 2 for an analysis table outlining the number of quotes identified for each sub-theme.

The issue of rigor was addressed by utilising the framework by Lincoln and Guba (1985), who proposed that researchers use the terms “credibility, transferability, dependability and confirmability, as the naturalistic equivalents for internal validity, external validity, reliability and objectivity” (p. 300). A strength of this study was the in-depth understanding gained from interviewing multiple family members. Triangulation of sources helped establish dependable and credible results. Credibility was also established by giving voice to the participants through direct quotations in the results section. Dependable results were further ensured by the researcher’s detailed description of the data collection and analysis stages. The researcher also used a reflective journal to increase self-awareness and identify any biases that may have impacted on the study. Member checking techniques were

also utilised to ensure confirmability. For example, participants were asked to confirm or decline the use of any quotes in the transcripts, and when carrying out subsequent interviews the participants were asked to clarify that an accurate interpretation had been made.

## Results

Results of the assessment were discussed with the family, and a consultative style of intervention was adopted. Intervention initially focused on educating James’ family about the reasons behind his behavioural responses to touch information. Future meetings with the family focused on developing a sensory diet to accommodate James’ sensory needs. One part of James’ sensory diet was the implementation of the Wilbarger approach to treating sensory defensiveness (Wilbarger & Wilbarger, 2002). This programme involves providing deep pressure to the body to help an individual to modulate their sensory systems. The programme consists of two steps. First, a brushing component, applying firm pressure with a specific brush to the arms, back and legs, much like a deep massage. Followed by joint compressions to the shoulders, elbows, wrists/fingers, hips, knees and ankles to activate the proprioceptive system, which acts to calm and modulate. This process is initially carried out every ninety minutes, however over time the frequency is reduced (Wilbarger & Wilbarger, 2002). The above programme was discussed with the family, along with the research supporting and debating different treatment approaches. The programme was initiated during a holiday period, whilst James was not attending play centre and other family members were able to assist.

A number of other sensory strategies were recommended and discussed with the family. Strategies focused on providing calming proprioceptive and vestibular input, assisting James to process and modulate tactile input. Environmental modifications were also recommended such as minimising background noises. The occupational therapist also consulted playcentre staff to help them gain an understanding of James’ sensory needs. At the time when the study was initiated, the therapist, along with the family and education staff, were monitoring the implementation of a number of the sensory strategies, as well as the Wilbarger approach. Adjustments were frequently being recommended to facilitate effectiveness of the programme.

## Key themes

Four key themes were identified, encompassing the common experiences of the participants. These included the impact of living with a child with sensory needs, coping strategies, the impact of intervention, and service provision.

Table 2: Analysis Table – number of quotes identified for each sub-theme

Theme	Sub-theme	Number of quotes from interviews	Example quote	
Impact of living with a child with sensory needs	Impact on the family	63	"You've got to be very patient." S02, L 245-260.	
	Questioning of the diagnosis of autism	29	"So your always swinging backwards and forwards, is this real, is this true." P2, L 688-704.	
	Need for reassurance	15	"Really important to validate all of these things that are behaviourally based." P3, L 28-46.	
Coping strategies	Adapting lifestyle	18	"We tried the brushing, we didn't do it exactly as we were supposed to do it, because that just wasn't working with our lifestyle." P1, L 440-448.	
	Positive and proactive attitude	44	"It's better to just deal with it than sit and moan about how it's not fair." S02, L 225-232.	
	Employment	6	"I've been fortunate I can get a little part time job that helps me just get out and away." P3, L 394-401.	
Impact of intervention	Importance of education and knowledge	37	"Now that I understand what it is and what it was aiming to do..." P1, L 855-869.	
	Previous experience	20	"I think any experience that you have affects how you parent." P2, L 823-833.	
	Changes	32	"...change that I would attribute to the sensory assessment process." P1, L 771-775.	
	Effort required	15	"It's not the one off, it's the doing it again and again and again and again." P3, L 448-450.	
	Information overload	19	"It's foolish to do too much at once, you need to really do it one thing at a time." P1, L 709-725.	
	Service provision	Systems frustrations	14	"I don't have any criticism of the people who are providing the services, I think they're doing a fantastic job but the system sucks." P2, L163-174.
		Suggestions	38	"At the time, it's just like all that theory is just too much theory." P1, L 783-796.

## 1. Impact of living with a child with sensory needs

It became apparent that there were three significant issues incorporated into this theme including: the physical limitations of what the family were able to do, the emotional impact on the family - referred to as the 'ups and downs' of autism, and the subsequent need for reassurance. The participants expressed that carrying out everyday activities such as eating, bathing and sleeping could be the most challenging times of the day. Lucy commented:

*You can't just say, oh I'm going to the supermarket now, because it's raining... I can't take him through the supermarket for forty minutes screaming these blood curdling screams, like he's been burnt or hit... you get to the point where you just can't cope with everybody looking at you.*

Lucy also commented on James' food preferences:

*He will have half strength cordial, he will have hot chips, ah he will have chocolate sandwiches and... green seedless grapes and chocolate chippy biscuits from Coupland's Bakery... and grainwaves chips... It drives me absolutely nutty... cos you can't go out anywhere... like going to somebody else's place for dinner, we just can't do it.*

Lucy stated that all members of the family had to make changes to accommodate James' needs. "I know that the girls have a hard time sometimes and I know that they miss out on stuff... they [the boys] can't deal with going to the beach so we don't go to the beach."

Lucy repeatedly referred to "your up days and your down days." This term highlighted the ongoing uncertainty she experienced in relation to the diagnosis of autism and the realisation that her children had specific sensory needs. She discussed a number of factors that raised questions in her mind, such as:

- diagnosis based on parental observations of behaviours;
- social expectations and comments;
- professional power.

Lucy commented that: "You are very much at the whim of these people who are the experts... they have such power over whether you get anything at all or not." For this reason, Lucy reinforced the importance of reassuring families: "[it is] really important to validate... that whole attitude of yes you are a good parent, yes this is an issue that you're dealing with, yes you haven't made this up." Lucy further highlighted the need for reassurance when reflecting on the impact of intervention:

*You just need to acknowledge that there are still areas to work on because that validates why you're there. When you go every week and they [therapists] just say oh he's doing so well... you think well why am I here?*

## 2. Coping strategies

Lucy, Jane and Rose all identified strategies that the family adopted to accommodate living with James. Lucy commented: "We don't even worry about pyjamas [for James] because it's an unnecessary change... it's not worth the stress." The family also stated that they maintained a positive and proactive attitude towards the challenges that they faced. Jane advised:

*Well I think as long as the whole family sort of realises that it's happening and doesn't spend too much time being angry that it happened, and spends more time dealing with it, then it's really not that much of a problem.*

## 3. The impact of intervention

Lucy, Jane and Rose referred to the benefits of occupational therapy intervention. Lucy discussed the value of knowledge and how this led to changes in the family's response to James.

*The result of the assessment, it was just like light bulbs going off... and it was so obvious once they had pointed it out... That was really interesting to be able to look at that [James' behaviours] and change your thinking and so change how you were dealing with it and what you're doing about it and instead of what we were doing before, which was just accentuating the problem we're now completely reversed and doing something else and it's making it better.*

*If you kind of understand why he's feeling the way he's feeling, or why he's doing what he's doing then it tends to be a lot easier (Jane).*

Lucy highlighted a number of changes that occurred as a result of using the sensory strategies. "We've got him in the bath... we've managed to get his teeth brushed a couple of times... I cannot tell you how huge it is to be able to do that." While Lucy commented on the overwhelming changes that occurred for her family, she also highlighted "the huge amount of effort required" to put in place the sensory strategies. "You have no idea of the effort... it's not just a matter of saying, oh we did this and then we could brush his teeth... it's huge."

Lucy recognised the benefits of education, but she found the provision of this knowledge overwhelming: "For me it was too much all at once... there is only so much that you can hear and retain." She recommended: "Little chunks chewed often works better I think than a blast of information and then being left to it."

## 4. Service provision

Whilst Lucy recognised that she gained a lot from the services she had received, there had been times when she felt frustrated with the system. The frustrations that Lucy identified included:

- waiting lists;
- eligibility criteria restricting access to the service;
- lack of communication between family and service providers. Lucy stated: "You get used to being the last one to know anything".
- lack of funding for early intervention services. Lucy commented: "It seems like such a waste of everybody's money... to be the ambulance at the bottom of the cliff when the fence costs so much less".

Throughout the interview process Lucy highlighted the ways in which service provision could have been improved: "You really need somebody to start you off, to do it for you for a little while... sort of set it all up and get the child to the point where they want

to do it.” She suggested a practical approach to intervention was only required for a short period of time, because “*once things start improving then you start getting a bit more energy and time*”. Lucy also recommended constant and predictable therapy input, however she recognised that the frequency of contact was affected by the environment in which the service was provided. She acknowledged that there were benefits and drawbacks for both a home and clinic environment and concluded that: “*In an ideal world I think someone would come here [home] a couple of times and then we’d go there*”.

## Discussion

This study highlighted that the time occupational therapists spend supporting parents may be just as important as the time spent in direct therapy with the child. The results show that living with a child with sensory needs has a direct impact on the family and therefore lifestyle adaptations are required to accommodate the needs of children with specific sensory needs. Consistent with Cohn et al. (2000), parents requested occupational therapists acknowledge the other challenges they face while living with a child with sensory needs. Therapist interactions with families should recognise all of the roles parents might assume, including caregiver to other children, spouse, homemaker and worker. By recognising all of these roles and the challenges they entail, therapists will be more realistic when planning intervention. This study also highlighted family strengths, such as positive coping strategies, are valuable skills for therapists to draw on when planning intervention.

The participants also agreed that implementing the sensory strategies facilitated participation in everyday occupations. These results contribute to the growing body of knowledge that provides important anecdotal evidence supporting the use of sensory strategies as a means of enabling a child and their family to participate in everyday occupations. Occupational therapists have a unique perspective on how disabilities may impede a child’s ability to engage in activities of a normal daily routine. Therefore it is recommended that when working with children with sensory needs, occupational therapists consider interventions that address the functional implications of the disability.

Another significant point of discussion raised in this study was the importance of education. The family’s experiences highlighted the fact that education assisted them in understanding the sensory needs of their child. This finding supports previous research, by Cohn (2001a) who reported that parents particularly valued having an increased understanding of their child’s behaviours. It is recommended that occupational therapists explain not only what strategies would be beneficial, but why and how such strategies are important for their child.

The provision of education also has important implications for the future of the family. In a collaborative model of service delivery, therapists are in a unique position to help parents acquire the knowledge and skills necessary to care for their child, both in the present and in the future. Therefore a key outcome of occupational therapy intervention should be that parents become

more skilled and empowered to take control of their child’s therapy needs.

Whilst the importance of education has been recognised by previous authors, little has been said in relation to how therapists can best educate families. This is particularly important given that the success of community-based services depends largely on the ability of parents to continue to implement therapy activities without direct therapist support. In the current study Lucy recommended that education should be provided in “*little chunks chewed often...*”, with increased support during the early stages of intervention. Lucy and her family initially required practical, hands on assistance to set up and engage James in using the sensory strategies. Lucy referred to this as being “*led by the nose*” initially. Lucy recommended high levels of support be reduced over time as parents see improvements in their child and therefore have more time and energy to implement strategies independently. This finding highlights the need for therapists to know the families they are working with well. Intervention must be individualised as all families are unique in their approach to therapy. Services need to allow time to talk with parents to identify what they want for their child and how that can best be provided within the family context. This is consistent with Bazyk (1989) who recommended therapists work with parents to identify treatment options and then assist the parents to decide what best fits their family. Service providers need to be able to respond in a flexible manner in order to accommodate individual family requirements.

Closely linked to the provision of education is the issue of power and the subsequent need for reassurance. The saying ‘knowledge is power’ has important implications for the provision of occupational therapy intervention. Therapists need to recognise that as information providers they hold a considerable amount of power in relation to other forms of information. For Lucy the issue of professional power contributed to her feelings of vulnerability. Anderson and Hinojosa’s (1984) study also found that feelings of guilt and inadequacy are common in parents who have children with disabilities. Lucy recommended therapists openly discuss the issue of power with the family; recognising their concerns and providing reassurance that access to services and information will not be restricted.

There appears to be conflict in Lucy’s discussion of power. On the one hand, Lucy expressed a need for reassurance and on the other hand she indicated that she knew what was best for her family and the best way to work with her children. There is a fine line between reassuring the family, and respecting their natural authority and expertise. Ultimately Lucy wanted to take control of the service provided, so as to ensure the best support for her children. With this in mind therapists should approach parents acknowledging their ability to understand and make informed decisions. The provision of successful family-centred services requires careful consideration of how to provide a service where parents feel supported, and in control.

Results also indicated that the environment in which assessment and intervention takes place is an important issue to consider when planning therapy. Therapists need to take the time to explain

the rationale for the provision of community-based services and to discuss the family's perspective of receiving therapy in their home. Ultimately this gives control to the family, and empowers them to make an informed decision in relation to the services they receive.

### **Study limitations and implications for future research**

As the present study adopted a single case study approach, the potential for generalisation of the findings is theoretically limited. It was not the aim of this study to claim that the experiences presented here are typical of all families. Rather, the study aimed to provide an in-depth understanding of how one family experienced the use of sensory strategies in the home environment. Time constraints also meant that the researcher was unable to gain an in-depth understanding of the child's perspective. It is recommended that future studies strive to learn more of the child's experiences, rather than gaining an adult's conception of childhood. In recognising these limitations, the researcher still believes the findings of the present study are trustworthy.

The study highlighted that further research into community-based paediatric occupational therapy services is warranted. Investigation should continue into the effectiveness and benefits for the child and the family, as well as recommendations for future service provision. Future research should also consider interviewing community paediatric occupational therapists, to investigate whether the family's expectations and therapist's perception of what is helpful, are consistent.

### **Conclusion**

In summary, the results of this qualitative, single case study have numerous implications for the provision of paediatric occupational therapy services. Living with a child with sensory needs undoubtedly impacts on the family surrounding that child. Occupational therapists play an important role, not only in assisting the child, but also in supporting the family by acknowledging the challenges they face and offering reassurance and support. The results of this study also show that in order to continue living day-to-day the family adopted a variety of coping strategies. To facilitate the provision of more effective services, occupational therapists should acknowledge the coping strategies used by each family and structure intervention to utilise the family's strengths.

This study highlighted the value the family placed on the education provided by the occupational therapist. Lucy's increased understanding of the sensory needs of her child changed the way in which she responded to her children. This suggests that occupational therapists are in a unique position to be able to offer valuable education on strategies that enable participation in daily occupations. However, education should be designed to meet individual family circumstances. Of key significance is the need for therapists to know the pertinent history of the families they are working with. This will facilitate the provision of services that best meet the family's needs and will ensure that interventions are sustainable. There is a need for service providers to be able to respond in a flexible manner to accommodate varying and changing family requirements.

### **Key messages:**

- Occupational therapists offer valuable education on sensory strategies that enable participation in daily occupations.
- A key outcome of intervention should be that parents become more skilled and empowered to take control over their child's therapy needs.
- Therapists need to provide flexible services that accommodate individual family needs.

### **Acknowledgement**

This study was supported by a scholarship from Warehouse Stationery.

The first author would like to thank the participating family for welcoming her into their home and sharing insights into their lives.

### **References**

- Anderson, J., & Hinojosa, J. (1984). Parents and therapists in a professional partnership. *The American Journal of Occupational Therapy, 38*(7), 452-462.
- Arendt, R. E., MacLean, W. E., & Baumeister, A. A. (1988). Critique of sensory integration in mental retardation. *The American Journal on Mental Retardation, 92*(5), 401-411.
- Ayres, A. J. (1972). *Sensory integration and learning disorders*. California: Western Psychological Services.
- Bazyk, S. (1989). Changes in attitudes and beliefs regarding parent participation and home programs: An update. *The American Journal of Occupational Therapy, 43*(11), 723-728.
- Campbell, S. K. (1997). Therapy programs for children that last a lifetime. *Physical and Occupational Therapy in Pediatrics, 17*(1), 1-15.
- Case-Smith, J., & Bryan, T. (1999). The effects of occupational therapy with sensory integration emphasis on preschool age children with autism. *The American Journal of Occupational Therapy, 53*(5), 489-497.
- Case-Smith, J., & Nastro, M. A. (1993). The effect of occupational therapy intervention on mothers of children with cerebral palsy. *The American Journal of Occupational Therapy, 47*(9), 811-817.
- Chow, S. M. K. (2002). The practice of sensory integration in Hong Kong. *British Journal of Occupational Therapy, 9*(6), 206-213.
- Cohn, E. S. (2001a). Parent perspectives of occupational therapy using a sensory integration approach. *The American Journal of Occupational Therapy, 55*(3), 285-294.
- Cohn, E. S. (2001b). From waiting to relating: Parents' experiences in the waiting room of an occupational therapy clinic. *The American Journal of Occupational Therapy, 55*(2), 167-174.
- Cohn, E. S., Dunphy, K., Pascal, N., & Miller, L. J. (2001). Using the ICIDH-2 framework to document outcomes of occupational therapy. *Sensory Integration Special Interest Section Quarterly, 24*(4), 1-4.
- Cohn, E., Miller, L. J., & Tickle-Degnen, L. (2000). Parental hopes for therapy outcomes: Children with sensory modulation disorders. *The American Journal of Occupational Therapy, 54*(1), 36-43.
- Daly, K. (1992). The fit between qualitative research and characteristics of families. In J. F. Gilgun, K. Daly, & G. Handel (Eds.), *Qualitative methods in family research* (pp. 3-11). California: Sage.
- Depoy, E., & Gitlin, L. N. (1998). *Introduction to research. Understanding and applying multiple strategies*. St Louis: Mosby.
- Dunn, W. (2000). *Best practice occupational therapy in community service with children and families*. Thorofare: Slack Incorporated.
- Edelson, S. M., Goldberg Edelson, M., Kerr, D. C. R., & Grandin, T. (1999). Behavioural and physiological effects of deep pressure on children with autism: A pilot study evaluating the efficacy of Grandin's hug machine. *The American Journal of Occupational Therapy, 53*(2), 145-152.



- Fertel-Daly, D., Bedell, G., & Hinojosa, J. (2001). Effects of a weighted vest on attention to task and self-stimulatory behaviours in preschoolers with pervasive developmental disorders. *The American Journal of Occupational Therapy*, 55(6), 629-640.
- Frolek Clark, G., & Ward, S. (1999). Charting results. Evaluating process of children with sensory processing disorder. *OT Practice*, 4(10), 12-16.
- Higgins, K. (1999). *But, what does the family think? Family involvement in paediatric occupational therapy*. Unpublished manuscript, Otago Polytechnic, Dunedin, New Zealand.
- Hinojosa, J. (1990). How mothers of preschool children with cerebral palsy perceive occupational and physical therapists and their influence on family life. *Occupational Therapy Journal of Research*, 10(3), 144-162.
- Hoehn, T. P., & Baumeister, A. A. (1994). A critique of the application of sensory integration therapy to children with learning disabilities. *Journal of Learning Disabilities*, 27(6), 338-350.
- King, G., Law, M., King, S., & Rosenbaum, P. (1998). Parents' and service providers' perceptions of the family-centredness and children's rehabilitation services. *Physical and Occupational Therapy in Paediatrics*, 18(1), 21-40.
- Kvale, S. (1996). *InterViews: An introduction to qualitative research interviewing*. Thousand Oaks: Sage.
- Lawson, B., & Shaw, C. (2001). *Assessment of sensory behaviour*. Nelson: Touch Base Occupational Therapy.
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Beverly Hills: Sage.
- Linderman, T. M., & Stewart, K. B. (1999). Sensory integrative-based occupational therapy and functional outcomes in young children with pervasive developmental disorders: A single-subject study. *The American Journal of Occupational Therapy*, 53(2), 207-213.
- Miles, M. B., & Huberman, A. M. (1994). *An expanded sourcebook: Qualitative data analysis*. Thousand Oaks: Sage.
- Miller, L. J., & Lane, S. J. (2000). Toward a consensus in terminology in sensory integration theory and practice: Part 1: Taxonomy of neurophysiological processes. *Sensory Integration Special Interest Section Quarterly*, 23(1), 1-4.
- Ministry of Health (1998). *Consent in child and youth health: Information for practitioners*. Retrieved on July 5, 2005, from <http://www.moh.govt.nz/moh.nsf/pagesmh/1779?Open>
- Ministry of Health (2001). *The New Zealand disability strategy. Making a world of difference*. Retrieved on May 22, 2005, from <http://www.odi.govt.nz/nzds>
- Nackley, V. L. (2001). *Sensory diet applications and environmental modifications: A winning combination*. *Sensory Integration Special Interest Section Quarterly*, 24(1), 1-4.
- Patton, M. Q. (2002). *Qualitative research and evaluation methods* (3rd ed.). Thousand Oaks: Sage.
- Piggot, J., Hocking, C., & Paterson, J. (2003). Parental adjustment to having a child with cerebral palsy and participation in home therapy programmes. *Physical and Occupational Therapy in Paediatrics*, 23(4), 5-29.
- Polatajko, H. J., Kaplan, B. J., & Wilson, B. N. (1992). Sensory integration treatment for children with learning disabilities: Its status 20 years later. *Occupational Therapy Journal of Research*, 12(6), 323-341.
- Rosenbaum, P., King, S., Law, M., King, G., & Evans, J. (1998). Family-centred service: a conceptual framework and research review. *Physical and Occupational Therapy*, 18(1), 1-20.
- Schaffer, R. (1984). Sensory integration therapy with learning disabled children: A critical review. *Canadian Journal of Occupational Therapy*, 51(2), 73-77.
- Spitzer, S., Smith Roley, S., Clark, F., & Parham, D. (1996). Sensory integration: Current trends in the United States. *Scandinavian Journal of Occupational Therapy*, 3, 123-138.
- Stonefelt, L. L., & Stein, F. (1998). Sensory integrative techniques applied to children with learning disabilities: An outcome study. *Occupational Therapy International*, 5(4), 252-272.
- Taylor, N. J., & Henaghan, R. M. (1997). Taking children's views seriously. *Children's Issues*, 1(1), 11-16.
- Thomas, D. R. (2003). *A general inductive approach for qualitative data analysis*. Unpublished manuscript, University of Auckland, New Zealand.
- Thompson, K. M. (1998). Early intervention services in daily life: Mothers' perceptions of 'ideal' versus 'actual' service provision. *Occupational Therapy International*, 5(3), 206-211.
- Vandenberg, N. L. (2001). The use of a weighted vest to increase on-task behaviour in children with attention difficulties. *The American Journal of Occupational Therapy*, 55(6), 621-628.
- Wilbarger, P. & Wilbarger, J. (2002). The Wilbarger approach to treating sensory defensiveness. In A. C. Bundy, S. J. Lane & E. A. Murray (Eds.), *Sensory integration theory and practice*. (2nd ed. pp. 335-339). Philadelphia: F. A. Davis.



**yourworld**  
Recruitment

**We recruit for all positions in Occupational Therapy throughout Australia, New Zealand and the UK.**

**Your benefits could include:**

- Excellent rates of pay
- Generous starter & referral bonuses
- One point of contact – Your own consultant
- Continual professional development (CPD)

**For further information and to register call our freephone**  
**0800 508 018**  
info@yourworldmedical.com.au  
www.yourworldmedical.com.au

Copyright of New Zealand Journal of Occupational Therapy is the property of New Zealand Association of Occupational Therapists and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.