A Descriptive Study of the Clinical Practice Patterns of Occupational Therapists Working With Infants and Young Children

Mary C. Lawlor, Anne Henderson

Key Words: child health services • pediatric occupational therapy • specialties, occupational therapy

This investigation was designed to gather descriptive data on the clinical practice patterns of occupational therapists working with infants and young children. One hundred nineteen therapists entered the study, and 118 completed the interview, yielding a response rate of 99.4%. The therapists were highly experienced, with a mean of 9.47 years working in pediatrics. The school setting was the most common type of facility in which therapists served infants and young children and accounted for 37.3% of the sample. The majority of the respondents (67.8%) were members of formally identified teams. Although 80.5% of the therapists served very young children (aged birth to 12 months), no therapists served this population exclusively. Considerable variability in models of service provision, team structures, and assessment and treatment practices were found. Additionally, there was a lack of consensus on the unique contributions of occupational therapy and diverse opinions regarding the importance of selected frames of reference. Implications of the findings on professional initiatives to enhance practice are discussed.

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The focus of early intervention programs and the types of services provided for young children and their families have undergone marked changes within a relatively short time period. An emphasis on parent participation, the development of multidisciplinary teams (Denhoff, 1983), the creation of home-based programs (Halpern, 1984), and attention to the educational aspects of programming has increased.

The growth in pediatric occupational therapy parallels the expansion of early intervention services. The proportion of occupational therapists who serve infants and young children has increased dramatically in recent years. The data from the 1982 Member Data Survey conducted by the American Occupational Therapy Association (AOTA) revealed that 33% of the occupational therapists who responded to the survey served some children (AOTA, 1985). In 1986, the proportion of therapists who served some children increased to approximately 50% (L. McAuliffe, personal communication, March 1987). However, the number of therapists who worked primarily with infants aged birth to 1 year or with young children aged 1 to 4 years remained relatively small. Only 1.5% reported that they worked primarily with infants 12 months of age or younger, and 6.6% reported that they worked primarily with young children 1 to 4 years of age (I. Silvergleit, personal communication, March 1987).

Although the expansion of pediatric occupational therapy services is evident through an analysis of shifts in personnel, our knowledge about the characteristics of pediatric practice is limited. This limited knowledge has hampered efforts to establish priorities for research endeavors, to design quality efficacy studies, to direct educational programs, and to evaluate the theoretical foundations of pediatric occupational therapy.

Literature Review

Conflicting reports in the literature on the efficacy of early intervention programs, limited investigation of the unique contributions of specific disciplines, and diffusion of the roles of developmental practitioners have resulted in negligible evidence of the significant contributions of occupational therapy to the health and development of disabled and at-risk infants and young children. Little evidence supports therapeutic interventions through early intervention programs with infants and young children with physical disabilities. Quantitative summaries of the early intervention efficacy literature identify the disproportionate focus of investigations of services for disadvantaged children over children with known physical disabilities (White & Casto, 1985). Receiving less investigative attention are the children with known disabilities who...
The literature highlights the challenges that are inherent in the measurement of developmental and clinical change in heterogeneous populations with diverse therapeutic goals and maturational curves (Halpern, 1984; Sheehan & Gallagher, 1983; Shonkoff & Hauser-Cram, 1987). Additionally, no study could be found that investigated the effects of therapy across the behavioral domains typically targeted by occupational therapists in early intervention programs. Studies tended to focus on the efficacy of particular approaches, such as neurodevelopmental therapy (Degangi, Hurley, & Linschied, 1983; Harris, 1981; Laskas, Mullen, Nelson, & Wilson-Broyles, 1985), sensory integrative approaches (Pelletier, Short, & Nelson, 1985), and combinations of these approaches (Carlsen, 1975; Norton, 1975).

The purpose of the present study was to gather descriptive data on the practice patterns of occupational therapists working with infants and young children and to identify characteristics of practice that will influence the selection of research methods to evaluate the effectiveness of interventions. This paper summarizes the descriptive data related to the demographic characteristics of occupational therapists working with infants and young children and the primary components of their service provision systems.

Method

Development of the Questionnaire

A telephone survey method was selected for this study. The questionnaire items were developed on the basis of a review of the literature; recommendations of two professional consensus panels comprising occupational clinicians, researchers, and educators; and data gathered in two previously conducted mail questionnaire studies of pediatric occupational and physical therapists. The questions were formulated and critiqued for their clarity, salience, length, and neutrality. The items were sequenced to ensure that the order facilitated the flow of the interview and diminished opportunities for bias.

The instrument, which contained 80 items, was pretested with 10 occupational therapists; this resulted in minor revisions, which were mainly issues of question clarity. The respondents, however, had difficulty providing accurate caseload data over the telephone. Therefore, a preparatory work sheet was mailed to the therapists prior to initial phone contact. A pilot study was then conducted to assess the effectiveness of mailing data-based items to subjects and to evaluate the integrity of the sample. The pilot study population was drawn from the AOTA 1982 Member Data Survey (AOTA, 1984), who reported that they worked primarily with children aged 1 year or younger or aged 1 year to 4 years. Twenty-eight therapists were randomly selected from each of two geographic regions of comparable size—the New England and Middle Atlantic States, and the Upper Midwest region.

The results of the pilot study indicated that the provision of work sheets to the subjects before the initial telephone contact improved the accuracy and completeness of the data and did not adversely affect the response rate.

The final 80-item questionnaire contains both closed and open-ended questions. Standardization of the interview was achieved through the development of administration procedures to ensure that each respondent was interviewed in exactly the same manner. Because the procedures designed to engage potential subjects for the pretest and pilot studies were found to be effective, these procedures were adopted for the final study. That is, all of the questions were asked exactly as they were written, and there were no variations in the order or sequencing of the items. If a respondent was unable to complete the interview due to time constraints, a follow-up phone call was scheduled within the shortest amount of time that was feasible. A random sample of 234 therapists was drawn from respondents to the AOTA 1986 Member Data Survey (AOTA, 1987) who had indicated that they primarily worked with infants aged birth to 1 year or with young children aged 1 year to 4 years. Six subjects were eliminated from the sample because they had participated in the pretest or pilot studies or because they were not working in the United States. Two hundred twenty-eight therapists were screened for study eligibility with three questions: (a) Are you an OTR? (b) Do you serve any children aged birth to 4 years? and (c) Would you say that at least 10% of your total workweek is spent providing direct services to children in this age group and their families? Of the 200 therapists with whom telephone contact was established, 179 answered yes to all three questions. These therapists constituted the final study sample. No replacements or substitutions for ineligible or lost subjects were allowed.

There were no terminated interviews and only one refusal, thus yielding 178 completed interviews (99.4% response rate). Incidences of refusals on individual items were negligible. The length of the interview ranged from 15 min to 57 min (mean interview time = 27.7 min).

Data Analysis

The closed questions contained computer codes and were analyzed with a computer program entitled

1 A copy of the standardized interview instrument and a description of administration procedures are available from the first author.
verbatim responses were retained for qualitative analysis. In situations where the data analysis yielded definitive, exclusive clusters, the responses were converted to post hoc categories for quantitative analysis.

Results

Therapists' Characteristics

The respondents were a highly experienced group. Because the sample was identified with 1986 data, all of the subjects had at least 18 months of experience before entering the study. Table 1 summarizes the work histories of the therapists. The majority of the respondents had worked most or all of their careers in the field of pediatrics. Part-time employment was common—48 (40.7%) therapists reported that they were currently working part-time, averaging 21.35 hr per week. Fifty-eight therapists (44.9%) reported that they had worked part-time during some portion of their careers. A small percentage (4%) have worked part-time exclusively.

Although the therapists had considerable experience in pediatrics, the majority (65.3%) reported that their job title was staff occupational therapist, 11% were supervisors or served in senior therapist positions, and 9.3% were directors of occupational therapy. Occupational therapists who served as program directors of early intervention programs constituted 5.1% of the sample. An analysis of the mean years of experience by job category revealed increases of approximately 2 years from staff occupational therapist to director of occupational therapy.

Entry to the profession occurred primarily at the bachelor's degree level—86.4% of the respondents received bachelor's degrees in occupational therapy and 9.3% received basic professional master's degrees. Three therapists entered the profession with certificates, one therapist completed the AOTA career mobility program for certified occupational therapy assistants, and one therapist was trained abroad.

Table 1
Work Histories of Occupational Therapists in Early Intervention (N = 118)

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>M</th>
<th>Range</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Years since certification</td>
<td>118</td>
<td>11.00</td>
<td>2-40</td>
<td>10.0</td>
</tr>
<tr>
<td>Amount of full-time work</td>
<td>118</td>
<td>8.75</td>
<td>0-31</td>
<td>8.0</td>
</tr>
<tr>
<td>Amount of part-time work</td>
<td>53</td>
<td>5.43</td>
<td>1-18</td>
<td>4.6</td>
</tr>
<tr>
<td>Total pediatric experience</td>
<td>118</td>
<td>9.47</td>
<td>2-29</td>
<td>9.0</td>
</tr>
<tr>
<td>Time in current facility</td>
<td>118</td>
<td>5.68</td>
<td>0-23</td>
<td>5.0</td>
</tr>
</tbody>
</table>

Completion of postprofessional advanced degrees was reported by 20.3% of the respondents—7.6% received advanced degrees in occupational therapy, and 12.7% received master's degrees in related fields. The combining of therapists with basic professional master's degrees and therapists with earned postprofessional degrees yielded a total of 28.8% of the sample who had earned master's degrees. In addition, almost half of the respondents (46.6%) had taken college courses since they earned their last degree, with a mean of 12.45 credits earned.

The respondents demonstrated a high rate of participation in specialty certification and continuing education programs—50% had earned advanced certifications, 29.7% had completed the basic neurodevelopmental certification course, and 30.5% had earned certifications in sensory integration. Fourteen of the 59 therapists who had earned advanced certifications had earned more than one certification.

Only 2.3% of the population reported that they had not attended a continuing education program in the past 3 years. The mean number of noncertification continuing education programs attended was 8.42 during the past 3 years with a range of 0–66 programs. The therapists expressed a high degree of satisfaction with the programs they had attended; 92.4% reported that they had gained new skills or had acquired additional knowledge that helped them improve their services to young children and their families.

The respondents were also asked about their perceptions of their primary professional development needs. Two distinct patterns of responses were observed. Some of the respondents were able to describe their primary professional development needs readily. Others found the question difficult and requested additional time to think about their answers. Needs were quite variable and ranged from acquiring advanced certifications in neurodevelopmental approaches to gaining skills in other areas so that a career change out of occupational therapy would be feasible. The largest category of responses concerned the need for more continuing education. Many respondents said that they wanted to continue to improve their clinical and technical skills.

Routine participation in occupational therapy special interest groups was reported by 42.4% of the respondents and in interdisciplinary special interest groups by 47.5% of the respondents. Use of informal support networks for professional development was common—80.5% reported that they had developed these resources.

Although over three quarters of the study population worked with other occupational therapists, only 12.7% received clinical supervision from an occupational therapist. An additional 7.6% received supervision that they described as "administrative only"
from occupational therapists. We found it interesting that 52.5% received supervision from someone in another discipline. Educators were the most common supervisors (45.2%), followed by physical therapists (27.4%).

Models of Service Provision

Almost half (42.7%) of the respondents described their communities as urban, and 18.8% described their communities as suburban. Only 14 respondents (12%) reported that they served rural communities. Approximately one quarter (26.5%) of the respondents served two or more types of communities. Forty states and the District of Columbia were represented in the study sample. The types of facilities in which the respondents worked were as follows: 44 (37.3%) of the 118 respondents worked in a school setting (mean years in the facility = 6.02); 27 (22.9%) worked in a hospital (mean years = 6.33); 21 (17.8%) worked in a community early intervention program (mean years = 5.24); 15 (12.7%) worked in an outpatient clinic (mean years = 3.80); 6 (5.1%) worked in private practice (mean years = 2.17); and 5 (4.2%) worked in other types of facilities (mean years unavailable).

Pediatric occupational therapists provided services primarily as members of formally identified teams: 67.8% reporting they served on one or more of these teams. For purposes of the study, a team was identified as a group of professionals representing various disciplines who worked within a certain structure and who were called a team within their facility. All of the remaining therapists reported that they worked closely with other disciplines. The respondents were instructed to use their own definitions and were asked whether they felt that their team was multidisciplinary, interdisciplinary, or transdisciplinary. Multidisciplinary teams were the most common type of team reported and constituted 48.1% of the therapists assigned to teams. Interdisciplinary teams accounted for 27.8% of the group. Only 16.5% of the group described their teams as transdisciplinary. A limited number of therapists (7.7%) either could not categorize their type of team or believed that their team fell between categories.

Team composition was somewhat variable; the mean number of members per team was 4.28 with a range of 2 to 8 members. Both groups—members of teams and therapists who worked closely with other disciplines—were asked to name all of the other disciplines with whom they worked. A total of sixteen recognized disciplines were reported. Occupational therapists most frequently worked with speech and language pathologists (91%), physical therapists (81%), teachers (74%), psychiatrists or psychologists (51%), and social workers (45%).

To assess the extent of the blurring of roles across disciplines, we asked the respondents if they provided services that they considered to be unique to occupational therapy. Most therapists (86.4%) believed that they provided some unique services; a minority (13.6%) stated they did not provide any services that they felt were unique to their discipline.

Among the unique services provided, feeding and oral motor interventions were the most frequently reported and were identified by 27% of the respondents. The next seven most frequently reported unique services were in the areas of adaptive equipment, activities of daily living, sensory integration, parent training, splinting, fine motor development, and positioning. The identification of parent training as a service unique to occupational therapy was unexpected because of the prevalence of interest in parent training by other disciplines who serve this population. This finding is supported by other aspects of the data in which the respondents described methods of involving parents in meeting the therapeutic needs of their children and the high value that these respondents placed on parent training.

When asked whether any services they provided were also provided by the other disciplines with whom they worked, 85.6% of the respondents acknowledged an overlap with other disciplines. Sixty-four percent of these respondents said that gross motor services were addressed by other disciplines. The majority of respondents cited physical therapy as the discipline that shared responsibility for this area. Differences in how the two disciplines provided therapy were described by almost all of the respondents and often reflected stereotypical delineations of the focus of the disciplines.

Feeding and oral motor facilitation, fine motor development, positioning, activities of daily living, play, and language were the next most frequently identified overlapping areas. Several areas were identified in both the unique services and overlapping services categories, reflecting the diversity across settings in delineating the respective contributions of disciplines serving early intervention programs. In most situations, the respondents felt that there were some discipline-specific differences in how services were provided.

The location of service provision was investigated to determine the extent to which the therapists who served young children and their families provided therapy within the home environment. Slightly more than half (52.5%) of the respondents provided services in homes and reported they spent an average of 29.2% of their workweek within children's homes. However, time spent in the home varied tremendously, with a range of 1%-100%. A small subgroup (5.1%) spent all of their time in homes. Time spent in
homes for the entire study population averaged 15.61% of the workweek. As expected, hospital-based clinicians spent much less time in homes (6.07%), compared with therapists in community-based early intervention programs (32.14%) and therapists in private practice (38.33%). The respondents, on average, spent the greatest proportion of time during their workweek in their own facility ($M = 78.97\%$). Approximately one third (38.1%) of the respondents also provided some services in other locations such as day-care centers, preschool programs, and other community agencies.

**Children’s Characteristics**

**Ages of children served.** The respondents generally served very young infants and worked with children across broad age ranges. Although 80.5% of the respondents served infants aged birth to 12 months, none of the respondents worked exclusively with this population. Many worked with very young infants, and 45.8% indicated that the youngest child on their caseload over the preceding 3 months was under 1 month of age. Although many respondents worked with infants, only 10.1% indicated that more than 50% of their caseload consisted of infants. In fact, 54.7% of those who served young infants reported that one tenth or less of their caseload comprised infants under 1 year of age.

Only 38.5% of the respondents worked exclusively with children aged 4 years and younger. However, the majority of the respondents exclusively served children ages 12 years and younger. Approximately one quarter of the respondents (26.4%) served people over 12 years of age. The mean age span from the youngest to the oldest person on the caseload was 13.33 years, with a range of 1–98 years.

**Types of children served.** Developmental delay was by far the most common problem identified (47.5%) as the reason for referral to occupational therapy, followed by cerebral palsy (17.8%). All other categories of responses accounted for less than 10% of the sample. Developmental delay and cerebral palsy were also the most frequently cited reasons in a follow-up question that asked therapists to identify the second and third most common reasons for referral. The five next most frequently cited reasons for referral were Down syndrome, prematurity, motor problems or delay, neuromuscular disorders, and hand functioning or fine motor problems.

To measure the complexity of the problems of the children served, we asked the respondents to estimate the percentage of the children in their caseload who had more than one disability that related to occupational therapy. The respondents reported a higher percentage of children aged 1 to 4 years than aged birth to 1 year who had multiple disabilities. The median for the younger group was 50%, compared with 60% for the older group. The means were 49.65% and 56.99%, respectively.

Tables 2 and 3 summarize the distribution of caseloads across primary diagnostic groups for infants aged 12 months or younger and children aged 1 to 4 years. Caseload data for respondents who served both age groups are recorded by the child’s age in the appropriate table. The data include caseload information from respondents who worked both full-time and part-time. An analysis of relative distributions of children across diagnostic groups rather than of total numbers, therefore, is recommended.

**Assessment Practices**

Although all but one respondent evaluated children, considerable variability in the nature of occupational therapy assessments was apparent. Fifteen of the respondents reported that they would not describe their assessments as occupational therapy evaluations, Some therapists in this group were members of transdisciplinary teams and identified their evaluations as the “arena” type.

<p>| Table 2 | Primary Diagnoses of Infants Aged Birth to 1 Year ($N = 70$) |
|-----------------|-------------------------|-----------------|-----------------|-----------------|-----------------|</p>
<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>No. of Therapists</th>
<th>Mean No. on Caseload</th>
<th>Total No. of Children</th>
<th>Range of Children Within Caseload</th>
<th>% of Caseload</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple disabilities</td>
<td>52 (45.7%)</td>
<td>1.53</td>
<td>107</td>
<td>0-20</td>
<td>25.00</td>
</tr>
<tr>
<td>Cerebral palsy</td>
<td>38 (45.3%)</td>
<td>2.06</td>
<td>144</td>
<td>0-50</td>
<td>36.68</td>
</tr>
<tr>
<td>Mental retardation</td>
<td>9 (12.9%)</td>
<td>0.39</td>
<td>27</td>
<td>0-07</td>
<td>20.89</td>
</tr>
<tr>
<td>Down syndrome</td>
<td>90 (42.9%)</td>
<td>1.33</td>
<td>93</td>
<td>0-11</td>
<td>31.50</td>
</tr>
<tr>
<td>Developmental delay</td>
<td>35 (50.0%)</td>
<td>2.27</td>
<td>159</td>
<td>0-50</td>
<td>20.14</td>
</tr>
<tr>
<td>Environmentally at risk</td>
<td>12 (17.1%)</td>
<td>0.41</td>
<td>29</td>
<td>0-15</td>
<td>25.31</td>
</tr>
<tr>
<td>Failure to thrive</td>
<td>15 (15.6%)</td>
<td>0.31</td>
<td>22</td>
<td>0-06</td>
<td>25.07</td>
</tr>
<tr>
<td>Prematurity</td>
<td>30 (42.9%)</td>
<td>3.70</td>
<td>259</td>
<td>0-95</td>
<td>36.93</td>
</tr>
<tr>
<td>Neuromuscular disorders</td>
<td>21 (30.0%)</td>
<td>1.23</td>
<td>86</td>
<td>0-50</td>
<td>19.00</td>
</tr>
<tr>
<td>Emotional/behavioral disorders</td>
<td>3 (4.3%)</td>
<td>0.03</td>
<td>2</td>
<td>0-05</td>
<td>8.40</td>
</tr>
<tr>
<td>Head injury-trauma</td>
<td>5 (7.1%)</td>
<td>0.16</td>
<td>11</td>
<td>0-05</td>
<td>8.40</td>
</tr>
<tr>
<td>Language problems</td>
<td>3 (4.3%)</td>
<td>0.06</td>
<td>4</td>
<td>0-02</td>
<td>8.00</td>
</tr>
<tr>
<td>Congenital anomalies</td>
<td>20 (28.6%)</td>
<td>0.73</td>
<td>51</td>
<td>0-12</td>
<td>21.95</td>
</tr>
</tbody>
</table>
Table 3
Primary Diagnoses of Children Aged 1 to 4 Years (N = 114)

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>No. of Therapists</th>
<th>Mean No. on Caseload</th>
<th>Total No. of Children</th>
<th>Range of Children Within Caseload</th>
<th>% of Caseload</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple disabilities</td>
<td>73 (36.0%)</td>
<td>3.08</td>
<td>351</td>
<td>0-30</td>
<td>25.59</td>
</tr>
<tr>
<td>Cerebral palsy</td>
<td>90 (78.9%)</td>
<td>3.97</td>
<td>453</td>
<td>0-50</td>
<td>28.04</td>
</tr>
<tr>
<td>Mental retardation</td>
<td>29 (25.4%)</td>
<td>1.02</td>
<td>116</td>
<td>0-50</td>
<td>21.86</td>
</tr>
<tr>
<td>Down Syndrome</td>
<td>51 (44.7%)</td>
<td>1.41</td>
<td>151</td>
<td>0-15</td>
<td>14.23</td>
</tr>
<tr>
<td>Developmental delay</td>
<td>73 (64.0%)</td>
<td>4.81</td>
<td>549</td>
<td>0-50</td>
<td>27.92</td>
</tr>
<tr>
<td>Environmentally at risk</td>
<td>24 (21.0%)</td>
<td>0.69</td>
<td>79</td>
<td>0-12</td>
<td>10.92</td>
</tr>
<tr>
<td>Failure to thrive</td>
<td>21 (19.4%)</td>
<td>0.28</td>
<td>32</td>
<td>0-06</td>
<td>21.86</td>
</tr>
<tr>
<td>Prematurity</td>
<td>42 (36.8%)</td>
<td>1.26</td>
<td>144</td>
<td>0-30</td>
<td>16.29</td>
</tr>
<tr>
<td>Neuromuscular disorders</td>
<td>39 (34.2%)</td>
<td>1.13</td>
<td>129</td>
<td>0-50</td>
<td>10.97</td>
</tr>
<tr>
<td>Emotional/behavioral disorders</td>
<td>25 (20.1%)</td>
<td>0.42</td>
<td>48</td>
<td>0-07</td>
<td>8.57</td>
</tr>
<tr>
<td>Head injury/trauma</td>
<td>26 (22.8%)</td>
<td>0.35</td>
<td>40</td>
<td>0-06</td>
<td>9.35</td>
</tr>
<tr>
<td>Language problems</td>
<td>36 (31.6%)</td>
<td>2.04</td>
<td>233</td>
<td>0-45</td>
<td>23.91</td>
</tr>
<tr>
<td>Congenital anomalies</td>
<td>42 (36.8%)</td>
<td>1.01</td>
<td>115</td>
<td>0-20</td>
<td>14.64</td>
</tr>
</tbody>
</table>

During the 3 months immediately preceding the interview, 72.9% of the respondents administered one or more standardized or published assessments to children aged 4 years or younger. The respondents were asked specifically about 14 assessments commonly used by occupational therapists and were asked to add any not on the list. Table 4 provides a summary of the 10 assessments most commonly cited by respondents when asked about tools that they had used in the past 3 months.

A majority of the therapists (59.3%) reported that either they or their facility had developed their own assessments. Clinical tools were most often developed by compiling items from formal or standardized assessments or by combining the therapists' preferred types of clinical observations with items drawn from standardized assessments.

When probed as to why they had developed their own tools, many respondents said that there were no standardized assessments available for performance areas they needed to evaluate, such as quality of movement and neuromuscular attributes, activities of daily living including feeding, and visual perception and sensory processing. Additionally, a number of respondents explained that there were no assessments available for the populations that they served, particularly severely impaired or multiply disabled children. The age range of the children was also mentioned as a limitation in the use of standardized assessments.

A small proportion of the respondents stated that they did not have time to perform standardized test batteries and needed quicker clinical tools. Several respondents discussed their desire to use more qualitative and "subjective" tools to maximize opportunities to see optimum performances. For example, 1 respondent placed value on the child's "additional" and "better" chances to perform. Approximately 1 out of 6 respondents who used tools that they or their facilities had developed, however, stated that their tools did not provide anything that was different from standardized assessments.

The majority of the respondents (70.3%) evaluated self-care and activities of daily living routinely. A small proportion (11.9%) reported that they sometimes assessed these skills, particularly when parents expressed concerns. Among this subgroup, 90.1% of

Table 4
Frequency of Use of Standardized Assessment Tools

<table>
<thead>
<tr>
<th>Assessment</th>
<th>No. of Therapists</th>
<th>% of Subgroup* (n = 87)</th>
<th>% of Sample (N = 118)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Miller Assessment for Preschoolers (Miller, 1982)</td>
<td>33</td>
<td>40.2</td>
<td>28.0</td>
</tr>
<tr>
<td>Peabody Developmental Motor Scales (Atwater &amp; Richardson, 1987)</td>
<td>30</td>
<td>36.1</td>
<td>25.4</td>
</tr>
<tr>
<td>Hawaii Early Intervention Profile (Furuno et al., 1985)</td>
<td>25</td>
<td>29.4</td>
<td>21.2</td>
</tr>
<tr>
<td>Bayley Infant Scales (Bayley, 1969)</td>
<td>24</td>
<td>28.6</td>
<td>20.3</td>
</tr>
<tr>
<td>Gesell Developmental Tests (Knobloch, Stevens, &amp; Malone, 1980)</td>
<td>19</td>
<td>22.6</td>
<td>16.1</td>
</tr>
<tr>
<td>Early Infant Developmental Profile (Rogers, D'Eugenio, Brown, Donovan, &amp; Lynch, 1977)</td>
<td>17</td>
<td>20.5</td>
<td>14.4</td>
</tr>
<tr>
<td>Denver Developmental Screening Test (Frankenburg, Dods, Fandal, Kazuk, &amp; Coe, 1975)</td>
<td>16</td>
<td>19.3</td>
<td>13.6</td>
</tr>
<tr>
<td>Movement Assessment of Infants (Chandler, Andrews, Swanson, &amp; Larson, 1986)</td>
<td>14</td>
<td>16.9</td>
<td>13.9</td>
</tr>
<tr>
<td>Beery Test of Visual Motor Integration (Beery, 1967)</td>
<td>13</td>
<td>15.6</td>
<td>11.0</td>
</tr>
<tr>
<td>Learning Accomplishment Profile (Sanford &amp; Zelman, 1981)</td>
<td>11</td>
<td>13.3</td>
<td>9.3</td>
</tr>
</tbody>
</table>

* Subgroup refers to respondents who at the time of the study had used any assessment within the last 3 months.
Table 5
Distribution of Therapists' Time Spent in Major Role Functions (N = 118)

<table>
<thead>
<tr>
<th>Service</th>
<th>At</th>
<th>SD</th>
<th>Median</th>
<th>Range</th>
<th>75th Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluation</td>
<td>19.51%</td>
<td>14.71%</td>
<td>15%</td>
<td>0%-100%</td>
<td>25.0%</td>
</tr>
<tr>
<td>Treatment</td>
<td>51.94%</td>
<td>18.01%</td>
<td>50%</td>
<td>0%-87%</td>
<td>67.5%</td>
</tr>
<tr>
<td>Indirect</td>
<td>13.05%</td>
<td>9.67%</td>
<td>10%</td>
<td>0%-70%</td>
<td>15.0%</td>
</tr>
<tr>
<td>Consultation</td>
<td>10.92%</td>
<td>9.67%</td>
<td>0%</td>
<td>0%-25%</td>
<td>6.5%</td>
</tr>
<tr>
<td>Other</td>
<td>4.15%</td>
<td>5.83%</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

the respondents said that the parents were routinely involved in the assessment of self-care through a variety of methods. Commonly reported methods included interviews of parents, parents' demonstration of techniques, and the presence of parents throughout the evaluation. Approximately one fifth of the respondents (17.8%) did not evaluate self-care in this age group.

Reevaluations were performed at scheduled time periods by 82.2% of the therapists. Sixty percent conducted reevaluations within 6 months of the initial evaluation; 10% conducted reevaluations at intervals greater than 12 months.

The respondents were not generally satisfied with their current evaluations; 64.4% reported that they would like to make changes in their evaluation process. The most commonly desired change was the use of more standardized assessments, which was cited by one third of the respondents who wished to change their evaluations. One out of 6 said they would like to conduct their evaluations in less time.

**Treatment-Related Services**

Fifty percent of the respondents provided treatment services through combinations of individual and group treatment programs; 41% provided all direct therapy services through individual treatment programs. A few respondents either did not provide treatment or saw children only in groups. Considerable variability was apparent in how the therapists distributed their time across role functions (see Table 5).

The respondents provided consultation services to several diverse audiences, including other service agencies, related disciplines, and parents. Although little time was spent in providing consultation and indirect services, the respondents identified specific training needs for parents with a high degree of frequency. Only 3.4% of the respondents rarely identified the parents' needs, and 61.5% almost always provided specific training for parents.

The respondents were interviewed about the nature and frequency of specific direct treatment services they had provided in the past 3 months for two age groups: birth through 12 months and 1 to 4 years. The respondents who at the time of the study had two or fewer children on their caseload for any age group were ineligible for the question. Table 6 summarizes the mean scores and rankings of the responses by age group.

To assess whether the relative frequencies of common treatments varied by age, paired sample t-tests were conducted on the responses of the 60 qualifying subjects who had sufficient caseloads in both age categories. Significant differences were found between the two age groups for the following services: sensory integration, fine motor, activities of daily living excluding feeding, behavioral/psychosocial, and parent training. Differences in activities of daily living other than feeding are not surprising because they reflect developmental tasks for each age group. However, the differences in the other areas were not anticipated. The shift toward less frequency in parent training is explained partially by the number of respondents who worked in preschool programs and commented that parental contact was not always available.

**Decision-Making Processes**

A number of survey items were developed to explore the nature of decision-making processes and the extent to which common frames of reference were applied in pediatric practice. There was considerable variability in the responses to questions related to role delineation, discharge, extent of progress, and nature

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of treatment decisions. One half (50%) of the respondents explained that the team decided which discipline would provide specific services in individual cases. The identified areas of need for each child were reported as the second most common (14.4%) basis for decisions regarding discipline involvement. The third most common response (11.4%) was the physician's prescription or referral. Only 3.5% of the respondents reported that occupational therapists alone decided, and 7.9% reported that occupational and physical therapists jointly decided.

Responses to the question, What percentage of the children that leave your program do so based on your decision that they no longer need services? revealed a broad range of circumstances (0%-100%). The mean percentage was 34.95%, with a median of 10%.

The respondents were asked to rate common frames of reference on the basis of their importance to their own beliefs and practices. If the respondents asked for a standard definition of a particular frame of reference, they were instructed to use their own definitions and interpretations. The mean scores for the frames of reference in order of importance were as follows: developmental, 4.67; neurodevelopmental, 4.24; neurophysiological, 3.96; sensory integration, 3.85; biomechanical, 2.98; psychodynamic, 2.87; and occupational behavior, 2.15. The responses were scored on a scale of no importance (0) to essential (5). Therefore, mean scores of 4.0 or better reflect group values of a theoretical approach as being very important to essential.

The interviewer repeated any frames of reference the respondent cited as important to them and then asked each respondent to name the one frame of reference that they considered to be their primary frame of reference. Only 4 of the 118 respondents had difficulty selecting a single frame of reference. Developmental was selected by 43% of the therapists; neurodevelopmental, by 34.2%. Fewer than 10% of the therapists selected any other frame of reference.

Summary and Discussion

The topics under investigation were highly salient to the subjects, as evidenced by the high response rate, the completeness of the data set, and the fact that no interviews were terminated. The telephone interview method allowed the branching of questions to subgroups within the population and enabled the gathering of detailed information about specific parameters of practice. This method warrants further consideration in investigations of occupational therapy practice and therapists' beliefs, attitudes, and values.

The use of this technique to gather descriptive data, however, may be compromised by the specificity of therapists' reports to AOTA of the clinical populations they serve, the ability of AOTA to maintain current data files, and AOTA's difficulties accessing therapists through their work site telephone numbers. Although the subjects in the sample had reported to AOTA that they worked primarily either with infants aged birth to 1 year or with young children aged 1 year to 4 years, 33.8% were ineligible for the study because they were not serving the specified age group at the time of initial phone contact. This occurrence can be explained partially by the age of the data, although the data were only 8 months old at the beginning of the data collection period. Additionally, difficulty establishing initial contact (987 interviewer-initiated phone calls were made) extended the data collection period substantially, decreased the subject pool, and reduced the cost-effectiveness of this approach.

Pediatric practice is complex. Occupational therapists who worked with infants and young children provided a wide range of services across varied settings with diverse clinical populations. Therapists who participated in this study were highly experienced in pediatrics and, in general, demonstrated high rates of participation in professional development activities. Some therapists, particularly those working in rural communities or in areas that were not close to academic institutions, expressed regret at the lack of professional development opportunities available.

Although the respondents worked with very young infants, few specialized in this area. The majority of the respondents were also responsible for serving children older than 4 years. The scope of disabilities and the broad age ranges typically served within one facility presumably influenced the extent to which the therapists were able to develop highly specialized assessment and treatment services.

The children treated by occupational therapists in early intervention programs were primarily physically disabled and often had conditions with multiple diagnoses. The differences in the distribution of diagnostic categories across age groups were partially explained by statements of the respondents indicating occasional reluctance in the medical community to label infants under 12 months of age with a specific diagnosis. The reported sizes of caseloads and numbers of children within any one diagnostic category were much smaller than anticipated. This finding was partially explained by the high proportion of therapists who worked part-time.

The data indicated that there was considerable overlap across the disciplines serving infants and young children. The nature of this overlap was highly variable. Similarly, there was a striking lack of consensus in the nature of the specific services that occupational therapists believed to be unique to their dis-
discipline. The extent to which teams decided which disciplines would provide specific services obviously influenced this finding. However, the data suggest that the core of occupational therapy services in early intervention is not adequately conceptualized within the profession.

Theoretical frames of reference for occupational therapy practice in early intervention also appeared to be an area in which there was considerable lack of agreement. The respondents could readily identify the theoretical approach that they believed to be primary. However, no one frame of reference was agreed upon by more than 45% of the sample. Given the diversity found in practice patterns, one would expect some variability in the identified core of occupational therapy and the theoretical bases for practice.

Conceivably, the broad scope of services and service provision models identified in this study reflect our ability as a profession to contribute substantially to the health and development of young children and their families. However, the extent of variability may also be indicative of a major liability. Our profession’s future success at developing new knowledge, validating the theoretical bases for our practice, and contributing to improved services for infants and young children and their families is inextricably linked to our understanding of the core elements of the discipline of occupational therapy.

Many respondents asserted their belief that they served both parents and children and placed high value on parent participation in their programs. Considerable variability in the methods they used to enhance parent participation and the extent of home-based services was apparent. The findings related to parent participation are limited by the nature of this broad descriptive study. Studies of models of family-focused interventions and their cost-effectiveness, clinical reasoning processes, and strategies to enhance parent participation should be undertaken.

This descriptive study highlights major features of current occupational therapy services for infants and young children and their families and provides insights into aspects of practice that warrant additional attention. The first author, who was the interviewer, was struck by the apparent dedication of many of the respondents to their practice and profession and by their desire to enhance their services. Professional initiatives to promote the best treatment practices with infants and young children and their families should incorporate the development of conceptual models for family-focused interventions, reliable and valid assessment tools that measure domains of behavior targeted in occupational therapy, strategies to enhance the use of qualitative data in practice, and consensus on the primary contributions of occupational therapy to the health and development of children.

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References


