Research Report

Using Clinical Outcomes to Explore the Theory of Expert Practice in Physical Therapy

Background and Purpose. Theoretical models of physical therapist expertise have been developed through research on physical therapists sampled solely on the basis of years of experience or reputation. Expert clinicians, selected on the basis of their patients' outcomes, have not been previously studied, nor have the patient outcomes of peer-nominated experts been analyzed. The purpose of our study was to describe characteristics of therapists who were classified as expert or average therapists based on the outcomes of their patients. Subjects. Subjects were 6 therapists classified as expert and 6 therapists classified as average through retrospective analysis of an outcomes database. Methods. The study was guided by grounded theory method, using a multiple case study design. Analysis integrated data from quantitative and qualitative sources and developed a grounded theory. Results. All therapists expressed a commitment to professional growth and an ethic of caring. Therapists classified as expert were not distinguished by years of experience, but they differed in academic and work experience, utilization of colleagues, use of reflection, view of primary role, and pattern of delegation of care to support staff. Therapists classified as expert had a patient-centered approach to care, characterized by collaborative clinical reasoning and promotion of patient empowerment. Discussion and Conclusion. These findings add to the understanding of factors related to patient outcomes and build upon grounded theory for elucidating expert practice in physical therapy. [Resnik L, Jensen GM. Using clinical outcomes to explore the theory of expert practice in physical therapy. *Phys Ther.* 2003;83:1090–1106.]

Key Words: *Clinical competence, Grounded theory, Low back pain, Physical therapy profession, Qualitative methods.*

Linda Resnik, Gail M Jensen

Expert practitioners are thought to "do something better," because they know how to do the "right thing at the right time," and thereby "provide better care."[1] In their pivotal work, Jensen et al[2] have articulated the need to understand and enhance expertise and to apply the lessons learned through the study of expert therapists to improve physical therapy education and patient care. Rothstein[1] and Purtilo[3] have agreed that if the knowledge, skills, and decision-making capabilities of the expert therapist can be identified, nurtured, and taught, the result will hold important ramifications for physical therapist practice and patient care.

The work of Jensen and colleagues[2,4–6] has shaped the current understanding of expertise in the field. The first in a series of studies conducted by these researchers focused on the differences between novice and experienced physical therapy practitioners.[4] Eight physical therapists practicing in outpatient orthopedic settings who had varying levels of experience were studied through nonparticipant observation of intervention sessions. Using a grounded theory method, the authors identified a number of themes that distinguished novice therapists from experienced therapists. They reported that experienced therapists spent more time with patients than did novice therapists in providing hands-on care, seeking information, and evaluating and educating the patient. Experienced therapists appeared able to handle interruptions of direct intervention more efficiently than did novice therapists. The experienced therapists also spent more time in social interchange with patients, and with patient education, than did the novice therapists.[4]

In a subsequent study,[5] Jensen et al investigated attributes of master and novice physical therapists. Subjects of this study were clinicians, identified as either master or novice clinicians, working in orthopedic outpatient settings, nominated by a panel of academic coordinators of clinical education. Each of the researchers collected data through on-site observation of 1 novice clinician and 1 master clinician with at least 3 patients. The researchers reported that master clinicians' knowledge was more extensive and that master clinicians were more comfortable with their knowledge base than were novice clinicians. They also found that master clinicians individualized their evaluation and teaching for each patient, were more responsive in their therapeutic interaction with patients, and integrated more verbal encouragement and tactile cues with intervention than did the novice clinicians.[5]

Finally, Jensen and colleagues[6] studied 12 experts nominated by officers of the American Physical Therapy

L Resnik, PT, PhD, OCS, is Postdoctoral Fellow, Center for Gerontology and Health Care Research, Brown University, 2 Stimson Ave, Providence, RI 02912 (USA) (linda_resnik@brown.edu). Address all correspondence to Dr Resnik.

GM Jensen, PT, PhD, FAPTA, is Associate Dean for Faculty Development and Assessment and Professor of Physical Therapy, School of Pharmacy and Health Professions, and Faculty Associate, Center for Health Policy and Ethics, Creighton University Medical Center, Omaha, Neb.

Both authors provided concept/idea/research design and data analysis. Dr Resnik provided writing, data collection, and project management. Dr Jensen provided consultation (including review of manuscript before submission). The authors acknowledge Leah Nof, PT, PhD, Melissa Tovin, PT, PhD, and Dennis Hart, PT, PhD, for their dissertation committee work and Susan Allen, PhD, for her constructive critique of the manuscript.

This study was approved by the Institutional Review Board for the Protection of Human Subjects, Nova Southeastern University, Fort Lauderdale, Fla.

This article was received November 14, 2002, and was accepted June 27, 2003.

Association's (APTA) specialty sections for geriatrics, neurology, orthopedics, and pediatrics. The researchers selected subjects based on frequency of nomination and geographical convenience. Three experts were chosen in each of 4 practice arenas: geriatrics, neurology, orthopedics, and pediatrics. Data were collected throughout the episode of care for at least 2 patients of each clinician. The researchers reported that the expert clinicians had an inner drive for lifelong learning and a broad knowledge base consisting of formal knowledge and knowledge of movement, of patients, and of their clinical specialty. Expert clinicians shared a focus on patient education and an understanding about working within the health care system to maximize resources. Experts understood their own limitations and appreciated what they did know as well as what they needed to learn. The expert clinicians' clinical reasoning focused on patient-specific functional outcomes and was based on collaborative problem solving and decision making. Experts shared a belief in patients' responsibility for their own health. The experts studied demonstrated a well-developed ability for self-reflection, with continual reassessment of their own practice. The experts intertwined intervention and evaluation to fine-tune the patients' programs.

Theories of physical therapist expertise, disseminated in the literature and through programming at national and regional conferences, have the potential to improve physical therapy education, administration, and practice. A central limitation of the research on physical therapist expertise, however, is that the theoretical models of expertise have been developed through research on therapists sampled solely on the basis of years of experience or reputation.[4–12] The methods of subject selection in prior studies ensured a pool of subjects who were actively involved with APTA, known to APTA section leadership, and active in educational activities. Although this type of reputation is an important facet of being recognized as an expert, it is not clear how it affects patient outcomes. Although experts are assumed to be those who achieve the best clinical outcomes,[1] prior research has not documented this relationship. Expert clinicians, selected on the basis of their patients' outcomes have not been previously studied, nor have the patient outcomes of peer-nominated experts been analyzed.

We believed, therefore, that there was a need to identify therapists whose patients have the best outcomes in order to understand the characteristics of these therapists and to compare their qualities with those of peer-nominated experts reported in the literature. Thus, the purposes of our study were to describe the characteristics of clinicians whose patients with lumbar syndromes had excellent outcomes and to build upon the prior theoretical framework of physical therapist expertise.[13]

Method

Subjects

Our research was guided by the grounded theory approach. The intent of grounded theory is the generation of a theory relating to a particular situation.[14] In accordance with this method, subjects are chosen by a form of theoretical sampling defined as data gathering, driven by concepts derived from the data analysis process. The purpose of theoretical sampling is to gather data that will maximize opportunities to discover variations among concepts and deepen the understanding of the relationships between the concepts under study. Although the researcher must make some initial sampling decisions regarding the group to be studied and the number of observations or interviews, theoretical sampling requires flexibility in determining the precise number of subjects and the number and types of follow-up. In grounded theory, the researcher continues sampling until the participants say nothing new about the concepts under exploration and the collected data have reached a saturation point.[15] Saturation, the stopping point in data collection and analysis, is the point in research where collecting additional data does not add to the explanation of the concepts.[15]

Our initial sampling decisions resulted from retrospective analysis of the data from the Focus On Therapeutic Outcomes Inc (FOTO) database (Knoxville, Tenn).[16] For our study, we operationally defined therapist expertise on the basis of collective patient outcomes. We used health-related quality-of-life (HRQL) outcomes data contained in the FOTO database for patients with lumbar spine syndromes (24,276 patients seen by 930 therapists) to calculate mean patient outcomes for each therapist participating in the database.

Health-related quality-of-life measurements have been widely recommended as reliable, valid, and sensitive for determination of outcomes for patients with low back pain.[17–19] The FOTO database contains an HRQL measure called the overall health status measure (OHS) that measures both mental and physical dimensions of health. Internal consistency of items in the OHS constructs with 2 or more items has been reported (α=.57–.91).[20,21] Internal consistency reliability statistics of the items of the OHS constructs[20,21] are comparable to the internal consistency reliability statistics calculated from the same items embedded in the 36-Item Short-Form Health Survey (SF-36) questionnaire[22] and the 12-Item Short-Form Health Survey (SF-12) questionnaire.[23] Test-retest reliability of data obtained with the OHS was good (intraclass correlation coefficient [ICC(2,1)]=.92).[20] Validity of data obtained with the OHS has not been examined, but there is evidence that an overall HRQL

measure with similar items is responsive for patients receiving outpatient therapy.[24]

Overall health status scores are calculated by averaging scores from the 8 embedded HRQL constructs: general health (1 item from the SF-12),[25] physical functioning (10 items from the physical functioning scale [PF-10] of the SF-36),[22] role physical (2 items from the SF-12),[23] bodily pain (2 items from the SF-36),[22] vitality (1 item from the SF-12),[23] mental health (2 items from the SF-12),[23] role emotional (2 items from the SF-12),[23] and social functioning (1 item from the SF-12).[23] The OHS physical functioning construct also includes 3 new questions pertinent to clients with upper-extremity impairments.[26] Scoring of item responses followed published algorithms.[22,23] Raw ordinal scores were transformed to interval scores varying from 0 to 100 for each question.[22,23] Transformed item scores were grouped by construct and averaged to obtain the score for each of the 8 OHS functional scales.

To control for the effect of patient factors that influence HRQL outcomes, we calculated predicted discharge OHS scores by developing a general linear model that included patient age, severity of condition, sex, onset of condition, number of surgeries for condition, reimbursement, exercise history, and employment status. Patient age (in years) was entered into the model as a continuous variable. Severity of the condition was also entered as a continuous variable, measured by the intake score of the OHS scale. The variable called "onset of condition" represented the number of days from the onset of the condition until the beginning of intervention. In the FOTO dataset, onset of condition was classified as: 0 to 7 days, 8 to 14 days, 15 to 21 days, 22 to 90 days, 91 days to 6 months, and over 6 months. Number of surgeries for the low back was categorized as: none, 1, 2, 3, and 4 or more. Reimbursement was the primary source of the payment for the patient's physical therapy. Reimbursement was classified as: indemnity, litigation, Medicaid, Medicare, patient, health maintenance organization or preferred provider organization, workers' compensation, or other. Exercise history was a measurement of the patient's self-reported exercise prior to the episode of physical therapy. Exercise history was classified as: at least 3 times a week, 1 to 2 times a week, or seldom/never. The variable called "employment status" measured the patient's employment at the time of intake for physical therapy. The categories of employment status were: full-time, modified work, employed but not working, previously employed and receiving disability, unemployed, retired, or student.

The residual scores for the OHS discharge measure were calculated for each patient after general linear modeling and saved. Residual scores were defined as the difference in actual scale points between the patient's actual discharge scores and the predicted discharge scores after modeling. Patient data were aggregated by therapist, and mean residual discharge scores for each therapist's patients were calculated. We then selected for inclusion in the expert group the 10% of therapists whose patients had the highest mean residual scores (n=94) and for inclusion in the average group the 10% of therapists whose patients had average mean residual scores (45th-55th percentiles) (n=94).

We used SPSS software* to randomly select 30 therapists from each of the theoretical sample groups (expert and average). We anticipated that this sample would yield between 4 and 10 potential participants for each group. Clinician code numbers were used by FOTO representatives to identify the employment site of each selected therapist. The work sites of all 60 therapists were contacted by FOTO representatives to inform them about the study and to obtain the clinicians' names and contact information. After receipt of employer authorization, FOTO representatives mailed each clinician a letter that described the study and contained an informed consent form. Those who agreed to participate in the study returned their consent forms to the first author.

In accordance with grounded theory methods, the number of participants in the qualitative study was not determined a priori, but was guided by the data analysis process. Four therapists from the group classified as average and 12 therapists from the group classified as expert responded to the initial request by returning their signed informed consent forms. A follow-up request that was sent to members of the group classified as average yielded 2 additional respondents. Therapists from each group were contacted in the general order in which their responses were received. Therapists were not told about the study's classification scheme and did not know if they were categorized as expert or average. Participants were asked to provide a copy of their curriculum vitae, to submit a written statement of philosophy explaining their approach to the clinical management of patients with low back pain, and to schedule an appointment for a telephone interview. Participant interviews and subsequent case analyses proceeded until no new or contradictory findings were discovered and resulted in 12 participants—6 from each of the 2 groups (expert and average).

The professional profiles of participants from the group classified as expert are summarized in Table 1. During the process of data analysis, we sorted participants from this group into experienced and novice subcategories based on their years of clinical experience, as there

* SPSS Inc, 233 S Wacker Dr, Chicago, IL 60606.

Table 1.
Professional Profiles of Therapists Classified as Expert[a]

Clinician	Age (y)	Years of Clinical Experience	Education	Advanced Certification	Practice Settings	Professional Membership
Liz	59	39.0	BS PT/OT	McKenzie diploma	Spine specialist Outpatient Home care Pediatrics Mental health	APTA
Pam	44	21.0	BS in PT	Certified Manual Therapist 2001	Acute care Outpatient	No
Kathy	45	13.5	MS PT BS in biology/psychology	No	Outpatient Acute care Geriatrics	APTA
Sarah	31	2.5	BS PT BS ATC/health education	No	Outpatient	APTA NATA
James	32	4.5	MS PT BS in exercise science	No	Acute care Outpatient	No
Dawn	32	6.0	MS PT BS in exercise science/ physiology	No	Outpatient	No

[a] Pseudonyms are used instead of clinicians' actual names. ATC=Certified Athletic Trainer, BS=bachelor of science, MS=master of science, PT=physical therapy, OT=occupational therapy, APTA=American Physical Therapy Association, NATA=National Athletic Trainers Association.

seemed to be 2 distinct subgroups of therapists in this category. The 3 participants in the experienced subcategory were aged 44 to 59 years. Two of these participants had been practicing for more than 20 years, and 1 participant had been practicing for 13.5 years. The 3 participants from the novice subcategory were aged 31 to 32 years and had 6 years or less of clinical experience. All novice therapists from the expert group had undergraduate degrees in exercise science and an employment history as a physical therapy aide or athletic trainer prior to becoming a physical therapist.

Participants from the group classified as average were aged 28 to 48 years and had a wide range of experience and training. Their professional profiles are summarized in Table 2. The majority of their clinical experience had been in outpatient orthopedic settings. Two of these therapists divided their time between administration and clinical practice. All 6 therapists in this group held professional (entry-level) bachelor's degrees in physical therapy. One therapist also had a master's degree in business administration. Four of the 6 therapists in the group classified as average had between 7 and 12 years of experience, 1 therapist had less than 5 years of experience, and 1 therapist had 19 years of experience. Because this range of experience among participants was more uniformly distributed, no subgrouping by experience was needed in the group classified as average.

Data Collection

A semiguided interview process (Appendix) was conducted by the principal investigator (LR), who was aware of each participant's classification group. The semiguided format allowed flexibility in sequencing and wording of interview questions and allowed for additional probing to clarify specific participant responses. Each initial interview lasted approximately 45 minutes. All interviews were tape recorded and transcribed. Follow-up interviews, telephone calls, letters, or e-mails were used as needed to gather more data, test emerging hypotheses, and seek negative case examples (ie, instances of therapists whose characteristics varied from those of others in their group).

Data Analysis

Data analysis began with open coding by the principal investigator of initial interviews, philosophy statements, and résumés. Open coding is a means of reducing the data to a set of important themes or categories. Coding continued until no new information was obtained and no new categories were formed. Our design involved 3 phases of data analysis: within-case, cross-case, and cross-group analysis.[27–29]

The within-case analysis was performed by synthesizing data for each therapist into a report consisting of a summary of all information provided by the participant and relevant information contained in the FOTO database and subsequently by analyzing that information.

Table 2.
Professional Profiles of Therapists Classified as Average[a]

Clinician	Age (y)	Years of Clinical Experience	Education	Advanced Certification	Practice Settings	Professional Membership
Beverly	48	19.0	BS PT	No	Outpatient Acute care Outpatient rehabilitation Skilled nursing facility	No
Tim	37	10.0	BS PT	No	Outpatient Sports Home care	APTA
Sharon	33	10.0	BS PT	No	Pediatrics Inpatient Outpatient	No
Crystal	28	4.5	BS PT	OCS 2000	Outpatient Acute care	APTA
Mike	30	7.5	BS PT/ATC	MS administration	Outpatient	NATA
Ann	33	12.0	BS PT	No	Outpatient Acute care	APTA

[a] Pseudonyms are used instead of clinicians' actual names. ATC=Certified Athletic Trainer, BS=bachelor of science, MS=master of science, PT=physical therapy, OT=occupational therapy, OCS=Occupational Certified Specialist, APTA=American Physical Therapy Association, NATA=National Athletic Trainers Association.

The within-case analysis involved the evaluation of main themes, impressions, and summary statements and the generation of explanations, speculations, and hypotheses, as well as alternative interpretations, explanations, and disagreements.[30] The next steps for data collection in each case also were identified, and implications for revision and updating of the coding scheme were noted.[2,30]

Cross-case analysis began when the main points, explanations, and summaries for the within-case analyses were organized by category and compiled. During this analysis, the coding categories were continually refined and organized into 4 overall key categories: knowledge base, clinical reasoning, values, and virtues. Comparison matrices[30] were constructed to compare properties and dimensions among therapists in each of the groups. Comparison matrices are an analytic tool used to visually display data in a systematic way.[30] The matrices we developed took the form of spreadsheets displaying rows of data for each therapist and columns denoting key attributes. Follow-up interviews, telephone calls, letters, or e-mails were used to gather the additional data needed to complete the matrices, follow up on the analyses, and enable comparisons. These later stages of data collection and sampling were guided by the data analysis process, consistent with the tenets of the grounded theory approach.[31]

Cross-case analysis resulted in the development of 2 composite case studies (expert and average) that merged common elements of cases within each group. Cross-case analysis also was used to focus axial coding, or the identification of the subcategories, properties, and dimensions of each category.[32] The next step in data analysis was the cross-group analysis, which summarized the findings from composite case studies and elucidated the similarities and distinctions between groups. The data analysis process is summarized in Figure 1.

At each stage of data collection and analysis, the literature was consulted to determine how findings and interpretations compared with other research and theories. The key concepts and emerging theories that were uncovered were checked against the literature and discussed among the authors. Data collection and analysis continued until no new categories were discovered in the last 2 therapists' interviews. The cross-group comparison facilitated the development of an initial theoretical framework and identified a central phenomenon using criteria advocated by Strauss and Corbin.[32] The *central phenomenon* is defined as the main theme of the research. Memos of the researcher's analytical thought process, integrative diagrams, and review of the literature were used in conjunction with further analysis of the composite.[32] Memos, frequently used in qualitative analysis, are notes of the investigator's thought and decision-making processes recorded throughout the data collection and analysis. Integrative diagrams are schematic drawings showing the relationships among the concepts.

Accuracy of the analysis was enhanced by using the following verification strategies: source triangulation, examination of researcher bias, member checks, use of thick description, peer reviewing and debriefing, and an audit trail of methodological and analytic decisions.[33] In our study, triangulation was performed by considering

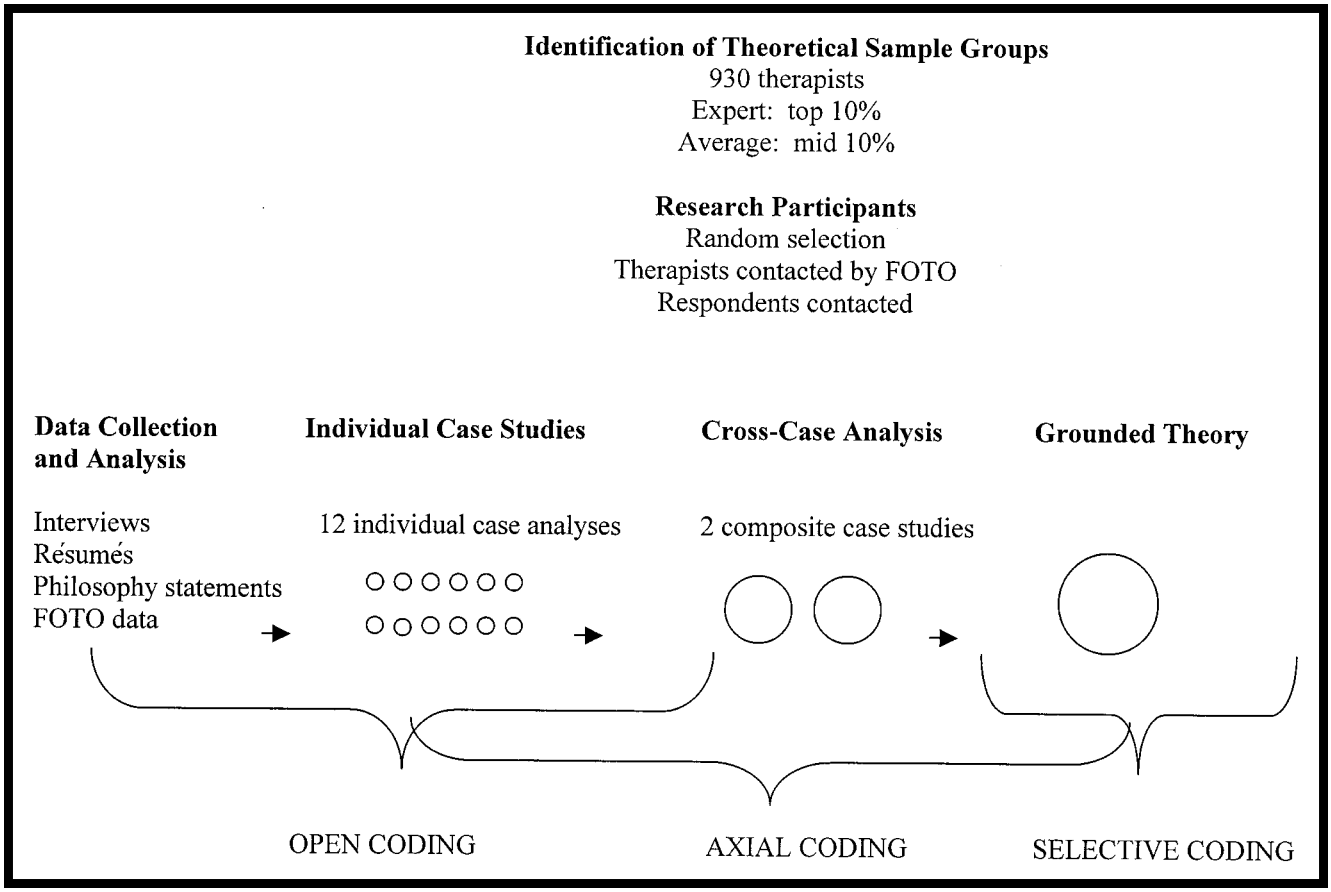

Figure 1.
Summary of analytical process. FOTO=Focus On Therapeutic Outcomes Inc.

multiple sources of data in the analysis. Multiple data sources included information contained in the outcomes database on each therapist's patients, written statements of philosophy, each therapist's curriculum vitae, and interviews. Participant checks were conducted by asking several of the research participants to review transcripts and case studies to verify the researcher's interpretation. "Thick description" is the inclusion of meaningful quotations to represent important themes and categories when reporting data analysis. The second author and an external auditor reviewed the case studies and discussed and commented on emerging themes and coding categories after case construction.

Findings

We have chosen to organize our findings around 3 core topics: (1) the central phenomenon and grounded theory resulting from the study, (2) unique attributes of practitioners classified as expert, and (3) commonalities across groups of therapists classified as expert or average. The central phenomenon in our study was expert practice within the context of excellent outcomes for patients with low back pain. We first present the primary attributes and relationships identified in our theory and then explain the derivation of the theory by describing the unique attributes of practitioners classified as expert and the commonalities across the 2 groups of therapists. In support of our theory, we have chosen representative statements from study participants as short exemplars of the themes. The sections on unique attributes of practitioners classified as expert and on commonalities across groups of therapists classified as expert or average follow the order of themes outlined in Table 3.

Theory of Expert Practice

Therapists classified as expert in our study were distinguished by a patient-centered approach to care. In this approach, patients are viewed as active participants in therapy, and a primary goal of care is the empowerment of patients—which is achieved through a collaboration between therapist and patient, clinical reasoning, patient education, and establishment of a good patient-therapist relationship. The patient-centered approach results from the interplay of clinical reasoning, values, virtues, and therapist knowledge and permeates and guides the clinician's style of practice.

Table 3.
Summary of Coding Themes From Cross-Group Analysis

Themes	Expert Group	Average Group
Clinical reasoning		
Patient empowerment a primary goal of therapy	√	
Collaborative problem solving	√	
Context of clinical practice: identity of teacher/coach	√	
Knowledge base		
Eclectic academic backgrounds	√	
Undergraduate degrees in exercise science	√	
Field experience prior to physical therapy school	√	
Frequent utilization of collegial knowledge	√	
Greater use of movement observation	√	
Reflection on practice	√	
Amount of clinical experience	√	√
Specialty knowledge from continuing education	√	√
Knowledge from patients	√	√
History as a patient receiving physical therapy	√	√
Athletic	√	√
Values and virtues		
Love of clinical care	√	
Humility	√	
Inquisitiveness	√	
Caring	√	√
Commitment to professional growth	√	√
Clinical practice style		
Patient education central to practice	√	
Individualizing intervention	√	
Limited delegation of care to support personnel	√	
Growth opportunities in the workplace	√	√

Excellence in patient-centered care involves clinical reasoning that is centered around the individual patient, enhanced by a strong knowledge base, skills in differential diagnosis, and self-reflection. The primary goals of empowering patients, increasing self-efficacy beliefs, and involving patients in the care process are facilitated by patient-therapist collaborative problem solving. This approach alters the therapeutic relationship and emphasizes the professional's primary role in supporting and enhancing patients' abilities to make autonomous choices.[34]

In our theory, the foundation for the expert clinician's approach to care is an ethic of caring and a respect for individuality. Clinicians who value and appreciate patient individuality garner more information from and about patients. This knowledge is gained through attentive listening, trust building, and observation. Our findings suggest that therapists' passion for clinical care—and their desire to continually learn and improve their skills coupled with the qualities of humility and inquisitiveness—drive their use of reflection, or thinking about practice. This combination of factors helps accelerate the acquisition and integration of knowledge.

The patient-centered approach is exemplified by the therapist's emphasis on patient education and by strong beliefs about the power of education. In this study, therapists classified as expert emphasized the patient-practitioner relationship and carefully regulated their delegation of care to support personnel. It is our theory that these efforts promoted patient empowerment and self-efficacy, better continuity of services, more skillful care, and more individualized plans of care.

The therapists classified as expert in our study possessed a broad, multidimensional knowledge base. Multidimensional knowledge is a mixture of knowledge gained from professional education, clinical experience, specialty work, colleagues, patients, continuing education, personal experience with movement and rehabilitation, and teaching experience. It is our theory that specific types of knowledge such as years of clinical experience are not as critical as the sum total of the knowledge base. Knowledge acquisition appears to be facilitated by work experience prior to attending physical therapy school. A synopsis of our theoretical model is presented in Figure 2.

Clinical Reasoning

Patient empowerment. The goal of empowering patients and increasing patient self-efficacy was central to the group classified as expert. Liz, for example, spoke of helping the patient realize that "he is in control" and can "become independent from PT [physical therapy]," and she described their efforts to discourage helplessness and dependency. [Editor's note: pseudonyms are used instead of the clinicians' actual names.] Patient empowerment was accomplished through patient education, avoiding passive modalities, minimizing unnecessary visits, and helping patients to develop self-management strategies for preventing exacerbations of their conditions.

> I think that it's really important from day 1 to put the responsibility for a lot of things back on the patient. I think it gives them more of a feeling of control, which a lot of people lose in our health care system, and that leads to a lot of stress and sometimes makes them worse. I think if you can empower a patient to some degree and give them a sense of control back and the feeling like they are doing something, that, in a large part, has to do with your success. (Kathy)

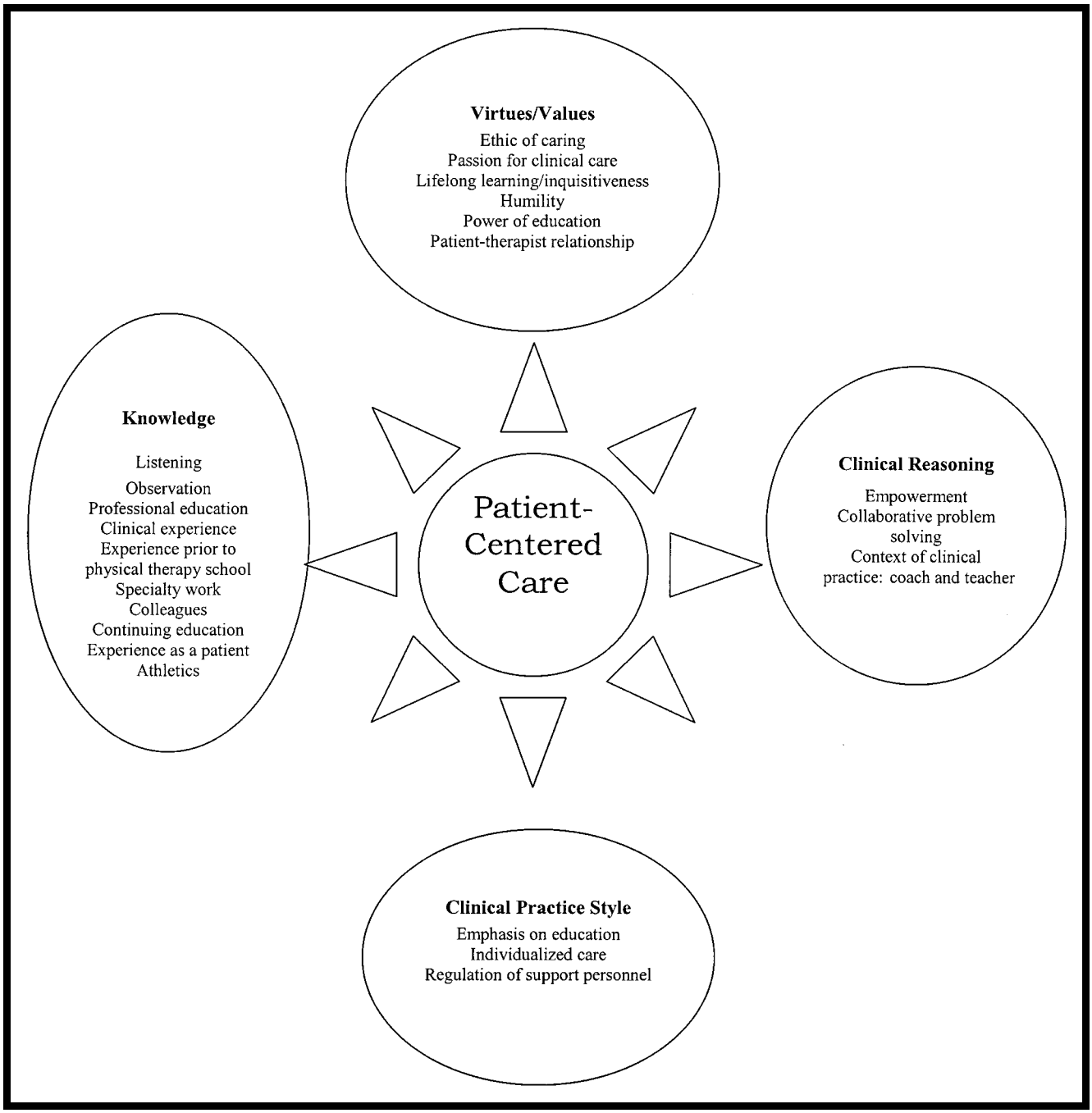

Figure 2.
Theory of expert practice.

"Engaging people in their own care" and patient empowerment also were mentioned by some therapists in the group of therapists classified as average. However, none spoke with the conviction or knowledge of self-efficacy issues that were demonstrated by the clinicians classified as expert. Beverly's comments were representative of the group of therapists classified as average:

> I try to teach them something to do to make them feel a little bit better. So, what I might teach them is some body mechanics, about their posture, and about their activities, that right off the bat they didn't know or they didn't realize they were doing wrong. And I try to, right away, teach them a couple of exercises that may, if you're in spasm, try to reduce the spasm and gently start increasing some flexibility. (Beverly)

Collaborative problem solving. Expert therapists used collaborative problem solving with their patients to help patients learn how to resolve problems on their own, discover solutions to everyday challenges, and take responsibility for their own care.

> I'm a firm believer in educating back patients. [I] do lots of dos and don'ts, lots of body mechanics, lots of joint protection, lots of problem solving. You know, "How would you do this if . . . ? What would you do if . . . ?" You know, lots of, "Okay, you're going to have a bad day, we all have good days and bad days, what do you do on a bad day? How would you modify your behavior, or what can you do to make yourself more comfortable when you have a bad day?" (Kathy)

Problem solving in the group of therapists classified as average revolved primarily around the process of mechanical assessment—finding "the position of comfort and proper posture to relieve stress/pain on the injured tissue."

> I try to identify structures that are causing the problem—muscle tightness, joint tightness, pain—and then I try to correct that or improve it, or have them recognize it and change it themselves. (Ann)

Context of clinical practice. The clinical practice theme represents the context of care and, therefore, is complex in nature. The clinical practice theme incorporates the therapist's philosophy of practice and types and sources of knowledge, as well as clinical reasoning.[2] Its central components are therapists' beliefs and values about their roles as therapist.[5] Many similarities in clinical practice themes existed among clinicians in the group classified as expert. Four of the 6 therapists classified as expert (Liz, Kathy, James, and Pam) identified their primary role as educators who fostered patient self-efficacy. Two others (Sarah and Dawn) viewed their primary role as diagnosticians and movement analysts.

> I've never been one of those practitioners who believe you [the patient] come in, and I do something to you, and that gets you better. I guess because of the background that I've had, my emphasis tends to be: we're coaches, we're teachers, we're educators. I feel sometimes that's not done enough. (Kathy)

A wider variety of clinical practice themes existed among members of the group classified as average. Three therapists (Sharon, Tim, and Crystal) identified their primary roles as manual therapists and healers, 2 therapists (Ann and Mike) identified their roles as educators and coaches, and 1 therapist (Beverly) expressed her primary role as a reassuring comforter. These themes contrast with those of expert group members, which were more consistent in their focus on patient education and empowerment.

> I'm not certified as a manual therapist, but I would consider myself a manual therapist, I'd probably say maybe 40% to 50% of the time. The rest of the time is getting the patient to exercise and to stretch, and stuff like that. So, if they have a joint problem that needs to be mobilized, my hands are on them. If it's purely a flexibility issue in the spine, I'm stretching it, then I'm teaching them how to stretch it. (Crystal)

> You know, right away, when a patient comes in, I just want to reassure them when they are a little bit nervous and they are already in pain. Backs are very, very painful, [so] that I want them to understand that we are not going to try to increase their pain level. [I] to try to be very reassuring. (Beverly)

Multidimensional Knowledge Base

Academic and field experience prior to attending physical therapy school. Our analysis revealed that there were differences in group professional preparation that extended beyond the professional degree. Participants in the group classified as expert were distinguished by 1 of 2 patterns of preprofessional preparation: diverse academic backgrounds or, for the novice therapists classified as expert, an undergraduate degree in exercise science coupled with work experience (Tab. 1). Examples of eclectic academic and career backgrounds included those in veterinary science, professional dance, occupational therapy, and clinical experience in international settings. Liz, for example, had graduated with a combined physical therapy/occupational therapy degree and had worked in both fields. Earlier in her career, she specialized in pediatrics, earned a master's degree in developmental disabilities, and was certified in both neurodevelopmental treatment and sensory integration. None of the participants from the group classified as average possessed the varied academic backgrounds or the combination of exercise science and extensive work experience found in the group classified as expert (Tab. 2). The least experienced participant in our group classified as expert (Sarah) had the most pre–physical therapy clinical experience (8 years).

Frequent use of collegial knowledge. Expert therapists used the rich knowledge base of colleagues who, they explained, were "all very willing to answer questions" and described how they used their peers for consultation and examination of patients. Therapists sought out knowledgeable mentors to assist them in challenging cases. Most described a work environment that offered numerous opportunities for professional growth. Regardless of the actual amount of money reimbursed for continuing education, working in a supportive atmosphere with "knowledgeable staff" apparently provided opportunities for growth.

> Everyone is really up on the research and up on what's going on. It really keeps you on your toes. It's a nice reinforcement of some of the things you do know, and a very rude awakening, of, "Oh my God, no matter how much I think I know, there's always more to learn!" What's neat with this health care system and the other therapists here, too, [is that] there's always someone where, if I go into an [evaluation] and start seeing some things, then I can come out and go to one of the other therapists and say, "I need you to take a look at something. Give me your impression, just go in take a look and see what you think." I think that helps

> tremendously. It's important sometimes to have another pair of eyes, another pair of hands, even after you've been seeing somebody for a while. It's nice to have a fresh approach, bring somebody else in that maybe is seeing something that you are not. It keeps you from getting biased, also. (Kathy)

In contrast, 5 out of 6 therapists in the group classified as average did not report consulting specifically on each other's patients in this way. Instead, they described how they learned from observing colleagues in action, discussed problems, and handed over a patient to another therapist for specialized care.

> We throw ideas back and forth, we share, especially when we come to a road block. You know, "I've tried this and this, what do you think?" (Mike)

> Whether it's therapists in my office, or other therapists that I meet at courses or therapists that I meet out, I talk to them about things. You learn ideas from them, and it really comes from just trying things, whether it's established or not. (Tim)

Use of movement observation. Members of the group classified as expert spoke frequently about observing movement. One therapist described how she observed her patients, "when they are in the clinic, how they get in and out of the chairs in the clinic," and outdoors. Observation of patients during normal, everyday activities helped therapists gain knowledge of patient function that augmented the information gained through observation of static postures and structured exercises. This strong emphasis on functional movement observation was not noted in the group classified as average.

> We have a lot of windows, so I watch them getting in and out of their cars. Some of the things I've been observing just from when we're sitting in there talking: how are they sitting, how did they walk in, how are they standing, how are they holding themselves, how did they put their purse down on the floor, how did they take their shoes off? (Pam)

Reflection on practice. The process of reflecting on practice helped the therapists defined as expert to refine and improve their approach to practice. Most participants described the way that they thought about and analyzed their practice, and they spoke of "figuring out how things help," "practicing and changing your approach," and "changing the way that you instruct." Dawn described her strategy for integrating new material through purposeful practice as "choosing a new patient each day" to apply what she had learned in continuing education. This way, she was able to "use each little thing that I'd learn" and become more confident in her abilities. Pam stated:

> I think it's just years of figuring out how things help, and just practicing and changing the way that you approach things, or changing the way that you instruct, to get more compliance.

The majority of participants from the group classified as average did not discuss reflecting on their practice, and several noted difficulties in thinking about practice.

> It's very difficult for me to think about my whole career and how I practice, which I don't know if that's a good thing. I should have a better idea of how I treat back patients, but I don't. (Ann)

Values and Virtues

Love of clinical care. Therapists in the group classified as expert expressed a passion for clinical care and described the satisfaction they experienced from "helping other people." One therapist commented that it was really "fun to work" and said that she planned "to work at least until I am 70." These comments are consistent with this group's view of physical therapy as a vocation or "a calling."

> In general, I love what I do. I love getting up and going to work, because you are there to help people. There are always challenges in every day in some shape or form, but it keeps you interested, and, plus, you are involved with people all day long, and I enjoy working with people. So, I think that being a therapist is a good job to see good outcomes, plus have fun at the same time at what you're doing. (Liz)

Although many of the professionals in the group classified as average also expressed an enjoyment of work and caring for patients, the same level of passion and enthusiasm was not evident, and one expressed his desire to shift his responsibilities away from patient care.

> My goal at this point is to be completely involved in administration and out of patient care unless I can be very selective. If I can work with a cycling team or see only cyclists, I'd be happy. If I could work at a college and student athletes for half day and teach for half day, I would do that as well, but those jobs are few and far between. (Mike)

Humility. All therapists in the group classified as expert valued their continued professional growth and learning. Excitement about learning was obvious as they spoke about colleagues, their "responsibility to keep up-to-date with the literature," and opportunities for growth. Coupled with this drive to learn was a sense of humility that was not evidenced in the therapists from the group classified as average. The therapists classified as expert were quick to recognize their own limitations.

> It is our responsibility to keep up-to-date with the literature and our responsibility to realize that it is a very large profession, and we can't know and do everything, and not be afraid to admit that you don't know something. I think that's what makes a good therapist, or a good physician. This field is too broad, you can't know it all. . . . You've got to be able to do a little bit of everything, and you've got to realize you can't do everything. (Kathy)

Inquisitiveness. Another quality that distinguished therapists classified as expert was inquisitiveness. This quality was evident from initial contact, throughout the interviews. Liz, for example, asked extensive questions while setting up the first interview appointment: "Why was I selected? What kind of degree are you getting? Where are you in school? What do you hope to do with your degree?" Dawn posed numerous questions about this research, trying to discern what kind of information would be most helpful. James described how he was "constantly asking questions" and how he had "bugged everyone around here about as much as I can." We believe that this quality contributes to lifelong learning; it was not noted in interviews with the therapists classified as average.

Patient Clinical Style

Patient education central to practice. Expert participants emphasized patient education and had a good understanding of teaching methods and their relationship to patient empowerment. One participant classified as expert, Liz, explained her belief that patients' home programs should be "as simple as possible" and "originate from collaborative discoveries made during the treatment session. . . . This helps so that the patient can remember them [the exercises] and incorporate them during the day."

> I try to keep everything really simple. I don't hand out huge lists of things to do. I try to teach the patient the whole sense of treatment. . . . So I really try to teach what the care is, so that they know, they don't inadvertently hurt themselves. I try to take away their fear of moving, so that they know that as long as they are not harmed by something that you know, they can continue to do things. Teach them how to test themselves to see if they are actually able to do something, then they'll know they are helping. (Liz)

Teaching philosophies of the group classified as average focused on teaching patients content, such as "what they need to know about their back," "what the diagnosis is," "showing them on the skeleton," and "the mechanics of how moving will affect your low back." No therapist in the group classified as average articulated a collaborative problem-solving approach.

> In terms of posture, I'll instruct just about everybody in proper positioning in the chair, good support using a towel roll or a pillow if they need it. If they are an office worker, I will talk to them about how their desk is set up, can they adjust the chair, can they adjust the computer, etc. But, just about everybody will be given or shown how to make a towel roll for lumbar support, just to get in that nice lordosis. I teach them how to go from supine to standing, sitting to standing, vice versa, bed mobility, etc. (Mike)

Individualizing of intervention. Therapists classified as expert put their patients first, and adapted intervention to address the needs and concerns of each patient. They described their efforts to "treat people individually" and develop "rapport with just about anybody." Participants classified as expert also spoke about individualizing the examination process, adapting the sequence and content to the patient. Half of the participants classified as average spoke about individualizing intervention for each patient, while the other half described their use of standardized examination and protocols for a variety of patient problems. Mike, for instance, discussed his treatment protocol, saying it "always includes hamstring flexibility" and "an abdominal bracing/core strengthening program which includes concentrated partial sit-ups and lower abdominal strengthening."

Limited delegation of care to support personnel. The pattern of care delegation was quite different between the participants classified as expert and those classified as average. In general, the group classified as expert provided more of their own direct intervention, limited the nature of delegated tasks more stringently, and supervised their support staff more closely than members of the group classified as average. In addition, they tended to work in teams, with only a single support person. This enabled the participants classified as expert to control the episode of care and may have provided greater continuity of care to the patient.

Two participants classified as expert worked without any support personnel. One participant did not have the option to work with an aide or assistant because there were none on staff, while the other participant chose not to use support personnel because her patient management philosophy did not include a role for them, "because my patients are always so different." This therapist was reluctant to use physical therapist assistants (PTAs) for exercise supervision, saying that if the patients did not require her skills, then they "would probably be independent enough to come in and do the gym work without help anyway."

The others in the group classified as expert did delegate care to a PTA or athletic trainer, but most believed in close supervision of the process. They worked with a single PTA "in a team" and conferred about patients "several times per week," "sitting, talking, hashing things out" with PTAs on a daily basis. "We do not bounce patients around," one participant commented. Therapists described their ability to control each intervention session, deciding on that day which aspects of care would be delegated.

> Every patient is different, and [when] they come in, I have to re-evaluate every time. You know there are exceptions to that, and once they are stable, I discharge them, or get them on their own. (Liz)

In contrast, all therapists in the group classified as average routinely delegated portions of patient care to PTAs or aides. Some told of delegating portions of manual therapy to their assistants, and half indicated that they often shared patients among multiple therapists and had 2 or more assistants helping them. One therapist commented that the hospital department was flexible in allowing patients to arrive late and "be seen by whichever therapist was available at the time."

> Well, we work in teams. So, you have a therapist who is teamed with an assistant or the athletic trainer. So, with any therapist, you may have 2 assistants helping them out, depending on how the patient schedules. If they want a particular time, sometimes they get bumped around, and that happens. We try to keep them with 2 to 3 therapists at a max. But, you know, we have technicians, also. (Tim)

Commonalities Across Groups of Therapists

For the purposes of this study the commonalities between therapists classified as expert and those classified as average (Tab. 3) were considered core dimensions of physical therapist practice, whereas the distinguishing characteristics described above were considered unique attributes of expert practitioners.

Knowledge Base

Amount of clinical experience and specialty knowledge. Overall, the participants classified as expert were not distinguished from participants classified as average by years of experience, continuing education, or specialty training. Four out of 6 members of each group possessed advanced clinical training and specialty knowledge gained from continuing education course work. One expert therapist received McKenzie diplomate certification prior to data collection for this study. Another had become a certified manual therapist after the FOTO data collection period and was enrolled in a manual therapy residency. In the group classified as average, 1 participant had completed a year-long manual therapy course, 1 was in the process of becoming manual therapy certified, and 1 passed her orthopedic certified specialist examination after the data collection period.

History as a patient receiving physical therapy and as an athlete. All members of the group classified as expert had previously received physical therapy, most having been managed for athletic injuries unrelated to back pain. At least half of the group classified as average also had experienced an injury that required physical therapy. Some participants reported that injury and rehabilitation had sensitized them to the patient's experience. This sensitization helped them to develop empathy, because, as Mike explained, he knew "when it is hurting and what is hurting, and how it feels, and whether that's good or not for pushing patients, particularly those who are not able to push themselves."

All members of the group classified as expert, and most members of the group classified as average, had been, or were currently, involved in sports. At least half were drawn into the profession of physical therapy because of their personal interest in sports. Many therapists had taught or coached within their sport. This background provided personal knowledge of exercise and was a resource for relating to patients.

> I know how much time and how much work it takes to get to where you want [to be] physically. And I think that I pass that on to my patients, too, in their rehab. (Sharon)

Values and Virtues

Caring. Caring for and about people was a fundamental ethic in both groups of physical therapists. They articulated a strong desire to help others and an enjoyment of "working with people," and they described themselves as "believers in helping others." It was also common for the therapists to describe themselves as "a people person" and speak proudly of "making a difference in somebody's life." The majority of therapists portrayed themselves as good listeners who learned from their patients. As one therapist in the group classified as average explained, "I listen to what patients are telling me is wrong with them. I have a whole hour with them. I write down their concerns, what they are telling me."

Commitment to professional growth. Virtually all participants expressed a high regard for continued professional growth and lifelong learning. This was demonstrated by their pursuit of continuing education and advanced credentialing and by their enthusiastic remarks about learning.

> Continuing education, continuous learning, is a vital part of my professional existence. (Ann)

Clinical Practice Style

Utilization of opportunities in the workplace. Most participants described a work environment that offered opportunities for professional growth. For some participants, such as Kathy, this included a "wonderful education program," with ample reimbursement for professional conferences and numerous opportunities to attend weekly in-services and study groups. For others, such as James, money for continuing education was minimal. "They won't reimburse you for anything," he said.

Most therapists described regular (usually monthly) in-services provided by colleagues. As Beverly explained, "When anyone, any therapist, does go to a conference,

then they usually come back and give us an in-service." This enabled therapists to be exposed to a new idea or technique and to "incorporate it into our clinic."

Discussion

Implications of the Theoretical Model

Our findings provide one explanation of the characteristics and work environments of the therapists we classified as expert in the management of lumbar syndromes. Our work builds upon previous theoretical models of expertise and describes attributes of therapists whose patients who had excellent clinical outcomes. Our findings challenge a basic assumption that extensive experience as a physical therapist is essential for the development of physical therapist expertise.[5,35] The assumption that expert therapists have many years of experience has guided the sampling of subjects in prior studies of expertise.[4–6,8–10,35,36]

Our method of selecting subjects according to the outcomes of their patients differed from methods used in previous studies on expertise in physical therapy. Our selection method did not limit participation to experienced clinicians or to those with widespread collegial recognition. Our selection method had the potential to include subjects with diverse professional profiles, "ordinary" clinicians who were extraordinary in their level of patient outcomes. In prior expertise studies, subject selection was based on years of experience or peer nomination from APTA specialty section leadership. The methods used in these studies provided a subject pool of therapists who were actively involved with APTA, known to section leadership, and active in educational activities. The 12 subjects in the study by Jensen et al,[6] for example, had practiced in a minimum of 3 different practice settings and had 10 to 31 years of experience. Most had master's degrees, 11 out of 12 were APTA members, and all were teaching in some capacity.

The participants classified as expert in our study were different from those studied by prior researchers.[4–12,37] In reviewing the professional profiles of the participants in our group classified as expert, it is doubtful that all of them would be recognized as "experts" by their colleagues and communities. Some participants had not practiced in multiple settings, but had worked in the same practice environment since graduation. Their experience varied from 1.5 to 40 years; half were APTA members, and the minority had formal teaching experience. We believe that several therapists within this group may have been considered experts by their peers. Participants from the novice subcategory, however, were the unlikely "experts," because they were not at an advanced point in their career development. In all likelihood, they had not yet been labeled as experts by their peers, and their caseloads may not have reflected the level of challenge or difficulty often reported by the experts in the prior studies.[2]

While the professional profiles of our participants were more diverse than those found among participants in previous studies, the theoretical model that emerged bears strong resemblance to other models of expertise.[2,4–6] Our theory supports and expands the understanding of a multidimensional knowledge base previously identified as a dimension of expertise in physical therapy.[2] Jensen et al[2] identified this dimension as a dynamic, multidimensional knowledge base that is centered on the patient and evolves through reflection. Our model of multidimensional knowledge includes professional education, continuing education, personal knowledge, clinical experience, and pooled collegial knowledge. It is our theory that all of these components of knowledge are facilitated by the use of reflection and a work environment that allows therapists to consult with and learn from colleagues.

A patient-centered approach was also identified by Jensen et al and called "collaborative, problem-solving clinical reasoning."[2] Jensen et al[2] reported that expert therapists shared a belief in patients' responsibility for their own health. Although few studies have tested the outcomes of a patient-centered approach, the benefits are discussed in the literature.[34,35,38,39] The findings of studies of clinical decision making in expert nurses[40] and physical therapists[2] have suggested that experienced clinicians are more likely than average clinicians to reflect a patient-centered approach. A client-centered approach to care has been endorsed by the Canadian Association of Occupational Therapists, with the assumption that this approach will lead to improved satisfaction and effectiveness of care.[34]

Patient-centered care describes a process of care guided by a philosophy of practice. This approach is characterized by the practitioner's beliefs, values, and attitudes about the rights of patients and patients potential to help themselves with.[38] In this model, patients are viewed as active participants in therapy and as partners in the therapeutic process who are responsible for making their own informed choices.[34] A patient-centered approach contrasts with a traditional medical model of care, or a practitioner-centered approach, which places the responsibility for health decisions chiefly in the hands of the clinician.[39] Thus, patient-centered care has implications for the patient-practitioner relationship.

Underpinning the patient-centered model is an ethic of caring and a respect for individuality. This is a similar finding to the dimension that Jensen and colleagues[6] called "caring and commitment" to patients. Patient-

practitioner relationships influence the degree of involvement that patients have in their own care. Patient education is considered one of the most important strategies for empowering patients to become involved in their own care.[38] In our opinion, therefore, those therapists who place more emphasis on education, and have better communication skills, would be more effective at enhancing patient empowerment.

Continuity of care is recognized as a strategy for improving patient-practitioner communication. We theorize that delegation of care to multiple support personnel has implications for the therapeutic relationship and can interfere with patient-practitioner communication. Expert therapists' emphasis on the patient-practitioner relationship shapes the way that they regulate delegation of care to support personnel. This regulation may affect outcomes of care by promoting better continuity, more skillful care, and more individualized interventions.

We maintain that the practitioner's values and virtues are instrumental in using and gaining knowledge. This attribute is also consistent with prior grounded theory on expert practitioners.[5,6] In prior studies, expert practitioners also were found to have an inner drive for lifelong learning, understand their own limitations, appreciate what they did know as well as what they needed to learn, and demonstrate a well-developed ability for self-reflection and reassessment of their own practice.[6]

Limitations

Because this was a qualitative study of a specific group of therapists, the findings cannot be generalized to a broader population. The selection of therapists for sampling, based on retrospective analysis of a clinical database containing HRQL data, has limitations due to problems with missing observations, data control, patient selection bias,[41–43] and assumptions of construct validity. The construct validity of the data in our study is predicated on the use of HRQL measurements as outcomes of physical therapy. Another, related limitation is the manner in which therapists were classified as expert (90th percentile) and average (45th-55th percentiles) and the restriction of the sample to only those 2 groups. Perhaps most important, there are limitations in the exclusive use of intake and discharge HRQL measurements to measure the benefits of intervention. These measurements may not include all areas of significance to the clinician and the patient.[2] As Jensen et al[2] have noted, it is possible that aspects of physical therapy intervention, such as patient education, have lifelong health effects, which cannot be captured with HRQL measurements or assessed at the time of discharge. In our study, there was no method for tracking long-term HRQL outcomes within the existing FOTO database. Although these measurements may not reflect the actual long-term effect of physical therapy, other research[44] has shown that SF-36 scores obtained at discharge are good indicators of long-term outcomes for patients with low back pain. We also did not examine the characteristics of therapists with poor patient outcomes. Although both groups of therapists in our study demonstrated similarities in caring about patients and commitment to the profession, it is possible that therapists with poor patient outcomes do not share these qualities.

Our interpretation of the therapists' style of clinical reasoning was limited by the research method and data collection. The method did not allow an analysis of clinical reasoning in actual intervention sessions or in regard to specific clinical examples. Interpretation of therapists' clinical reasoning was based on the comments made during interviews and the written philosophy of practice. Our data sources captured only the therapists' attitudes and beliefs about their professional lives. To limit the scope of this project, we did not seek input from patients, families of patients, colleagues, or administrators to obtain their viewpoints. Subtleties of communication, nonverbal behavior, and clinical reasoning could not be appreciated without observation of clinical encounters. Future research is recommended to address other aspects of clinical expertise and to add to improving this theory.

Although our study design did not include observation of therapists during management of patients, there is good reason to believe that beliefs and values that were expressed during our interviews are an accurate reflection of the therapists' emphasis on teaching. Sluijs et al[45] examined the beliefs and attitudes toward patients to see if there were correlations between the amount and type of education and the therapists' attitudes. Therapists who believed that education would lead to better adherence (where patients are more interested in intervention and thus have a quicker recovery) were found to pay more attention to this element of care, provide more and better education, and spend more time with their patients than those who did not believe in its effectiveness.[45]

Further research is recommended to test the hypotheses developed through this research and to address its limitations of method and design. Additional research on the effect of physical therapist use of support personnel is recommended. Although APTA has general guidelines on supervision and delegation,[46] individual state practice acts regulate this aspect of care in varying ways. Some states have general requirements for supervision of PTAs, some states have periodic on-site requirements, and the most stringent states require on-site supervision.[47] We found no published research that has evaluated the effect of supervisory patterns on outcomes of care.

Our findings have implications for physical therapy education, practice, and administration. Therapist effectiveness might be facilitated through the adoption of a treatment philosophy similar to the one espoused by the therapists who were classified as expert in our study and through the efforts of supervisors and managers who promote a collegial climate of continuous learning and reflection. The hypotheses generated from this study can be used to develop and test a "best practice model" for the management of patients with lumbar syndromes.

Educators can use this information to help new therapists achieve better patient outcomes, and to stimulate mid-career therapists to better performance. Practitioners can increase attention to psychosocial aspects of rehabilitation and behavioral change strategies. Clinical educators can help students to develop effective methods of patient education and coaching, and promote the development of reflective practitioners with patient-centered values.

Conclusions

Practitioners classified as expert in our study were distinguished by a patient-centered approach to care, which is characterized by collaborative problem solving, patient empowerment through education, and cultivation of the patient-practitioner relationship. We believe that this philosophy of care contributed to the style of delegation to support personnel, maximized continuity of care, and promoted individualized intervention. These findings both confirm and build upon the prior theoretical framework of expertise. In contrast to widespread assumptions about experience and expertise, we did not note a relationship between years of experience and patient outcomes. Other components of knowledge, including the use of pooled collegial knowledge, reflection on practice, and experience prior to physical therapy school, facilitated the acquisition of knowledge.

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Appendix.

Examples of Questions for Guided Telephone Interview

1. Please provide your name, age, years of experience, year of graduation, and type of practice setting.
2. What is the size of your current practice? The number of colleagues within the practice?
3. Do you work with any support personnel? If so, how do you delegate to them?
4. What are your job responsibilities?
5. Approximately how many patients with low back pain do you see per week? Per month? Per year?
6. What is the percentage of patients who fill out intake FOTO[a] forms?
7. How long have you participated in FOTO?
8. Why do you participate in FOTO?
9. Approximately how many patients do you see per week?
   Number of patients per day
   Time spent with each patient
   Time spent on evaluation
10. Talk about experiences that have affected how you think about physical therapy.
11. Talk about experiences that have affected how you practice with patients with low back pain.
12. Do you think that your knowledge of physical therapy for patients with low back pain has changed over time? If so, how? To what do you attribute these changes?
13. What are the sources for your knowledge base? (Your knowledge base includes your knowledge of facts and theories and of how to perform professional activities [procedural knowledge] and your appreciation of the meaning and relationships of facts and theories for each patient.)
14. What do you consider to be the milestones in your learning that have led to your becoming the clinician you are today?
15. Talk about the most memorable patient you had with low back pain.
16. What does being a professional mean to you?
17. What is your view of yourself as a professional? What are you most proud of in your professional life?
18. What are you least proud of? What would you like to change or do differently in your physical therapy practice?
19. Talk about your practice environment, including your caseload, the type of facility in which you work, your colleagues, and the support staff. What are the strengths and limitations?
20. What does it mean to you to grow as a professional? In what ways does your work environment support your professional growth?
21. Do you subscribe to any specific practice philosophy (beliefs or tenets) in your approach to patients with low back pain? For example, would you describe yourself as a manual therapist? A McKenzie therapist? Do you follow any specific guidelines in your care of patients with low back pain?

[a] FOTO=Focus On Therapeutic Outcomes Inc.