Monitoring and Documenting Evidence During Assessment and Intervention

In the first four installments of the Forum, I discussed the following steps of how to do evidence-based practice: (1) write a clinical question, (2) gather current evidence that might answer the question, (3) evaluate the gathered evidence to determine what is the “best” evidence for answering the question, and (4) communicate with clients, family members, and clinical colleagues about the evidence as assessment and intervention decisions are being made. These four steps support the therapist’s sound clinical reasoning while she or he is making initial assessment and intervention plans. The fifth, and final step, of evidence-based practice in this “how to” series supports clinical reasoning during the subsequent implementation phase of the assessment and intervention plan. During this step, the therapist evaluates evidence-based assessment and intervention procedures as they are implemented with a client and revises and individualizes those procedures as appropriate.

The Use of Evidence in Formulating and Testing Clinical Hypotheses

During the initial planning phase, the therapist gathers evidence to formulate hypotheses that are possible answers to clinical questions about the nature of client’s occupational life (descriptive questions), (a) about how to assess the occupational performance of this client (assessment questions), and (b) about what type of intervention would be the best one for this client (intervention effectiveness questions). These hypotheses are based on evidence from contexts other than the immediate context of therapy: the client’s occupational history, needs, and behavior in other contexts, the therapist’s experiences with previous clients, and published research findings about other clients’ occupational lives and behavior. The therapist uses this evidence to project a clear hypothetical image of the client into the immediate future.

This hypothetical image guides the initial actions and interactions of the therapist and client as they test the image against current reality. The image shifts as evidence accrues prospectively (moving forward in time rather than looking backward toward the past). Table 1 shows three sample clinical questions related to a client named Mrs. Jones, the hypotheses formulated as possible answers to the questions, and the evidence derived from the testing of the hypotheses in the here-and-now. The primary feature to note about the transitions between the sample questions, formulated hypotheses, and evidence after the testing of the hypotheses, is that the information used for clinical reasoning becomes increasingly individualized about Mrs. Jones.

Descriptions of clinical reasoning can be found in greater depth elsewhere in the occupational therapy literature (e.g., Rogers, 1983; Mattingly & Fleming, 1994). The point here is to demonstrate that the evidence gathered in evidence-based practice is not simply used to plan assessment and intervention. The evidence-based practitioner gathers and uses evidence to both derive and test hypotheses with the purpose of implementing and revising an intervention that is the best possible one for an individual client.

Monitoring the Evidence

The evidence-based practitioner’s collection of evidence, or, in other words, data, to test the initial hypothetical image of the client is very similar to that of a researcher who is conducting a research study. The emphasis in evidence-based practice is that data collection is undertaken with the goal of improving intervention for a particular client, whereas data collection for a research study is undertaken with the goal of adding knowledge to the body of evidence available for planning assessments and interventions with future clients. In evidence-based practice, the goal of improving intervention is supported by individually tailoring assessment and intervention to the client. Following the initial planning stage, the evidence-based practitioner must have the tools to monitor data from the client’s performance and experience in the current context, to test the initial hypotheses and quickly revise the plan as needed. This monitoring process should be: (a) systematic across clients yet sensitive to the individual client’s unique patterns of performance and experience, (b) responsive to needs for revision in the plan, (c) resistant to inaccurate judgments and interpretations, and (d) characterized by clear, simple, and coherent documentation of the process and outcome of assessment and intervention procedures.

Until recently, the dynamic, individualized process of assessment and
intervention was viewed by the profession as beyond the purview of traditional scientific methods and in the realm of the art of doing practice. Systematic methods for monitoring and gathering evidence in a manner that allows for dynamic, individualized assessment and intervention are now emerging in the occupational therapy literature (e.g., Fisher & Short-DeGraff, 1993; Payton, Nelson, & Ozer, 1990; Polatjako, Mandich, & Martini, 2000; Trombly, Radomski, & Davis, 1998). These methods blend scientific rigor with a profound respect for and responsiveness to the individuality and autonomy of the client: the best of art and science.

Because these methods follow clearly stated, standardized, and systematic guidelines, they are resistant to the therapist and client gathering evidence in a manner conducive to making inaccurate judgments and interpretations about responses and progress. For example, there are clear parameters for noting and judging whether a client’s performance was successful or unsuccessful, satisfactory or unsatisfactory. And when judgments are inaccurate, the dynamic nature of these methods enables the therapist and client to make rapid adjustments to the plan once they discern the inaccuracy. With systematic monitoring in place, the therapist and client are more likely to discern both accuracy and inaccuracy, and to take note of evidence that confirms their initial hypotheses as well as counter-evidence, that is, evidence that disconfirms the hypotheses.

The need for both confirmatory and disconfirming types of evidence in the successful revision of a plan can be demonstrated with an example from our imaginary client, Mrs. Jones. Based on our preliminary gathering of evidence about elderly women with and without depression, suppose that we have hypothesized that Mrs. Jones is depressed and has restricted participation in all meaningful daily life activities. We start our assessment planning on the assumption that she is depressed, possibly choosing methods that are reliable and valid in some respects yet not the best ones for disconfirming our hypothesis. If we move in this confirmatory direction, we may end up intervening in a manner that is not suitable to Mrs. Jones. Another direction would be to choose a set of assessment tools that either singly, or taken together, are likely to uncover counter-evidence if it exists. Having made this choice, we learn that Mrs. Jones shows a pattern of activity restriction that in many ways is similar to others with depression. But, her pattern is also different in that she participates consistently and with pleasure in a subset of home-based activities, such as watching late-night television and reading tabloid newspapers (occupations she does not readily talk about). After careful gathering of evidence, we conclude that Mrs. Jones possibly is not depressed. She is fearful of leaving her home and does not perform her self-care activities because she does not see it as necessary to her participation in the other, more pleasurable, activities she does. Our search for counter-evidence has revealed the unique character of Mrs. Jones’s occupational life.

One more benefit of systematic and dynamic procedures for monitoring evidence is that they have the underlying organizational structure needed for clear documentation of the process and outcomes of assessment and intervention. Good quality documentation is highly organized and coherent. It provides a record of descriptive attributes about the client and the context of assessment and intervention, the client’s responses during assessment, and intervention effectiveness for the client. Two points in time—are before and after intervention—are the minimum required for documenting evidence. Documentation at more than two points in time (such as at points during the intervention period) more clearly shows the dynamic and individualized nature of intervention. Frequent and prospective documentation can aid session-by-session decision-making by demonstrating client response and change in a clear and concrete manner.

Documentation is especially useful for indicating small and slow-rate changes that may not be readily perceived if left unrecorded. Smits’s (1997) documentation of his hand function recovery following a stroke is a remarkable example of how a client can use a systematic monitoring procedure to record barely perceptible change in a manner that can be self-motivating and other-educating. Smits used quantitative measurement and graphing for his documentation. Although quantitative measures can be used to depict both simple and complex change in a direct and concrete manner through visual displays (Tufte, 1983; Clark & Ward, 1999) or summarizing statistics, documentation need not be quantitative. Evidence must be recorded, whether quantitatively or qualitatively, in a manner that allows it to be recorded, whether quantitatively or qualitatively, in a manner that allows it to be read and understood by others.

### Table 1
Hypothesis Formulation and Testing for Sample Clinical Questions

<table>
<thead>
<tr>
<th>Type of Question</th>
<th>Sample Question</th>
<th>Formulated Hypothesis</th>
<th>Evidence from Tested Hypothesis</th>
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</thead>
<tbody>
<tr>
<td>Descriptive</td>
<td>Among elderly women who live in the community, do those with depression have restricted participation in daily life activities compared to those without depression?</td>
<td>Mrs. Jones is expected to demonstrate a pattern of occupation similar to that found in elderly women who are depressed, such as restriction in self-care and community activities.</td>
<td>Mrs. Jones shows restricted participation in self-care activities but unrestricted participation in activities that she identifies as pleasurable and that do not require her to leave home.</td>
</tr>
<tr>
<td>Assessment</td>
<td>What are the most reliable and valid methods for assessing occupation and occupational performance among elderly women with depression who live in the community?</td>
<td>Like other women similar to her, Mrs. Jones is expected to have reliable and valid responses to Assessment X.</td>
<td>Mrs. Jones’ responses to Assessment X appear to be reliable, however, they do not explain why she does not wish to leave her home.</td>
</tr>
<tr>
<td>Intervention effectiveness</td>
<td>What are the most effective intervention methods for increasing participation in satisfying daily life activities among elderly women with depression who live in the community?</td>
<td>Like other women similar to her, Mrs. Jones is expected to have an effective response to Intervention Y.</td>
<td>Following two weeks of Intervention Y, Mrs. Jones wants to consider options for increasing her participation in grocery shopping.</td>
</tr>
</tbody>
</table>
be used for decision-making and communication. It must be organized and in a format that allows synthesis and summarization.

Building the Body of Evidence

It is a short step from monitoring data for evidence-based practice with a single client to collecting data for a research study involving one or more clients. In the former case, the goal is the improvement of assessment and intervention with a single client, and in the latter case, the goal is the development of the profession’s body of evidence, ultimately, to support the development of better assessments and intervention programs for clients in the future. Evidence-based practitioners use the evidence they collect about their clients to communicate with those clients, their family members, and colleagues who are working with the clients. Clinical researchers use the evidence they collect about their research participants to communicate with all parties interested in developing their knowledge about assessment and intervention: consumers, colleagues, administrators, insurance company representatives, and policymakers.

Future Installments of the Forum

My plan in future installments is for myself and others who are interested in contributing to the forum to cover a broad range of issues related to evidence-based practice, not necessarily in serial order. If you have ideas or questions that you would like to have addressed in the forum, please contact me at tickle@bu.edu.

References


