Experience Sampling Method: SLP Intensive Treatment Quality of Life Measure

Donna M. Fitzgerald-DeJean, PhD, CCC/SLP
Scott S. Rubin, PhD, CCC/SLP
Russell L. Carson, PhD

1LSU, Baton Rouge, LA
2LSUHSC, New Orleans, LA
ASHA Convention, New Orleans, LA, November 19, 2009

Experience Sampling Method

- Monitors within participant variation in personality and mood
- Increased ecological validity
- Provides insights into behavioral contingencies
- Minimizes the effect of memory bias.

Learner Objectives

Participants will be able to:
- Describe the experience sampling method (ESM)
- Understand its value as an adjunct to traditional data collection
- Consider the impact of the participant’s response to treatment as it is being administered
- Discern methodological opportunities for application in treatment &/or research

Three Sampling Strategies

Sampling conducted at time intervals:
- Interval-contingent sampling (ICS)
- Signal-contingent sampling (SCS)

Sampling in conjunction with an event:
- Event-contingent sampling (ECS)

Intensive Treatment Outcome Measures

- Standardized measures
- Functional communication assessments
- Quality of Life measures

How is ESM administered?

Paper/pencil: SCS ESM signaled via pager or wristwatch at random intervals to write responses on a questionnaire or stimulus book.

Weaknesses:
- Required bringing materials into social contexts.
- Difficult to determine if sampling occurred on time.
Slide 7
How is ESM administered?

- Personal Data Assistants (PDA)
  - More mobile
  - Random signaling built in
  - Download capability for statistical analysis
  - Used in mainstream, minimal training
  - Stimuli
    - Multiple choice or rating scales

Slide 10
Single subject

- 75 year old Caucasian male
- 12 months post single ischemic event (L middle cerebral artery)
- Screening with ADP and CLQT indicated: moderate-severe Broca’s aphasia, dysarthria, apraxia of speech (AOS) and mild cognitive-linguistic impairment.
- R hemiparesis compromising use of dominant R hand

Slide 8
How appropriate would ESM be for individuals with chronic brain injury?

- Research in associated populations:
  - High school or college students with ADHD
  - Psychiatric inpatients and outpatients with schizophrenia or affective disorder
    - Specifically, pts with schizophrenia were able to respond to questions RE: symptoms, mood, and social context using a 7 pt Likert Scale upon signal with PDA.

Slide 11
Intensive Treatment Program

- 35 hours a week, 6 weeks
- Designed for 6 participants with chronic brain damage
- Consisted of functional, contextually based activities in a relatively naturalized setting
- Academic & clinical faculty with associated student clinicians from COMD, psychology and kinesiology university depts

Slide 9
Application in an Intensive Treatment Program

- Single subject with chronic aphasia while participating in a 35 hour a week, 6 week intensive multidisciplinary treatment program.
- Comparison of response of individuals with chronic brain injury to a 3 hour a week COMD program VS those receiving the intensive program.

Slide 12
Intensive Treatment Program Activities

- Individual and group activities
- COMD, 12 hours/week, provided by supervised MA students, based on 6 basic goals individualized by patient
- Ancillary Communication Activities
- Coping
- Rest and Rejuvenation
- Community Integration activities
Application of ESM
- 5 point Likert Scale to assess happiness, fatigue, stress and perceived communication
- Administered beginning of day and end of each activity
- Wk 1: Paper Pencil
- Wks 2-6: PDA- palmOne Zire 31 with all unrelated functions blocked
- Data periodically downloaded, but, not reviewed during study.

Results
- Standardized assessment indicated gains on both CADL-2 and ADP, largest at follow-up testing 7 weeks after completion of treatment.
- ASHA QCLS- participant and spouse similar gains, that declined slightly at follow-up.
- ADP Behavioral Profile- increased the most at follow-up, comparison with spouse survey, appeared that decrease in self-deprecating &/or discouraged responses may have begun earlier- by end of Tx.

Sample of Paper/Pencil Stimuli

ESM Questions and Responses Throughout Study During the Day (9 a.m.-4 p.m.)

Intensive Program Overview

Results by Activity
Fitzgerald-DeJean, D. & Rubin, S.
New Orleans, ASHA 2009

Slide 19
ESM Questions and Responses Throughout Study at the End of the day (4 p.m.)

Slide 20
Results End of Day

Slide 21
Conclusion
Using a 5 pt Likert scale with simplistic language to administer ESM, does have the sensitivity to detect pt response. Scores generally fell within the positive/favorable to neutral ranges. Detected variation in response across treatment period and in response to specific activities. Benefit: Larger pool of sampling data than afforded by standardized testing (ASHA QCLS), able to attain significance on this.

Slide 22
Research Example 2:
Comparison of participant's receiving the Intensive Program (35 hours a week) with those receiving a traditional 3 hours of COMD per week.

Slide 23
Participant Characteristics

Slide 24
Demographics of Groups

pg. 4
Response to ESM questions by Tx group

ANOVA Comparing Response to PDA Questions by IG across Activities

IG Perceived Happiness across Activities

IG Perceived Tiredness across Activities

IG Perceived Stress across Activities
Insights

None of the participants with chronic brain injury appeared to have difficulty understanding the stimuli. Upon moving to PDAs, most individuals were able to function fairly independently and appeared more motivated to complete surveys using the PDA technology.

Insights

IG greater communicative gains AND reportedly happier during treatment than WG. Generally, single subject & IG found to be happier and less tired/stressed during COMD and ancillary communication activities. Single subject & IG report greater communication satisfaction following low verbal activities and COMD.

Insights

Had results been known during treatment adjustments could have been made to attempt to solicit desired responses by activity (i.e. rest and rejuvenation). Processing of over 1000 responses greatly enhanced by not having to manually input data.

Future Applications

Research:
Multidisciplinary treatment research- To discern psycho-emotional & physical tolerance for various types of programming.
Student training- the development of clinical observations.
Communication impairments with a psycho-emotional dimension such as anxiety (i.e. apraxia, stuttering).
Future Applications

Clinical:
Ability to easily implement, to augment clinical observations for continuous adaptation of programming to meet pt's needs.

Questions - Discussion