FEATURES IN SPONTANEOUS SPEECH AND CONVERSATIONAL NARRATIVE: A COMPARISON OF PERSONS WITH MS AND THOSE WITH AD

Linda Moore, EdD, NP; Boyd Davis, PhD; Margaret Maclagan, PhD
Multiple Sclerosis Center, NeuroScience and Spine Institute, Carolinas HealthCare Systems, Charlotte, North Carolina (NC), USA; UNC-Charlotte, Charlotte NC, USA; U. Canterbury, Christchurch, NZ

BACKGROUND
Attention to spontaneous discourse, conversation and narrative production in Multiple Sclerosis (MS) is beginning to increase, particularly as problems at the discourse level are both pragmatic and cognitive, and may adversely affect family and social interaction or on-the-job performance. Subtle problems can affect narrative production in MS, including vague or ambiguous content and decreases in lexical density (Murdoch 2009). MS research has begun to re-examine cognitive impairment. (Hoffmann et al 2007), given that between 45 to 65% of people with MS have some degree of cognitive impairment, including language deficits and memory retrieval (DeSousa et al 2000)

OBJECTIVES
To examine longitudinally markers of vague or ambiguous language, such as multi-word expressions including

- extenders (‘stuff like that’)
- single word substitutions (‘stuff,’ ‘thing’)
- formulaic phrases used as fillers (‘long by the wayside’, as they say)
- choice of reported over indirect speech, in extended conversations a year apart with male and female MS patients, in comparison to the same features in similar conversations with 2 women having early moderate Alzheimer’s disease (AD).

MATERIALS AND METHODS

Males and females with MS both presented subjective concerns about cognitive ability but scored as low to no risk for dementia on the Solomon Seven-Minute Scale; two females with AD had been previously moved to a memory care unit and were staged using the FAST scale. Extended conversations of 30 or more minutes each were recorded on Olympus 5000 audio recorders with each person with MS a year apart and transcribed in Transcriber. The 2 people with AD were recorded talking to 2 different people.

Multiword expressions were identified using the online corpus management and data analysis package, WMatrix3 ©; extenders and formulaic catch- phrases were manually coded. An initial measure of lexical and idea density for each conversation, and for each narrative within each conversation, was taken using CPIDR 3 (Brown et al 2008) which uses a scale of syntactic complexity to identify propositional density. A control group was not used because of the wide variation in normal speech of unimpaired aging persons for these features.

RESULTS

Each speaker with MS increased their use of extenders, substitution words and phrases, including formulaic catch phrases, from one year to the next, as did the speakers with AD. Lexical density varied with the conversational topic or narrative: personal narratives of concerns and activities had higher lexical for persons with MS, and personal narratives of redenomination had higher lexical density for the people with AD. Both persons with MS had higher lexical and propositional density and less variability than the persons with AD.

<table>
<thead>
<tr>
<th>Speaker</th>
<th>Discourse marker</th>
<th>Multi-word expressions</th>
<th>Extender</th>
</tr>
</thead>
<tbody>
<tr>
<td>WomanMS</td>
<td>you know 9(9)</td>
<td>stuff like that 5(2)</td>
<td>1(1)</td>
</tr>
<tr>
<td>ManMS</td>
<td>have to 10(10)</td>
<td>going on 9(9)</td>
<td>1(1)</td>
</tr>
</tbody>
</table>

Comparison of speakers with MS and AD for idea density. Speakers with MS have less variation than speakers with AD as shown by smaller standard deviations

CONCLUSIONS

Using extenders is common in everyday unimpaired speech and does not by itself suggest cognitive impairment, but their increase coupled with an increase in substitution for words and phrases suggests a nuanced diminution in access to lexicon that warrants further investigation.