Linguistic Access to Different Symbol Types by Persons with Dementia

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Question: Does level of representation affect linguistic-cognitive access in individuals with moderate to severe dementia?

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Abstract

Dementia is associated with progressive decrements in language skill. AAC devices such as memory books may help individuals with dementia to communicate, but no data exist to indicate what level of representation should be incorporated into such devices.

Data from a pilot study on the ability of persons with moderate to severe dementia to access different levels of language representation are presented.

Results show differential cognitive/linguistic access to pictures, objects and printed or spoken words within subjects.

Access to information from pictures and/or objects was preserved in some patients who were not able to access verbal representations of items.

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Subjects

- Enrolled at Layton Center for Aging and Alzheimer's Disease Research, Portland, Oregon, USA
- Moderate-severe dementia
- Mini-Mental Status Examination (Folstein, Folstein & McHugh, 1975) score <20.
- n = 215

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Method

- One way to examine linguistic access is to present similar stimuli using different levels of representation and to measure the ability to name the stimuli. The Severe Impairment Battery or SIB (Saxton, McGonigle-Gibson, Swihart & Boller, 1993), a cognitive assessment tool for persons with dementia, contains a number of items that evaluate language comprehension and production to varying types of language representation. This pilot study examined performance of persons with moderate to severe dementia on selected SIB items as recorded in the Layton Center database.

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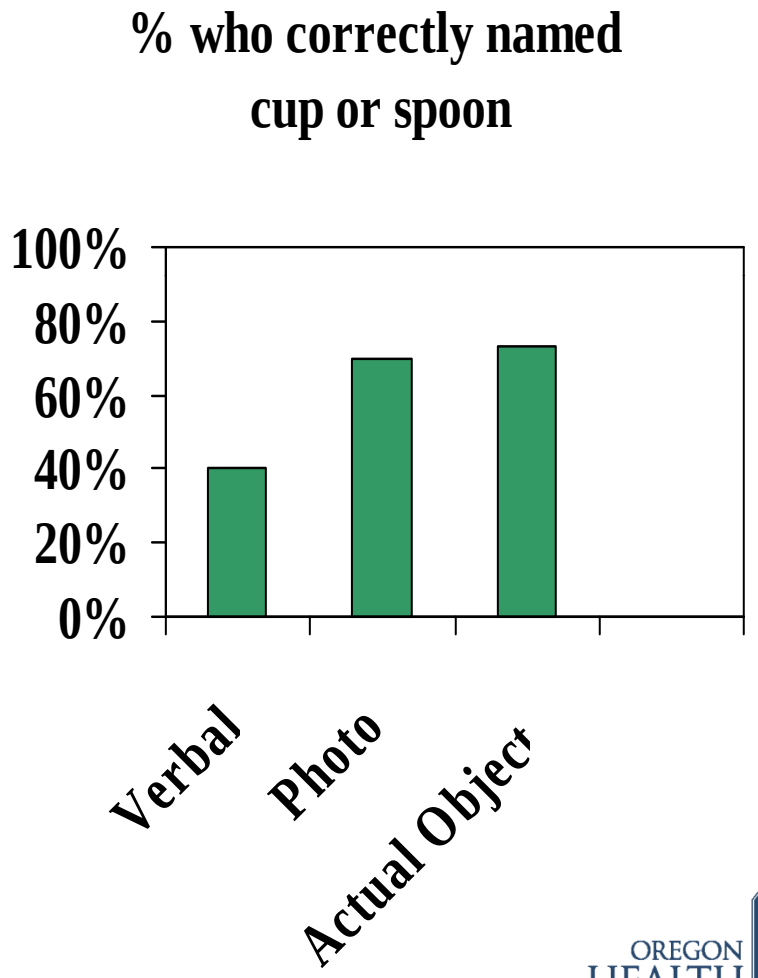
SIB Responsive Naming Items

- Verbal: "What do you eat (or drink) from?"
- Photo: "What is this?" (showing photograph of cup or spoon)
- Actual Object: "What is this?" (showing actual cup or spoon)



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Responsive naming to photo or object in patients who do not respond to verbal question (n = 67)

	Can name item to PHOTOGRAPH	Can name item to actual OBJECT
Can't name CUP to verbal question	39%	44%
Can't name SPOON to verbal question	41%	36%

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Praxis (manipulation of objects)

- 21% of subjects were able to DEMONSTRATE how to use a cup or spoon when shown a PHOTO
- 37% were able to DEMONSTRATE how to use a cup or spoon when shown the actual OBJECT
- (n = 215)

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Reading Comprehension

- Response to reading the following command “Hold up your hands” and performing it:
- 22% completely failed this item
- 32% only approximated the required response or required a prompt
- n = 215

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Conclusions

Taken together, the data suggest that the ability to respond to verbal (either spoken or printed) stimuli is impaired in many individuals with moderate to severe dementia. However, it is clear that access to information presented through two or three-dimensional stimuli may be differentially preserved in these same individuals. Knowledge of the level of representation most accessible to an individual with dementia would be useful in selecting an appropriate AAC device.

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