



Functional Individualized Cognitive Intervention Program for Persons with Multiple Sclerosis

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Background

- 45-60% of individuals with MS experience cognitive dysfunction.¹
- Common cognitive problems: memory, attention, executive functions & processing speed.²
- Cognitive impairments negatively impact function and the ability to engage in meaningful occupations.
- These individuals participate in fewer social & vocational activities, have greater difficulties with household tasks, driving & using public transport.³

Rationale for this Study

- There is no intervention program that addresses functional consequences of cognitive dysfunction in MS.
- The **Functional Individualized Cognitive Intervention Program (FICIP)** aims to provide persons with MS with a comprehensive intervention program that addresses both the impairments in cognitive domains and the challenges faced in daily life due to cognitive issues.

Objectives

1. To revise the FICIP, based on initial feedback, to be clinically useful.
2. To test the acceptability and feasibility of the FICIP for people with MS.

Methodology

Recruitment

- Contact initiated by interested individuals who saw study posters
- A letter of initial contact and a consent form were provided
- Eligibility established and informed consent completed
- Hard copy of both volumes of the FICIP, a questionnaire, and invitation to participate in a focus group were sent to participants

Inclusion Criteria

- 19 yrs or older with definite diagnosis of MS
- No relapse in the 30 days prior to participation
- Have self-reported impaired cognitive function related to MS
- Living in the community and able to read & write in English

Exclusion Criteria

- Unable to participate for the entirety of the study requirements

Data Collection

- Program feedback questionnaire completed (3 of 7 completed)
- Focus group conducted and discussion recorded (6 of 7 attended)

Data analysis

- Feedback questionnaire analyzed through descriptive statistics.
- Focus group analyzed by:



Results

Demographic Descriptors	N=7
Sex	
Male	2
Female	5
Age	
Range (years)	34 - 64
Mean (years)	54.7
Type of MS	
Relapsing-Remitting	4
Secondary-Progressive	3
Time since diagnosis	
Range (years)	12 - 42
Mean (years)	27.4
Time since onset of cognitive impairments	
Range (years)	8 - 28
Mean (years)	14.9
Education	
Some post-secondary	3
Completed post-secondary	4
Employment	
Employed	1
Unemployed	2
Retired	4

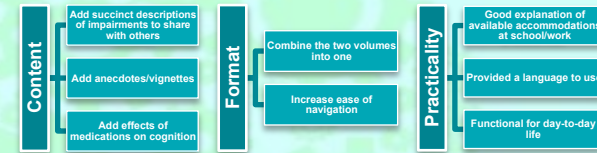
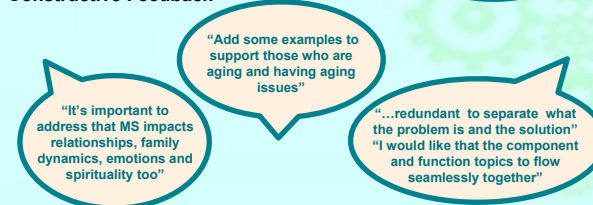
Impression about FICIP	Mean*
Easy to understand	3.3
Organized & easy to navigate	3.7
Applicable to my everyday experiences	2.3
Guided me in managing cognitive challenges	3

*mean scores scale was:
0 – Strongly Disagree ; 4 – Strongly Agree.

Positive Feedback



Constructive Feedback



Discussion & Conclusion

- The results indicate the strengths & areas for revision of the current version of the FICIP.
- Participants expressed approval over practicality and usefulness of the FICIP, with some suggestions to make it more applicable.
- Participants validated the overall comprehensiveness of the FICIP.
- Format changes and specific additions to content were encouraged.
- Upon implementation of the feedback through further revision, the FICIP has moved closer to being a client-centered program for individuals living with MS with cognitive dysfunction.

Next steps

- Revise the FICIP based on the feedback received
- Utilize the FICIP in a clinical setting to test its clinical utility and benefits for persons with MS

Limitations

- Small sample size
- Sample bias based on self-reported cognitive impairments

References

1. Quaranta, J., & Sá, M. J. (2012). Cognitive dysfunction in multiple sclerosis. *Frontiers in Neurology*, 3, 123-30.

2. Gich, J., Freixenet, J., Garcia, R., Vilanova, J. C., Genis, D., Silva, Y., Montalban, X. & Ramio-Torrentà, L. (2015). A new cognitive rehabilitation programme for patients with multiple sclerosis: the ‘MS-line’ Project. *Multiple Sclerosis Journal*, 21(10), 1344-1348.

3. Mito, M., Vermet, A., Wilkinson, I. D., & Sharrack, B. (2015). Cognitive rehabilitation in multiple sclerosis: A systematic review. *Journal of the Neurological Sciences*, 354(1), 1-5.