Depression, Fatigue, Declines in Cognitive Function, and Uncertainty on Quality of Life Outcomes in Women with Multiple Sclerosis

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Learning Objectives

○ Recognizing that a symptom cluster has been identified in this sub-population of women with MS involving depression, fatigue, and declines in cognitive function.

○ Identify that individuals with higher fatigue within the symptom cluster exhibit higher uncertainty

Design and Methods

O Descriptive cross-sectional design

O Participants obtained via NARCOMS

O Surveys mailed to 215 women living in the southwest

O 107 women participated

  O 1 participant omitted did not qualify

Participant Characteristics

Characteristic	N	Mean	%
Current Age	106	48.5	
Age at Diagnosis	106	41.6	
Age 1st Symptoms	99	34.0	
Disease Subtype at Diagnosis	101		
Relapsing Remitting			92
Secondary Progressive			2
Primary Progressive			5
Progressive Relapsing			1
Disease Subtype Currently	103		
Relapsing Remitting			79.6
Secondary Progressive			9.7
Primary Progressive			8.7
Progressive Relapsing			1.9
Current Employment Status	106		
Employed			44.3
Unemployed			16
Retired			7.5
Disabled			32.1

Instrumentation

Concept	Measure	Number of Items	Questions Addressed	Cronbach Alpha
Fatigue	Modified Fatigue Impact Scale	5	1, 2 & 7	.80
Depression	Patient Health Questionnaire-9	9	1, 2 & 7	.93
Cognitive Functioning	Perceived Deficits Questionnaire	20	1, 2, 4 & 7	.86 - .89
Uncertainty	Mishel Uncertainty in Illness Scale- Adult	33	2, 3 & 6	.83 - .92
Enabling Skills: Self-Control	Self- Control Scale	20	3, 4, 5 & 6	.74 - .95
Self-Management: Coping	COPE Inventory-Brief	28	3, 4, 5 & 6	.85 M .76 A
Quality of Life	SF-36 Health Status Questionnaire	36	6 & 7	.92 P .91 M

Why is the relationship of these symptoms significant on multiple levels?

Variable	Mean	Standard Deviation	Range
Depression	8.14	5.72	0-22
Declines in Cognitive Function	31.61	18.45	0-79
Fatigue	10.29	5.54	0-20

Variable	1	2	3
1. Depression	—	.664**	.657**
2. Declines in Cognitive Function	.664**	—	.666**
3. Fatigue	.657**	.666**	—

Uncertainty

O Prevalent in MS population

　O Symptom uncertainty

　O Medical uncertainty

　O Daily living uncertainty

"I wonder how I will feel day to day."
"Most of the time I feel everyone else's
life has gone on without me."

Are there any relationships between these variables and uncertainty?

Variable	1	2	3	4
1. Depression	—	.664**	.657**	.506**
2. Declines in Cognitive Function	.664**	—	.666**	.434**
3. Fatigue	.657**	.666**	—	.561**
4. Uncertainty	.506**	.434**	.561**	—

Quality of Life

Variable	Mean	*SD*	Actual Range
Physical *	39.57	12.06	14.95-60.54
Mental*	45.37	10.94	22.49-61.82

*Components Summary Scores

What influence do depression, fatigue, and declines in cognitive function have on quality of life?

Variable	1	2	3	4
1. Depression	—	.664**	.657**	-.444**
2. Declines in Cognitive Function	.664**	—	.666**	-.437**
3. Fatigue	.657**	.666**	—	-.794**
4. PCS	-.444**	-.437**	-.794**	—

Variable	1	2	3	4
1. Depression (PHQ-9)	—	.664**	.657**	-.663**
2. Declines in Cognitive Function	.664**	—	.666**	-.592**
3. Fatigue (MFIS 5)	.657**	.666**	—	-.444**
4. MCS	-.663**	-.592**	-.444**	—

What influence do uncertainty, self-control and coping have on quality of life?

Variable	1	2	3	4	5	6
1. Uncertainty	—	.040	.376**	-.238*	-.550**	-.478**
2. Adaptive Coping	.040	—	.360**	.437**	-.125	.151
3. Maladaptive Coping	.376**	.360**	—	-.167	-.215	-.449**
4. Self-Control	-.238*	.437**	-.167	—	.192	.435**
5. PCS	-.550**	-.125	-.215	.192	—	.253*
6. MCS	-.478**	.151	-.449**	.435**	.253*	—

Conclusion

○ A symptom cluster involving depression, fatigue and declines in cognitive function exists in women with Multiple Sclerosis

○ Fatigue is a greater predictor of higher uncertainty

○ Uncertainty is directly correlated to maladaptive coping

Future Research

- Expand study to a national level
- Develop inter-disciplinary module to facilitate provider recognition of symptom cluster
- Develop a Self-Help Intervention Program