

The Effects of Wellness Center-Based Exercise in People With Multiple Sclerosis: A Program Review

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Introduction

- Multiple sclerosis (MS) is a chronic, slowly progressive disease
 - marked by inflammatory demyelination within the CNS
 - Fatigue is the most commonly reported symptom of patients with MS
 - Fatigue is the cause of most disablement associated with the disease
- Muscular strength and mobility may be reduced as a result of inactivity and increased fatigue levels.
- Participation in wellness programs for individuals with MS may have long-lasting effects on fatigue, quality of life and general well-being
- With knowledge of the evidence supporting the benefits of participation in fitness programs for individuals with MS, the Multiple Sclerosis Center of Southwest Florida has collaborated with the wellness centers of Lee Health to design and implement a program specific to the needs of this population.

Objectives

- Provide a summary of the wellness center-based exercise program
- Utilize the RE-AIM framework to evaluate the success of the program in fulfilling established needs
- Identify program strengths and opportunities for improvement
- Provide recommendations to improve the program for future participants

Methods

- Clients of the MS Center successfully completing 7 sessions between January 11th 2016 and June 15th 2016 were included in the program evaluation
- Patients completed the Modified Fatigue Impact Scale (MFIS) and Movement Ability Measure (MAM) before and after program participation
- The RE-AIM framework was utilized to evaluate the exercise program. A SWOT analysis was used to identify strengths and opportunities for improvement

Results

- 10 clients of the MS Center were included program evaluation.
 - This represented 5% of the total clientele of the Center.
 - Age ranged from 52 to 75 years with a mean age of 63.1 (± 7.5) years.
- The average total improvement in MFIS score between both locations was 10.2 points, representing a 12% improvement.
- At the Fort Myers location, the average change in score from pre to post participation was 16.0 points (± 1.4), indicating a 19% improvement.
- The average change in score among all clients at the Cape Coral location was 7.3 points (± 8.7), or 8% improvement.
- Among the three subscales of the MFIS (physical, cognitive, and psychosocial):
 - greatest improvements were reported in the physical subscale with a mean improvement of 18.9%.
 - The cognitive subscale demonstrated the lowest percent improvement at 0.07%.
 - the psychosocial subscale showed 0.09% improvement.
- A total of six participants completed the MAM.
- Clients reported increased abilities in each subscale following participation, with the exception of flexibility and accuracy which both decreased.

Movement Ability Measure: Change in "Now" mean score by subscale

Clients	Flexibility	Strength	Accuracy	Speed	Adaptability	Endurance	
1	2.00	-2.00	-1.00	-1.00	.00	3.00	
2		-1.00	-3.00	2.00	.00	3.00	
3	-1.00	2.00	-5.00	1.00	.00	.00	
4	3.00	6.00	3.00	4.00	1.00	6.00	
Total	Mean	1.33	1.25	-1.50	1.50	.25	3.00
	Range	4	8	8	5	1	3
	Std. Deviation	2.08	3.59	3.42	2.08	.5	2.45

Modified Fatigue Impact Scale- Change from Pre to post

Location	Clients	Change in scores
Fort Myers	1	17.00
	2	15.00
	Total	Mean 16.00
		Std. Deviation 1.41
		Minimum 15.00
Cape Coral	1	16.00
	2	-2.00
	3	.00
	4	15.00
	Total	Mean 7.25
	Std. Deviation 9.57	
	Minimum -2.00	
	Maximum 16.00	
Total	Mean	10.17
	Std. Deviation	8.70
	Minimum	-2.00
	Maximum	17.00

Change in MFIS Subscale Scores from pre-participation to post-participation

Clients	Physical	Cognitive	Psychosocial	
1	10.00	6.00	1.00	
2	8.00	5.00	2.00	
3	8.00	8.00	.00	
4	1.00	-4.00	1.00	
5	-1.00	1.00	.00	
6	15.00	.00	.00	
Total	N	6	6	6
	Mean	6.83	2.67	.66
	Minimum	-1.00	-4.00	.00
	Std. Deviation	5.91	4.46	.82

Data Analysis

- Data analysis was performed with SPSS
- Analysis consisted of descriptive statistics
- Each outcome measure was analyzed for overall change, change by subscale, mean change, and standard deviation

Discussion

- Participants in the wellness center-based exercise program experienced improvement in mobility and quality of life according to the MAM and MFIS
- Program evaluation via the REAIM framework revealed that the greatest opportunities for improvement were in Reach and Implementation.
 - Reach was identified based on the number of participants:
 - 10 participants approximately equals 5% of the MS Center clientele.
 - Implementation was identified due to the inconsistency with use of the outcome measures
 - 4 participants were administered the MAM pre/post
 - 6 participants were administered the MFIS pre/post
- SWOT analysis identified the following:
 - Strengths: cost to the client, supervision by trained exercise specialists, and multiple locations
 - Weaknesses: distance of locations from clients residing outside of Lee County, lack of post-participation survey for clients, incomplete implementation of outcome tools
 - Opportunities: expansion to other wellness centers, establishment of a social support system to promote participation,
 - Threats: membership in local health clubs and fitness centers with trainers that are not credentialed or educated in MS.

Conclusions

- Clients participating in the wellness center-based exercise program reported improved quality of life following 7 supervised sessions.
- Evaluation with the RE-AIM framework identified reach and implementation as the greatest opportunities for improvement of the program for future participants.