



A qualitative study of a home-based DVD exercise intervention in older adults with multiple sclerosis

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Benefits^{1,2,3,4} & Safety⁵ of Exercise in MS



Fatigue

Walking
Dysfunction

QOL

Aerobic
Fitness

Muscle
Strength &
Endurance

Balance



Exercise is NOT associated with increased relapse risk



Adverse events are NOT higher in MS

¹Ensari I, et al. J Psychosom Res. 2014;76:465-471. ⁴Pilutti LA, et al. Psychosom Med. 2013;75:575-580.
²Motl RW, Gosney JL. Mult Scler. 2008;14:129-135. ³Pilutti LA, et al J Neurol Sci. 2014; 343 (1-2):3-7
⁵Paltamäa J, et al. J Rehabil Med. 2012;44:811-823.

FlexToBa: A Progressive, Home-based, DVD delivered Exercise Intervention



- ▶ 6-month, DVD-delivered intervention
- ▶ Designed to improve:
 - ▶ Flexibility
 - ▶ Toning
 - ▶ Balance
- ▶ **Quantitative Outcomes:**
 - ▶ safe as no adverse events were reported
 - ▶ small-to-moderate effects favoring the *FlexToBa* condition in terms of improved physical function, physical activity levels, and QOL

¹McAuley, et al. Multiple Sclerosis Journal – Experimental, Translational, and Clinical. 2015; 1:1-9.

Qualitative Interview Aims



- ▶ Motivations to participate in *FlexToBa* study
- ▶ Benefits & Experiences of the intervention
- ▶ Possible Improvements for the intervention

Purpose



- ▶ The present study further evaluated the *FlexToBa* intervention in older adults with MS using qualitative methodology.

Exercise Intervention Study Design



- ▶ Two-arm, assessor-blinded six-month RCT
 - ▶ Intervention: *FlexToBa* DVDs & exercise program
 - ▶ Control: Healthy Aging[©] DVD

Exercise Intervention Study Design



FlexToBa

- **Equipment:** DVDs, Resistance Bands, Yoga Mat, Handbook
- Exercise Rx
- Biweekly researcher contact

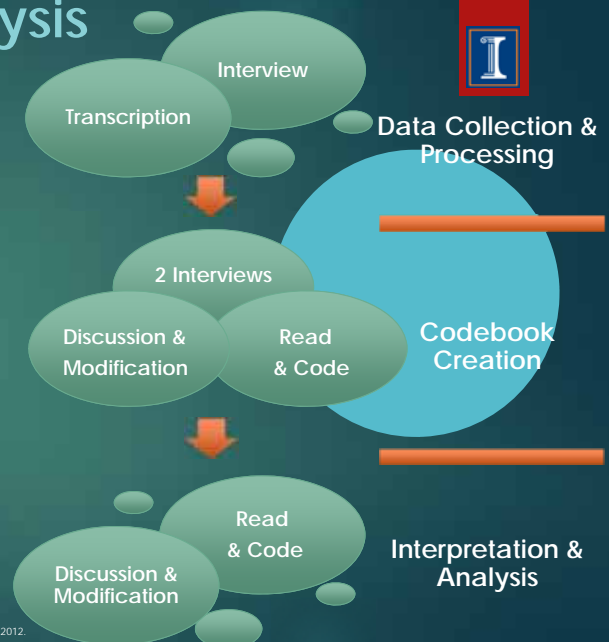
Active Control

- **Equipment:** DVD
- Biweekly researcher contact

Qualitative Data Analysis



- ▶ Interpretive Methodology & Spiral analysis^{1,2}
- ▶ Development of a codebook
- ▶ Independent coding of transcriptions
- ▶ Final coding by a pair of researchers after reaching consensus
- ▶ Aim was to describe, classify, and interpret data



¹Thorne, S. et al. 1997. Res Nurse Health 20, 169-177

²Creswell J.W. Qualitative inquiry and research design: Choosing among five approaches. Los Angeles, CA: Sage; 2012.

Demographics of Sample

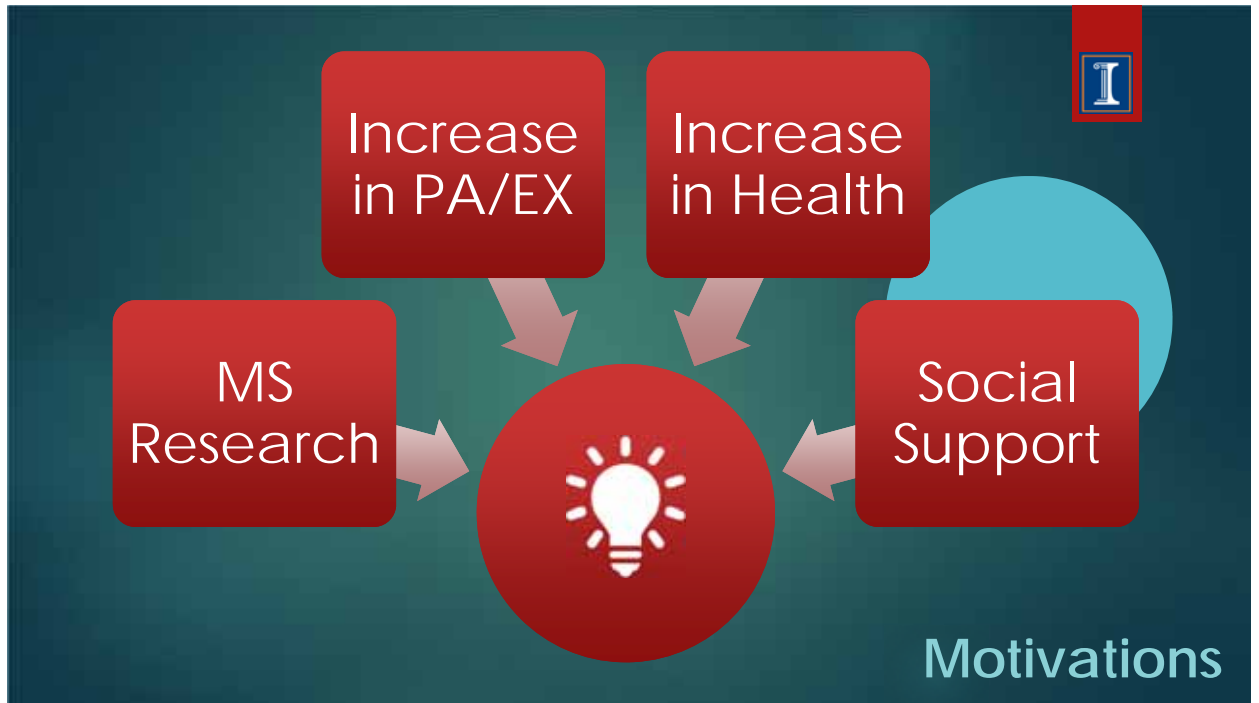


Variable	FlexToBa (n=21)	
	Mean (SD)	Range
Age (years)	59.2 (4.2)	50-66
Sex (% female)	76.20%	-
MS Type (% RRMS)	76.20%	-
EDSS Score (median \pm IQR)	4.3 (2.9)	1.0-6.5
Disease Duration (years)	17.6 (9.6)	4-37
GLTEQ (month 0)	1.3 (.7)	1-3
GLTEQ (month 6)	1.8 (.8)	1-3
Time sitting (month 0, min)	11.7 (4.5)	5-24.4
Time sitting (month 6, min)	10.9 (4.2)	4.8-20.6

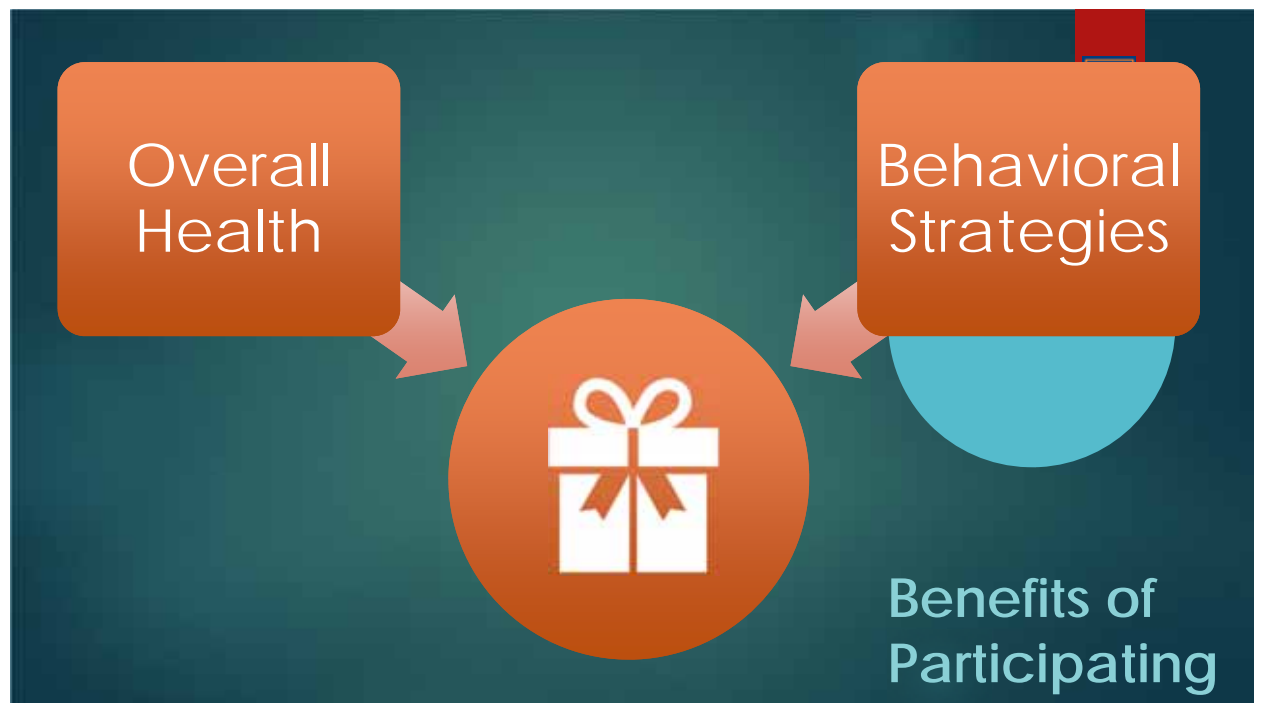
Note: Values shown are mean \pm standard deviation, unless otherwise noted. MS=multiple sclerosis; RRMS=relapsing remitting multiple sclerosis; EDSS=Expanded Disability Status Scale; IQR=Interquartile Range; GLTEQ=Godin Leisure Time Exercise Questionnaire



Results



- ## Motivations
- ▶ **MS Research**
 - ▶ A **quarter** of the sample reported wanting to help others with MS through research or were excited to be assessed by the research team
 - ▶ *1354: First of all I want to do whatever I can do to help anyone who has MS to be able to have a better quality of life.*
 - ▶ **Increase in Physical Activity or Exercise Behaviors**
 - ▶ Over **40%** of the sample wanted to increase their physical activity behavior or join an exercise program developed for people with MS.
 - ▶ **Increase in Health**
 - ▶ Over **1/3** of participants discussed wanting to improve their MS symptoms.
 - ▶ Possible benefits that could be experienced following the program motivated over **1/4** of participants to sign up.
 - ▶ **Social Support**
 - ▶ **47%** of participants described others' influencing their decision to commit to the program.



Benefits

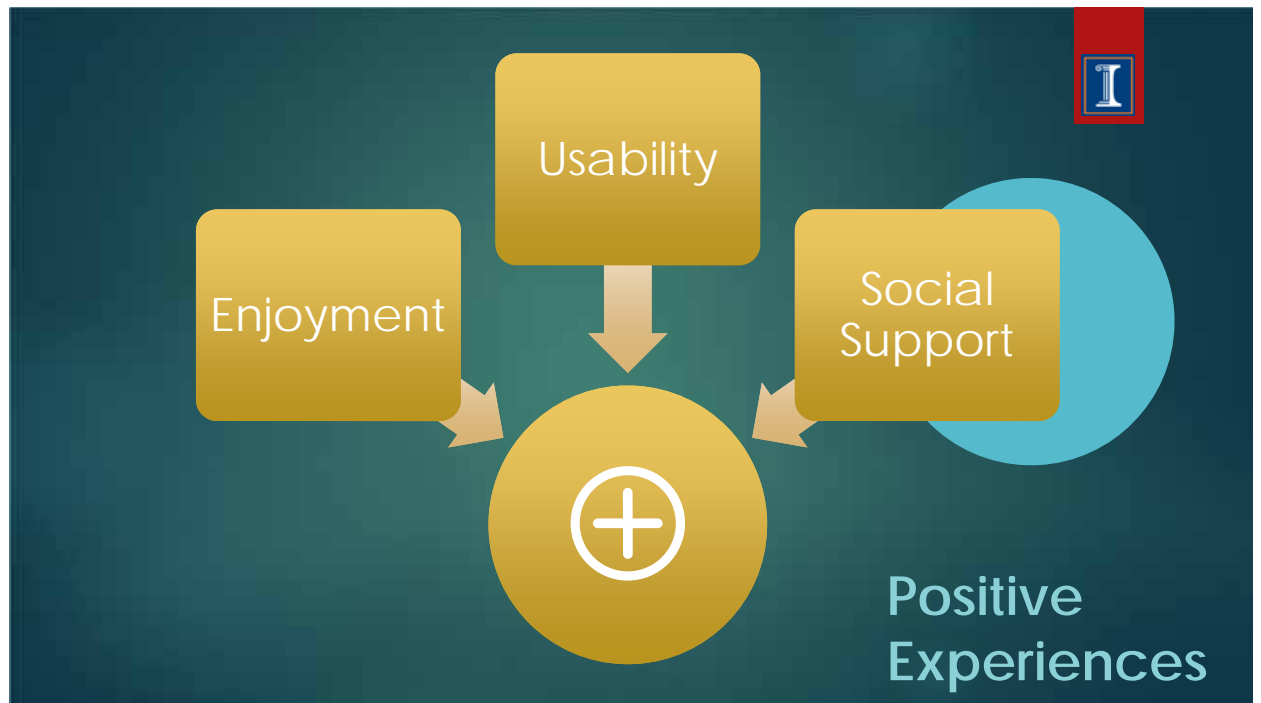


▶ Overall Health

- ▶ Improvements in fitness(63%) and MS-related physical function(45%) were reported.
- ▶ *1353: First of all not feeling so fatigued, giving that little bit of energy burst in the mornings, and then relieving some of the soreness in my muscles and the pain from the MS.*
- ▶ General health(40%), mood(40%), and energy(36%) improvements were reported by many of our participants.

▶ Behavioral Strategies

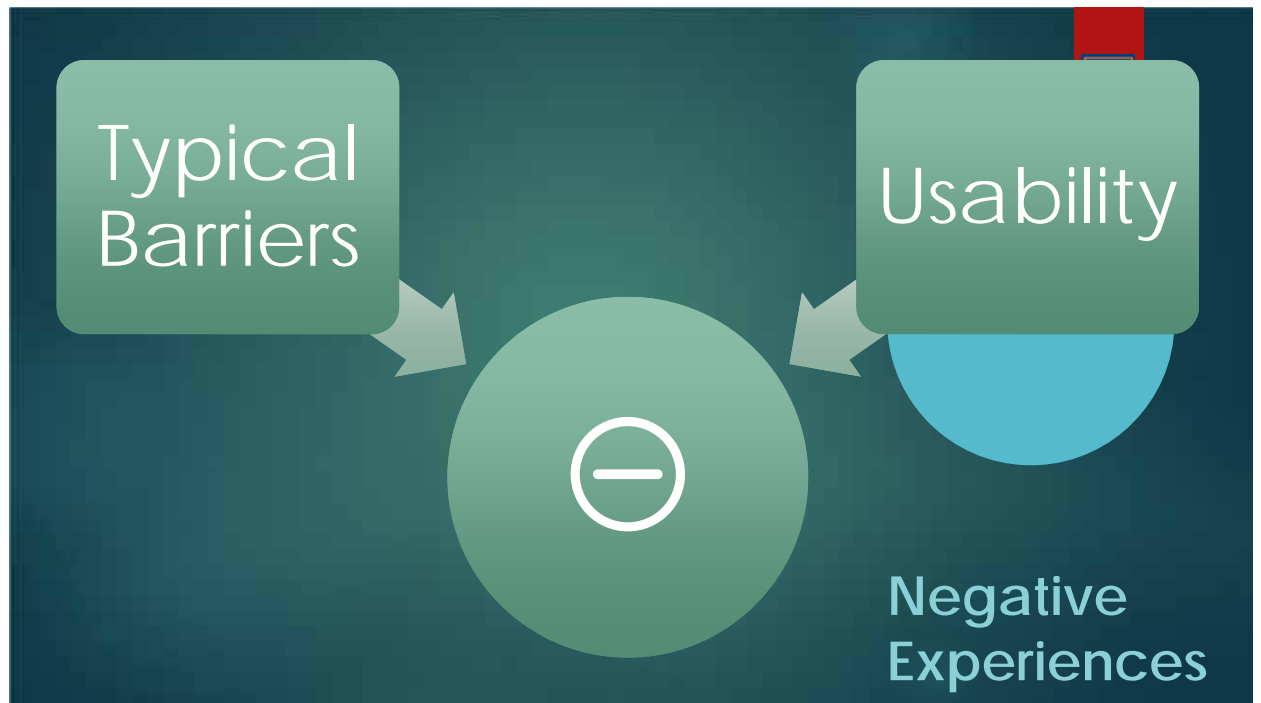
- ▶ A **third** of participants changed their views of exercise following the program.
- ▶ A **quarter** of participants improved their self confidence.



Positive Experiences



- ▶ **Enjoyment**
 - ▶ 1/3 of participants mentioned that they generally “liked” the program.
- ▶ **Usability**
 - ▶ The *FlexToBa* exercises and modifications were mentioned as positive experiences by **68%** and **27%** of the sample.
 - ▶ *1354: The Flextoba is wonderful, it is made for us. Because they know us, they just knew us, they just. I don't know how, but they just fit those exercises to us, and on some they have some (exercises) for people who would have a disability and then they have a regular exercise and then they have the challenging exercise.*
 - ▶ Many participants also found the program instructions to be clear (**31%**) and enjoyed the structured nature of the program (**31%**).
- ▶ **Social Support**
 - ▶ Finally, participants thought the research personnel (**51%**) and phone calls (**24%**) were a good form of support.



Negative Experiences

▶ Typical Barriers

- ▶ **31%** of participants identified low motivation as a barrier to exercise participation.
- ▶ Time was also identified as an issue limiting the use of the FlexToBa program for **31%** of participants.

▶ Usability

- ▶ Over **half** of participants mentioned the exercises were too difficult.
- ▶ Physical impact was discussed by over **1/3** of the sample.
- ▶ **1411:** Some days if I did a good workout with it, it usually took me two or three hours to recoup from it. And some days it was like I was already tired and doing it just added [to the fatigue].



Usability



Suggestions
for Improving
the Program



Suggested Improvements



► Usability

- Exercise modifications were discussed by over 1/3 of the sample.
- *1393: It frustrates me because I don't like the way that feels [not keeping in step]. So I modify along the way, whatever tape it is. I modify it just to keep me in step, instead of getting frustrated because I can't step forward and step back.*
- Information accessibility was also given as a method for improving the program by 1/4 of the sample.

Discussion



- ▶ The *FlexToBa intervention* was a successful program that participants generally enjoyed, but saw the potential for improvement.
- ▶ Participants were motivated to participate to help others with MS, to gain health benefits, and to increase exercise behavior. Social support also played a significant role.
- ▶ Fitness, physical functioning, overall health, and self-confidence were benefits gained from participation.
- ▶ The positive and negative experiences involved the usability of the program. Participants also enjoyed the program, particularly the exercises themselves and the interaction with research personnel.
- ▶ Participants further suggested improving upon the program by including greater diversity in the exercise intensities and exercises chosen.

Suggestions for Future Interventions Utilizing the FlexToBa Program



- ▶ Usability improvements
- ▶ Targeted population



Suggestions for Future Interventions Utilizing the *FlexToBa* Program... within the context of formative feedback



- ▶ Using formal follow-up surveys, participants reported being "satisfied" or "completely satisfied" with the following aspects of the program:
 - ▶ Overall program (87%)
 - ▶ Quality of the DVD program (87%)
 - ▶ Quality of written materials (95%)
 - ▶ Instructions from the exercise leader (100%)
 - ▶ Appropriateness of the modified exercises (87%)

Limitations to the Qualitative Analysis



- ▶ Post-Intervention interviews
- ▶ Multiple interviewers
- ▶ Discussion based on probing questions
- ▶ Interviewer bias

Acknowledgements



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