



# Managing Fatigue with Technology for Individuals with MS

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Special thanks to the creator of Pace My Day app Michelle Ranae Wild and to our participants



## INTRODUCTION

- Fatigue is a common and debilitating symptom that inhibits functional abilities for individuals with multiple sclerosis (MS) (Faguy, 2016).
- Energy conservation management (ECM) techniques result in lower levels of fatigue in these individuals (Tur, 2016).
- Mobile health applications (mHealth apps) support self-management strategies and user adherence rates using energy conservation (Silva et al, 2015)

### PURPOSE OF THE STUDY

To investigate whether the use of a mHealth app, Pace My Day (PMD), results in lower fatigue and improved adherence to energy conservation techniques for adults with MS.

## DESIGN AND METHODOLOGY

### DESIGN

Quantitative, exploratory, pre-test and post-test design

### INTERVENTION

To support use of ECM techniques, participants used PMD during one chosen task for 14 days.

### PARTICIPANTS

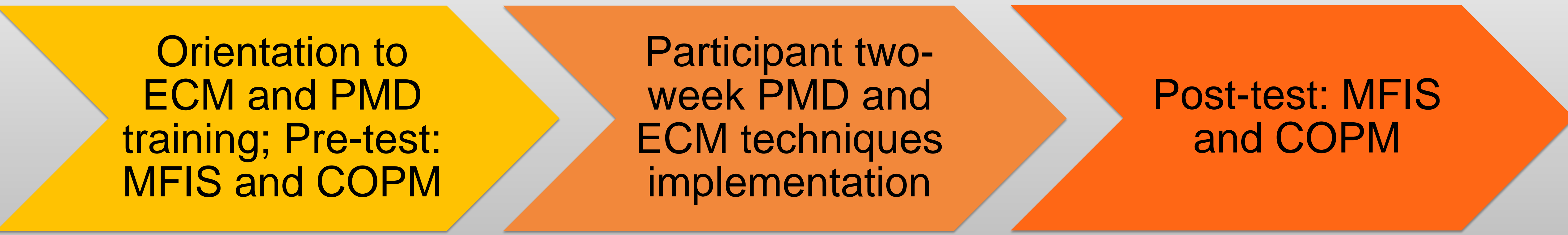
Individuals with MS, ages 36-72

### OUTCOMES

- Modified Fatigue Impact Scale (MFIS)
- Canadian Occupational Performance Measure (COPM)

### Participant Demographic Data

| Participant         | N = 10 | %  |
|---------------------|--------|----|
| Gender, <i>n</i>    |        |    |
| Male                | 1      | 10 |
| Female              | 9      | 90 |
| Type of MS          |        |    |
| Relapse-remitting   | 9      | 90 |
| Primary progressive | 1      | 10 |



## DISCUSSION

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- Significant reduction in the average level of fatigue was achieved in two of the three categories of the MFIS (physical p=.02, cognitive p=.001).
- PMD was successful in improving satisfaction in the task, indicating an increase in participant's self rated ability to complete their chosen task.

### LIMITATIONS

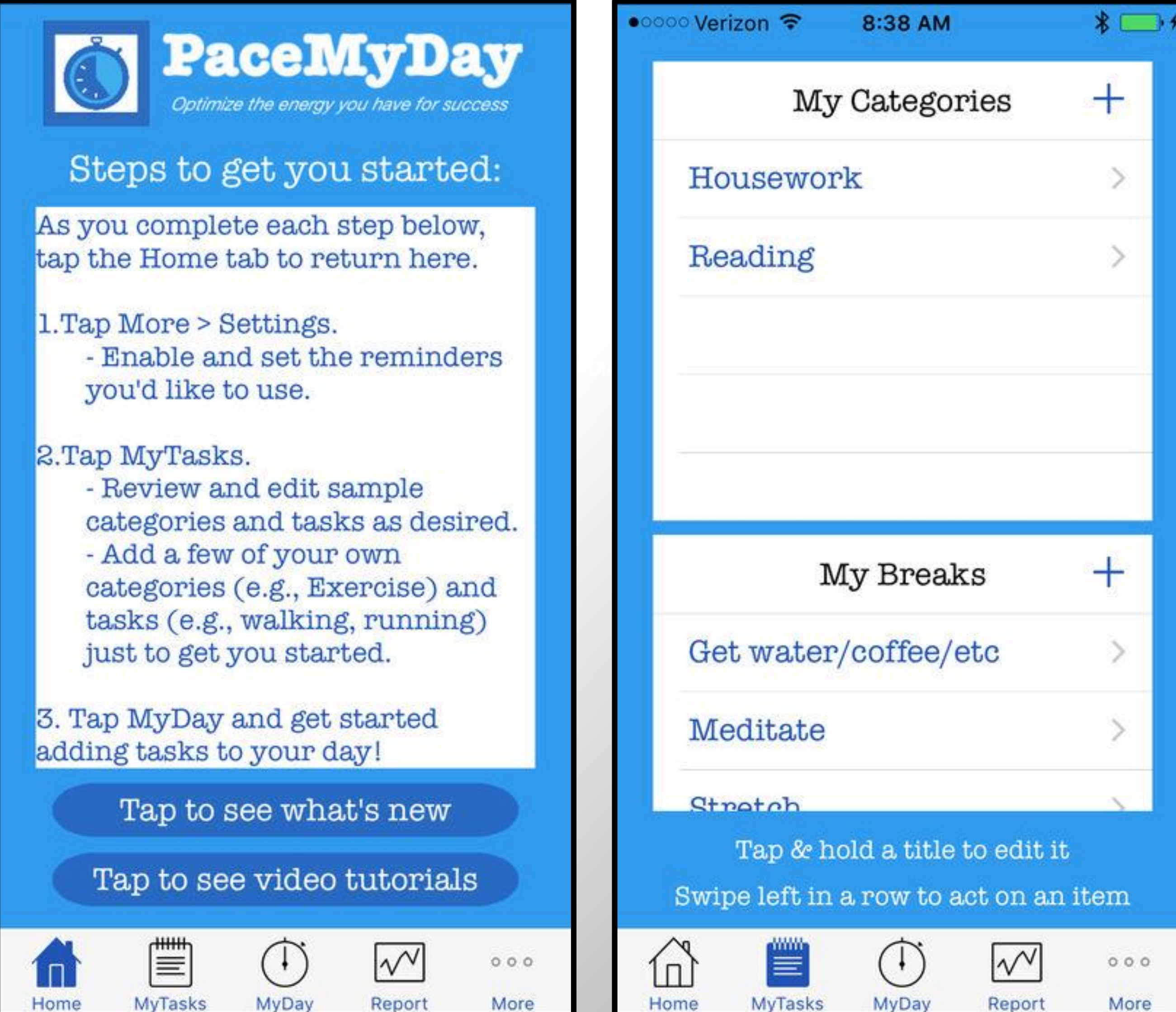
- Small sample size (n=7)
- No control group

## IMPLICATIONS FOR PRACTICE

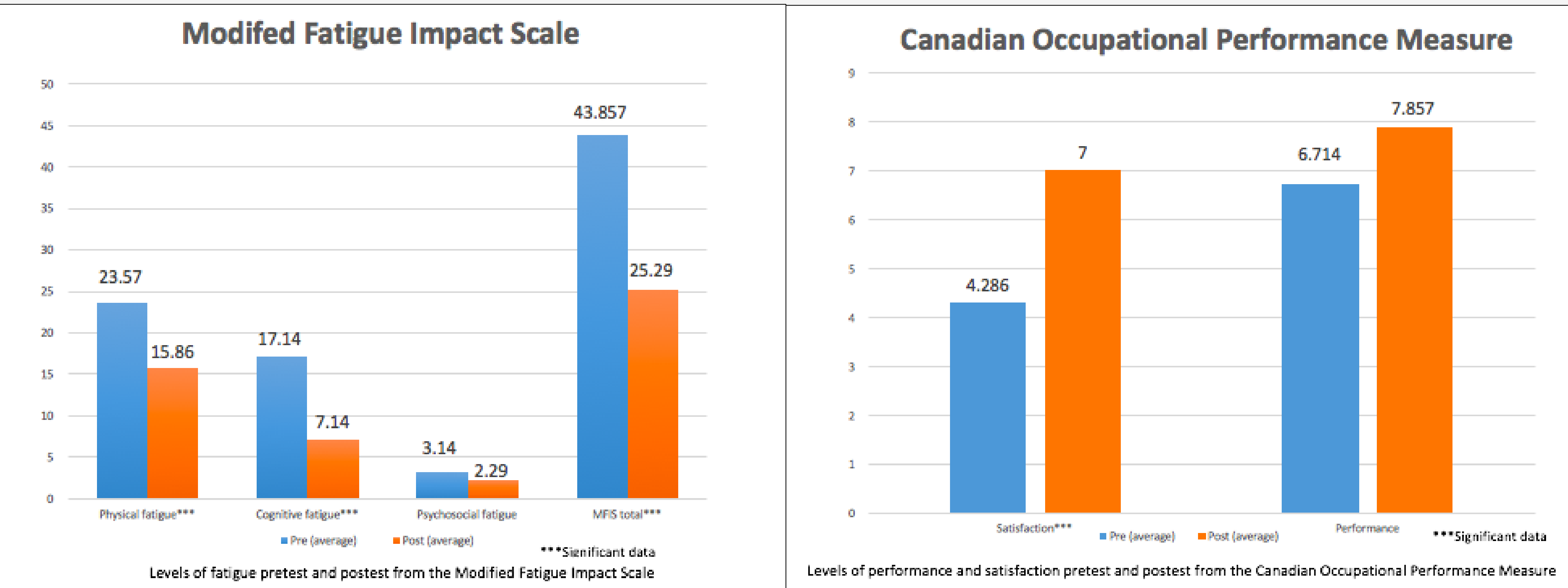
- Interventions incorporating mHealth app can be used to improve occupational performance.
- Occupational therapists can collaborate with app developers to implement energy conservation techniques into self-management/time management applications.
- Apps can promote adherence to self-management and energy conservation strategies by providing reminders and tracking goals.

## PACE MY DAY APPLICATION

PMD is a mHealth app designed to help individuals monitor and plan their day and self-manage fatigue.



## RESULTS



Results showed a significant decrease in levels of fatigue and an improvement in satisfaction with the chosen activity using PMD and ECM techniques.

## CONCLUSION

- A mHealth app can help improve fatigue and increased adherence to energy conservation.
- mHealth apps can help an individual plan and monitor fatigue throughout the day to improve energy levels.

## REFERENCES

Faguy, K. (2016). Multiple sclerosis: An update. Radiologic Technology, 87(5), 529-553.  
Silva, B. M., Rodrigues, J. J., de la Torre Díez, I., López-Coronado, M., & Saleem, K. (2015). Mobile-health: a review of current state in 2015. Journal of biomedical informatics, 56, 265-272.  
Tur, C. (2016). Fatigue Management in Multiple Sclerosis. Current Treatment Options In Neurology, 18(6), 1. doi:10.1007/s11940-016-0411-8