Come Out From Behind the Walls 2.0: A Community-Based Walking Program to Increase Physical Activity in Chicago’s Austin Neighborhood

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Introduction

Background: Healthy Chicago 2.0 reported that life expectancy in Austin is 5 years lower than any other Chicago neighborhood, which may be due to low levels of physical activity (PA). Increases in PA are associated with positive mental health benefits, reduced risk of chronic disease, and reduced all-cause mortality. The Westside Health Authority and Northwestern University Department of Physical Therapy & Human Movement Sciences have collaborated since 2009 to increase PA in Austin adults. Building upon a successful 2016 study of adults in Austin involving Fitbits®, social media, and PA interventions, a new metric was introduced to promote increased intensity while walking. The focus of this project was to foster a healthy lifestyle among African American (AA) Austin residents by increasing PA and reducing stress through adoption of self-management strategies.

Purpose: Increase PA through the use of walking groups led by trained community health workers (CHWs), focusing on intensity and reinforced by social media.

Research Questions:
1. Does a group walking program led by trained CHWs, while also incorporating social media use, increase PA and lead to a significant increase in steps?
2. Does social cohesiveness within a community change after implementation of a group walking program?
3. What effect does a community walking program have on self-reported quality of life and self-efficacy for PA?
4. Does the introduction of a graded intensity approach with PA improve participants’ walking speed?

Methods

Design: Pre-Post Study, 6 week program

- 3 returning and 2 new CHWs were trained to lead walking groups.
- CHWs led their group(s) at least 1x per week to promote independent PA.
- Graded intensity approach incorporated via Modified Borg RPE scale.
- Groups used private Facebook® pages to post progress and encouragement.
- All participants received a Fitbit® activity tracker.
- Student researchers contacted CHWs weekly to discuss walking group progress and address questions and concerns.
- End of study monetary incentives were awarded.
- Results disseminated to the community.

Outcome Measures:
- Physiologic: Blood pressure (SBP, DBP), resting heart rate (RHR), Body-Mass Index (BMI), Gait Speed (10 Meter Walk Test).
- Questionnaires: Short-Form Health Survey (SF-12), Self-Efficacy for Exercise Questionnaire (SEEQ), Global Physical Activity Questionnaire (PAGEQ), Global Physical Activity Questionnaire (GPAG).
- Activity Measures: Step count via wearable Fitbit® activity trackers.

Results

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>Final</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>SBP (mmHg)</td>
<td>134.30</td>
<td>128.80</td>
<td>0.059</td>
</tr>
<tr>
<td>DBP (mmHg)</td>
<td>83.77</td>
<td>79.30</td>
<td>0.046*</td>
</tr>
<tr>
<td>BMI</td>
<td>33.62</td>
<td>33.25</td>
<td>0.007*</td>
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<tr>
<td>Daily Steps mean</td>
<td>8027.95</td>
<td>9732.26</td>
<td>0.01*</td>
</tr>
<tr>
<td>Gait Speed SS</td>
<td>1.07 m/s</td>
<td>1.13 m/s</td>
<td>0.96</td>
</tr>
<tr>
<td>Gait Speed FF</td>
<td>1.53 m/s</td>
<td>1.56 m/s</td>
<td>0.522</td>
</tr>
<tr>
<td>SF-12 PCS</td>
<td>49.34</td>
<td>48.83</td>
<td>0.796</td>
</tr>
<tr>
<td>SF-12 MCS</td>
<td>57.11</td>
<td>58.15</td>
<td>0.416</td>
</tr>
<tr>
<td>GPAG Sed Time</td>
<td>267.69 mins</td>
<td>240.23 mins</td>
<td>0.547</td>
</tr>
<tr>
<td>SEEQ Total</td>
<td>67.95</td>
<td>64.45</td>
<td>0.595</td>
</tr>
<tr>
<td>PAGEQ Total</td>
<td>27.93</td>
<td>31.38</td>
<td>0.091</td>
</tr>
</tbody>
</table>

Discussion

- Three significant results: increases in the participants’ weekly steps, decreases in diastolic blood pressure, and decreases in BMI.
- Difficult to draw conclusions about effect of intensity. Observed discussions regarding increasing intensity with 2 groups; other groups focused on increasing steps.
- Participants reached AAHA’s recommended 10,000 steps per day in week 5 with an average of 10,079 steps. However, the change was not sustained in week 6.
- 11 returning participants from last year’s study may have positively impacted increasing step trend.
- Longer study duration may sustain step count to recommended 10,000 steps per day.
- Our study had similar results to other studies that had a decrease in blood pressure.1,2
- Using a culturally-tailored program that uses CHWs and Fitbit® trackers appears to be an effective strategy to increase PA.
- Social media may or may not be an effective strategy to significantly increase PA or group cohesion.

Limitations:
- Challenges with Facebook® access. Fitbit® set-up, and troubleshooting tech issues.
- 9 participants did not receive a Fitbit® until Week 2.
- Short length of study.

Lessons Learned:
- Careful selection of effective group leaders may impact group cohesion and motivation.
- Surveys require closer monitoring and could benefit from onsite electronic entry.
- Fitbit® setup requires more staff to help during initial measures.
- Training CHWs or walkers in Fitbit® tech would prevent lost or delayed data collection.
- Recommend ≥ 1 week of wearing Fitbit® before program start to manage tech issues.

Conclusion

Programs such as Come out from Behind the Walls 2.0 demonstrate that the use of CHWs, Fitbit®, and social media may facilitate increases in PA and reduction in risk factors for heart disease among AAAs living within a medically underserved region such as Chicago’s Austin neighborhood. Returning members for the 2016 study may have impacted our successful retention rate of 83%. Future research should investigate a longer follow-up and strategies to increase walking intensity. Alternative walking locations during inclement weather may eliminate a negative impact on step count.

Clinical relevance:
- Physical therapists should be at the forefront of shifting the healthcare paradigm in preventing chronic diseases among underserved populations. We have an ethical obligation to educate the public on how movement and PA can reduce the risk and burden of chronic disease on health. As movement scientists, we have the expertise to train members of local communities in strategies for increasing PA safely, thereby helping to build sustainable public health initiatives that benefit all citizens.

Acknowledgements

We would like to acknowledge and thank the Westside Health Authority, Rosetta Dotson, Jacqueline Reed, alumna Marilyn Holt, the Walking Champions, and our participants for their help and support throughout our project.

References