Brooks C. Wingo: researchers have to learn from the setbacks, adapt the plan, and don't give up!

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Editor's note

Telehealth and digital health interventions have nowadays become important tools to distribute health-related services and information via electronic information and telecommunication technologies. By bringing lifestyle intervention online, patients can now be shared important data on their lifestyle habits, such as food intake, exercise, sleep, medication and so on. On the other hand, these techniques provide a platform where primary care physicians can conveniently refer patients to a health coach or dietician for any sort of support and follow-up.

Lifestyle interventions are frequently used for the prevention and treatment of cardiometabolic risk factors, especially in people with physical disabilities. With an aim to seek a solution for the long-term health and care of this group of patients, Prof. Brooks C. Wingo from the University of Alabama at Birmingham has been studying the role of dietary and exercise patterns on the cardiometabolic health of individuals with mobility limitations, and developing novel methods to deliver lifestyle interventions to them. *mHealth* is pleased to interview Prof. Wingo this time to have a closer look at her research in cardiometabolic health and lifestyle interventions.

Expert introduction

Brooks C. Wingo (*Figure 1*), PhD, currently serves as an Assistant Professor of Occupational Therapy at the University of Alabama at Birmingham (UAB), Alabama, USA. She is also an Associate Scientist of the Nutrition Obesity Research Center, Diabetes Research Center, and of the Center for Exercise Medicine at UAB. She has membership in various professional academic organizations, including American Congress of Rehabilitation Medicine and the Society for Behavioral Medicine.

Figure 1 Prof. Brooks C. Wingo.

Prof. Wingo's research focuses on lifestyle interventions for the prevention and treatment of cardiometabolic risk factors in people with physical disabilities, assessment of obesity in individuals with physical disabilities, body composition changes in older adults, safety of weight loss in older adults, and health disparities in physical disabilities. She has been involved in the development of novel methods to deliver lifestyle interventions, such as telehealth interventions for delivering weight management programs to children and adults with spinal cord injury (SCI), cerebral palsy, spina bifida, and multiple sclerosis (MS) as well as adaptations to current BMI and waist circumference classifications to better represent the body composition characteristics of children and adults with physical disabilities.

Interview

mHealth: Having been studying in the area of cardiometabolic health of individuals with mobility limitations for years, what do you think are the critical issues facing the field right now?

Prof. Wingo: We've made great advances in medical care and rehabilitation over the last several decades, which means individuals with traumatic injuries and disabling conditions like SCI, MS or stroke are living longer. This has led to an increase in age-related conditions, including cardiometabolic disease, that weren't common in these groups 30 years ago. While we know that many of these conditions are now more prevalent in these groups than in non-injured individuals, we do not yet fully understand the best lifestyle recommendations for many of these populations, or the best way to help individuals with these conditions adopt long term lifestyle behavior change.

mHealth: What are you currently developing to deliver lifestyle interventions for individuals with mobility limitations? What are the advantages of technology-based lifestyle behavioral interventions over traditional clinical settings?

Prof. Wingo: We are currently focused on telehealth and digital health interventions. Many people with mobility limitations or other physical disabilities face barriers to transportation that limit their ability to get to a traditional clinic setting regularly. Using a variety of phone calls, website, and mobile apps allows us to include participants who traditionally would not be able to participate in our research. It also allows us to reach a broader geographic scope of participants, which helps us get a more realistic idea of how our interventions will translate to real-world situations outside the clinic and lab.

Another advantage of technology based interventions is the ability for our health coaches to interact with participants more frequently. Rather than having to wait for a scheduled appointment, participants can contact their health coach electronically. Coaches can also check in on participants' food, exercise, and weight logs throughout the week to offer additional encouragement and prompting, which we have found increases participant retention.

mHealth: With the emergence of technology-based interventions, intervention fidelity monitoring is repeatedly stressed. Why is it important? Can you also comment on the current status/level of intervention fidelity monitoring?

Prof. Wingo: Like any form of behavioral intervention, fidelity is key to fully understanding how and why an intervention worked (or didn't work). Many behavioral interventions are successful under well-controlled circumstances, but the results cannot be replicated in larger, less controlled trials. While some of this may be due to a change in context of intervention delivery, much of it is also due to the fact that the intervention itself was not delivered the same, or not all participants received the intervention in the same way. Technology-based interventions, especially those with a human component (i.e., weekly calls with a coach in addition to using an app), have a lot of 'moving parts' that impact how the treatment is received. If these parts are not all closely monitored, the results can be misinterpreted, and the intervention will not translate to broader audiences.

I think many researchers and clinicians are beginning to appreciate the importance of fidelity and the need to report on fidelity. Guidelines have been published for fidelity monitoring for behavioral interventions, and recommendations for technology-specific fidelity monitoring are also available, but I think many intervention studies still underreport in this area.

mHealth: Your research has been receiving funding support by National Institute of Child Health and Human Development (NICHD). Would you introduce us to a recent funded project that you are involved?

Prof. Wingo: My current study funded through NICHD focuses on the impact of diet composition on dietary adherence and cardiometabolic health among adults with SCI. The study is using a telehealth intervention to implement a randomized controlled trial that will compare dietary adherence, body composition, and blood glucose, as well as pain, fatigue and hunger between individuals following a low-fat diet and those following a low carbohydrate diet for 24 weeks.

mHealth: Did you come across any bottleneck in your career/research? Is there any memorable case?

Prof. Wingo: One of the most frequent bottlenecks I face in my research is participant recruitment and retention. Working with individuals with disabilities like SCI and MS, it can be difficult to find enough people to complete our studies, and after enrollment we often have many people who drop out due to illness, transportation barriers or other issues. I have had to be very creative in marketing efforts, and focus on building my professional network to be able to work with colleagues at other institutions to increase our study enrollments. Using telehealth to deliver our interventions has also helped because it reduces the amount of travel required, which improved retention.

mHealth: In your opinion, what makes a successful researcher?

Prof. Wingo: I think one of the most important characteristics of a successful researcher is perseverance. Especially for early career researchers, it will take time to refine your research question, find funding, and really establish your independence. There will be many frustrations and roadblocks along the way, but successful researchers are those that learn from the setbacks, adapt the plan, and don't give up.

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Footnote

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