In the battle for the nation’s health and well–being, video games are often seen as the enemy.

Eva Serber, Ph.D., associate professor in the Department of Psychiatry and Behavioral Sciences, however, believes that doesn’t have to be the case. Serber, a licensed psychologist, is the principal author of a pilot study examining the feasibility of using exercise video games for cardiovascular risk reduction among adults.

Nineteen Wii console with Wii Fitness balance board. Psychiatry and Behavioral Sciences researcher Dr. Eva Serber is involved in a pilot study to prove benefits of exercise video games.

In the single–group study Serber conducted, 14 participants with prehypertension — slightly elevated blood pressure — completed a 12–week program which included supervised sessions using Wii Fit and similar exercise video games on the Nintendo Wii platform.

“The program was modeled after a traditional exercise intervention,” Serber said. “It consisted of three sessions a week for 12 weeks — intense enough that we could see some changes. We looked at all kinds of variables: height, weight, balance, flexibility, cardiovascular endurance, heart rate, blood pressure. We also looked at attendance, satisfaction with the program and quality of life measures.”

Unless lifestyle changes are made, prehypertension, as the name implies, can lead to hypertension — or high blood pressure — which increases the risk of heart disease, stroke and other ailments. The program has been very successful, Serber said, at reducing systolic blood pressure.

“They liked it. They had fun. And we got them engaged in moderate physical activity. We saw positive changes across a wide range of variables. Their physical activity minutes increased, obviously. We saw changes in peak heart rate, resting systolic blood pressure and hip circumference. We also saw improvements in quality of life — higher satisfaction with health, improved emotional well–being and increased vitality.”

Serber believes that exercise video games present unique opportunities to reach patients who might otherwise not get enough exercise.

“Using the Wii and other exercise video games,” she said, “is another way of reaching those struggling with being physically active. It can be particularly problematic for those at home with children to meet their physical activity requirements. The Wii is at home, it’s convenient, and, physically, it’s as beneficial as other moderate activity.

“There is a huge appeal to its portability and its ability to reach into the home. These games are used in assisted care and rehabilitation facilities, as a way to get people moving. It definitely beats kids or even adults just sitting there on the couch. Video games are going to be around for a while; they’re not going anywhere. So it’s useful to tap into their appeal.”

Serber also believes that video games, being games, might hold the key to keeping people engaged and helping them meet their physical activity requirements over the long term. “We’re struggling to find ways to get people to maintain physical activity over a period of time,” she said. “Due to psychosocial factors, like motivation, exercise video games might even be better than traditional forms of exercise.”
Serber said she had never played exercise video games herself before to conducting the study. “I play them now, but I was not a Wii Fit user when I started. I have purchased a Wii for my family. I think they hold a lot of promise, and they’re a lot of fun. One of the things I’m passionate about is trying to get people to adopt healthy behaviors, whether eating better, getting more physical activity or taking care of their emotional health.”

Prior to Serber’s work, most similar studies only looked at snapshots of adolescent populations, rather than adults over multiple sessions. Serber said her study provides a good basis to continue the research going forward.

Beth Bock, Ph.D., professor of psychiatry and human behavior at The Miriam Hospital and Brown University’s Centers for Preventive and Behavioral Medicine in Providence, Rhode Island, is a co-author on Serber’s paper and has obtained an R01 grant from the NIH’s National Heart, Lung, and Blood Institute to continue the research, comparing exercise video games to other forms of physical activity. Serber is also a co-investigator in Bock’s study and is hopeful that video games will continue to prove themselves not only entertaining distractions, but keys to good health as well.

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