

# Pedometers motivate people with diabetes to walk more

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The use of a pedometer and a Web site that tracked physical activity levels proved to be powerful motivators for people with diabetes who participated in a recent walking study conducted by researchers from the University of Michigan Health System and VA Ann Arbor Healthcare System. The study also suggests that certain types of goal-setting may be more effective than others.

All participants in the study wore pedometers and received automated weekly goals that were based on their previous week's walking activity. For half of the participants these goals were "lifestyle goals," meaning that any step taken during the day counted. The other half received "structured goals," in which only steps taken during long walks that lasted at least 10 minutes counted. These participants had a smaller target number of steps to take in a day than the lifestyle group.

Study participants in both groups increased their walking significantly during the program and there was no difference between the groups in terms of increased walking. However, the type of goals that participants were given in the six-week study strongly influenced their satisfaction with the program. Those who received lifestyle goals were more satisfied with the walking program, and wore the pedometer more days during the study period and for more hours during each day than those who received structured goals.

The finding sheds light on a debate among exercise experts about the ways in which people should increase their levels of activity. Some have

contended that the only effective walking programs are those in which long periods of activity (known as “bout steps” in this study) are counted. Others have said that counting every step is a better motivator and is just as effective as bout-step programs.

“Walkers in the group where every step counted experienced the same benefit as those who just had their bout steps recorded,” says lead author Caroline R. Richardson, M.D., assistant professor in the Department of Family Medicine at the U-M Medical School and research scientist at the Veterans Affairs Health Services Research and Development at the VA Ann Arbor Healthcare System. The study appears in the *International Journal of Behavioral Nutrition and Physical Activity*.

“The fact that they were also more satisfied with their program suggests that this approach may be more successful for many people than a program that only recognizes long periods of activity,” Richardson adds.

Study participants were 35 individuals with type 2 diabetes who were both sedentary and overweight, and who were interested in starting a walking program. All participants were given a pedometer that tracked walking and had a built in USB port so that the walking data could be automatically uploaded to the study Web site. Each participant could view his or her step count records and new goals, along with tailored motivational messages and tips about walking, on a personalized study home page.

The focus was on people with type 2 diabetes because exercise is thought to be essential to prevent a worsening of the condition and the development of complications such as nerve damage. That’s why a program that inspires adherence is so important, Richardson notes.

Among the 30 participants who completed the study, steps taken during longer walks lasting 10 minutes or more increased by about 1,900 to

2,700 steps a day, and the increases were roughly the same in both the lifestyle and structured groups. Even though the lifestyle-goals group had every step counted, they, like their counterparts in the other group, chose to increase their walking by taking longer walks rather than by accumulating more steps during many short walks.

In other words, a lifestyle group participant would have her steps counted whether she went for a half-hour walk or just walked outside to get the mail, while the structured group would only have the half-hour walk counted. But in both groups, the increase in the daily totals came from activities like half-hour walks, not by taking more short trips to the mailbox, to and from the car, or visiting a co-worker down the hall.

That means that the increases in both groups stemmed from longer walks – the type of walking that is most beneficial to one’s health. Yet the group that had every step counted was more inclined to enjoy the overall program and was more likely to stick with it.

Richardson’s team also is conducting further studies about the effectiveness of pedometers as tools for motivating people to increase their levels of physical activity. Richardson is a national leader in this area of research.

Source: University of Michigan Health System

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