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Feasibility of a Brief Community-Based Train-the-Trainer Lesson to Reduce the Risk of Falls Among Community Dwelling Older Adults

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Abstract

The Better Balance, Better Bones, Better Bodies (B-Better ©) program was developed to disseminate simple home-based strategies to prevent falls and improve functional health of older adults using a train-the-trainer model. Delivered by Family & Community Education Study Group program volunteers, the lesson stresses the importance of a physically active lifestyle to optimal health and promotes "best practice" strategies to prevent falls. Data from 235 program participants show participants gained knowledge and learned to reduce their risk of falls during this one-hour brief encounter. Over 80% reported intent to change behavior related to physical activity and to perform home safety checks.

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Introduction

Over one-third of healthy adults aged 65 and over living in their own homes experience at least one fall each year. The number of falls and associated injuries increase with age (CDC, 2008), and of those reporting a fall in the previous 3 to 12 months, 20%-25% report falling more than once (Gunter, White, Hayes, & Snow, 2000). The American Geriatrics Society/British Geriatrics Society Clinical Practice Guidelines for the Prevention of Falls in Older Persons provides a framework for fall prevention intervention (Panel on Prevention of Falls in Older Persons, 2010). Among healthy community-dwelling elders, the focus on prevention is directed toward medication management, assessing and altering the home environment, and assessing and improving physical activity behaviors. A recent editorial in the *British Journal of Medicine* posed the question: "How can we engage older people in regular exercise and physical activities and educate them about fall prevention?" (Morris, 2012).

We developed a lesson directed toward these pillars of fall prevention to be delivered by Family and Community Education (FCE) Volunteers. This article details the content and delivery feasibility and presents ideas regarding how to optimize such efforts through community partnership and online educational delivery models.

The Oregon Association for Family and Community Education is an independent non-profit

organization with a history and mission that closely aligns with the Oregon State University (OSU) Family and Community Health (FCH) Program. There are more than 600 members from all over Oregon, the majority of whom are Caucasian females aged 50 and over. This is consistent with Oregon volunteer profiles generally (Braker, Leno, Pratt, & Grobe, 2000) and with other FCE groups nationally. For example, the typical Florida FCE Volunteer is a 71 year-old, Caucasian woman (Hoover & Connor, 2001). FCE groups provide an opportunity for peer-led learning to promote awareness about manageable fall risk factors and teach participants skills to reduce their risk of experiencing a fall.

The Better Balance, Better Bones, Better Bodies (B-Better ©) Program

The B-Better program uses a social cognitive theoretical framework that considers environmental, social, and individual level factors associated with fall risk. The B-Better © curriculum was co-developed by OSU Extension faculty (Gunter & John, 2010a, b, c) to disseminate simple home-based strategies to prevent falls and improve functional health of older adults using a train-the-trainer model as part of the Family & Community Education Study Group program. The lesson stresses the importance of a physically active lifestyle to optimal health and promotes "best practice" strategies to prevent falls, including strength/balance exercise, home safety inspection, medication management, and vision screening.

Peer trainers in the form of FCE volunteers act as role models to promote self-efficacy related to risk reduction behaviors (physical activity, medication management, conducting a home environmental assessment). Participants complete an exercise-readiness questionnaire, learn (and perform) basic balance and strength exercises, and practice the steps to developing an Action Plan for behavior change related to fall prevention. The contact time with FCE leaders is approximately 1 hour. Participants receive additional resources, including access to online medication management and physical activity training modules, a home safety checklist, and home-based exercise handouts. The B-Better© program materials are accessible online at: http://extension.oregonstate.edu/fch/fce-lessons (Gunter & John, 2010a, b, c).

B-Better© Evaluation Process

Following the lesson, participants complete an evaluation to determine their perceived knowledge gains related to fall prevention, their current self-reported fall prevention behaviors, and their intent to change fall prevention behaviors.

B-Better© Program Results

Table 1 presents the evaluation data from 235 B-Better © program participants, all of whom were members of the FCE Volunteer program. All but a handful of participants reported knowledge gains that if applied may reduce the likelihood of experiencing a fall. Similarly, participants reported that they learned and practiced fall risk reduction exercises and developed an Action Plan to support positive changes in fall prevention behaviors (Table 2).

Table 1.

B-Better Program Evaluation Results (n=235 respondents)

Evaluation Survey Item	Disagree / Strongly Disagree (% respondents)	Agree / Strongly Agree (% respondents)
1. I understand the importance of a physically active lifestyle to optimal health		100%
2. I learned the 4 main types of exercise that an [older] adult needs to gain health benefits	1.2%	98.8%
3. I learned the importance of improving balance to protect my skeleton from fracture	0.8%	99.2%
4. I understand that the greatest risk factor for fracture is a fall	1.2%	98.8%
5. I understand the best way to protect my bones is to avoid a fall	1.6%	98.4%
6. I learned 4 things to do or changes a person can make to lower one's risk of falling	0.8%	99.2%
7. I learned strategies to include physical activity into my daily life in order to reduce my risk of falls	1.2%	98.8%
8. I practiced basic balance exercises and basic strength exercises	6%	94%
9. I charted a plan of action for reducing risk of falls and falls related fractures	5.5%	94.5%
10. I have received scientific information about physical activity, falls and fracture risk that I can use to optimize my health	1.2%	98.8%

Table 2.

Participants' Fall Prevention Behaviors Before the Lesson and Their Behavior Intent Related to These Same Behaviors Following the Lesson

	Before B-Better ©	After B-Better ©

Fall Risk Reduction Behavior	Did Regularly	Did Sometimes	Did not Do	Intend to do Regularly	Intend to do Sometimes	Have no Intention of Doing
Perform home safety checks to reduce my risk of falls	32.7	54.5	12.7	81.4	18.2	0.5
Talk with my health care provider about exercise to prevent falls	17.5	31.3	51.2	53.9	38.7	7.4
Perform balance exercises	23.3	49.3	27.4	80.1	19.4	0.5
Perform strength exercises	32.9	48.4	18.7	81.6	18.4	0

Survey responses were scaled (1=did regularly/intend to do regularly; 2=did sometimes/intend to do sometimes; 3=did not do/no intention of doing). We performed non-parametric analyses to determine differences between what individuals reported they were doing before they participated in the B-Better© program and compared those responses to what they reported they intended to do after participating in the B-Better© program. For each behavior surveyed, there was a significant difference in participants' responses from pre- to post-lesson ($P<0.001$). Specifically, these differences represented an increased intent to perform each fall preventive behavior. Prior to participating in the program, 32.7% and 54.5% of participants indicated that they regularly or sometimes performed home safety checks, respectively. Following the program 81.4% reported they intend to do this regularly. Prior to the program, 17.5% and 31.3% of participants regularly or sometimes discuss fall risk with their health care provider. Following the lesson 53.9% intend to do this regularly, and 38.7% intend to do this sometimes. With respect to exercise behaviors, approximately 50% of respondents indicated that they sometimes perform balance and strength exercises, while 80% reported they intend to do them regularly after participating in the B-Better© Program.

B-Better© Program Possibilities Through Partnership

This program was well-received by peer trainers and program participants and addresses a public health issue that is widespread in the United States. There are numerous volunteer organizations such as the Retired and Senior Volunteer Program, Meals on Wheels, and Dial-a-Bus whose volunteers regularly intersect with older adults in their home environments. There exists an opportunity for Extension to partner with these organizations to better serve seniors and in particular positively influence fall risk or even identify those at the greatest risk of a fall through brief encounters. Through online training programs these volunteers could learn to deliver these lessons to seniors utilizing these social services that may otherwise be unable to access such a program. Further, if the B-Better program was developed into an online training and progress could be monitored periodically by volunteer program personnel during follow-up brief encounters with past program participants, we may be able to reduce the risk of falls and fractures among thousands of seniors who access these services.

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