

Bone Builders
Ten Years of Improving Bone Health

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Introduction

Osteoporosis is a preventable and treatable disease, but it is a growing problem. The 2004 *Surgeon General's Report on Bone Health and Osteoporosis* (2004) states that 50 percent or more of women over the age of 60 will have osteoporotic fractures. This high rate is due to limited awareness of risk factors and how to prevent osteoporosis. Unfortunately, many women do not know they have osteoporosis until they have a fracture. An average of 24 percent of hip fracture patients' aged 50 and over, die in the year following their fracture. A woman's risk of developing osteoporosis is equal to the COMBINED risk of developing breast, uterine, or ovarian cancer, according to the Surgeon General's Report (2004). Although osteoporosis is thought of as an old person's disease, it could be described as a pediatric disease with geriatric outcomes, due to the importance of prevention. As baby boomers move into their senior years, osteoporosis will become a greater challenge with higher medical costs, just due to their sheer numbers. (National Osteoporosis Foundation, 2008)

Purpose

The University of Arizona Cooperative Extension and College of Public of Health formed CHAPS, **Community Health Advancement Partnerships**, to build community based health promotion outreach in Arizona counties. (Houtkooper, et al, 2002) One of the issues was bone health and how to prevent osteoporosis through a community-based prevention program.

Bone Builders osteoporosis prevention education program started in 1998 as a community partnership with Cooperative Extension in Maricopa County and ten other organizations. Bone Builders is a train-the-trainer education and social marketing program. The initial goals of *Bone Builders* were to increase awareness of osteoporosis risk factors and to increase osteoporosis prevention behaviors by women aged 25-55 years old, like eating high calcium foods and increasing physical activity. The audience expanded to older women and men in 2000. The curriculum was based on physical activity bone strengthening research at the University of Arizona, local focus groups and other osteoporosis prevention research. A baseline community phone survey with women aged 25-55 found 76.5 percent said they knew what osteoporosis was; however, only 58 percent could give a correct answer and 91 percent did not know what types of exercise could reduce risk for osteoporosis. (Larkey, Day, Houtkooper & Renger, 2003)

Methods

Bone Builders built a volunteer force to promote osteoporosis prevention in community and worksite settings. The social marketing uses public service announcements, newspaper features, a website, and phone information hotlines. More than 430 volunteers have completed a 2-day workshop taught face-to-face or by videoconference, simultaneously in Phoenix and Tucson over the past ten years. The instructors included University of Arizona faculty in Nutritional Sciences, Medicine and Physiology, dietitians, county Extension Family and Consumer Sciences faculty, pharmacists, local physicians, and DEXA technicians.

Volunteers receive lesson plans, background information, outreach resources, planning/reporting materials, and a quarterly newsletter. Trained volunteers and staff teach community classes, provide outreach education at health fairs and bone density screenings. The length of service by each volunteer varies from 6 months to several years. One of the major challenges in building and maintaining a community education program is keeping and motivating volunteers. The county Extension faculty organized local volunteers, supplied resources, coordinated media outreach and processed data. Volunteers and staff collect risk factors and knowledge gain data from classes and health fairs. Class participants complete risk factor questionnaires, stages of change and knowledge surveys.

Bone Builders partners include the University of Arizona College of Medicine, Arizona Nutrition Network, Arizona Osteoporosis Coalition, county health departments, City of Phoenix, health providers, Arizona Nutrition Network and many other community organizations. Bone Builders currently has staff and volunteers in 5 counties and volunteers in an additional 4 counties reaching 80% of Arizona's population.

Results

Bone Builders has distributed ninety-five thousand brochures, "Like Mother, Like Daughter, Building Strong Bones for a Lifetime," and 4800 accompanying posters in physicians' offices, community centers and worksites over the past 10 years. The website [*www.BoneBuilders.org*](http://www.BoneBuilders.org) with English and Spanish versions has grown each year and had 34,938 visitors with 922,057 hits in 2007 or 96 visitors/day. Over the past ten years, Bone Builders staff and volunteer have taught 1900 classes to 37,200 participants and reach 98,800 people at 555 health fairs.

A summary of 2,000 community participants in Maricopa County rated their knowledge before the classes as 2.5 and as a result of the class 4.5 (out of 5-point scale with 5 high). A sample of 211 community class participants found that 48 percent had a family history of osteoporosis. Participants included 21 percent under age 44, 39 percent between 45 and 64 and 40 percent 65 or older; 71 percent took calcium supplements, 16 percent did some weight-bearing exercise, 38 percent had a bone scan before the class and 40 percent of those had below normal bone density. Seventy-nine percent intended to make changes as a result of the class. When called 4-6 months later, 39 percent said they actually increased their calcium consumption as a result of the Bone Builders classes; even 15 people who had not planned to make any changes at the time of the class increased their calcium intake. 19 percent of the group started taking supplements. 36 percent had increased their weight-bearing exercise. 22 percent went on to get a bone density scan because of attending the class.

Implications for Extension

Bone Builders has proven that a community-based osteoporosis prevention program can improve knowledge and change health behaviors. Cooperative Extension has a critical role to play in health education by bringing together diverse health professionals, nutrition and family experts, grassroots organizations and community volunteers to address growing prevention concerns. Recruiting, training and motivating volunteers are on-going challenges that Cooperative Extension must address to build and maintain a grassroots education program.

References

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Possible Additions

Photos of volunteer training or Bone Builders community classes available

Bone Builders logo available

www.bonebuilders.org - home page image