Falls Prevention Health Fair a Great Success

On September 27th, the North River Civic Center hosted a community Falls Prevention Awareness Day event with the theme Ready, Steady, Balance. The event helped raise awareness that many falls among older adults can be prevented with regular physical activity, a fall risk assessment by a healthcare provider, a safe and supportive home environment, and a yearly medication review, eye exam, and hearing assessment. Activities at the health fair included health screenings, educational sessions, medication review and take back, home safety stations, and a welcome ceremony complete with chair exercising.

The event was sponsored by the Chattanooga-Hamilton County Health Department, University of Tennessee at Chattanooga, City of Chattanooga Youth and Family Development, Erlanger Trauma Services, and BlueCare Tennessee, in partnership with additional community agencies and networks. Over 100 students from UTC’s departments of Nursing, Physical Therapy, Occupational Therapy, Psychology, Nutrition, Social Work, and Athletic Training were present. "UTC has a vested interest in a healthy Chattanooga. Through partnerships with many community agencies including the Chattanooga-Hamilton County Health Department, we are able to offer health fairs such as this event. During the assembly, attendees received information about specific health care concerns. UTC students had the opportunity to practice their skills in an authentic setting. This experiential learning allows students to develop said skills through practice and reflection," reported Britt Cusack, Endowed Chair of Gerontology at UTC. “In Hamilton County, Tennessee, there were 736 fall-related hospitalizations among older adults in 2012, resulting in almost $27 million in hospital charges. In that same year, 19 older adults died as a result of a fall,” said Carleena Angwin, public health educator with the Chattanooga-Hamilton County Health Department. For further details, visit www.FallPreventionChattanooga.com.
The reBARKable Effect That Animals Have on Geriatric Persons’ Health
Alex Snyder, RN, BSN, MSN Student

Nearly two-thirds of all US citizens and half of elderly individuals own a pet (Herzog, 2011). The integration of these four-legged friends into our households provides us with companionship, happiness, and sometimes unpredictability. However, do we actually understand the physiological and psychological benefits that our pets provide? The U.S. Census Bureau estimates that by the year 2050, 83.7 million people living in America will be over the age of 65. That’s nearly double the estimated population of 43.1 million senior Americans that were living in 2012 (Ortman, Velkoff, & Hogan, 2014). As people age, the risk of developing physiological and psychological disease processes increases. Another issue that America is facing is the overpopulation of animal shelters. The American Society for the Prevention of Cruelty to Animals (ASPCA) reports that 7.6 million companion animals enter animal shelters each year, and 2.7 million of these animals are euthanized (2016). This article will examine research that has been conducted over the physiological and psychological benefits that domestic animals can have on the geriatric population’s overall health in hopes of proposing a solution to two ongoing issues in America’s society.

The Centers for Disease Control and Prevention lists cardiovascular disease as the leading cause of death among Americans (2016). This disease process is one in which compliance with a treatment regimen is essential for appropriate management. First-line pharmacologic management of heart failure often times includes an angiotensin-converting-enzyme (ACE) inhibitor or beta-blocker. The goal of both of these medications is to reduce the blood pressure and heart rate in order to ease the workload of the heart. In the article Cardiovascular Reactivity and the Presence of Pets, Friends, and Spouses: The Truth About Cats and Dogs, the authors conducted a study to determine the reactivity of heart rate and blood pressure to that of physiologic stressors. The results of this study concluded that “pet owners exhibited significantly lower resting heart rates, systolic blood pressure, and diastolic blood pressure than non-pet owners” (Allen, Blascovich, & Mendes, 2002). A non-pharmacologic management to cardiovascular disease is improving one’s lifestyle through appropriate amounts of exercise. In the article Does Getting a Dog Increase Recreational Walking?, Cutt, Giles-Corti, and Burke concluded that dog owners were more likely to achieve recommended levels of physical exercise through walking. The duration of walking times also increased for this population segment from anywhere between 22 to 31 minutes per week after acquiring a
These articles present evidence that through the ownership of pets, agonistic effects of cardiovascular pharmacology and improved lifestyle modification can be achieved.

Cardiovascular disease is a physiological disease process that can be devastating to the elderly, but psychological illness is also a pertinent health issue among this population. Depression is one of the most common mental illnesses, of which aging is a risk factor. The geriatric population frequently encounters many life stressors, such as loss of a spouse, retirement, decreased income, and chronic health conditions that may also predispose them to depression. Animals are a great resource to provide the companionship and interaction that many aging individuals seek and enjoy. El-Alayi et al. wrote an article concerning the emotional well-being of individuals and pet ownership. The authors of this article noted “strong evidence to the effect that companion animals are associated with increased self-esteem, life satisfaction, positive moods and lower levels of loneliness” (2006). Decreasing the risk and incidence of depression through pet ownership will in turn promote increased energy and self-esteem allowing older individuals to participate in the adequate physical health maintenance to prevent other physiological disease processes from occurring.

The ownership of a pet does not occur without the potential for minor negative impacts among the elderly. Increased responsibility, certain financial requirements, and increased risk of falls are a few examples that could ensue. However, the aforementioned positive outcomes of pet ownership on elderly individuals' health far outweigh the risks of the negative consequences. The opportunity of a mutually beneficial relationship between pet and owner also exists due to the plethora of animals in need of a permanent home. Ultimately, the ownership of a pet is proven to improve the physiologic and psychologic health aspects in the geriatric community.
“Frailing” or Failing? Defining Frailty Syndrome vs Adult Failure to Thrive for Clinical Practice

Britt Cusack, DNP, ANP-C, APN & Christian Harbin, BSN Student

Physical decline and aging often go hand-in-hand – they are frequently synonymous. As one ages, the body naturally undergoes a slow process of deterioration, and sometimes this process results in what is known as frailty syndrome. When most people hear this term they think of general fragility. While this is true to an extent, it has been suggested that at least three of the following elements must be present in order to deem an individual as frail: “unexplained weight loss, self-reported exhaustion, weak grip strength, slow walking speed, and low activity.”¹ Based on this definition, experts on aging agree that frailty is a very important, yet complex, medical condition and one that has many causative factors and ultimately “increases the vulnerability of a person for greater dependency and/or death.”² Furthermore, Phillips-Burkhart (2016) reveals that frailty is commonly found among those individuals who are older than 70 years of age, while its prevalence drastically increases among those who are older than 80 years of age.³

References


It is important to be able to screen for the existence of frailty as well as to provide strategies that seek to manage this condition. A useful instrument that has been developed uses the mnemonic FRAIL; fatigue, resistance, aerobic, illness, and loss of weight. Each of these prompts a question to determine frailty. These questions, representative of the words that make up the mnemonic, include the following: “Are you fatigued? Do you have difficulty walking up one flight of steps? Are you unable to walk at least one block? Do you have more than five illnesses? Have you lost more than 5% of your weight in the last 6 months?”

If an individual responds ‘yes’ to three or more of these questions it is likely that he or she may be frail, and referral to a geriatric specialist for additional evaluation and management should be considered.

Some strategies that can be implemented to help manage frailty include regular exercise to enhance both strength and mobility, nutritional supplementation (particularly protein and vitamin D), and the elimination of unnecessary medications.

While frailty syndrome is considered a physical condition among the elderly, adult failure to thrive (AFTT) is recognized as a diagnosis. Furthermore, while frailty syndrome is clearly defined by the distinct criteria discussed above, AFTT has never appeared to have a consistent definition.

According to Kumeliauskas, Fruetel, and Holroyd-Leduc (2013), the current application of the term failure to thrive “is often used to describe a syndrome of global decline that occurs in older patients as an aggregate of frailty, cognitive impairment, and functional disability, complicated by medical comorbidities and psychosocial factors.”

Although the criteria defining AFTT are more vague and are not as clearly understood as frailty syndrome, it is fair to say that it is a comprehensive finding that encompasses an even more complex state of health than that of frailty syndrome alone. It is important for the provider to know that AFTT is recognized as a diagnosis and is coded with an an ICD 10 code of R62.7. Frailty syndrome does not currently hold an ICD 10 code, although R54 is often used for frailty since it is the code for “age-related physical disability.” It is the thought of these authors that a unique ICD 10 code should be created for frailty syndrome so it can be classified appropriately.

Just as AFTT has experienced controversy as to how it should be defined, there is disagreement related to its general application. It has been stated that a number of underlying illnesses are at risk of being overlooked when an individual is given a diagnosis of AFTT. Robertson and Montagnini (2004) reveal that these illnesses commonly include “cancer, chronic lung and renal diseases, diabetes, stroke, and tuberculosis.” The argument against the diagnosis of AFTT is that it ultimately diminishes the pathophysiological processes that may have led to the diagnosis in the first place. Alternatively, Rocchiccioli and Sanford (2009) state that this complex health condition “may be a part of the natural dying process, and the opportunity for providing end-of-life care should not be overlooked by health care
In the end, whether the terms frailty syndrome or AFTT are used, they should not be used synonymously. Healthcare providers serving the elderly need to be educated regarding these conditions so their patients can be treated in the most complete and holistic manner.

References


Get Outdoors: The Benefits of Outdoor Physical Activity in Older Adults

Rebecca Brown, RN, BSN, MSN Student

Chattanooga is nationally known as a great place for outdoor enthusiasts. Therefore, there is ample opportunity for individuals with a range of physical abilities to participate in outdoor activities in a scenic environment locally. Even more compelling is the research that suggests a positive impact in relation to not only physical activity, but physical activity that is done outside. A study by Kerr et al. (2012) found that biophilia, or the idea that humans have an innate connection and attraction to nature, may contribute to the positive impact of the outdoors. This article focuses specifically on the benefits of outdoor physical activity in the older adult population.
Despite the common stereotype, a nationally representative sample of adults 65 years or older prefer to walk, jog, garden, or play sports rather than watch TV, attend religious services, or travel. The questions asked among this sample included the ability of the individual to participate in their favorite activity in the past month. The fact that an overwhelming proportion of older adults chose physical activity as their favorite activity, and that they have been able to do it recently, provides an optimistic outlook for the aging population (Szanton et al., 2015).

It is known that physical activity is important, furthering on this evidence is the increasing amount of studies suggesting that lifestyle factors have a significant impact on how well people age (Bherer, Erickson, & Liu-Ambrose, 2013). Chronological aging is associated with an increased risk of chronic conditions and diseases such as cardiovascular disease, metabolic syndrome, and cognitive impairment. Three lifestyle factors are found to play a significant role in slowing the rate of cognitive decline and preventing dementia; a socially integrated network, cognitive leisure activity, and regular physical activity. In this review as well as others, out of the three lifestyle factors listed, physical activity has the most support as protective against the deleterious effects of age on cognition and health. Longitudinal studies found that older adults who have participated in physical activity show less cognitive decline over two- to ten-year follow up periods. According to the Alzheimer’s Association, late-life moderate exercise is associated with a 32% lower risk for mild-cognitive impairment (Bherer et al., 2013).

There is undeniable evidence regarding the overall benefits of physical activity in the older adult population as referred to above. There are a variety of settings in which this activity can take place such as in the home, in a “built” environment outside of the home, or outdoors. The positive impact of being outdoors is a fairly new body of research. There is further lack of research in reference to the positive impact of being outdoors in relation to the older adult population. Commonly seen advertisements are usually directed towards the younger population, creating a gap in encouragement for older adults to get outdoors.

Being exposed to nature has been found to promote an abundance of health benefits. Experimental studies have consistently found short term positive effects of physical activity in nature compared with built environments (Pasanen, Tyrväinen, &
Korpela, 2014). Previous epidemiological studies found positive correlations between neighborhood greenery and long term health indicators such as morbidity, and mortality (Pasanen et al., 2014). There is a need for further research regarding the long term benefits of participating in physical activity outdoors, specifically focusing on the older adult population, in order to further validate these findings.

Many experimental studies have focused on the short term positive effects of being exposed to nature, such as changes in mood, and physiological stress measures (Pasanen et al., 2014). Overall general health positively correlates with physical activity indoors and outdoors, whereas emotional well-being showed most consistent positive connection to physical activity that took place in nature. There is also promising evidence which suggest that being physically active in nature can improve sleep quality. This is likely due to the exposure to natural light, and physical activity, both of which have been associated with better quality of sleep. Individuals often correlate sleep quality with their quality of life. An added benefit of being outdoors is the exposure to sunlight; studies show that even short periods of time can improve vitamin D levels, which is beneficial for bone health in older adults (Kerr et al., 2012).

Staying physically active is the closest advice that gerontologists and geriatricians have to a “silver bullet” to prevent and ameliorate depression, heart disease, and further disability (Szanton et al., 2015, p. 7). Health care providers therefore have the opportunity to educate the public and have a positive impact on their patients, and the communities’, health related habits. Providers can use verbal counseling, as well as written prescriptions as way to promote outdoor physical activity in older adults. A study conducted Dauenhauer, Podgorski, and Karuza (2006) found that 41% of primary care providers report not prescribing exercise for older adults and that 85% of the sample reported having no formal training in exercise prescription. Further, the few prescriptions that providers did dispense were usually in verbal rather than written format. This identifies a need for further education of providers regarding the ideal format to prescribe physical activity.

In conclusion, being outdoors and being active were both related to greater self-reported physical functioning, less fear of falling, and fewer depressive symptoms in older adults. If physical activity and outdoor time both have independent effects on health, public health guidelines should encourage older adults to preform physical activities outdoors as a more efficient way to obtain both sets of heath benefits (Kerr et al., 2012). This topic is important from the perspectives of city planning, individual well-being, and public health (Pasanen et al., 2014). Health care providers can positively influence the older adult community by counseling and prescribing outdoor physical activity appropriately.
Exercising Elders: Benefits of Exercise for Bone Health

_Liz Hathaway, PhD, MPH, MEd_

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In the US, more than 1.5 million osteoporotic fractures occur annually with the majority of these occurring later in life when rates of bone loss are at their highest (Black & Rosen, 2016). While nutritional factors can have deleterious effects on bone mass and bone strength, bone loss also occurs with lack of weight-bearing physical activities (Booth, Roberts, & Laye, 2012). Weight-bearing activities produce biomechanical stresses on the bones, beginning a cascade of events that cause bone remodeling (Castrogiovanni et al., 2016). To maintain strength, bone needs repeated stimulation, of adequate magnitude to enable it to function properly during activities of daily living (Drenjancevic & Davidovic Cvetko, 2013). A sedentary lifestyle, or physical inactivity, causes bone loss due to the loss of stimulation needed to remodel bone and keep it strong (Tremblay, Colley, Saunders,
Two of the overarching benefits of exercise pertaining to bone health include increased physical functioning (Landi et al., 2010) and decreased risk of frailty (Peterson et al., 2009). Benefits of specific types of exercise are shown below (Taylor, 2008).

**Benefits of Different Types of Exercise to Bone Health**

<table>
<thead>
<tr>
<th>Type of exercise</th>
<th>Benefits</th>
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<tbody>
<tr>
<td>Weight-bearing aerobic exercises</td>
<td>Maintains/builds bone mass; improves physical fitness, dynamic balance, core strength, and functional capacity</td>
</tr>
<tr>
<td>Muscle-strengthening exercises</td>
<td>Improves function, reduces fall and fracture risk; strengthens lower extremity muscles utilized in weight-bearing position</td>
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<tr>
<td>Back-strengthening exercises</td>
<td>Improves posture and endurance in activities of daily living and reduces fracture risk by reducing compression forces</td>
</tr>
<tr>
<td>Abdominal-strengthening exercises*</td>
<td>Improves core stability and stabilizes the spine and pelvis, reduces spinal compression</td>
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<tr>
<td>Balance exercises</td>
<td>Improves balance, reduces fall incidence</td>
</tr>
<tr>
<td>Stretching</td>
<td>Improves flexibility and posture, reduces pain</td>
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*Without spinal flexion*

A consensus on the optimal exercise recommendation for an individual regarding bone health has not been reached as it would also depend on the age of the person and their bone health (Shipp, 2006). An exercise program including weight-bearing, muscle-strengthening, and balance exercises done for 30-40 minutes daily, at least 3 days per week appear to achieve the purpose of maintaining bone mass (Hingorjo, Syed, & Qureshi, 2008). Of course each person has to tailor the exercises according to his or her own
capabilities, bearing in mind that some exercise is better than none at all. It should be noted, however, that any skeletal benefit acquired during exercise will not be maintained if the individual returns to his or her previous sedentary and inactive lifestyle (Winters & Snow, 2000).

References


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