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Written Paper: Senior Teaching Project

Long Island University

Goals - Sara

1. Students will identify risks and emotional barriers to physical activity.
2. Students will verbalize the benefits and importance of physical activity.
3. Students will return demonstrate selected activities as taught by the instructor.

Methods of Teaching – Cindy

There are numerous teaching methods that one can use based on Blooms Learning Domain. For our assignment we have chosen to use the following:

- A Power point presentation that mentions the benefits and the key elements needed in order to achieve maximum fulfillment.
- A miniature workout - this gives the senior group a visual behind the educational piece. In doing so, you are able to demonstrate just how easy and fun exercise can be and it helps them realize that they incorporate the work out into their everyday life style.
- The wrap-up questions: allows us to recap the information that was presented in hopes that they have learned from the presentation. It is also a way to reflect on the whole presentation and unite all the pieces of the teaching project.

We hope that by using these different methods to teach and educate the seniors, we are showing them the added benefit that exercise can bring to their lives both mentally and physically. This should can help add to their quality of life simply encourage a better way of living.

Methods of teaching – Summary – Ja'von

1. PowerPoint presentation including periodic question & answer modules
2. Interactive demonstration
3. Brochure providing additional learning information and resources

Power point (attached) is based on the research supported in this paper. – Sara

Brochure (attached) – Ja’von (National Institute on Aging at National Institutes on Health, 2011)

List at least 3 principles of teaching/learning you will use in your teaching plan. - Sara

In order to effectively teach the senior audience, this presentation will utilize the three bloom domains of learning, cognitive, affective, and psychomotor. The purpose of the power point presentation is to utilize the cognitive and affective learning domains. In particular, information presented regarding common aging changes, common barriers to exercise, and the benefits of exercise are meant to stimulate critical thinking and analyze their personal situation. Once informed as to the importance of physical activity, the hope is that addressing both physiological and psychological barriers to activity will enable the student to experience affective learning, where the cognitive knowledge gained changes the senior’s feelings about activity. Once the feelings have been changed we encourage behavior changes, another aspect of affective learning, by interactively utilizing psychomotor teaching and having the students participate in muscular movements with the teacher. Learning activities that perpetuate activity will help the students cement the affective learning and make concrete changes in their daily lives (Eliopoulos, 2010).

Include principles pertinent to the elderly learner. How do these relate to the teaching methods you will use? - Sara

Aside from utilizing Bloom’s Learning Domains, it is important to captivate the student audience by motivating the seniors to learn, assess their ability to learn, and consider the learning environment. Furthermore, ensure that there are few distractions in the learning environment. In this case, talking about common age related change and discussing common barriers to activity

help address any concerns the elderly may regarding physical activity. This is crucial to the success of the learning activity because the students must be prepared to learn and dealing with preoccupation or anxiety is a fundamental part of that preparation (Eliopoulos, 2010).

Once emotional barriers have been address the teacher can discuss how physical activities benefit the elderly. Knowing what the benefits of activity are will motivate the seniors to learn which activities are beneficial. At this point the students should be ready, and hopefully eager, to learn utilizing psychomotor instruction as previously discussed (Eliopoulos, 2010).

Furthermore, throughout the teaching project it is important to understand some of the learning changes that take place in the elderly. For instance, understanding that seniors learn more slowly, may not hear well, and are easily distracted, the teacher should speak loudly, slowly, and clearly. Utilizing multiple teaching mediums such as a power point, handouts, and return demonstration will engage the seniors in different domains and senses enabling the seniors to learn more easily and better retain information (Eliopoulos, 2010).

Similarly, breaking information down into small chunks to avoid information overload and ensuring that handouts and power points are written on a 5th to 8th grade reading level, with a high contrast between the background and words will ensure that the seniors are able to read and (Eliopoulos, 2010).

Write out your teaching plan and explain how you would carry out each step. – Ja’von

<u>Target Audience:</u> Group of well elderly patients with concerns regarding fitness and advanced age.
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<u>Nursing Diagnosis:</u> Knowledge deficit: physical activity and fitness, related to decreased physical mobility, as evidenced by questioning about types of physical activities to be performed
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and concerns of safety.

Client Learning Outcomes:

1. Group will obtain increased understanding of risks and barriers to physical activity.
2. Group will obtain increased understanding of benefits of physical activity.
3. Group will obtain increased understanding of types of exercises needed to promote health and prevent injury.
4. Group will obtain increased knowledge on how to incorporate exercise types into daily activities.

Teaching Strategy and Resources:

Overall Presentation Strategy:

1. Utilize large font in a high contrast PowerPoint presentation.
2. Incorporate pictures instead of excessive words in the PowerPoint to maintain group attention and appeal to expected age-related changes in vision.
3. All speakers will project voice clearly and remain concise in the amount of information offered.
4. All speakers will speak at a moderate pace.
5. Visual aids will be used to provide for additional support of information offered in PowerPoint.
6. Live demonstration will be used to allow for group to obtain true representation of how each exercise should be carried out.

Client Learning Outcomes Specified Strategy:

1. Demonstrate via visual aid, PowerPoint and brochure, the risks and barriers to activity detailing expected changes related to age and means by which to prevent injury.
2. Demonstrate via visual aid, PowerPoint and brochure, the benefits of physical activity detailing the physiological, social, and emotional benefits of exercise.
3. Demonstrate via visual aid, PowerPoint, brochure, and live exhibition, the types of exercise to be performed, detailing the information on frequency, duration, and intensity. Show with props one activity from each exercise class, assessing for groups ability to perform a return demonstration of each.
4. Inform, verbally and visually via PowerPoint, ways to incorporate exercise into activities of daily living.

Criteria and Means For Evaluation:

1. Group will demonstrate the ability to correctly answer questions related to risks and barriers to physical activity during the PowerPoint presentation.
2. Group will demonstrate the ability to verbalize 3 benefits of physical activity following the PowerPoint presentation.
3. Group will perform return demonstration of each of the exercises shown.
4. Group will verbalize 3 activities of daily living that engage them in physical activity during the PowerPoint presentation.

Client Learning Objectives:

1. Obtain information that addresses concerns regarding the safety of physical activity as a

result of advancing age.

2. Obtain information about how to start a physical activity regimen and precautions to be taken prior to, during, and following physical activity.

Teaching Content Addressing Client Learning Objectives:

Presentation to include information regarding:

1. Consultation with physician prior to starting physical activity
2. Protective measures to be taken based on physical activity environment.
3. Instruction on addressing speed of progression in physical activity.
4. Garment and footwear safety recommendations.
5. Need for stretching.
6. Proper hydration.
7. Recognizing signs & symptoms of distress.

References and overall paper editing – Sara

Evaluation – Cindy & Sara

Two evaluation tools will be utilized to evaluate how the seniors learning. First, the teacher will observe student participation in the physical activity/return demonstration portion of the presentation. Second, there will be slides with questions intended to summarize and review a few key points taught during the presentation.

Research Paper

Barriers to Physical Activity – Sara Levy

Barriers to physical exercise span the gamut of age related physiologic changes, psychological barriers, and societal changes. The advent of television, the Internet, and modern conveniences such as automobiles and home appliances, have changed the basic activities of daily living in such a manner that meeting minimum suggested physical activity guidelines can be quite a challenge (Eliopoulos, 2010). Furthermore, physical changes of aging affecting musculoskeletal, cardiac, and vision functioning further affect the older adult's ability to participate in physical activities safely. Lastly, emotional and psychological barriers can unnecessarily prevent seniors from participating in vital physical activities.

When considering the various physiologic changes to the body in older age, changes to the musculoskeletal, vision, and cardiovascular systems directly affect one's ability to exercise or participate in physical activity. Factors contributing to musculoskeletal changes include reduction in muscle mass and body strength, reduction in joint and muscle flexibility, impaired muscle regeneration, decreased bone mass and the demineralization of bone. On the whole, these changes lead to increased brittleness in the bones and impaired flexion and extension of movements which puts seniors at risk for falls and fractures. Age related vision changes such as presbyopia and pupil and lens changes lead to a narrowing of the visual field and difficulty seeing in low light and in glare, all of which can be dangerous to active seniors. Furthermore, changes in cardiovascular output, oxygen utilization, and valve thickness and rigidity decrease the availability of blood and oxygen transport during activities which can adversely affect seniors during physical activities (Eliopoulos, 2010).

In a study performed by Fitzpatrick et al. several common psychological and

miscellaneous barriers to physical activity in older adults were identified. Seniors reported feeling that physical activity cost too much, health conditions interfered, and that 30 minutes a day of activity was too much. Furthermore, the high prevalence of fractures due to falls leads some seniors to fear physical activity due to the fear of falling. What is more, inactivity in and of itself is a risk. Longitudinal studies have shown that lack of physical activity can be predictive of death, lead to disability and eventually nursing home admission (2008).

Addressing fears and barriers to activity as well as modifying physical activities for seniors is vital for successful implementation of physical activities. Safety precautions begin with having seniors speak with their health practitioner before implementing a mild to rigorous exercise routine. Advise the older adult to wear properly fitting shoes, avoid risky activities, and ensure the safety of the activity environment, such as removing clutter. Similarly, emphasize importance of careful foot placement during walking and physical activity. Make sure there is adequate lighting, or, if exercising outside, suggest older adults wear a hat or sunglasses to protect their eyes from glare (Eliopoulos, 2010).

Education has proven effective in addressing psychological barriers to activity. Indeed, once older adults have been taught various physical activities which require no gym membership and can be performed at their convenience in a safe manner, self efficacy and confidence helps resolve concerns such as cost, safety, and duration of physical activity (Fitzpatrick et al., 2008). Lastly, as will be discussed later, gradually increasing activity and building endurance can help combat the effects of aging on the body and compensate for general age related body changes. The gradual increase of physical activity also conditions the body gradually, effectively enabling seniors to safely increase and eventually regulate continued activity (Eliopoulos, 2010).

The Benefits of Physical Activity – Cindy Shelton

Exercise is not an activity that has an age limit. Rather, exercise is something that continues to bring forth added benefit throughout an entire lifetime. People are never too old to exercise and live a healthier lifestyle. Physical activity performed regularly will lower systolic pressure, improve upper and lower body strength, improve hip and shoulder flexibility, lower the risk of depression and cognitive decline, and prevent falls (Elsawy & Higgins, 2010).

Over time older people lose both muscle and bone mass, but exercise can be exactly what is needed to truly rejuvenate these overused elements. Physical activity can decrease the risk of chronic diseases and improve body systems. Strong evidence shows the importance of regular exercise and the importance of increased aerobic fitness, when possible, in all adults including seniors. The benefits of physical activity include a decreased risk of heart disease, type 2 diabetes, stroke, high blood pressure, metabolic syndrome, stroke, adverse lipid profile, colon and breast cancers, and risk of early death. One study showed that even moderate physical activity has substantial medical benefits. Participants that walked between five to eleven blocks weekly were 22 percent less likely to suffer from atrial fibrillation than those who walked less than five blocks weekly. Furthermore, those who walked 60 blocks or more weekly had a 44 percent lower risk (Elsawy & Higgins, 2010).

The cardiovascular system as a whole is also influenced by a more active lifestyle. Aerobic conditioning enables the heart, lungs, and blood vessels to effectively deliver oxygen to the body, a vital necessity which enhances the body's ability to effectively enable tissue perfusion. Suggested aerobic exercises include tennis, aerobic dancing, jogging and cycling. Low impact exercises such as swimming and walking are also excellent ways to improve cardiac endurance (Eliopoulos, 2010).

What is more, an active lifestyle can help prevent fractures caused by falls. As students we have learned that falls are the leading cause of death for the elderly. Therefore, reducing the risk of falls is extremely important and should be addressed. Tai chi and yoga are two perfect examples of physical activity that focus on building strength, increasing muscle mass, improving flexibility, and most importantly improving balance – all of which help prevent falls (Elsawy & Higgins, 2010).

One must also address the psychological and emotional benefits of physical activity. Emotionally, physically active adults have a lower risk of developing depression and suffering a cognitive decline than inactive adults. Indeed, in a study of newly hospitalized patients 70 years and older, of 779 participants, all of whom did not have dementia, it was found that regular exercise lowered the risk of delirium by 24 percent (Elsawy & Higgins 2010).

The most important point that needs to be mentioned is that exercise improves a person's quality of life which can in turn help alleviate some of the daily stresses of life and allow them to focus on the positive elements of being in the older age group (Czerniewicz & Nicholson, 2004). A planned exercise regimen can benefit multiple body systems including the central nervous system, musculoskeletal system, and cardiovascular system while enhancing balance and mental health. Furthermore, the constant focus on being active can deter seniors from focusing on the negative aspect of a chronic health condition and focus more on what they can do to contribute to their health rather than focus on the body's decline. The goal of physical activity is continued independence regardless of one's age.

Types of Exercise – Ja' von Jones

“American seniors are the demographic group at the highest risk for inactivity and may benefit the most from exercise, yet have the least access to physical activity information and

programming.” - Ann McDermott and Heather Mernitz, 2004

In ensuring the elderly gain the greatest benefit from exercise, it is very important that the elderly understand the various types of exercise that should be performed for maximizing their health. Exercise for the elderly is divided into four (4) categories: cardiovascular endurance, strength training, flexibility, and balance (Eliopoulos, 2010). Together these four types of exercise can improve and further enhance the overall well being of the elderly. As previously noted, before starting any exercise program, it is very important that a physician is consulted to offer an assessment of which activities can be safely performed. In offering individualized care, it is imperative as well, that the nurse understands the limitations of the client to prevent further injury and offer accurate information when teaching. The goal in teaching should be to optimize the health of the client, prevent injury, and, when necessary, assist in the management of chronic illness by improving cardiovascular health, strength, balance, and flexibility (Ikeme, 2012).

Cardiovascular endurance, the ability for the heart, blood vessels, and lungs to sustain activity that requires increased oxygen intake and distribution to the body, is one of the most important areas of exercise (LeMouse, 2012). Increased cardiovascular endurance can potentially add years to one's life and improve the overall quality of that life. Building cardiovascular endurance improves the ability to perform activities of daily living such as traveling to the grocery store, doing chores around the home, and self-care tasks such as personal hygiene, dressing, and grooming. While important for all persons, it is especially important that in setting goals for cardiovascular endurance for elderly clients there is a focus on workload progression (Eliopolus, 2010). Assessing the current level of ability and gradually building upon that level is necessary. According to the National Institute on Aging (NIA), elderly clients should perform at least 2.5 hours of cardiovascular endurance exercise per week, where the intensity is moderate.

At least 3 days a week of about 50 minutes of cardiovascular exercise is ideal. However, if not possible due to illness, the client should do as much per week as possible, performing 5- 10 minutes of cardiovascular exercise several times a day and increasing gradually over time.

Activities that improve cardiovascular endurance are brisk walking, dancing, and swimming. Not all exercise must look like exercise. Activities around the home that can improve cardiovascular endurance are gardening and yard work (Ikeme, 2012).

The Center for Disease Control and Prevention (CDC) recommends supplementing cardio-respiratory endurance training with strength-developing exercises (McDermott & Mernitz, 2004). In a 2004 case study of exercise and the elderly, McDermott and Mernitz found that strength training, the use of resistance applied to a muscle or muscle group to generate force to move or resist it, is a very important element to performing activities of daily living. Muscle strength is required to do tasks like rising from a chair, carrying bags, and climbing stairs. In incorporating strength training into the exercise regimen for the elderly, it is important to teach strengthening of the seven major muscle groups in the body, gluteals, quadriceps, hamstrings, pectorals, latissimus dorsi, deltoids, and abdominals (McDermott & Mernitz, 2004). One or more of these muscle groups is at use in every activity performed. Thus, improving their ability to perform work is essential to a good quality of life. The focus in strength training is on increasing resistance but doing so over time, also known as progression (McDermott & Mernitz, 2004). Strength training should be performed 2 or more days a week, 30-minute sessions each. Elderly clients should start with light weight, 1 to 2 pounds maximum or no weight at all; gradually increase the weight over time, as per the NIA. It is also recommended that each muscle group be worked in sets that consist of 8 to 12 repetitions each. Exercises that can be performed to increase strength are overhead arm raises, wall pushups, and chair dips. These are exercises

that require no additional resources, however can be supplemented by using every day items like water bottles for added weight and resistance or resistance.

To prevent injury to the body in performing cardiovascular endurance and strength training exercises, flexibility and balance are essential. Flexibility is the range of motion around a joint and is associated with injury and prevention through all life stages (McDermott & Mernitz, 2004). By reducing rigidity in joints and allowing for fluid movement, potential injury to the joint is significantly decreased. Simple exercises like stretching for 5-10 minutes before and after performing exercises. Each stretching exercise should be performed for 10 to 30 seconds, 3 to 5 times during each session, as per the National Institute on Aging. Recommended stretching exercises are abundant and can be performed without any additional equipment. Some exercises that can easily be performed at home are sitting in a chair and leaning forward until the chest touches the knees and holding it, placing arms high in a wall and gently leaning body weight into the wall, and lying on one's back pulling one extended leg close to the chest, while the other is bent with foot flat on the floor. In determining what muscles should be stretched, the seven major muscle groups should always be targeted.

Balance, the even distribution of one's weight, is a key element to reducing injury during exercise and the risks for falls in general. According to the National Institute on Aging, each year, more than 1.6 million older Americans go to the emergency room because of fall-related injuries. By performing balance exercises, the elderly can increase the stability in their gait and ability to perform activities such as lifting things overhead, reducing fall-related injuries. Balance exercises can be easily performed throughout the day and require minimal effort. Exercises such as walking and slightly lifting the knees while holding out the arms, alternating standing on one foot, and rocking weight from heels to toes can be easily incorporated into daily activities.

Lower-body exercises such as leg raises and knee curls also improve balance and can easily be done with a chair as an aid (National Institute on Aging, 2012).

As noted prior, a total fitness routine that encompasses cardiovascular endurance, strength, flexibility, and balance is essential to promoting health and preventing injury in the elderly. In addition, special consideration should be given to environment safety. In performing exercise in cold weather, there is an increased risk of hypothermia in the elderly due to quick, significant drops in blood pressure (National Institute on Aging, 2012). Elderly clients should focus on layering clothing to maintain warmth. In hot weather, there is an increased risk of heat injury because of the decreased ability to regulate body temperature effectively in the elderly. Thus, adequate hydration and clothing that provides for moisture evaporation is necessary (National Institute on Aging, 2012). Ensuring that clothing is also not constricting circulation or restricting range of motion is important as well. Well fitting shoes that are geared towards the exercise to be completed is required as well to reduce slips and falls while exercising (National Institute on Aging, 2012). While these are very real concerns and should be addressed during any exercise routine, the benefits from exercise for the elderly are great. With proper consideration for environment safety, the risks of exercise for the elderly population are significantly reduced.

References

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Author.

Meeting Log

03/19/12	10:00 PM	Internet meeting. Cindy, Ja'veon, and Sara attended
03/26/12	8:50 PM	After class. Cindy, Ja'veon, and Sara attended
04/02/12	08:50 PM	After class. Cindy Ja'veon, and Sara attended
04/04/12	08:50 PM	After class. Cindy, Ja'veon, and Sara attended
04/09/12	08:50 PM	After class. Ja'veon, and Sara attended
04/10/12	07:30 PM	Cindy, Ja'veon, and Sara attended
04/16/12	08:50 PM	After class. Sara, and Cindy attended
04/18/12	08:50 PM	Cindy, Ja'veon, and Sara attended
04/20/12	05:00 PM	Text message meeting. Cindy, Ja'veon, Sara participated

Please note that we were unofficially in contact numerous times throughout the duration of the project by email, phone, and text, however the meetings were unofficial and are too numerous to note.