

## Benefits of Eating Healthy

- Maintaining a healthy diet can:
  - Lower you blood pressure
  - Lower your cholesterol
  - Maintain a healthy weight and BMI
  - Enhance your energy levels
  - Strengthen your immune system
- These measures contribute to lowering risks for heart attack, stroke, diabetes, and even cancer.
- Poor nutrition is a risk factor for pressure ulcers, delays wound healing, and increases mortality rate when someone is ill (Zulkowski, K 2000).
- Healthy foods provide:
  - Vitamins: Things that your body needs to function, but cannot produce them; They must be consumed.
  - Antioxidants: Substances that inhibit oxidation of cells (oxidation is the breaking down of cells).
  - Proteins: A string of amino acids that your body needs for its functioning and energy. Your body cannot produce amino acids, they must be consumed.
- Optimal Sources for Vitamins, Antioxidants, and Proteins:
  - Fruits (Fresh or frozen, more so than canned)
  - Vegetables (Fresh or frozen, more so than canned)
  - Lean Meat
- Poor Choices for Healthy Eating
  - Pre-prepared and restaurant foods do not generally provide the same nutritional benefits
  - Fried Foods
  - Frozen Meals
  - Canned Produce (cooking produce takes away nutritional benefits)

## Physical Effects of a Healthy Diet

- People who take the time to eat healthy foods and exercise tend to live longer (Bell-Wilson, MS, RD, LD, 2004).
- It is important to maintain a balanced diet consisting of fresh fruits, vegetables, grains and fish, which are high in antioxidants such as Vitamins A, B, C and E (Florkowski, Shewfelt, Brueckner, & SE., 2009).
  - These Vitamins counteract free radicals in your body and help the skin repair itself, produce enzymes that stabilize collagen production, and stay moist and healthy.
  - Skin is naturally more supple and clear when a person eats cleansing vegetables. Good foods contain nutrients that nourish hair, making it shiny, thicker and more manageable. Vitamins A and E and biotin are very good for nails and hair.
- Whole grains, like brown rice and oatmeal, and protein, such as poultry, fish, eggs and nuts, often contain the B vitamins thiamin, riboflavin, niacin and folate. These vitamins help the body release energy from carbohydrates, protein and the fats that you eat.
  - Whole grains and proteins also contain a mineral called magnesium, which helps release energy from muscles and help develop strong bones. This means that eating a healthy diet with the necessary portions of whole grains and proteins will have you feeling less sluggish and tired, giving you more energy to enjoy your day.
- Foods found in a healthy diet also help to improve mental clarity which can improve productivity in school or in the workforce. Healthy fats and oils help to feed and nourish the brain (Van Achterberg, Huisman-De-Wall, Ketelaar, Oostendorp, & Wollershien, 2010).
- There are many different effects that a healthy diet can have inside your body that you may not know about.
  - Dietary fiber helps reduce blood cholesterol, which lowers your risk for heart disease.
  - Fiber is also important for proper bowel function.
  - Potassium can help maintain a healthy blood pressure.
- Eating healthy can result in weight loss, too. To lose weight, you must eat fewer calories than you burn through healthy eating and exercise (Elfhag, & Rössner, 2005) .
  - A healthy diet is not just based on the quality of food consumed, but also the quantity. Consuming more calories than you need can be just as devastating to your health as consuming food with poor nutritional value.

## Unhealthy Eating Ultimately Costs More Than a Healthy Diet that Could have Prevented Disease

- In 1993, the elderly accounted for 48% of all days of care in hospitals, with an average length of stay that was 3 days longer than for younger populations (Chen, Cheryl Chia-Nui, 2001).
- The malnourished elderly patients experienced 2 to 20 times more complications, have up to 100% longer hospital stays, and compile hospital costs \$2,000 to \$10,000 higher per stay (Hart Research Associates 1993) (Chen, Cheryl Chia-Nui, 2001).

**Figure 1: Additional % of Money Spent on Health Care Costs Compared to a Person with BMI 20-24.9**

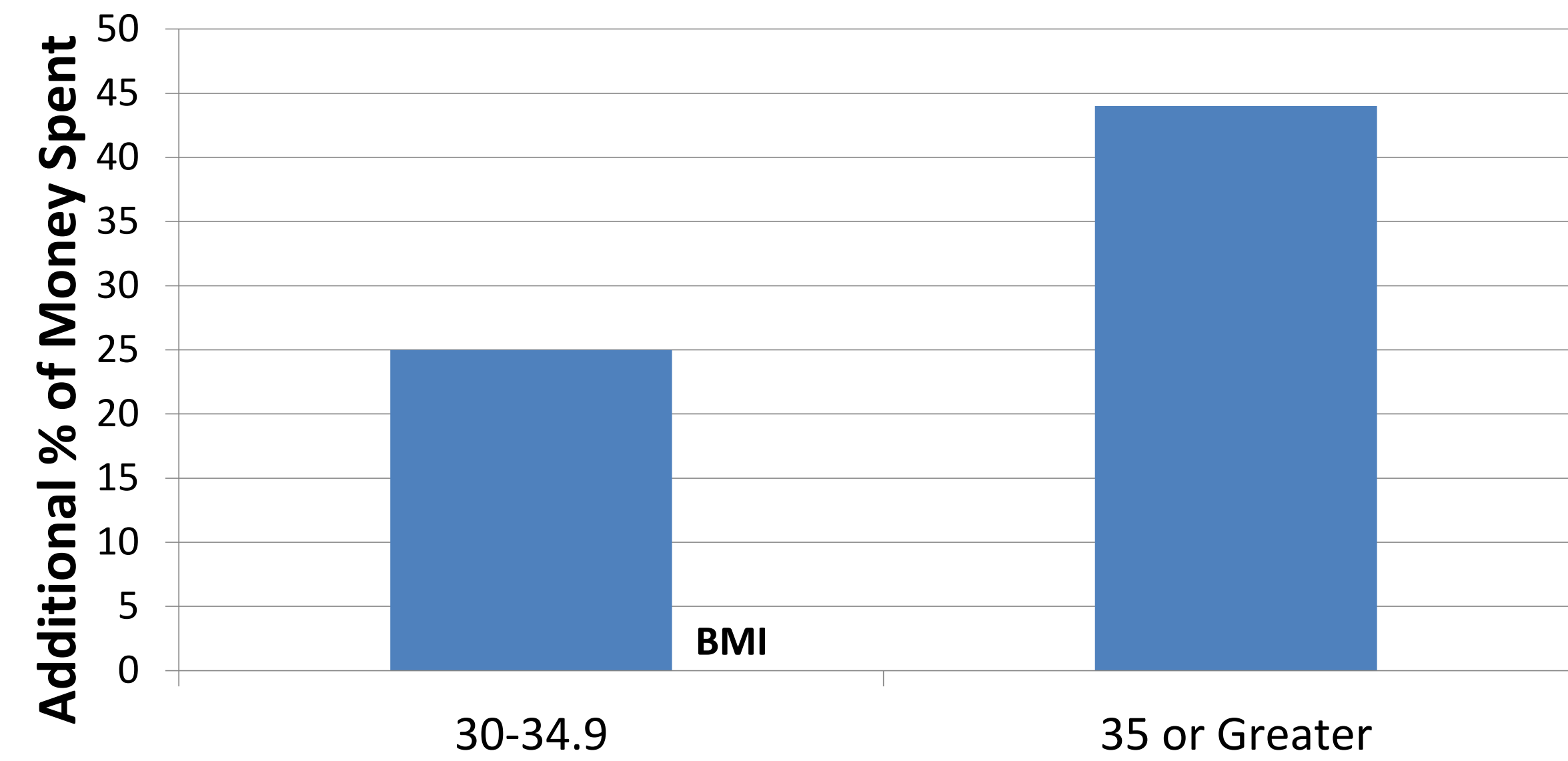


Figure 2: Additional percent of money spent on health care costs compared to a person with BMI 20-24.9. BMI (Body Mass Index) has been shown to be associated with coronary heart disease, hypertension, and diabetes (Quesenberry, Jr, PhD, C. P., Caan, DrPH, B., & Jacobson, MS, A., 1998).  
 •A person with BMI of 30 to 34.9 is likely to spend 25% more on total health care costs annually than a person with BMI of 20 to 24.9 (Quesenberry, 1998).  
 •person with BMI of 35 or greater is likely to spend 44% more on total health care costs than a person with BMI of 20 to 24.9 (Quesenberry, 1998).

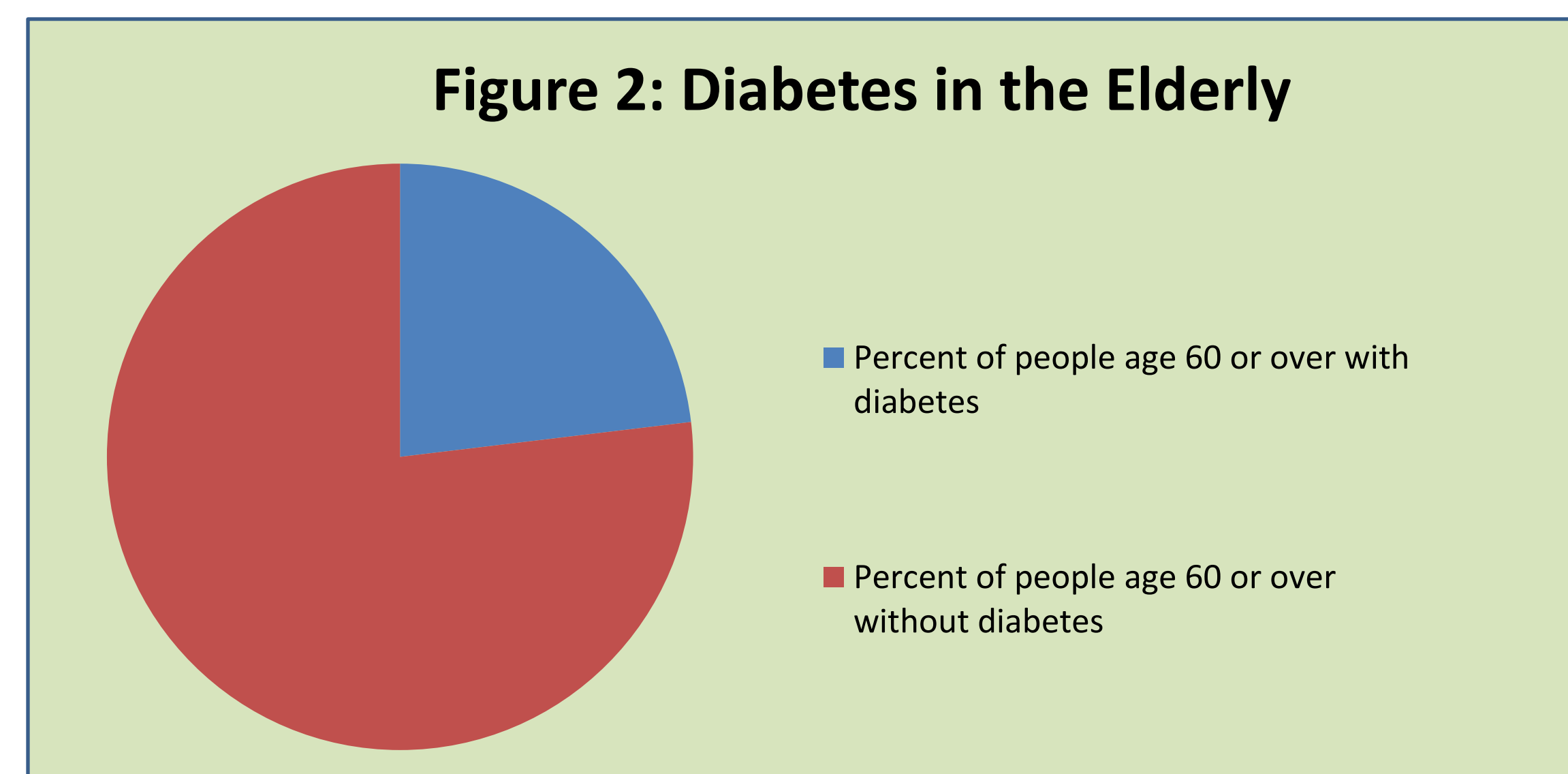


Figure 2: Percent of people age 60 and over with and without diabetes. 12.2 million people in this age group have diabetes which equates to 23.1% of all people in this age group (National Institute of Diabetes and Digestive and Kidney Diseases, 2008).

## Why is Eating Healthy So Hard?

- Top 3 barriers of healthy eating based on “Healthy eating in European elderly: concepts, barriers and benefits” by de Almeida, M D; Graca, P; Afonso, C; Kearney, J M; Gibney, M J:
  1. Self –control
  2. Resistance to change
  3. Price
- Another important factor for healthy eating in the elderly is oral health (Margaret R. Savoca, PhD, thomas A. Arcury, PhD, Xiaoyan Leng, MD, PhD, Haiying Chen, MD, PhD, Ronny A. Bel, PhD, Andrea M. Anderson, MS, Teresa Kohrman, BA, Gregg H. Gilbert, DDS, MBA, and Sara A. Quandt, PhD, 2010).
  - 35% of participants in the study reported avoiding 3-14 foods based on oral health care (i.e. dentures, loss of teeth, loss of muscle tone etc.)
  - Along with avoiding the foods due to oral health they also avoided foods due to gastrointestinal tract alterations, impaired swallowing, shifts in taste, smell, and tactile sensations in the mouth.

## Real World Solutions

### Solutions to cost:

•**Buy in Quantity**--Cost comparisons for different shopping methods:

Item	Price	Item	Price	Savings
<b>Fresh Fruit</b>				
Apples- \$1.99lb		Bulk Apples- \$0.83lb		Savings- \$1.16
Pre-cut Pineapple for one- \$5.99lb		Whole Pineapple- \$2.99		Savings- \$3.00
<b>Meat</b>				
Ground beef for two- \$3.29lb		Bought on sale in bulk- \$1.99lb		Savings- \$1.30
<b>Bread</b>				
Loaf- \$1.00-\$3.29		On sale in advance- \$0.99		Savings- up to \$2.30

•But what do I do with the larger servings that I bought in advance?

- Dehydrating and freezing foods allows for healthier eating throughout the year at an inexpensive cost.
- Freezing food is a great way to store extras
- Pre portion meat before freezing for easier accessibility.
  - No room for a freezer? -Try dehydrating your bulk food, and storing it creatively. You don't need a mansion to store things if you use the space well.
  - Storage area can be found
    - Under beds
    - In closets
    - Behind couches
    - In bins, which you can then cover with a table cloth
    - In a garage
    - In a spare bedroom

•Consider asking your neighbors about having a community deep freeze, where multiple households may store their food. This would not only save on storage space but also be cost efficient for both parties and a great way to socialize with friends.

•Dehydrate fruits and meats or deep freeze almost anything (bread, milk, meat, fruit, vegetables).

•Cost of food dehydrators:

- \$25-\$220
- Energy cost per year: \$27-\$70 (based on \$0.10 per KW).

•Cost of a deep freeze:

- \$150-\$500 for residential use.
- Energy cost per year: \$75 (based on \$0.10 per KW).

### •Grow your own food

- Grow fruits and vegetables inexpensively in your yard or in window and patio containers.
  - No room for a garden of your own? - A community garden could be your answer, they are more cost effective and are a great way to stay connected with friends, family and neighbors. The work of the garden can also be split up amongst the group to help decrease the labor hours your garden may need.
- Gain benefits of improving the physical, mental, and emotional well being.
- Lowers blood pressure and reduces muscle tension (“Human Issues in Horticulture”, Diane Relf, 1992).
- The slow nature of gardening allows for more happiness and life satisfaction (“The Influence of Gardening Activities on Consumer Perceptions of Life Satisfaction”, T.M. Waliczek, J.M. Zajicek, R.D. Lineberger, 2005).

### Solutions to avoiding foods:

- Modifying foods as an alternative to avoiding foods entirely is an effective way to continue getting the nutritional benefits of foods you otherwise could not eat (Margaret R. Savoca, PhD et al, 2010).
  - Foods that are too hard to eat such as apples can be made into applesauce or smoothies.
  - Meats can be ground up for easier digestion.
  - Vegetables can be steamed as opposed to boiled or baked because it makes them softer without losing their nutritional benefit.
  - Try new combinations of foods and seasonings to enhance taste, smell, and texture that would make it more appealing.

### Changes in diet based on physical needs:

- 86% of elderly people surveyed believe that they do not need to change their eating habits as they already eat healthily (de Almeida, MD et al, 2001).
- Research Shows, however, that as people age their consumption needs change.
  - Fewer calories are necessary to maintain bodily function.
  - Fewer carbohydrates are necessary as a source of energy due to a slowing of metabolic rates.
  - Checking with your doctor or a nutritionist/dietician to determine your body's nutritional needs is advised to accurately assess how much you need to consume.

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