Losing it: A comprehensive review of dieting in American culture

An Honors Thesis (HONR 499)

by

Kayla M. Stanton

Thesis Advisor
Mrs. Kimberli Pike

Ball State University
Muncie, IN

April 2013

Expected Date of Graduation
May 2013
Abstract

Dieting is one of the most prevalent and well-marketed trends to ever hit American society, and with a market-value expected to hit $66.5 billion in 2013, more Americans than ever are buying in. While there is no one right way to diet, certain similar aspects can be seen in looking at the history as well as the current trends in the dieting world. Most of the commonly seen diets or diet plans can be fit into one of four categories: calorie restriction, nutrient specific, secret ingredient, and controversial—each with its own supposed pros and cons. However, in a modern world of blogs and social media, misinformation concerning the safety and efficacy of weight loss strategies runs rampant, and for this reason, it is vital that evaluation of these strategies is based on the positions and standards of practice set by the Academy of Nutrition and Dietetics, as they are the world’s largest organization of food and nutrition professionals.

Acknowledgements

I would like to acknowledge and express my most sincere gratitude to Kimberli Pike, MS, RD, CSSD for her guidance and advice in completing this thesis as well throughout the entirety of my undergraduate career in Dietetics. Her mentorship and enthusiasm has helped to form my passion for the profession, and it has fueled my desire to make a difference in the lives of others as she has made in mine.
# TABLE OF CONTENTS

- Introduction .................................................................................. 5
- Popularity and cost ......................................................................... 5
- History ......................................................................................... 7
- Current trends ............................................................................. 9
- Popular claims and gimmicks ...................................................... 10
- Position of the Academy of Nutrition and Dietetics ................. 12
- Classification of common diet types ........................................... 17
  - Type one: Calorie restriction ................................................... 18
    - Liberal restriction ................................................................. 19
    - Moderate restriction ......................................................... 20
    - Extreme restriction ......................................................... 22
  - Type two: Food category elimination ....................................... 24
  - Type three: Special Ingredient ............................................... 26
- Other weight loss strategies and adjunct methods ..................... 27
  - Behavior intervention ............................................................ 27
  - Pharmacotherapy .................................................................... 28
  - Bariatric surgery ...................................................................... 29
Introduction

Reading, fishing, bicycling, cooking, dancing, swimming, camping- the list goes on and on. In a world of 7 billion people, hobbies serve to provide individual identity, but in some cases they serve to define a nation. The United States of America is arguably one of the most hobby-crazed nations in the world, but one in particular seems to rise to the top as more and more Americans are getting involved; that hobby is dieting, and in today's society, it is a multi-billion dollar business.

Popularity and Cost

According to Marketdata Enterprises, approximately 108 million Americans are dieting, each making an average of four to five attempts per year to lose weight. With such an overwhelming statistic, it would stand to reason that Americans were becoming healthier, but in reality, it is the exact opposite that holds true. In the United States today, over one-third of adults and approximately 17% of youth are obese.\(^1\) To put that number into a different perspective, 39 of the 50 states report that 25% or more of their entire population fall into this category (Ogden, Carroll, Brian, & Flegal, 2012). Obesity-related issues such as heart disease, stroke, and diabetes make up a large majority of the leading causes of preventable deaths and cost Americans an estimated $147 billion a year\(^2\) in medical expenses (CDC, 2012). This data would indicate that Americans are certainly making the attempt to lose weight but are somehow failing to achieve that goal, and their health is not the only thing paying for it.

In an ironic comparison to the rising obesity-related health care costs, the weight loss market is expected to reach a value of $66.5 billion in 2013- a 4.5% increase from

\(^1\) Body Mass Index (BMI) ≥ 30
\(^2\) Reported for the year 2008
last year (LaRosa, 2012). Americans are spending more than ever on a seemingly endless supply of diet supplies, plans, and advice; every day, more weight loss, While some diets can be found within the pages of a book for around $15, others are based on pre-packaged weekly meals, such as the popular Jenny Craig™ diet, that can cost the dieter anywhere from $280 - $680 per month (Powers, 2011)! This begs the question-if millions of people are willing to invest such a large amount of money into losing weight, why is it that the average American waistline continues to grow? One possible answer is that like any other business, those involved in the weight loss market are out to make money. For this reason, it is not surprising to hear that not every marketed weight loss strategy is an effective one.

While some weight loss concepts are known nutrition truths, weight loss research is a constantly evolving science with new ideas and leads being explored each and every day. Companies and entrepreneurs are quite aware of this concept and rarely miss the chance to turn even the smallest leads into big profits. For example, in February of 2012, Dr. Mehmet Oz proclaimed on the Oprah show that raspberry ketones were the “number one miracle in a bottle to burn [your] fat” (Oz, 2012). Within days, shelves of stores all over America were completely wiped clean of the supplement. Even today, over a year later, GNC has 52 different types of raspberry ketone-containing supplements ranging from $19.99 to $79.99 per bottle in their online store.³ At the time of Dr. Oz’s nutrition claim, no research had ever been conducted on humans to test the effects of the miracle supplement-rather it was two small studies on male mice that showed a correlation between these raspberry ketones and an increased metabolism of fatty acids. Today, though there are still many supporters of

³ Store URL: www.gnc.com – Search “raspberry ketone”
the raspberry ketone “miracle in a bottle,” doubts have been cast on the validity of its claims.

History

As previously mentioned, weight loss research is a constantly evolving science. In the past 100 years or so, many claims have been made only to later be retracted or revised based on new research. This leads to another reason why Americans as a whole are failing to lose the weight they pay so much to get rid of: they are confused as to what really does or does not work. In 1996, the American Heart Association published a statement in their Dietary Guidelines for Healthy American Adults suggesting that Americans should lower their fat intake to a mere 15% of total calories and suggested the use of non-fat products (Krauss et al., 1996). The publication further went to explain that the reason for this recommendation was in order to help Americans lower their total saturated fat intake, as saturated fat is the culprit for heart disease and high cholesterol, but the food industry ran with this new opportunity, and it was not long before newly engineered low-fat foods were popping on grocery shelves across the nation. The 1990s and early 2000s became the low-fat era as Americans were able to indulge in low-fat snacks, cookies, and baked goods. The problem was that in order to make up for taste, food companies had to replace the fat in snacks with quite a large amount of carbohydrates, specifically sugar. Because of this, perhaps unknowingly, Americans were eating the same amount or more total calories on the low-fat diet than they had been before.

It is not surprising that shortly after the health risks associated with low-fat, high-carb diets began to emerge, the American dieting world saw a polar opposite diet,

---

4 Current recommendation: 20%-25% for adults (19 years and older), USDA
popular in the 70s, reemerge as the new star of the show—the Atkins diet. In 1972, cardiologist Robert Atkins published a book hailing his Atkins Nutritional Approach™ as the answer to weight loss. More commonly known as the Atkins diet, this diet severely limits the amount of dietary carbohydrates while encouraging dieters to replace the carbohydrates with protein and natural sources of fat (Mayo Clinic, 2011). After the low-fat era, the 2000s were a welcoming environment for this diet that involved no calorie counting and encouraged the consumption of foods like real butter, sausage, and steaks. In 2003, however, after the death of the Dr. Atkins, the Atkins diet has been modified to take a healthier approach to eating, encourage the increased consumption of whole fruits and vegetables, as well as addressing some of the potential complications that can result from starting a low carbohydrate diet (2011). Many diet approaches focused on specific nutrients such as fat or carbohydrates have changed along with the public opinion as to what is the “best” way lose weight, and because of this, the public confusion as to what works in regards to these diets remains at an all-time high.

It seems that some of the most popular and time-tested diets do not focus on nutrient-specific deprivation at all, but rather they find their success in marketing the belief that no food is inherently bad.” According to many of these diet “superstars,” the keys to weight loss lie in variation, moderation, and self-control within the diet. The acceptance of all types of foods is definitely one of the main ingredients of success, but many of these popular diets can also attribute much of their fame to their celebrity-centered ad campaigns designed to capture the attention of the general public. Weight Watchers® is such a program that has gained huge popularity in recent years and was
voted the “2013 best weight loss diet” by U.S. News and World Report (Best weight-loss, 2013). Much of Weight Watcher’s success, according to their philosophy comes from a supportive structure that promotes mental, emotional, and physical health rather than just dieting alone. Food is assigned a point value based on its nutritional content, and participants are given a target amount based on their height, weight, and individual goals. Other programs that have gained much success in recent years are the popular South Beach and Jenny Craig diets. Much like Weight Watchers, both of these programs focus on the ideas of inspiration, motivation, and support by encouraging group sessions as well as one-on-one nutrition counseling sessions.

**Current Trends**

While some programs have certainly established their success and place in society, it seems that Americans do have the tendency to cycle through newer and trendier diets every few years. One of the most recent trends is the “raw foods” diet, or “rawism,” as called by some. The premise of this diet is that foods in their whole and natural state, such as fresh fruits, berries, vegetables, nuts, and seeds are the best for body if they remain raw. In other words, raw foodists do not consume any food that has been cooked, processed, microwaved, chemically altered, or genetically engineered in any way (Haupt, 2013). As many raw foodists are also vegans, the problem of undercooked animal products leading to disease is not an issue, but some do consume eggs and dairy products such as cheese made from unpasteurized milk, which could potentially lead to very serious health risks (FDA, 2013).

Another overwhelming trend seen in recent years is the gluten-free diet. First developed as medical nutrition therapy for treating and easing the symptoms of Celiac

---

5 Based on short and long term weight loss
Disease, or CD, this diet has now jumped into the mainstream thanks mostly to popular celebrity endorsements, and internet bloggers. Those following this diet remove all food items from their diet containing gluten, the protein found in wheat and other related grains such as barley and rye. While this diet can have life-changing, beneficial effect to those suffering from CD, experimental evidence and data-supporting weight loss to the general population are lacking (Gaesser & Siddhartha, 2012). In fact, the consumption of whole-grain products, such as wheat, has shown to have an inverse relationship to BMI (Newby, Maras, Bakun, Muller, Ferrucci & Tucker, 2007), meaning that the more whole grain a person consumes, the lower his or her BMI tends to remain.

**Popular Claims and Gimmicks**

In a nation so consumed with weight loss, constantly changing trends can make it very difficult to know what works and what does not. People hear testimonials and read articles from others claiming to have discovered the "best kept secret in weight loss" or a product that guarantees results. Further complicating the issue are media sources such as television shows that depict dramatic weight loss without showing the viewer all off the details. For example, the Biggest Loser is a television show on NBC that put contestants against each other to see who can lose the most weight and be the "biggest loser." The show wows its audience each and every week with dramatic reveals of contestants' weight loss, and thought the weight loss is real, it is far removed from weight loss in the real world. Contestants spend months working out 5-6 hours a day and following a strictly supervised diet, which just is not possible for the average working American. They also tend to lose up to double digits of weight within a week's time, a rate that is recommended against by most medical and nutritional experts.

---

6 An autoimmune digestive condition triggered by the consumption of the protein Gluten
Because of these drastic measures taken and the associated risks, participants are required to be supervised 24 hours a day and 7 days a week by trained medical personnel. It is clear to see that the results depicted in the show are not typical in real lives. In fact, it is unadvisable for any person to attempt such drastic measures to achieve weight loss on their own and doing so could result in serious consequences.

With the overwhelming role that mass media has in our day to day lives, it is not surprising that people remain confused as to what really works and does not work in the world of dieting. A simple search for “diet” on Google retrieves over 500 million hits, and though some are surely very effective programs and plans, many are loaded with false claims, gimmicks, and exaggerated success stories. While these advertising schemes may seem legitimate at first, knowing a few key phrases can help even an inexperienced dieter distinguish fact from fiction. For example, it is a good idea to be leery of any program that promises a quick and easy, no work fix. Many of these involve wearing a patch or using a cream. These products claim to “melt away” or “shed” unwanted pounds, but they should not be believed. Nothing applied to the skin can cause weight loss. Other programs offer a pill that will magically make all of the unwanted pounds fade away, but health professionals will all agree that there is no simple way to lose weight without a modification of diet or exercise.

Another claim that should always be questioned is any promise to lose weight fast, such as “lose thirty pounds in thirty days,” or “lose ten pounds in one week.” Weight loss, in order to be the most effective, sustainable, and healthy involves losing now more than 1-2 pounds per week. Diets that claim any quicker results can have devastating effect on the body, as they are most likely depriving the body of key
nutrients essential to its functioning. According to the Federal Trade Commission (2012), "at best, products [including diets] that promise lightning-fast weight losses are a scam; at worst, they can ruin your health. One final claim that definitely tempts potential dieters is the idea of eating as much as they want of anything they want and still losing weight. Weight loss requires making sensible food choice and establishing self-control within the diet, so any diet that promotes or approves of eating junk food all day should not be trusted. Instead, filling up on fruits and vegetables should be encouraged as it lessens the desire to eat more fattening and sugary snack foods.

False claims such as these may go unnoticed for some time or passed off as an exaggeration, but in some cases, these claims can bring quite a bit of heartache or financial burden to consumers who put their faith in the advertising. The Federal Trade Commission (FTC), bearing the motto, "protecting America's consumers" offers a complaint assistant form\(^7\) to report fraudulent claims such as those often found on diet supplements and programs. Reporting false claims allows the FTC to detect patterns of wrong-doing as well aide investigations or prosecutions.

**Position of the Academy of Nutrition and Dietetics**

With respect to weight management, one of the most trusted and comprehensive sources of information is the Academy of Nutrition and Dietetics, (formerly known as the American Dietetic Association) herein referred to as the "Academy" or "AND". Recognized as the world's largest organization of food and nutrition professionals, the Academy is made up of nutrition experts from all over the country specializing in many different fields. It is the position of the academy that "successful weight management to improve overall health for adults requires a lifelong commitment to healthful lifestyle

---

\(^7\) Found at www.complaintassistant.gov
behaviors emphasizing sustainable and enjoyable eating practices and daily physical activity" (Seagel, Strain, Makris, & Reeves, 2009). Last updated in 2009, the position paper of the AND concerning weight management outlines the etiology of the obesity as well as the physiology of eating and offers recommendations of how best to lose weight in order to achieve optimal health.

The Academy describes obesity as a condition characterized by an excess accumulation of fat stores in the body that can only be changed by one of three or any combination of three components. The first of these components is a whole body energy imbalance brought on by a change in the amount of energy intake, or put simply, eating more energy (in the form of food) than the body need results in weight gain while eating less energy than needed results in weight loss. The second component is a change in energy output. If more energy is expended than what has been ingested, weight loss can occur. If less energy is expended than what is ingested, weight gain can occur. The final component is the efficiency of energy use, indicating that some bodies will burn energy and a higher rate than others, allowing more to be consumed without causing weight gain. A combination of these three strategies is generally the most effective method of achieving weight management goals, which tend to go far beyond numbers on a scale. As listed by the Academy, the major goals of weight management intervention are as follows:

- prevention of weight gain or stopping weight gain in an individual who has been seeing a steady increase in his or her weight;
- varying degrees of improvements in physical and emotional health
• small, maintainable weight losses or more extensive weight losses achieved through modified eating and exercise behaviors;
• improvements in eating, exercise, or other behaviors

For the most effective weight management intervention, it is ideal for a patient to be assessed by a multidisciplinary team of specialists including a registered dietitian, physician, exercise physiologist, and a behavior therapist. While this is the absolute gold standard for weight management intervention, it is not always a practical solution for the average American desiring to lose weight. For this reason, the Academy provides common recommendations to of how to achieve weight loss. The most important factor affecting weight loss, as previously stated, is achieving an energy imbalance, or more specifically, a negative energy balance. This is commonly achieved by a reduction in energy intake, as "a reduction of 500-1,000 kcal/day is advised to achieve a 1 to 2 lb. weight loss per week" (Seagel et al., 2009). Currently the AND recommends slow and steady weight loss as more likely to last than quick and dramatic weight changes. Healthy weight loss plans for the average American should aim for no more than 1-2 lb. per week to focus on fat loss and avoid losing muscle, bone, and water.

In order to achieve an energy imbalance, it is important to determine a baseline number of calories the body uses from which to subtract for weight loss. The most accurate determination of energy needs is based on an individual’s resting metabolic rate or RMR, also referred to as resting energy expenditure or REE. These measurements are taken using the process of indirect calorimetry\(^8\) and reflect how

\(^8\) a method of estimating energy expenditure by measuring respiratory gases (O2 and CO2)
much energy the body uses at rest to perform only basic metabolic functions (i.e. breathing, fueling the brain, etc). If RMR cannot be obtained, the Mifflin-St Jeor equation can also be used to determine energy need. This equation utilizes basal metabolic rate (BMR)- determined by age, height, and weight; rather than using resting metabolic rate. The Mifflin-St Jeor equation varies based on gender as follows:

Men: \[ \text{BMR} = [10 \times \text{wt. (kg)}] + [6.25 \times \text{ht. (cm)}] - [5 \times \text{age (years)}] + 5 \]

Women: \[ \text{BMR} = [10 \times \text{wt. (kg)}] + [6.25 \times \text{ht. (cm)}] - [5 \times \text{age (years)}] - 161 \]

After determining total energy need, a common public misconception is that the best way to reduce energy intake is simply eating less food; however, documented and accepted evidence shows that skipping meals or severely reducing intake can actually force the body into starvation mode, causing it to decrease the rate at which energy is used in order to conserve as much as possible. More appropriate strategies include an alteration to the macronutrient distribution and/or energy density of the diet, as well as changes to meal frequencies, meal timing, and proper adherence to food portion recommendations. One of the best studied and most recommended weight loss dietary strategy is a low-fat, reduced-energy diet. This recommendation is not based on the fact the fat in inherently “bad,” but rather, it the most energy-dense macronutrient, containing 9 kcals per gram and is known to have a weak effect on satiety. Therefore, fat, specifically saturated and trans-fat is a useful target for reducing energy intake and much evidence has documented proving the success of this type of dietary modification.

The National Weight Control Registry (NWCR) is an ongoing study that tracks Americans who have lost at least thirty pounds and maintained the loss for at least one
year; according to NWCR data, most participants report consuming 1300-1500 calorie per day, with only 23%-24% from fat (Hill & Wing, 2003).

In addition to eating less fat, participants report eating at least four or five times per day and eating breakfast almost every day. The key to healthy snacking, however, lies not in frequency of snacks and meals, but more importantly it rests in the amount eaten at each eating occasion. In recent years, marketplace food and drink portions have grown exponentially to the point that many far exceed the recommended serving size. For example, in the 1920s, a bottle of coke contained approximately 6.5 fluid ounces and 85 calories. In the 1990s, the 20 ounce soda bottle was introduced to the market containing about 250 calories. Sold in convenience stores, grocery stores, and soda machines across the nation, the 20 ounce bottle has now become the standard amount consumed in one setting for most Americans. The term portion distortion has been created to describe this perception that these massive portions of food are now appropriate to eat at a single eating occasion. The soda portion distortion becomes even more confusing in modern day restaurants where even after the cup size has increased, most drink refills are free with the drink purchase. For example, the original fountain drink cup at McDonald’s held about 7 ounces of fluid, an amount that when compared to today’s drink size, has increased 457% since from 1957 (Young, 2005).

In reviewing the recommendations from the Academy of Nutrition and Dietetics, a few important factors stand out as key components to losing weight and are summarized as follows:
• Successful weight management requires a lifelong commitment to healthful lifestyle behaviors emphasizing sustainable and enjoyable eating practices and daily physical activity.

• A negative energy balance is required to lose weight. The recommendation for the most healthful and sustainable weight loss is a deficit of around 500 calories a day to achieve an approximate 1 lb. loss per week.

• Reducing dietary fat in the diet is a good choice for achieving the calorie deficit, as fat the most energy-packed of the macronutrients, and reduction in saturated and trans-fats can help improve or prevent comorbidities of obesity such as diabetes and high blood pressure.

• Portion control during meals and snacks should be included in order to reduce undesirable energy intake and increase weight loss.

With the exception of those affected by a chronic illness or in critical care, when paired with regular physical activity and dedication, these factors should help most any American to successfully achieve weight loss. Most dieters, however, as evidenced by the multi-million dollar weight loss market, seem to prefer following a planned or standardized diet program.

Classification of Common Diet Types

One of the earliest documented diets for weight loss and health purposes in American history was created in the early 1900s when Horace Fletcher, also known as "The Great Masticator," developed his idea of “Fletcherism." It was his belief that every bite of food should be chewed at least 32 times, as there are 32 teeth in the human
mouth, or until it is the "consistency of a thick liquid, until it is impossible to chew anymore without swallowing" (Woods, 1987). His belief was that by chewing food to near digestion led to overall better health and reduced food intake. Strange as it may sound, similar diet strategies still exist today; however, the majority of diet plans in American culture can be classified into one of three categories: calorie restriction, food category elimination, and special ingredient. It is necessary to understand that these broad categories are not classified as good or bad as many different variations can be seen within each type- some useful, some controversial, and even some disreputable. Also, in the ever-evolving dieting culture, new ideas and trends are born each day that may not necessarily fit into one specific category; however, for the purpose of this review, only the most commonly utilized plans and ideas will be covered. A more extensive list diet plans, classified by type, can be found in appendix A.

Type One: Calorie Restriction

Probably the most well-known and most practiced type of diet plan, calorie restriction involves monitoring the amount of total calories consumed each day. Types of calorie restriction plans range from liberal to extreme and can take on quite a variety of characteristics. Calorie restrictive diets can be categorized into three main types- the first is liberal in which the dieter is eating the proper amount of calories for weight maintenance but focusing more on lifestyle changes and nutrient distribution; the second type is moderate restriction, and the third type is extreme restriction in which the dieter is consuming either a low or a very low amount of calories. Though some people fail to do so, a very low calorie diet should only be attempted if under appropriate medical, as it can lead to severe nutrition deficits and medical complications.
Liberal Restriction. Liberal calorie restriction diets are generally considered to provide the longest lasting success of popular diet plans due to the fact that they are focused on making lifestyle changes rather than drastic cuts to the amount of daily calories consumed. In the clinical setting, health professionals, such as physicians and dietitians, will often recommend a liberal diet to clients diagnosed with chronic diet-related disorders such as high blood pressure and heart disease in order to achieve overall better health. In order to produce the desired effective and long-lasting changes, the liberal diet often focuses on changing just one or two habits per week with the goal of replacing bad habits with healthier alternatives. Many different forms of liberal diets are prevalent in today's dieting world. Diets with a focus on overall wellness or those intended to bring about lifelong change would normally fit into this category.

One of the most popular and proven effective examples of the liberal diet is known as the DASH diet, or Dietary Approaches to Stopping Hypertension. As evidenced by the name, the DASH diet was originally created by the National Institute for Health (NIH) to control high blood pressure (hypertension). This diet is based off of studies by the National Heart, Lung, and Blood Institute- a subsection of the NIH- which found that blood pressure could be reduced by an eating plan that is low in saturated fat, cholesterol, and total fat and with an emphasis on fruits, vegetables, and low-fat (or fat-free) milk and milk products (Thomas & Monaghan, 2008). Thus the DASH eating plan was born which also includes whole grain products, nuts, fish, and poultry. This nutrient-rich diet, when followed, results in an increased consumption of potassium, magnesium, calcium, protein, and fiber- all of which are necessary for good health. One of the most important features of the DASH diet is a decrease in the amount of total
sodium, as a high sodium diet is one of the biggest contributors to developing hypertension. This is accomplished by consuming less salt and foods containing salt as a preservative and also by increasing the overall potassium in the diet, as higher potassium concentration in the body allows it to flush out more sodium. Even though the DASH diet was designed to promote better heart health, it has also been shown to induce a sustainable weight loss as it focuses more on nutrient-rich foods that are lower in calories and fat.

**Moderate Restriction.** As the second type of calorie restrictive diet, moderate restriction refers to those diets that cut out at least 500 or more calories per day and usually result in more significant and quicker weight loss than following a liberal diet. The types of diets often take the form of pre-packaged food, planned menus, or “point” counting and tend to be more expensive than other types. A large majority of moderate restriction diets encourage group counseling in addition to an individual plan and many encourage the ability to eat all types of foods within the strict calorie or point limit. For these reasons, moderately restrictive diets have become very popular and make up quite a large percentage of the American dieting market. Many have even come out with their own foods that can be purchased in the grocery store, and others, such as Weight Watchers, have paired with restaurants to create meals on the menu specific to the plan.

One of the most well-marketed and very popular moderately restrictive weight loss plans is Nutrisystem®, a program built upon on a balanced, portioned, and personalized menu that is delivered directly to the dieter’s doorstep. Nutrisystem participants order pre-packaged food for a 28-day supply of breakfast, lunch, dinner,
and snacks. The order does not include fresh fruit, vegetables, dairy, or beverages but comes with recommendations of what should be supplemented in the daily diet. One reason Nutrisystem has gained so much popularity is its focus all different types of people. Within the Nutrisystem are specific diet plans for both men and women that are further specialized into plans designed for the average person, the person with diabetes, the senior citizen (60+), and the vegetarian. Within each of these categories, the consumer has even more choice as to whether they want the basic, core, or select plan. These plans differ in the ability to customize meals and range anywhere from $8-$13 per day (Nutrisystem 2013).

Another reason for Nutrisystem’s success is the wide variety of foods that are offered as a part of their plan. From example, participants can choose from 35 different breakfast options, ranging from low-fat granola cereal to a double chocolate chip muffin. Even more options are available for lunch, dinner, desserts, and snacks. In order to help promote weight loss, the program offers online tools such as food tracking, shopping lists, discussion boards, and phone access to diet counselors. In addition, participants also receive a 12-week “Mindset Makeover” behavioral guide developed by obesity expert Gary Foster, PhD, to help them on their weight loss journey. Finally, Nutrisystem recommends at least 30 minutes of daily exercise in addition to following its weight loss program. Exercise demonstrations are included in the starter packet as well as found online and can be tailored to various fitness levels (2013).

While Nutrisystem has been shown to provide weight loss to those on the program, some believe that it is not helpful for keeping the weight off long term, that is, unless a person is willing to pay the $250- $400 a month for the rest of their life. When
asked for an opinion of the Nutrisystem diet, former AND spokeswoman, Suzanne Farrell, MS, RD, (as quoted by Zelman, 2011) stated, “The Nutrisystem plan is great for a short-term approach... [However] dieters may only experience success while they are ordering the prepackaged foods because one they are on their own, they are faced with the real world of cooking, meal preparation, and issues they are not prepared to handle because they were not addressed on the plan.” She believes that “one of the most important aspects of weight control is learning how to shop and cook healthier foods, and this program does not accomplish that critical aspect.”

**Extreme Restriction.** The final type of calorie restrictive diet is classified as extreme restriction. Diets that are extremely restrictive can take on many forms, but the common theme is that these diets provide a very low amount of calories, generally less than what is recommended for healthy weight loss. Examples of extremely restrictive diets include all liquid diets, cleanse diets, repetitive diets, and some replacement diets. As they involve a drastic change to the diet and deprive the body of necessary amounts of macronutrients, extremely restrictive diets do not usually have a high success rate among participants and can also lead to serious health problems.

Within the extreme restriction category, one of the most commonly seen diets is the very low calorie diet (VLCD). Classified by the consumption of less than 800 calories per day, the VLCD is only recommended for individuals with a BMI greater than 30 and only under direct medical supervision. In a hospital setting, the VLCD is a commercially prepared formula known as Optifast® that is used in preparation for most bariatric surgeries. When properly followed and under medical supervision, a very low calorie diet can lead to fast and dramatic weight loss, sometimes 3-5 pounds or more per week.
For this reason, many Americans attempt a VLCD on their own in order to lose weight quickly; however in eating less than 800 calories per day without medical supervision, a person is almost always lacking proper nutrients in order to support the needs of the body. This leads to another, usually unforeseen, problem for the dieter when his or her body enters starvation mode. If continued for a long period of time, in an attempt to conserve energy, the body may begin to convert lean body mass into fuel, causing a cascade of negative health effects to occur.

Two common types of VLCDs include repetitive diets and fasting diets. One popular repetitive diet that has been in and out of the spotlight in today's culture is the Grapefruit diet, also known as the "Hollywood diet," based on the claim that certain combinations of food help the body to burn more fat. Specifically, followers of this diet believe that foods high in dietary fat, when combined with grapefruit will help the body to burn fat more efficiently, and if followed for a ten to twelve day period, the grapefruit diet will lead to about 10 pounds of weight loss. Due to the fact that following this diet leads to consumption of around 800 calories per day, weight loss usually will be seen, but currently there is no scientific evidence to back the claim that grapefruit has any fat-burning ability on its own. One popular example of the fasting diet is branded Master Cleanse in which participants essentially remove solid food from their diet for a period of fourteen days. The plan requires the dieter to drink 6 or more glasses per day of a lemonade concoction made up of lemons, maple syrup, cayenne pepper, and water. The only other substances allowed in the body are a salt water flush in the morning and an herbal tea laxative at night. This diet claims to act as "detoxifier" in the body, ridding it of unwanted material, but no evidence as to this claim exists. In fact, the liver is the
body's natural detoxifier and when functioning properly, needs no extra help in ridding the body of waste and toxins (Zelman, 2011).

Most recognized health professionals would agree that an extremely restrictive diet is not appropriate for someone trying to lose weight on his or her own. In fact, Melinda Johnson, RD, (as quoted by Zelman, 2011), recommends staying away from fasting and detoxing entirely as these types of diets are risky, do not work long-term, and can forge an unhealthy relationship with food. She also notes whenever a person follows an extremely restrictive plan, such as a VLCD, any achieved weight loss is very temporary as it is usually followed by an extreme binge.

**Type Two: Food Category Elimination**

In contrast to calorie restrictive diets that focus on the amount of calories consumed as a catalyst for weight loss, the second type of diet-nutrient specific- centers more on the type of food consumed rather than the amount. Diets in this category generally call for the complete removal or a drastic decrease in amount of at least type of food, or in some cases, an entire food group. While this type can be used for weight loss, it is not uncommon for some people to follow a nutrient specific diet for religious, moral, or medical purposes.

Certainly one of the most well-known types of nutrient specific diets is veganism, or practice of avoiding consumption of all animal products. While most vegetarians only refrain from eating meat, vegans, on the other hand, abstain from eating anything made from any part of animals or animal by-products. This includes the obvious foods such as cheese, milk, butter, and eggs; as well as the non-obvious such as honey, marshmallows, gelatin, and broth. Veganism, especially in recent years, has become a
popular trend for weight loss due to the fact that saturated fats are almost eliminated from the diet but also that plant based foods tend to be lower in calories than their animal counterparts.

Another very recent trend and prime example of a nutrient specific diet is the Paleo or "caveman" diet based on the plants and wild animals most similar to what cavemen would have eaten 10,000 years ago. As cavemen existed in a world prior to modern agriculture, most all modern commercially grown or raised food such as grains, potatoes, legumes, processed vegetable oils, and even dairy are not welcome in the Paleo Diet. According to the founder of the diet, Dr. Loren Cordain, "the Paleo Diet is the optimum diet that can lower the risk of cardiovascular disease, blood pressure, markers of inflammation, help with weight loss, reduce acne, [and] promote optimum health and athletic performance (Zelman, 2010). Supporters of the Paleo Diet also claim that following this diet is the start to cutting the amount of chronic disease cases in Americans, specifically obesity, diabetes, and heart disease.

While there is much controversy regarding exclusion of whole food groups such as dairy and grains, evidence does show that a diet rich in lean meat and plant foods containing protein and fiber works to control blood sugar and help prevent weight gain and diabetes. In cutting out the entire dairy food group, however, dieters do risk falling into a nutrition deficit for calcium and vitamin. In her 2010 review of the Paleo Diet, Kathleen Zelman, MPH, RD, states that "unprocessed foods [are] the basis of most all healthy diet recommendations. [But] so are whole grains, low-fat dairy, and legumes. Eliminating all grains, dairy, processed foods, sugar, and more will most likely lead to
weight loss, but it may be tough to follow this plan long-term due to the diet’s strict nature”.

Type Three: Special Ingredient

Rather than focusing on the calorie content or type of food consumed, such as seen in the first two types, the third type of diet rather focuses specifically on a special ingredient or “secret” concept that is simply added to the everyday diet. Known to host a wide variety of claims and gimmick, this type of diet is often scrutinized by nutrition and health specialists and sometimes seen marketed towards those with little nutrition background in order to make a quick profit. Raspberry ketones, as mentioned earlier, are a prime example of the special ingredient-type diet plan. Also the idea of eating negative-calorie foods, or foods the supposedly used more calories to digest than they provide, as a weight loss strategy would fall into this category.

One of the best examples, however, of a secret ingredient-type diet is the Sensa® shaker, a six-month diet plan in which the only rule is to shake “a patent-pending blend of salt and sweet flavored crystals that help you eat less and lose weight over time.” According to the creator of Sensa, Alan Hirsch, MD (2013), these crystals called “Tastants” are designed to help make a person feel full faster, and the program encourages users to become more aware of the “I feel full” signal. In looking at the label, the only ingredients found in these crystals are the following: maltodextrin (a common carbohydrate), tricalcium phosphate, silica, and natural and artificial flavors—none of which have ever been shown as an active ingredient for weight loss. However according to Dr. Hirsch (2013), in a research study he performed, 1,436 men and women sprinkled the crystals on everything they ate and were told not to change their
exiting diet or exercise programs. His claim is that participants lost an average of 30.5 pounds over a six month period. These results, in such magnitude, seem too good to be true, and it is very likely that they are. In an article published in the Los Angeles Times, Adam Drewnowski, director of the nutritional sciences program at the University of Washington in Seattle, is quoted to say there is a credibility gap between the research and the results promised by Sensa. As the research performed by Dr. Hirsch has never been published in any peer-reviewed journal, no evidence exists concerning the validity of his results. In fact, according to Drewnowski, it is impossible to know how the subjects were selected, how they were weighed, if they were even weight, and the range of weight they lost. There are no numbers to show how much each person lost on the program (Woolston, 2011). According to Dr. Hirsch, his research was reviewed and approved by the Endocrine Society at their 2008, but the creator has received much criticism in recent years after the Endocrine Society stated to ABC’s 20/20 investigation that they never reviewed Dr. Hirsch’s research. They only invited him to present his findings at the conference and were “surprised and troubled by the promotional nature of his presentation” (Avila & Van Gilder, 2008).

Other Weight Loss Strategies and Adjunct Methods

Weight loss by means of adjusting the diet is by far the most common method used by Americans; however, when treating obesity, a few other methods are currently being recommended by health care specialists.

Behavioral Intervention

One of these methods is behavioral intervention, or Cognitive Behavioral Therapy. In the past, the belief was that obesity was the “result of maladaptive eating
and exercise habits that could be corrected by the application of learning principles" (Seagel, Strain, Makris, & Reeves, 2009). Today it is known that many other factors, such as metabolism and genetics, also affect obesity and weight gain; however, behavior therapy can still play an important role in helping individuals achieve a more healthful weight. The purpose of cognitive behavioral therapy is to help patients identify cues that trigger inappropriate eating and or behaviors and learn new responses to them while reinforcing positive behaviors. This type of therapy is goal-directed, process-oriented, and advocates small rather than large changes. According the Academy of Nutrition and Dietetics, "cognitive behavioral therapy combined with a healthful diet and physical activity results in significant weight loss in the short-term," as individuals lost approximately 8%-10% of their initial body weight during the treatment but slowly regained it back over time (Seagel et al., 2009).

**Pharmacotherapy**

In contrast to the practice of behavior change and positive reinforcement, another method used to achieve weight loss is found in pharmacotherapy. According to the AND (2009), only two medications have been approved by the Food and Drug Administration for long-term treatment of "clinically significant" obesity⁹, but other medications such as phentermine, have been approved for short-term use. One of the long-term use drugs is orlistat, a pancreatic lipase inhibitor that inhibits the absorption of up to 30% of dietary fat. In order for the drug to be most affective, users must also limit the intake of dietary fat as a failure to do so can result in unpleasant side effects such as steatorrhea, bloating, distension, and anal-leakage. Much work still remains in the science of pharmacotherapy for weight loss, but current research is focusing on central nervous

---

⁹ BMI ≥ 30 or BMI 27-29 with one or more obesity-related disorders
system agents that affect neurotransmitters and hormones, such as leptin, that can regulate energy intake and expenditure.

**Bariatric Surgery**

When all other methods fail, bariatric surgery is the final method for weight loss indicated only for those patients who have "failed to find less invasive interventions successful and are at high risk for obesity-related morbidity and mortality" (Seagel et al., 2009). Established by the National Institute of Health, criteria to qualify for bariatric surgery includes a BMI or at least 40, or if other weight related comorbidities are present, a BMI between 35 and 40 may be considered for surgery. Several types of procedures are used in bariatric surgery, but one of the most common is the Roux-en-Y gastric bypass that reduces the size of the stomach, while another method involves placing a band around the upper portion of the stomach to reduce the amount of food that can be eaten at one time. As complications following bariatric surgery can be very severe, prior to operation, the patient must be informed of the lifestyle changes necessary to decrease those complications, as well as the necessity for lifelong medical follow-up and monitoring. Even with the potential complications, according to the AND, "all data indicate that for the morbidly obese, bariatric surgery is the most effective therapy available for weight management and can result in the improvement or resolution of the obesity-related comorbidities and improved quality of life" (Seagel et al., 2009).

**The Physical Activity Component**

Weight loss can be accomplished through a number of different means; however, the most effective and efficient method for the average American appears to be a
decreased or modified calorie intake combined with physical activity to produce a negative energy balance in the body. Although it is possible to produce an energy deficit through diet alone, physical activity is very important in improving the outcomes of obesity-related comorbidities such as diabetes, cancer, and heart disease; and many correlation studies show "a strong association between physical activity... and maintenance of weight loss" (Seagel et al., 2009). In fact, chronic dieting without physical exercise can actually lead to a halt in weight loss as the body attempts to maintain homeostasis and/or the loss of lean muscle mass rather than fat. For this reason, it is vital that physical activity is included in any plan for long term weight maintenance. According to the National Weight Control registry, of those who have successfully achieved substantial weight loss, more than 90% report exercise as crucial to their maintenance and include, on average, one hour of physical activity in their daily routine.

In the 2008 Physical Activity Guidelines, published by US Department of Health and Human services, substantial health benefits can be achieved by engaging in 150 minutes-300 minutes per week of moderate intensity physical activity (brisk walking) or 75 minutes to 150 minutes of vigorous intensity physical activity (running or jogging).

**Potential Consequences of Dieting**

In a society where overweight and obesity is becoming the new norm, it could be easy to believe the all weight loss and/or dieting is a good thing. However, in order to achieve true health and wellness, it is crucial that individuals maintain a balance of mental, emotion, and physical health. While weight loss for some has the potential to lead to a healthier and longer life; for others, regardless of body size, it can become a
driving obsession-upsetting this important balance and leading to serious health consequences.

Fitness guru Richard Simmons compares dieting for Americans to putting together a 1,000 piece jigsaw puzzle. People begin by spreading all of the pieces out on a table, and every night, they finish a little bit more, but after a while, they become bored or get frustrated and put the whole puzzle away claiming it was too hard or that some of the pieces were missing in the first place. Then they wait for the next great thing to come along (Simmons, 2011). This type of thought can lead to an on-again, off-again mentally known as cyclical or “yo-yo” dieting in which a person gains weight and loses weight- yet remains dissatisfied in his or her own body size and shape. Not only does this type of dieting lead to increased stress and decreased overall well-being, it is also a known precursor and to a much more serious problem-eating disorders.

In the United States, 20 million women and 10 million men suffer from a clinically significant eating disorder at some time in their life, including anorexia nervosa, bulimia nervosa, binge eating disorder, or an eating disorder not otherwise specified (EDNOS) (Wade, Keski-Rahkonen, & Hudson, 2011). These disorders, which range in symptoms from self-starvation to frequent binge and purge sessions, are not purposely chosen lifestyle choices, but rather they are known to be biologically- based psychological illnesses (Waterhous & Jacob, 2011). According to the National Eating Disorders Association, anorexia nervosa is one of the most common psychiatric diagnoses in young women and has one of the highest death rates of all mental illnesses, yet due to personal nature of the illness, it is thought that a great deal of cases go undiagnosed.
However, of those individuals that are diagnosed, between 5% to 20% of people will lose their life to the disease.

Though it tends to have the highest mortality rate, anorexia nervosa is certainly not the only eating disorder prevalent in today's weight-loss driven society. Other illnesses such as bulimia nervosa, binge eating disorder, and EDNOS can wreak havoc in the lives of those affected. It is important that anyone suspected of having an eating disorder is encouraged to seek help from a counseling or nutrition specialist as soon as possible as studies show that the longer a person suffers from disordered eating, the more severe the illness can become.

Summary/Conclusion

In reviewing the data, to simply say that dieting in the United States is popular would be an absolute understatement; rather, this multi-billion dollar, continuously-evolving, and ever-growing obsession has become interwoven into the very fiber of American culture. For those attempting to lose weight, many different plans and strategies exist to help them to be successful in their goal; however, it is important to understand the basics of weight loss in order to avoid being tricked by popular gimmicks and claims often used to make a profit from those who do not understand these nutrition basics.

The most important component to successful weight loss is achieving a negative energy balance in which the body is using more calories than it is receiving. Many different types of weight loss plans exist, but the majority of these plans can be grouped into one of four categories: calorie restriction (liberal, moderate, and extreme), nutrient specific, special ingredient, and controversial. Not all of these types are proven effective
in weight loss; some are based off false claims, and others are not recommended at all
as they can be very dangerous and often lead to very serious health consequences. In
contrast, the healthiest and most effective weight loss plans promote slow and steady
loss at a rate of no more than 1-2 lbs. per week. Losing more than what is
recommended is possible; however, it can also lead to dangerous health problems or
loss in lean body mass and severe nutrient deficiencies, further impeding continued
successful weight loss. Healthy plans also encourage physical activity along with a
varied and nutritionally adequate diet. Though physical activity plays a modest role in
initial weight loss, it is in fact crucial for long term maintenance of weight loss.

Finally, it is very important to realize that true health is not based solely on
physical fitness or a number on a scale. It is, rather, a delicate balance of mental,
emotional, and physical health that lead to overall individual wellness. Dieting can be
very beneficial when approached in a healthy way, but it can also very easily turn into
an obsession and lead to dissatisfaction in one's body and very poor overall well-being.
For this reason, it is highly recommended that any person with the desire to lose weight
seek help from a multidisciplinary team of health professionals, including at least a
registered dietitian and physician, among others. In combining this approach to weight
loss with a positive outlook and a strong will for change, an individual should ultimately
experience a successful, rewarding and lasting form of weight loss in addition to the
pride of knowing that he or she has made one of the best decisions possible in life by
investing in a healthier or more sustainable body.
Bibliography


Appendix A: Common Diets Classified By Type

Calorie Restriction

Liberal Restriction
1. Dietary Approaches to Stopping Hypertension (DASH)
2. Eight-hour Diet
3. Blood-type Diet
4. Body for Life (Eating for Life)
5. Curves
6. Mediterranean Diet
7. Volumetric Diet

Moderate Restriction
1. Nutrisystem
2. Weight Watchers
3. Jenny Craig
4. South Beach
5. Slim Fast
6. Special K Diet
7. Subway Diet
8. Flat Belly Diet
9. Cookie Diet
10. Zone Diet

Extreme Restriction
1. Optifast
2. Master Cleanse
3. Hollywood Diet
4. Medifast
5. Cambridge Diet
6. HCG Diet
7. Cabbage Soup Diet
8. Three-Day Diet
9. Beverly Hills Diet
10. Anti-aging Diet (Calorie Restriction)

Food Category Elimination
1. Atkin's Approach
2. Paleo Diet
3. Veganism
4. Vegetarianism
5. Raw Foods Diet
6. Gluten-Free Diet
7. Eat 4 Your Type
8. Fruitarian Diet
9. Ketogenic Diet
10. Macrobiotic Diet

Special Ingredient
1. Sensa sprinkles
2. Coconut Diet
3. HCG Diet
4. Flat Belly Diet
5. Raspberry Ketones