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Is Intermittent Fasting the Missing Element to Proper Health?

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Is Intermittent Fasting the Missing Element to Proper Health?

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Abstract

Food is more accessible than ever, yet it is ultra-processed and loaded with many chemicals and preservatives. Most foods today are not made to be healthy, just to taste good, and it is making people sick. This research paper will look at the ancient practice of fasting and the health benefits associated with it. There have been numerous theories on how to lose weight and how to live a healthful life, but most people who try to follow these ideals do not succeed at them. Why is obesity becoming a rapidly growing epidemic? Is there a link between obesity and chronic illnesses? Does dieting and exercise affect the body in a positive way? Is intermittent fasting the missing piece of the puzzle to experiencing a successful, healthy life? By analyzing the information gathered by health professionals and examining the methods of intermittent fasting, this paper will answer these questions to conclude if fasting is the lost remedy for today's most common health issues.

Keywords: Fasting, Intermittent Fasting, Nutrition, Health, Diet, Exercise, Obesity

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Introduction

For many years, people have struggled with their weight while most of the food options that are available for human consumption have become increasingly unhealthy. Simultaneously, Americans have been searching for countless ways to get healthier, often looking for simple, quick methods to help lose weight. From fad diets, weight loss programs, and resorting to eliminating certain types of foods from their diet, one thing is for certain; people are not healthy. They certainly are not eating nourishing, wholesome foods like they were just over a half a century ago. Although there may appear to be many weight loss options, people still continue to become overweight at an alarming rate.

Most recently, people have pondered what could be the cause of such an increase in the population's weight and what can be done to resolve this issue. Many people seem to have an opinion as to how to fix this weight problem; everyone from nutritionists to personal trainers, social media influencers to doctors, and even friends and family. Everyone likes to give the impression that they know what steps need to be taken in order to lose the extra pounds. Although there may appear to be so much "knowledge" on how to fix this issue, the United States continues to suffer from an obesity epidemic.

Many decades ago, there was no obesity problem like there is today because then, people generally ate three nourishing meals a day without a great deal of snacking. Today, individuals tend to snack continuously throughout the day and are usually eating meals that are high in unhealthy fats, sodium, and calories. In fact, currently one meal at a restaurant can contain more calories than a person's entire recommended daily intake. Food is much more accessible than ever before and it comes in the form of vending machines in the schools and at the workplace, fast food restaurants on the corner of every city and small town, countless gas station

convenience stores, and the multitudes of premade, overly processed frozen meals in the grocery stores.

In the last century, as Americans began living longer, additional health problems began to emerge. Although these ailments are problems that seem to stem from obesity, doctors were trying to find a cure for the side effects rather than the source of the problem. According to Dr. Fung (2016), “the medical profession seemed obsessed with finding and prescribing the next new drug,” instead of treating obesity. Sadly, people who are taking these medications daily are typically still not eating healthier meals or exercising, so they continue to get sicker and sicker.

It is reported that there are over 20,000 different drugs approved by the Food and Drug Administration for marketing today (FDA, 2019). The most prescribed pill in America is Lisinopril which is used to treat high blood pressure. There are over 100 million people who receive a written prescription for this drug each year. According to drugreport.com, currently the top nine most prescribed medications in America are used to treat illnesses associated with obesity (Drugreport, 2020). Diseases such as high blood pressure, high cholesterol, and type 2 diabetes are a few illnesses that have been linked to obesity but are also preventable with proper diet and exercise.

As people have grown accustomed to eating more easily accessible foods, they have also become used to moving around a lot less. Most jobs today are primarily sedentary and require minimal physical activity. Individuals who are conscious of their weight tend to look for smarter ways to incorporate more activity into their workday. A few solutions that people have developed are taking the stairs as opposed to riding the elevator, parking their vehicle further away from the building when at work or while out running errands to accumulate more footsteps, or just walking around the workplace during their lunch break. Nevertheless, the effectiveness of

these tactics can only be determined by how frequently they integrate these changes and if they are not overindulging in their daily caloric intake.

In reaction to the dilemma of obesity, television programming in the United States began to see a shift in reality entertainment. In 2004, a new show premiered promoting weight loss and featured overweight contestants competing against each other to lose the highest percentage of weight in efforts to win monetary prizes (Amazon, 2020). The success of this show opened the door for other weight loss programs such as one that presented individuals on the verge of death due to being morbidly obese. With no other options left, these people had to resort to gastric bypass surgery, a procedure that involves removing a portion of a person's stomach in order to construct a smaller organ to decrease the amount of food they can ingest. The problem with this "quick fix" is that patients still needed to change their dietary habits and physical activity in order to keep the weight off. Poor eating patterns can potentially reverse any progress they may have achieved after surgery, so the willpower to change old habits is important to be successful.

Along with these reality programs came talk shows like *The Dr. Oz Show* and *The Doctors* that strived to present reputable health information. These shows focused on educating people about how to live healthier lives. The episodes allowed viewers to hear firsthand accounts about health and weight struggles that other individuals had experienced along with the journey they took to resolve those issues, and their results. By inspiring people at home to take a look at their current health conditions, these shows and along with some others wanted to motivate viewers at home to change their eating habits, incorporate more physical activity into their daily routine, and to visit a doctor regularly to receive wellness checkups.

Even with so much health-related information available to the general public, some of it can be rather perplexing to those who are new to it. For example, when looking at a nutrition

label on a product, there is so much information included that it can be very confusing to the average consumer. Trying to eat healthier can seem extremely daunting and the food industry takes advantage of the consumer by implying certain foods are healthy or good for you. How does one begin to improve their health? If somebody wanted to make better food choices, should they eat foods that are lower in calories or would they benefit from adding fresh fruits and vegetables?

Misleading labels on food packaging convinces people that they are eating healthier options, but in fact they could be eating worse than they were before. Using catch phrases like “low fat”, “whole grain”, “all natural”, and other buzz words suggest that these foods are good for the consumer. The company’s job is to sell food and by marketing their products as healthy, companies can convince the general public that they are purchasing something that is nutritious for them.

Food packaging contains a label on it that provides buyers with nutritional information so they can make more informed decisions for their health. These labels can be an important tool for individuals to use when monitoring certain diets. They are especially useful for people who may have a particular allergy and need to avoid specific ingredients like peanuts or eggs. It can also benefit people who need to monitor their intake of items like sodium, sugar, fiber, and protein. Another important piece of vital information found on nutrition labels is the calorie content. “Calories are the amount of energy released when your body breaks down (digests and absorbs) food. The more calories a food has, the more energy it can provide to your body,” (The Cleveland Clinic, 2019, para. 2).

American consumers have witnessed fast food restaurants improvising new and innovative ways to incorporate healthier food options to their menus. Some restaurants have

offered plant-based items as substitutions for meat products such as chicken and hamburgers for consumers who would like more Vegan-style options. Despite offering healthier options, in 2010 the U.S. government passed the Patient Protection and Affordable Care Act that required restaurants with more than 20 national locations to provide consumers with easily visible calorie information as they make their purchase (Kiszko, 2014). This bill made it possible for consumers to know how exactly how many calories were in food items up front when deciding on what to eat.

Over time, the general population has seen the number of overweight individuals progress to either obese or morbidly obese. According to an article by the Centers for Disease Control and Prevention, in 2017-2018 it was believed that over 42% of American adults were obese (C. Hales, 2020). Obesity is a classification when determining the body mass index (BMI) of a person based on their weight and height.

The CDC guidelines state that BMI is mainly calculated for four weight classifications; underweight, normal weight, overweight, and obese. The normal BMI number range falls between 18.5 and 24.9. Anything lower than 18.5 is classified as underweight. When the number is calculated as 25 to 29.9, this is when people begin to be categorized as overweight. Once they reach a BMI of 30 or higher, individuals are ranked as obese. These BMI classifications, however, are not used for determining a person's health or how much fat they have on their body (CDC, 2020).

When looking at the increase of overweight individuals in today's society, it needs to be examined as to how this epidemic came to exist. Doctors, therapists, scientists, and even health fanatics have tried to find a single trait or attribute to this dilemma. However, it is not one specific characteristic that is triggering this weight problem. There are many different issues that

can affect a person's overall weight and health such as income, family history, addictions, or lifestyle. Despite everything that may contribute to weight gain, an element that might be overlooked in this occurrence is personal responsibility. Ultimately, it is the individual who controls what foods they eat, the quantity of it they consume, and if they are physically active or sedentary.

The reality is people eat virtually all day long. In addition to that, many people do not take the time to cook complete nutritious meals at home. Many individuals have busy, hectic schedules that prevent them from taking the time to prepare their own meals and usually they opt for a quick stop at a fast-food restaurant. People no longer consume three-square meals a day like they used to. More often than not, people tend to snack throughout the day while also consuming large meals that are high in calories, sodium, fats, and sugars.

Many foods found on the market today are highly processed or mechanically manipulated in some way, known as genetically modified organisms or GMO's. "A GMO (genetically modified organism) is a plant, animal, or microorganism that has had its genetic material (DNA) changed using technology that generally involves the specific modification of DNA, including the transfer of specific DNA from one organism to another," (FDA, 2020, para. 4).

Furthermore, people do not take the time to exercise and stay physically active due to these busy schedules. When people think of weight loss, the idea of working out will come to mind; and usually with some apprehensions. Good health conditions and weight loss are more than eating properly and doing exercises. The fact is, many influences contribute to weight gain and poor health, so it would be logical that there are several things one must do in order to lose the extra weight and maintain a healthier body.

The timing of when people eat their meals could be another concern as to why they gain weight; not just what they eat. Would it make a difference when a person chooses to eat their meals? That question could best be answered by looking at a dietary movement that has been growing popular every year known as intermittent fasting or IF. Intermittent fasting is the concept that a person delays the time they eat during the day, and it could possibly have various health benefits. One of the advantages to practicing IF is weight loss which in turn attributes to reducing many chronic diseases.

Fasting in general has always been a controversial topic for various people. To some, it resonates the idea of starvation and causes people to view fasting with negative connotations of punishment and pain. Fung, an expert in intermittent fasting, distinguishes the differences between fasting and starvation. Starvation is the process of not eating involuntarily, however when an individual chooses to fast, they have voluntarily prohibited themselves from eating (Fung & Moore, 2016). It appears that the practice of fasting is more accepted when it relates to religious motives or for the sake of protesting purposes. When approached with the idea of fasting, people think it signifies not eating for days or weeks at a time. That assumption could not be further from the truth.

Ironically, people fast every day and may not even realize that is what they are doing. People more than likely eat their dinner during the evening and then do not consume anything until breakfast the next morning. The word breakfast literally means to break one's fast because the period between meals involves not eating voluntarily. If an individual ate dinner at 6 p.m. and then did not eat again until 8 a.m. the next morning, technically they have fasted for fourteen hours. Even the non-eating times between breakfast and lunch and between lunch and dinner are considered fasting times despite being a few short hours out of the day.

The practice of fasting has been around for thousands of years. It was a common tradition for the early Greeks as they used to fast for the treatment of epilepsy and disease. In other ancient times it was also customary to fast “to detoxify the body and purify the mind as a way to reach complete natural health,” (Clement & Loberg, 2019, p. 94). One of America’s greatest thinkers and inventors, Benjamin Franklin, supported the philosophy of fasting and rest as being the best way to take care of one’s health (Bast, 2019). These revelations about how fasting helps with the purification of the mind is one reason fasting is still practiced today in religious instances.

Almost every major religion practices fasting in some fashion.

Three of the most influential men in the history of the world, Jesus Christ, Buddha, and the Prophet Mohammed also shared a common belief in the healing power of fasting. In spiritual terms it is often called cleansing or purification. (Fung, 2016, p. 64)

When it comes to fasting and religion, it is such common a practice because it was considered a way to heal the mind, body, and soul.

The most well-known religious fast, Ramadan, is a part of the Muslim religion. During Ramadan Muslims not only abstain from food and drink from dusk till dawn, but they also avoid smoking, sexual relations, and any other activities that may be viewed as simple. It is believed to cleanse the soul of harmful impurities so that the heart can be re directed to spirituality and away from earthly desires. (Boyers, 2018, p. 16)

The practice of intermittent fasting achieves that same theory today. The philosophy of IF is about taking control of one’s health by fasting to heal the body and with it the mind and soul

as well. By entering a fasted state, it encourages a person to focus on themselves, to mindfully make wise decisions that could impact their life. By subjecting oneself to fasting, it will prevent food from controlling every moment of a person's day, allowing them to live a more healthful, beneficial life.

Intermittent fasting can be practiced in different variations, but all of them follow the same system: the scheduling of one's eating and fasting times. The process of IF involves delaying what time a person will eat each day and that usually requires skipping breakfast. Many people have grown up hearing the mantra that breakfast is the most important meal of the day. That statement, however, is not scientifically based, and it was in fact a marketing slogan in the early 1940's for *Kellogg's* cereals (Oksman, 2016). Are there actual benefits to eating breakfast every day and what are the ramifications if one were to skip this so-called important meal?

This research paper will investigate the realm of intermittent fasting by looking at how it is practiced, the effects that fasting has on the human body, and an analysis of how effective it is for weight loss. By examining this fasting system and presenting the findings in this paper, a person will be able to conclude if this is a method that would benefit their health if they were to incorporate it into their lifestyle.

Literature Review

Introduction of Health and Fasting

The concept of intermittent fasting (IF) is very simple. A person sets the time of the day that they will begin eating and the time that they will stop. When a person is eating, that time is referred to as the fed state and when they are not eating, it is referred to as the fasted state. The effects that happen inside the human body during these times are much more complex and remarkable than one would realize, and the advantages are very convincing. Anyone that is wanting to live a healthier lifestyle would benefit from fasting.

Being overweight can bring about several types of illnesses and chronic diseases such as heart disease, cancer, high blood pressure, high cholesterol, and others. However, a person does not necessarily have to be overweight for them to be deemed unhealthy or diagnosed with these conditions. Unfortunately, being overweight or obese increases the chance of developing these types of health issues. The ability to reverse these ailments through proper dieting and fasting would be more appealing than years of medications, doctor visits, hospital stays, and operations.

Fasting stimulates the body into conducting a process known as autophagy. Autophagy is when the body self-cleans and rids itself of old or destroyed compounds that have the potential to cause disease or illness (Boyers, 2018). The term literally means self-eating, and the body is its own self efficient machine, constantly striving to repair itself. By practicing intermittent fasting, it will boost the body into autophagy consistently, and thus prevent any dead cells and proteins from causing damage.

If allowed to accumulate in the body, these dead tissues can cause cell death, contribute to poor tissues and/or organ function, and even become cancerous.

During autophagy, the body marks damaged parts of cells and unused proteins in the body (Boyers, 2018, p. 58).

This process is very important to assure that the body stays clear of harmful elements that people may be unaware of.

Intermittent fasting can be done in several different methods to help the body achieve autophagy. Some types of fasting are easier and more popular than others, but it is just a matter of which of these methods will work best for people based on their schedules and, more importantly, how their body responds. The cells that do the actual cleansing of the body, called autophagosomes, have been known to increase by almost 300% simply from fasting (Boyers, 2018).

One variation of intermittent fasting (IF), and the most frequently practiced, is referred to as the 16:8 method. This practice requires a person to fast for at least 16 hours and then schedule an 8-hour window for the consumption of food. This method is the easiest to maintain because a large portion of the 16-hour fasting window usually takes place while the person is sleeping. On the following day, they will continue to delay their eating until the 8-hour feeding window opens, in which they will then break their fast.

When we look at a person's typical eating habits, the moment that they eat something upon waking up will start a chain of reactions within the body. Digestion begins to take place upon the first sign of food or drink enters the mouth and the body starts using what it has consumed as instant energy. "As food moves through your digestive tract, each organ involved in the digestive process turns on, processes the food, and then shuts off," (Boyers, 2018, p. 61). During this process, the pancreas begins to produce the hormone insulin and alerts the body that it can begin using this food for energy. This energy is used in one of two ways, either as quick energy or stored energy. The quick energy is in the form of sugar, known as glucose, and is used

immediately. The stored energy, reserved for later use when glucose is not readily available, is in the form of fat.

Once the digestive system shuts down, it allows the body to have a period of cleansing itself of the waste produced. The reality is people tend to eat constantly and therefore they never allow their body's digestive system to rest. This in turn has a potentially negative effect on one's health and digestion. However, the act of fasting will essentially allow the body's digestive system to fully rest and then cleanse itself of waste and toxins to provide a person with ample health.

Insulin, a hormone that regulates glucose in the blood, alerts the body that food is becoming readily available. This is where the process of energy storage begins to take place. Glucose is extracted from the blood to keep levels from increasing. When it is stored in the liver, it is known as glycogen, and it is here that the body can quickly and easily create energy. Unfortunately, the liver does not have a large amount of storage space, so any excess glucose is then stored as fat. There is no limit to how much glucose can be stored in this way. This is what creates the weight gain that appears as excessive belly fat in addition to other areas of the body.

Surprisingly, insulin will also prevent the human body from burning too much of this stored fat for energy because it is important for protecting the organs within the body and producing heat to keep people warm. The type of food that a person ingests will affect the amounts of insulin the body produces. If the levels are consistently high, the body will work harder to store fat to be used later as energy in case of starvation. The unfortunate side effect of storing fat in such excessive amounts is that it can lead to the development of large body masses like we see in society today.

Foods that are classified as “refined carbohydrates such as white breads, sugary drinks, cakes, and cookies,” (Fung, Mayer, & Ramos, 2020, p. 10), will cause insulin levels to go up while creating more fat cells. Since many people tend to eat obsessively throughout day, the body is generally never given an opportunity to tap into those stored fats cells. When the insulin levels stay consistently high, it can inevitably harm the pancreas, causing it to no longer produce insulin and glucose is not removed from the blood. The glucose levels remain steadily high and this progression is when people are normally diagnosed with having type 2 diabetes.

Aside from diabetes, people at this stage are now also in danger of having other major health issues such as strokes, heart disease, or even issues with their mental state. Health problems like these are usually treated with medication. In some instances, it is recommended that the patient begin losing weight, exercise more, and change their diet. However, doctors do not generally prescribe fasting as a means to improving a person’s overall health and wellbeing.

Fung, (2016), one of the most influential doctors on the subject of intermittent fasting says, “the body really only exists in two states-the fed (high-insulin) state and the fasted (low-insulin) state. Either we are storing food energy, or we are burning food energy,” (p. 44). Fung wrote several books on the subject of intermittent fasting in which he vocalizes the importance of fasting to decrease sugar and insulin. Since so many illnesses derive from having increased weight and fat in the body, fasting helps to stabilize a person’s insulin, which in turn stabilizes the glucose in their blood. This process has a positive effect on their weight and decreases their chances of developing some type of chronic disease.

When an individual fasts, the insulin levels in the body go down. This signals the body that immediate food energy sources are not readily available, so it begins to use the reserved

energy (glycogen) that is stored in the liver. This glucose is easily obtainable for a quick energy source as opposed to the energy stored as fat, which is much more difficult to access.

Methods of Intermittent Fasting

The intermittent fasting 16:8 method allows an individual's body to enter a stage where it can tap into the stored fat cells. In the fasted state, it can possibly take up to almost 12 consecutive hours of fasting for a person's body to use up the stored glycogen in the liver and then begin converting stored fat into energy. During a 16 hour fast, this allows the body to burn stored fat for at least 4 more hours. This stage of fat burning is called ketosis as the fat cells are converted by the liver into glycogen to feed all the cells in the body.

The term ketosis refers to a byproduct of the breakdown of fat into useable energy, called ketone bodies, or ketones for short. This fat can be derived directly from a diet (i.e. nutritional ketosis) or from fat stores of the body. Ketosis caused by diet is referred to as "nutritional ketosis". Ketones are used directly by the body to power itself. This breakdown of fat into useful energy is similar to the process that dietary carbohydrates undergo in producing glucose to fuel the body. (The Charlie Foundation, 2020, para. 2)

The body was made to endure this process. Centuries ago, when food sources were scarce, people did not eat as often as they do now. There were times when people had to hunt and forage for food, which resulted in occasionally not eating; especially during the winter months. Therefore, the body would store fat for times like this when it could not receive energy from food. It would then tap into those stored fat cells to continue with the normal functioning of the organs and cells.

By avoiding food and caloric beverages, people can control their insulin levels and cause the body to improve its sensitivity to insulin. This is quite the opposite of how the body reacts to high levels of insulin. Lower insulin levels bring health benefits such as reducing the risk of not only diabetes, but other health issues associated with type 2 diabetes. Diseases like high cholesterol, high blood pressure, heart disease, and cancers, to name a few, are greatly reduced by simply lowering the insulin levels naturally.

Another benefit of using the 16:8 fasting method is that it allows for an individual to reduce their caloric intake. Many times, people overeat and consume foods that contain large amounts of calories without realizing it. While there are no real restrictions on how much someone can eat during the 8-hour eating window, a person would want to be conscious of how many calories they consume if they are trying to lose weight. During the fasting state, people are still allowed to consume water, unsweetened tea, and black coffee with no extra additives like cream and sugar. The body must maintain a steady fast because any calories or caffeine will spike insulin levels, therefore causing a person to break their fast.

There is a belief that in order to lose weight, one must simply focus primarily on calories in and calories out. This theory speculates that if a person were to consume less calories and also burn more calories throughout the day, they would lose weight. While that theory may result in weight loss, calorie restricted diets do not usually last long. Subjecting our bodies to a significant reduction in calories can lead to a person feeling hungrier and craving food even more. This jeopardizes any weight loss progress and the end results usually find the individual gaining their weight back or even more than they had before.

The second approach to intermittent fasting is referred to as the 5:2 method. In this case, the individual would only fast on certain days of the week instead of hours of the day. When

practicing this method, a person would eat normal for 5 days of the week and eliminate around 500-600 calories during the other 2 days. This allows people to not feel as restricted from eating normally and can still offer success in weight loss. In fact, a study was conducted on 100 overweight females who practiced the 5:2 method and it found “that participants had better insulin sensitivity and a greater reduction in total body fat,” (Boyers, 2018, p. 66).

Another benefit of the 5:2 method is that it is easier for people to maintain, particularly those who have trouble keeping a daily routine. Over time, people get used to the plan of eliminating calories from their day, and effectively begin eating fewer calories in general. Researchers from Harvard Medical School and the University of Florida have found that the 5:2 method had an effect on reducing stress and anxiety in participants (Boyers, 2018). It is most effective when people are aware of what their typical daily caloric intake is and what it should be to maintain their current weight or to lose weight.

Just like the 5:2 method, there is a variation that is called Eat Stop Eat. Eat Stop Eat encompasses setting a schedule of five days versus two days. The difference with this method, however, involves eating normally for at least five days a week and fasting an entire 24 hours for one or two days. This style is a little more difficult than the 16:8 and the 5:2 methods because fasting for 24 hours can be challenging. The individual must resist eating foods and drinking anything during this time, although calorie-free drinks are permitted. Intermittent fasting is about controlling eating habits and not allowing eating habits to be in control.

This method can also be practiced by alternating the days in which you eat and when you fast. An example of this would consist of eating normally on Sunday, completely fasting on Monday, then eating normally again on Tuesday, then fasting on Wednesday, and so on. For some, this method is also practiced by not fully fasting on the alternate days, but rather only

consuming one-fifth of the calories on those days. “For a typical diet of 2,000 to 2,500 calories per day, this means one would eat 400-500 calories on modified fasting days. The main goal here is to cut weekly calories by 20-35%,” (Boyers, 2018, pp. 66-67).

Two other methods follow a much more extreme format than the previous styles. The first one is called the Warrior Diet, which by the name alone sounds intense and it lives up to its name. This particular format of intermittent fasting applies the same idea that the 16:8 method operates by, just more extensive. The Warrior diet requires individuals to fast for 20 hours every day and keep just a four-hour feeding window. With a smaller eating window, a person will deal with hunger temptations more, but by extending the fasting window, the body is forced to burn even more stored fat for energy.

The approach is also different during the fasting window because instead of fully eliminating food, individuals are permitted to eat light snacks like berries, yogurt, water, tea, coffee, and vegetable juices. This is referred to as an undereating phase and it promotes energy boosts and clarity of the mind, as well as fat burning. During the 4-hour eating window, typically during the evening, a person eats one large meal. This phase is known as the overeating phase and responds quiet opposite of the undereating phase. Overeating promotes relaxation and calmness so the body can utilize nutrients more effectively and at the same time it promotes digestion (Boyers, 2018).

Unlike the other Intermittent fasting methods, the Warrior diet has specific restrictions when it comes to the types of foods people can eat. This method believes that the body responds to specific combinations of foods and that some combinations have a more positive effect than others. Combining proteins and vegetables is considered acceptable but it is highly recommended not to combine elements like “nuts and fruits, grains and fruit, protein and grains,

and alcohol and starch,” because mixing these types of foods can be difficult to digest (Boyers, 2018, p. 63).

The Warrior diet was created in the early 2000’s by an Israeli special forces officer who believed this format mirrored how the ancient hunters and warriors lived. By extending the fasting window and eliminating excess body fat, it is believed this diet makes a person much stronger and healthier. An increase in lean muscle also emulates ancient hunters who would go most of the day without eating. Instead, they would hunt and fight, holding off to eat a feast later in the day. This method brings a person more alert so they can focus, become more creative, and kick human survival instincts into action (Centennial Health, 2020).

Another extreme method of IF is referred to as the OMAD diet. OMAD is an acronym that means One Meal A Day and is not a method one should try if they are new to Intermittent Fasting. This radical technique is very similar to the Warrior Diet, except it involves fasting for a full 23 hours and then an eating window of just 1 hour. With the OMAD diet, most people tend to eat one big meal at the end of the day. Individuals will eat their entire day's caloric intake in one hour, so it is best to start with small, light foods when initially breaking a fast and work their way through the hour increasing their food intake. It is important that they do not overindulge and consume more than their recommended calorie level if they want to lose weight.

Although each of these methods are a different form of intermittent fasting, the overall goal is the same; to lose weight and to be healthy. With weight loss comes the reduction of type 2 diabetes, the lowering of cholesterol, reducing the risk of heart disease, and it aids in the reducing of daily calories without feeling so restricted. So, the focus of intermittent fasting is to allow the body to tap into those stored fat cells in the body for energy. This is what helps a person lose weight more rapidly in connection with proper diet and exercise.

No matter which type of intermittent fasting a person chooses to practice, there are always going to be some good and bad side effects. It is not uncommon to feel lightheaded or experiences dizziness in the beginning. It is nothing to be alarmed about, it is just the body adjusting to not receiving sugar first thing in the morning. However, if it continues longer than a week, it is advised to stop practicing IF and seek medical attention for possible underlying conditions.

People may also experience headaches, feel like they no energy, and may find themselves short-tempered. Starting a new habit is difficult and people will still crave the foods that they are used to eating, maybe even more than usual, since they are not used to not eating in the morning. It is normal to even feel a little weak and dizzy for the first week. Once a person becomes used to having a routine of fasting until a specific time, the body will begin to endure until the feeding window opens.

As time passes by, and people begin losing weight, it is not uncommon to start having a more restful night's sleep. People will find themselves sleeping better and waking up refreshed. A person will reach a point where they will start feeling more than energized each day. Because there have not been any sugar spikes from eating morning donuts or cereals and the tall Latte during the morning commute to work, they will not feel sluggish anymore. This newfound energy will greatly help anyone get through their morning exercises with ease.

People may begin to notice a change in their appearance in the sense of skin care. They will notice their face beginning to clear up from any blemishes or acne, and "any puffiness in their face, skin, hands, or feet may start to diminish. Chronic aches and pains that became a regular part of their day may reduce or go away completely," (Boyers, 2018, p. 30).

Food, Drink, and Calories

Many diets encourage people to eliminate many foods from their eating habits, and this kind of restriction causes people to fail or struggle. In time, people may find themselves gaining their weight back at a rapid pace and some are unable to control it. Fasting is a good way to improve a person's health overall. By consuming healthy, nutrient dense foods into their eating window, people will not only burn fat while fasting, but they will also be consuming better foods when eating.

Once a person decides to practice intermittent fasting, it is important to incorporate a new sense of what it means to be eating properly. The concept of a good, nutrient dense diet will come together with fasting and have a real positive effect on the body. Though most methods of intermittent fasting do not require that a people follow a specific diet, it would seem obvious, however, that if someone wants to be healthy and lose weight then they should begin eating better.

While engaging in intermittent fasting, one should use this opportunity to start changing the way food is viewed and how they relate to it. Food ought to be considered as an energy source and not just as a recreational activity. Therefore, people should start controlling what they eat so they can live longer and healthier. When the control of food is given over to feelings such as boredom, pleasure, or even depression, then food has become an emotional crutch that people lean on to for comfort. "Emotional eating has been associated with reduced awareness of internal hunger and satiety cues, in part because stress alters one's ability to be aware of these internal cues and they were unable to suppress their food consumption" (Frayn et al, 2018, para. 11).

One habit that can help people focus on their diet habits better is tracking what foods they consume. By keeping an honest record of what an individual eats and drinks can bring the attention to any habits that may need changing. A journal will help a person keep track of everything that they consume each day so they could have an accurate account of where all their calories are coming from.

Once they have a record of that information, it will then help one see where they may be over consuming calories, such as maybe too many snacks or sodas that could potentially be reduced to improve healthier eating. Tracking can also assist in planning ahead so one might know how many calories they will eat for each meal, and then they will not overeat (American Academy of Family Physicians, 2020).

Tracking can be done in several different ways. One way is to simply write in a small notebook or journal that is easy to bring anywhere for quick recording. Another great way to track food consumption is through several different free applications that can be installed on a smart phone or tablet. Applications like MyFitnessPal or FatSecret can help people keep tabs on everything from calories consumed, to water intake, to the number of calories that were burned while doing different types of exercises. The apps have a large database that can assist people in figuring out the serving sizes for many items, including foods from numerous restaurants. They can also notify users when too much sugar, salt, fat, or other nutrients are being consumed in order to keep the intake at a healthy level.

A lot of people do not focus their attention on the suggested serving sizes of foods, and this often leads to the over consumption of calories. Nutrition labels can be misleading and confusing, so it is important to read them thoroughly. For example, the label on a can of soup may state that a serving is 200 calories. Most people would naturally assume that a can is a

serving, when in fact, most soups are labeled as 2 servings or even sometimes more. A person would consume one can of soup and believe that they only ate 200 calories, when they in fact ate 400 calories or more instead.

A nutrition label is a tool found on products that informs the consumer about what types of ingredients are contained in it. Labels will list the ingredients found in processed foods from the greatest amount to the least. A long the list of ingredients could mean the food is heavily processed and possibly loaded with salt, sugar, and chemicals. It is best to find foods that are “minimally processed because its natural state hasn’t changed. In other words, it looks pretty much the same as you’d find it in nature,” (Fox, 2019, para. 2).

Labels will also list important information such as the serving size, number of calories, amount of carbohydrates, the sodium content, and other valuable nutritional facts. This significant data can help consumers make healthy, informed decisions when choosing foods to purchase. Most products today have a quick label on the front of the product to inform consumers of the calories, sodium, and sugars at a glance. A more comprehensive label is located on the back or side. Labels are vital because they can inform people about any ingredients in certain foods that they may be allergic to and potentially prevent them from getting sick or even from possible death.

Nutritional information is fundamental when practicing intermittent fasting. People should not only focus on when to eat, but also on what to eat when their feeding window opens. When an individual breaks their fast, they should try eating foods that are not highly processed and that are as fresh as possible, while also consuming healthy fats and proteins. It is important that they do not overeat because that defeats the purpose of skipping a meal.

Starting the day on an empty stomach can sometimes cause people to risk eating large amounts of food. Nevertheless, people should drink water and resist eating until their window opens. Eventually their body will become accustomed to the change of not eating right away each day. When their eating window finally opens, people must eat slow and allow their digestive system to become familiar with processing food again. It is best to start with a small meal or a snack before consuming a large meal as to not overload immediately on calories. Eating things like fruits, a bowl of soup, or even some scrambled eggs are ways to slowly incorporate foods slowly without upsetting the stomach (Centennial Health, 2020).

As the digestive system becomes more familiar with being fed again, people can begin eating foods that have more substance such as fish, chicken, or grass-fed beef. It has been found that people who eat anything that they want during their feeding window have still experienced weight loss as a side effect. However, it is not recommended to practice poor eating habits during the feeding time. One should always consider a healthy form of eating if wanting to maintain a healthy body and have optimal energy. Although, treating oneself to an occasional meal or snack will not be detrimental to successful weight loss and allows the individual to not feel so restricted in their eating habits.

People should not drastically change their eating habits immediately, but rather they should ease in it so their body can adjust. Making quick changes will not only make the IF process feel restrictive, but it will also cause a person to struggle with staying committed to their new lifestyle of eating. There are several ways to avoid this from happening. For example, if a person evaluates what their daily diet consists of and they find that they are consuming four sodas a day, they should not try to eliminate sodas completely. Instead, they should look for ways to slowly wean themselves from ingesting so many a day.

One way to accomplish this goal is to limit soda consumption to one or two drinks a day. This will help cut their normal consumption in half. As time goes on, they can begin to narrow their soda intake down to one can a day until they are able to completely eliminate drinking sodas daily. By this stage, they can make the conscious choice to drink a soda occasionally during their feeding window, just not as often and not as abundantly as they once did. In any case they are still enjoying one of their favorite beverages each day, only now they are not overindulging it.

Another idea to making slower changes is to alter the way some foods are prepared. Maybe opt for chicken instead of beef, whole wheat bread as opposed to white, or try ordering a small combo meal instead of a large one. Think of other healthy options like adding a fresh slice of tomato as a burger topping instead of a condiment or eating fresh fruit as a side dish instead of French fries. Every little change will be beneficial to the process of eating healthier for long term accomplishments.

A person should also consider how many times a week they eat out and begin to limit how often they use that as a meal option. The wise choice is to eat as many prepared meals at home as possible. Set a goal to eat at a favorite restaurant once a month as a treat or having a favorite dessert at dinnertime every Saturday to celebrate another great week of staying focused on fasting goals. Meal options like this should be considered occasional treats, not daily options. This will allow people to continue making decisions about their daily eating habits, and at the same time, it will give them something to look forward to.

A great way to ensure that one does not eat random, unhealthy meals is to do meal preparations. Known basically as meal prepping, this is an easy way to plan out what a person intends on eating throughout the day or even for the whole week. Some people like to prepare

meals for the week on Sunday's which allows them time to measure out exact serving sizes and count calories for each meal. Planning meals can assist in successful fasting, regardless of which method of IF one chooses to do. "Research shows that people who prepared their meals ahead of time experience greater success with their health and nutrition goals and also save time and money in the long run," (Boyers, 2018, p. 36).

Meal prepping can be a great experience and as time goes on, it becomes easier to build a menu for the week. Planning allows a person to create a shopping list to get the specific items they will need for their meals and it can relieve the stress from worrying what they are going to eat during their feeding window. It is best to not cook foods while in a fasted state. The smell of the food can be too tempting and make a person want to eat before it is time to break the fast. It can be easy to jeopardize a fast, so it is important to keep the mind focused on fasting, not eating.

Try finding new, exciting recipes can help create delicious, healthy meals and prevent a person from getting stuck in a routine of eating the same type of meals week after week. Look through magazines or search online for meals that can be made in bulk. Also, if there is recipe that could be made healthier, look for opportunities to put a new twist on it. For example, add fresh vegetables or spinach if possible, to get some extra servings. Swap pork or hamburger meat and use lean cuts of turkey and chicken to reduce fat and calories. Use different salt free seasonings to add new flavors or add a little spice to make meals interesting.

It is best to try to eat real foods that are in their natural state such as vegetables or something that was once alive like beef, chicken, or fish. It is also best to try and avoid foods that come prepackaged as much as possible (Fung & Moore, 2016). However, if it has a nutrition label, try to consume foods with the shortest list of ingredients.

There are some foods that are found in supermarkets today and although they are packaged, they can still be considered healthy options. They can be an effective part of selecting foods that have a longer shelf life, but not loaded with harmful chemicals and preservatives. Canned goods, like beans and tomatoes, are just as healthy as fresh produce. It has been suggested to consider buying frozen vegetables and frozen fruits for the convenience that they do not spoil as quickly as the fresh food options. However, a person should try to buy organic foods when possible to avoid possible pesticides and other harmful chemicals that are normally found on produce.

By investing in food storage containers, people can then portion each meal for the week and store them in the refrigerator. This will then allow people to easily grab a quick, microwavable meal that they can eat at home or conveniently take with them to work or school. Eating from reusable containers helps eliminate unnecessary waste and will be handy when the time comes to prepare meals for the upcoming week.

Once an individual becomes familiar with their style of intermittent fasting and they are informed of their calorie needs, meal prep will be a time saver for when the feeding window opens. Meal prepping can also help save money because it will prevent a person from having to make spontaneous trips to fast food restaurants and spending more money on unhealthy, highly processed foods.

One of the main benefits to meal prepping is being able to calculate the caloric intake of each meal to guarantee a successful week of eating healthy and it will promote weight loss. Plus, cooking at home allows the individual to know exactly how the food was prepared, so there are no hidden additives or calories. Most restaurants use things that people are not aware of like butters, oils, salt, and things of that nature.

All the variations of intermittent fasting allow for people to drink calorie free beverages, but most especially, water. Often people mistake dehydration for hunger and do not drink enough water throughout the day. It has always been the golden rule to drink at least eight 8-ounce glasses of water daily, but some weight loss experts have suggested that people should drink half of their weight in ounces of water. So, for example, someone who weighs 200 pounds would be drinking 100-ounces of water daily. However, these water recommendations could become very excessive if the person were extremely overweight. In any case, using the fasting window as a time to consciously monitor water intake would be a great way to increase water consumption.

While intermittent fasting, it is important that people remain hydrated. Water is the most essential type of beverage that a person should consume throughout the day. The most significant benefit to drinking water during a fasted state is that it helps control hunger and tends to keep one feeling full so that they will continue burning stored fat. It is imperative that people resist drinking beverages that contain calories or sugars, including diet sodas, during a fasted state, which is why water is always the best choice. In Dr. Jason Fung's book, *The Obesity Code*, he makes a very wise suggestion that people stay away from artificial flavors and sweeteners such as Kool Aid, Crystal Light or T'ang (257). These not only contain calories but also have artificial sweeteners that can trick the body into thinking it is consuming sugars that will raise insulin levels and break a fast.

Water may not seem as stimulating as drinking fruit juice or soda, so it may be helpful to add some fresh fruits such as strawberries, raspberries, blueberries, lemons, or oranges to infuse the water with different flavors. Also, adding some herbs such as mint or rosemary can add beneficial flavors as well. Infused water will help aid in “appetite control, hydration, immune

defense, heartburn prevention, blood sugar regulation and weight management,” (Hairston-Green, 2017, para. 3).

Although water is a very important element in fasting, there are other beverages that are approved for consumption during fasting. One of those beverages is tea. Teas such as black, green, or herbal can be served both hot or cold, but must not contain any sugars or artificial sweeteners. Unsweetened tea can be enhanced with cinnamon or nutmeg or even a small amount of cream or milk (Fung, 2016). Some benefits to drinking tea are the ability to lower cholesterol and blood pressure, while herbal tea can bring other potential benefits such as boosting both the immune and digestive systems. Different flavors will get different reactions from the body. For example, some herbal teas like Chamomile can encourage relaxation, while peppermint and ginger can help with digestion (Centennial Health, 2020).

Coffee is another beverage that is approved for consumption during fasting. People must drink it black and it should contain no sugar or cream, although some people allow for a teaspoon of coconut oil to be added. It is believed that by adding coconut oil, this can help reduce hunger urges and will not stimulate insulin or break a fast. Coffee is another beverage that is full of benefits. Some studies have shown it to have the potential to lower the risk of diabetes, cancer, Alzheimer’s disease, and depression. Coffee is also considered one of the biggest sources of antioxidants in the Western diet (Centennial Health, 2020).

Various people tend to drink diet sodas that claim to have zero calories and zero sugars. Studies have shown that artificial sweeteners used in these drinks still have a reaction to the brain, the same as regular sugary drinks, and can spike insulin levels. Dr. Fung writes that sweeteners like aspartame and stevia raised insulin levels higher than regular table sugar. Artificial sweeteners that raise insulin like this should be expected to be harmful and not

beneficial to the body. Although they may essentially help decrease calories and sugar, they do not lower insulin levels and can increase hunger cravings. It is the rise in insulin that causes the increase in weight gain, not calories (Fung, 2016).

When looking closely at different foods and beverages, it is important to realize that not all calories are the same. As previously mentioned with the case of diet sodas, just because something is labeled as having zero calories does not mean that it is healthy or beneficial to the body. It has been understood for many years that losing weight was as simple as calories in, calories out. On the contrary, 150 calories of soda are much more different than 150 calories of vegetables. Obviously, both have the same number of calories, but each have completely different nutritional values and the human body processes them differently too.

Soda can cause weight gain because it has virtually no nutritional value at all and contains sugars, chemicals, and artificial flavors. Vegetables, on the other hand, can help promote weight loss and they contain many healthful benefits that the body needs like vitamins and minerals.

Our body's hormonal response to two food items containing equal calories is measurably different depending on the composition of the food. The sugar in a soda will spike your blood sugar levels and cause your pancreas to produce huge amounts of insulin (Fung et al, 2020, p. 47).

It has been mentioned several times before, that insulin is the main cause of weight gain because the body begins producing more insulin with the intent of storing fat for future energy use. So, it is imperative to not assume that all calories are equal. Fasting is the best way to fight against raised insulin levels, and “since all foods stimulate insulin to some degree, the best way

to lower insulin is to eat nothing at all,” (Fung & Moore, 2016, p.47) basically by fasting. Therefore, fasting is very beneficial to one’s health.

Exercise While Fasting

When investigating the methods of intermittent fasting, most people are surprised that exercising during a fasted state is encouraged. The truth is, exercising while fasting is very beneficial for the mind and body. People who exercise while fasting “had improved insulin sensitivity and higher levels of protein that helps muscles both respond to insulin and use blood sugar, both factors that can reduce the risk of weight gain and diabetes,” (Centennial Health, 2020, p. 72). Naturally, it is assumed that people should not work out on an empty stomach, but that continues to be proven as misleading.

Exercising while fasting not only encourages quicker weight loss, but can also “benefit the brain, one’s breathing, the heart, the lungs, muscles, digestion, mental health, and more,” (Fung, Mayer, & Ramos, 2020, p. 155). It can also reduce stress and improve one’s stamina. Although exercising can be very beneficial, especially when practicing intermittent fasting, it should not be used as a means of weight loss. As mentioned before, the theory of calories in, calories out is not conducive to losing weight.

The reason why exercising quickens weight loss during fasting is because of the type of fuel the body is using at the time. When a person is fasting overnight, the glycogen levels go down as it fuels the functions of the body. By morning, after fasting for at least 12 hours or so, these fuel levels are low, and the body begins to tap into stored fat cells as its main energy source. So, by exercising in a fasted state the body burns more body fat. When people choose to eat an energy bar or drink a protein shake to fuel their workouts, they essentially are burning that immediate energy they just provided their body as opposed to tapping into stored fat cells.

Exercise should never be about losing weight, but rather a means of toning the body and improving muscle tone. Having greater muscle mass will require more energy from the body during a fasted state and make it tap into stored fat cells at a faster rate. By exercising in the morning during a fasted state, the insulin levels are down and something else happens. A hormone called noradrenaline and other growth hormones are present that contribute more energy to work out harder (Fung et al, 2020).

It is important to understand that the types of exercises one performs are not very significant, because any kind can be utilized with any IF method. Walking is one the simplest, yet greatly effective types of exercise that anyone can do. If one is just starting to practice intermittent fasting and incorporating exercise for the first time, walking can be a good approach to get the body moving, especially if the person has not been active for some time. Simply walking the dog in the morning for 40 minutes a day can be a great way to add more physical activity into a daily routine (Fung & Moore, 2016). As time goes on, people can eventually progress to more intense forms of exercise like jogging, bike riding, yoga, or anything else physical that they may enjoy. As the weight loss progresses and health improves, it is necessary to change the form of exercise in order to continue getting the full benefits.

Ideally, a person will need to begin incorporating strength training into their routine at some point. Building muscle is essential for a healthy, productive body. As the weight loss progresses, and the stored fat burns away, the muscles in the body will become more visible (Centennial Health, 2020). One misconception about fasting is that the body burns muscle as a form of energy. The body only uses muscle as an energy source when glucose and body fat are too low for it function properly. Fat levels need to reach below 4% for the body to have no other “choice but to use protein for fuel. Most people never reached that point,” (Boyers, 2018, p. 91).

There are so many benefits to increasing physical activity. Exercising allows a person to relieve stress, clear the mind, and enhances one's mental health. It can also help strengthen bones while improving cardiovascular health and blood flow, making people stronger.

Exercise alone will not have long lasting weight loss effects. It should go hand in hand with diet and fasting in order to achieve a healthy, vital mind and body. When exercise is conducted alone, people may lose weight but will eventually gain it back over time because there is no real substance to the method. When incorporated with intermittent fasting and a proper diet during the feeding window, exercise becomes a tool a person utilizes to assist whichever method of fasting they choose to do.

Fung (2020) wrote suggestions on how to exercise successfully during intermittent fasting. He suggests a person should get involved in something that they can afford and that they can find time to do. At the same time it should be something that they enjoy. When a person enjoys what they are doing, then they are more than likely to keep doing it daily. They never want to get involved in something that causes them to stress about it. For example, if an individual cannot afford a gym membership, then it may be enjoyable to find a park instead and take advantage of some outdoor equipment for free.

If the exercise routine starts to become repetitive and is no longer a challenge, then the person will want to find ways to change it. Walk on a new trail or ride a bike through a different part of town to take in some new scenery. Try to make an exercise routine a little more challenging by adding a few more pounds of weight when strength training or try a new machine at the gym. It is important to keep it interesting so that it does not become boring.

Another idea to help keep exercise routines interesting is to work out with a friend. Whether it is walking around the neighborhood, having some apprehension about starting at a

new gym, or just having somebody to lift weights with, it is always nice to spend time with someone who can encourage and support a friend during a workout. Those moments spent together will not only build relationships, but it will also inspire a person to keep exercising.

Findings

The literature that was examined for this topic was found to be thorough in its research on the various methods of Intermittent fasting and its effect on human health. Most of the information throughout the resources seemed to agree on many of the key elements of intermittent fasting and all the side effects that take place in the body.

Some material contradicted each other when it came to small details such as whether people should be drinking diet soda during a fasted state. Another detail where there was some contradiction referred to the human diet. Some researchers claimed that people who practice intermittent fasting could still eat whatever they wanted to during their eating window with no repercussions. Others have suggested trying to incorporate a healthier diet such as increasing fruits and vegetables intake and consuming fresh meat.

With various methods of intermittent fasting, most of the information that was found leaned towards the 16:8 method as the most convenient and practical of all. It could work around basically any schedule no matter if someone worked days or nights. Some of the suggestions seemed rather drastic in its nature. For example, one method of intermittent fasting suggested eating during a one-hour window out of the entire day. Without knowing the full science behind it though, it still seems as if it would be more harmful to the body than nurturing. It appears some of the writers still wanted to find a shortcut to losing weight but also wanted to continue to eat poorly. Any health program will have flaws and loopholes that people will look for in order to make it easier. But for someone who is serious about losing weight and being healthy, intermittent fasting would be a very useful tool in achieving that goal.

It is interesting that many centuries ago, ancient civilizations viewed fasting as a means of taking care of the body and repairing it. Those people took the time to cleanse their body of

toxins and impurities, while calming the mind, and encouraging receptiveness of knowledge. Over the decades, fasting had developed into more of a religious ritual or a means of protesting to draw attention to injustice. Even as recently as colonial days, the admired philosopher and scientist Benjamin Franklin was known to have said that fasting was the best medicine. One would think that since fasting was a popular health remedy just a little over 200 years ago, then fasting would still be revered today as a simple means to developing a healthy mind and body.

Fasting has had a bad reputation for being a radical way of starving oneself. The word fasting alone brings so much stigma and negativity that the mere mention of intermittent fasting makes people question the reliability of it. People need to have an open mind and listen to the essential benefits of fasting in general and then understand what intermittent fasting can do to gain those benefits. Being able to fast while sleeping would be an incentive that could convince people into practicing intermittent fasting since it would not require a lot of effort.

The hardest part of fasting is controlling the mind and breaking the old habits that the body had been used to for so long. Eating dinner and then cutting off food consumption for the rest of the night would have to become a new habit, in addition to replacing snacks with drinking water to remain full and hydrated. Waking up in the morning and not be able to reach for the cream and sugar for their coffee, eating a donut, or stopping at a fast food drive-thru on the way to work are other habits and routines that need to be broken.

America has become a culture of grazing, literally eating continuously all day long. People no longer eat three meals a day. Instead they are consuming countless small meals, snacks, and sugary beverages in the amounts of hundreds or even thousands of extra calories; more than what their body needs to function properly and then they wonder why they cannot lose weight.

The amazing thing about intermittent fasting is that the body is given time to tap into those stored fat cells that usually never get tapped into. Because of the constant eating, glycogen and insulin levels are always high and working extra hard to store energy for future uses. Nevertheless, if the body is always receiving energy from food, how will the body ever get to use those stored fats?

Under further examination, so many diseases and illnesses are the side effects linked to the additional fat on the body cause. People should consider that a doctor's main job is to cure illnesses and diseases and they tend to treat those symptoms with medications. Many patients may find themselves taking multiple pills a day for different ailments that could simply be corrected by losing weight. Nutrition should be considered an important factor when diagnosing those illnesses and diseases.

Food is medicine. It nourishes the body and contains many vitamins and minerals the body needs in order to function properly. But when people are consuming foods that are highly processed, full of added chemicals and preservatives, and contain ingredients that are not found in nature, the body does not know how to process these food-like products. Over the last 50 years or so, grocery stores have stocked shelves with so many unhealthy, processed foods that do nothing to nourish the body.

Look at several products that can be found on the shelves in supermarkets today. They are filled with so many unhealthy options that it can be exhausting trying to find something nutritious to eat. There are over a hundred varieties of potato chips and cookies, countless prepackaged frozen meals for any time of the day, pizzas of any shape and size with many different toppings, and various instant pastas so cheap in price, that it is hard to pass them up.

Often many things that look like they are healthy are actually full of hidden ingredients and chemicals. There are times when foods are labeled as fat free, but they are still filled with chemicals with names that are too difficult to pronounce. They may also be higher in sodium, sugars, or other types of harmful ingredients in order to make the food taste good. For instance, a product may be marketed as sugar free, but still contain some type of sweetener that is just as harmful as regular sugar, only it could be labeled with one of its 61 other names (University of California, 2020).

Society will hear keywords like gluten free, for example, and automatically assume that means the foods are healthy. Many do not realize that there are those who have a legitimate allergy to gluten and only they would be the ones who benefit from gluten free products. Another misleading keyword that people associate with being healthy is organic. Individuals may see the word organic on candy packaging and assume it is healthier than other candy. It still contains sugar. Technically, sugar is organic but that does not mean that it is healthy.

Sugar is an ingredient that many people associate with diabetes and illness. It is found in so many food items today from breakfast cereals, donuts, and bagels to pastas, sauces, and salad dressings. It is even found in things that are supposed to be healthy for people. It is practically hard to avoid most in part because it is estimated that sugar can be found in over “74% of packaged foods found in supermarkets,” (University of California, 2020, para. 1). There is another reason why sugar is hard to avoid.

The U.S. Food and Drug Administration (FDA) requires food producers to list all ingredients in their foods. But added sugar comes in many forms – which is why it's so hard to find on the ingredients label. There are at least 61 different names for sugar listed on food labels. These include common names, such as sucrose and

high-fructose corn syrup, as well as barley malt, dextrose, maltose and rice syrup, among others. (University of California, 2020, para. 1-2)

Just as dangerous as regular sugar, artificial sweeteners have the same chemical reaction to the body. Used especially in diet drinks, the labeling will state that diet drinks have zero calories and zero sugars. However, the hidden sweeteners, like aspartame and sucralose, are able to cause obesity and increase the risk of strokes or heart attacks; just like regular sugar.

Artificial sweeteners are made from chemicals not found in nature; the word artificial is literally in the name. Even though artificial sweeteners can make it possible for consumers to have 0 calorie drinks, artificial sweeteners can raise insulin levels. As stated before, insulin is what causes obesity in people, not calories. So, while consuming diet sodas may help eliminate calorie intake, it does not stop insulin levels from rising and causing the body to store fat cells.

This is why intermittent fasting is important for losing weight. Fasting allows those insulin levels to drop and essentially makes it possible for the body to tap into stored fat energy. Again proving that it is not about calories in and calories out, but rather hormone driven. And considering how much of the food available today is not very healthy, it almost seems like people would be better off if they did not eat at all.

Recommendations

Based on the findings of intermittent fasting, further research on its effects on childhood obesity may be useful. Currently, there is a growing population of obese children, primarily amongst teenagers in America. They are growing up in a new dietary world much different than the generations before them that is filled with ultra-processed foods that did not exist before. Children feed on food and drinks that are loaded with sugars, chemicals, and preservatives and it is having its toll on their livelihood.

Years ago, it was not uncommon for children to develop type 1 diabetes, which was referred to as juvenile diabetes. Usually it was unheard of for youth to have type 2 diabetes. Unfortunately, with the growing number of young people becoming obese, it has affected their health in a dangerous way, and advancing to type 2 diabetes (Medline Plus, 2020).

Currently, teens with type 2 diabetes are told to control their chronic disease with diet and exercise but fasting is not something doctors encourage them to try. A study on the effects that intermittent fasting has on obese youth would provide information that may help the nutrition experts discover a way to get the increasing epidemic of obesity under control. By finding a way to reverse obesity in teens, it may prevent it from continuing into adulthood.

During further research, the intermittent fasting method of 16:8 would be the best one to be used as a tool by teens to help them lose weight. Teenagers are essentially too young to receive gastric bypass surgery, so exploring IF as an alternative way to help them would allow researchers to find how successful young people would be, how effective it is on weight loss, and if it continues to cure any illnesses or diseases they may have.

The information examined about intermittent fasting shows how diet and exercise may help individuals lose weight. However, there is no guarantee that it will keep the weight down,

nor if it would have a reversed effect on the conditions developed from being overweight. For a chance to have a better quality of health, how much of an influence would fasting have on childhood obesity if it were combined with diet and exercise? It would be interesting to know how effective intermittent fasting would work with a younger demographic.

Another area that could benefit from further research is how veganism or vegetarianism affects intermittent fasting. There is a large population of people who have converted to one of these particular ways of eating. Currently, there are approximately 7.3 million Americans who are vegetarians and nearly 1 million people who identify as vegan (NutritionED, 2020).

These distinct lifestyles practice the elimination of animal products and primarily focus on eating plant-based foods. Vegetarianism supports eating mostly plant-based foods, but it also allows for the consumption of some animal products while veganism focuses on avoiding all animal products completely. Vegans and vegetarians are usually found to be extremely healthy and fit. Some people associate animal byproducts with contributing to illness and disease brought to the body and that makes these types of lifestyles more appealing when seeking healthy alternatives.

Further research should focus primarily on patients who have converted their diet to either vegetarianism or veganism when they incorporate intermittent fasting into their life. Many people choose one of these particular philosophies when it comes to their diet and health. If someone who is overweight or obese attempted to go full vegan or vegetarian, what kinds of effects would take place in the human body? It would be interesting to discover if intermittent fasting is more beneficial while choosing this style of eating versus those individuals whose diet regularly includes animal byproducts.

A third area that should be researched in more detail is how a person's diet affects the benefits they receive while using intermittent fasting. Much of the research that was presented in these resources mainly focused on what time a person eats and not too much specifically on what to eat. Some sources recommended eating as healthy as possible while other sources implied that a person could eat whatever they wanted, including not watching their caloric intake. It is important to learn the different benefits one receives when they consume fresh, organic foods versus consuming unhealthy, highly processed foods.

It is important to acknowledge that eating nourishing foods seems to be the better option and would ensure that the body is receiving good, quality nutrients. But research would confirm what a difference foods can make when eating during the feeding window and what the benefits are between the two types of eating habits. When the body reaches autophagy and begins to burn fat cells as energy, it would appear as though what a person eats during their feeding window would not make much difference. However, is there a big significance in the benefits of eating clean, organic foods or is the same affect when eating poor food choices?

This type of research would greatly benefit patients who may live on a fixed income and not have the proper resources to purchase good, quality foods. Intermittent fasting should be a style of dieting that all people can benefit from. So, if a person could continue with their normal pattern of eating without having to alter much at all, could they benefit from intermittent fasting as much as someone who eats extremely healthy food?

Conclusion

People who suffer from obesity, or even just a little weight gain, tend to look for quick ways that they can lose weight. Everything from extreme workouts and restrictive to dieting, pills, shakes, and even surgery, all these avenues do not have a high success rate in keeping the weight off. The problem with these choices is that there is not just one issue that causes weight gain, so there is not just one solution. Just changing the way a person eats or trying to workout excessively will only combat a portion of the problem.

People want to work out and continue eating the same as they always have been but expect to lose weight. In other cases, they try to change their diet by eliminating entire food groups, carbs, or fats. After a while, the cravings become stronger for things they have been withholding from their body and they give in, only to jeopardize their diet. Failure is inevitable when people try to change things so abruptly. When the change to the diet is quick, the body never has a chance to adapt and become accustomed to the new modifications.

Any changes that take place to a person's diet or physical activity should be slow, steady, and consistent. By making alterations at a slow pace, the body can adapt and become familiar with the new changes. When someone decides to exclude certain foods or take on extreme physical activities, it confuses the body. Even in the case of practicing intermittent fasting, the body is used to eating a certain way. So, when a person chooses to practice intermittent fasting, they will go through some phases of body resistance and temptations to revert back to their old habits.

When I stopped snacking, it was uncomfortable, but it was not painful or unbearable. It just felt foreign because I was used to eating at certain times of the day, and my body and mind knew it. At first, I felt hungry during the periods I

would usually eat. But my bad body began to adjust and didn't expect the food I had been giving it at that time slot. When I skipped my usual snack, I also felt hungrier than normal at my next eating., and I would eat a bit extra then. But my body adjusted to this over time (Fung et al, 2020, pp. 132-138).

Intermittent fasting is a very simple lifestyle, it just takes some time to conform to and people may experience different reactions when practicing it. A person should examine the different types of intermittent fasting and find one that suits their schedule or lifestyle the best. Generally, people who practice IF choose to do the 16:8 method because it is the most sensible and convenient of all the fasting styles. It can be practice easily throughout the week and can be done even while on vacation. It is as simple as not eating anything after dinner, then going to bed, waking up the next morning, and then skipping breakfast.

Within the first two or three days of doing IF, the body will realize that changes are happening. In the beginning, a person will be excited of this new adventure that they are partaking, and it will seem easy at first. However, by day two or three, they may begin to feel hungry and possibly irritable as the body begins to adapt to not receiving its usual morning diet of breakfast cereals, donuts, or sodas. People must remember that it is a process they are going through and just like with any new changes, there will be resistance.

Habits are very hard to break. People must remember that they have been living a certain lifestyle for many years and now they are trying to break that cycle of endless eating. People have spent countless hours a day eating whatever they wanted to and whenever they wanted to. Without realizing what they have been doing, their body adapted to this endless grazing. When the decision was made to follow intermittent fasting, now people are suddenly making conscious decisions about when they are eating, and their body has become confused.

This is one of the difficult stages of intermittent fasting. The battle between the mind and the body can be uncomfortable for some people. The body tries to get its own way by creating uncomfortable feelings of fatigue, hunger pains, dizziness, and then it causes temptations to go back to the old habits that feel familiar. Self-sabotage is one way to undoubtedly give up on oneself. How can a person resist giving up and push through these uncomfortable feelings?

Willpower is what people need to succeed. Losing weight and being healthy begins with the mind. It is about changing the way a person thinks about food, about exercise, and about breaking those old habits. When people start to feel the urge to eat something while on a fast, it is their willpower to change that fights those temptations. That same willpower is needed to change the diet when consuming foods and beverages during the eating window. For example, learning to accept the recommended portion sizes and to preventing oneself from overindulging in poor snacking habits can be very challenging.

To fight temptations, people need to understand what triggers certain urges. “It has been estimated that people in today's food infused culture make more than 200 eating decisions a day. Inevitably, some of those will be challenging,” (Centennial Health, 2020, p. 81). For example, imagine a person who would normally stop by a local donut shop on their morning commute to work. Now that they are following intermittent fasting, donuts can no longer a part of their morning ritual. If they feel a sudden urge to get a donut every time they are driving by the shop, then they may need to make the conscious decision to take a different route to work and avoid the temptation. They recognized their food trigger and made the effort to break a habit that would otherwise cause them to ruin their progress.

Learning to make time to exercise will be a challenge. Setting the time aside to be active is a mental decision that some people may find hard to do. It will seem daunting at times, but

once a person becomes more physically active, they will feel better, be more alert, and be more energized. Those who have become comfortable with sitting on the couch and watching television every day will have to make the conscious effort to turn it off and go exercise. Simple actions such as taking the dog for a walk or meeting with a friend to stroll around the neighborhood are great ways to begin incorporating exercise into one's daily routine.

As a person continues doing IF, by the fourth day they should begin to adapt to their new habits. It may still seem challenging at times to some people, but it will become much easier to make wise decisions about their health than it was before. People may start to see themselves losing a lot of weight right away during the first 2 weeks, but it is not fat loss yet. However, it is still a necessary phase that the body will need to go through as it adapts to intermittent fasting.

Commonly known as water weight, the body begins to expel glycogen in the form of water, thus creating a large amount of weight loss. This is a sign that the fasting method has started to work on changing the dynamics of the body. The weight loss is also evidence that the body is getting prepared to start extracting the stored fat cells as energy, although it will not be a large amount of loss as with the water weight. This is still great motivation to continue practicing the intermittent lifestyle and inspire one to keep trying to eat healthy and exercise while fasting.

In the weeks to come, intermittent fasting will begin to feel a lot easier to do because people will be familiar with how their eating and fasting schedule works. There will be times when they may not feel hungry when their feeding window opens, allowing more time for the body to burn fat. One of the benefits of intermittent fasting is the flexibility of the eating window. This will allow people to adapt to their body's needs if they try to stay consistent to the fasting method they chose to do.

For example, if a person's feeding window opens at 12 noon and they did not eat until 3 P.M., it would still be recommended that they close their feeding window for the day at 8 P.M. as scheduled. There will be days that people may feel hungry before it is normally time to eat. If they choose to eat ahead of their feeding window, it will not be harmful to their progress, but they should aim to resume their normal intermittent fasting schedule the next day. IF requires consistency to be successful, and if a person were to keep changing their feeding window from day to day, it will eventually disrupt the body's daily feeding routine it had become familiar with. This will essentially interrupt any progress that was made up to this point and could jeopardize any future success in intermittent fasting.

So many people try to lose weight by only changing either what they eat or how they exercise. By combining those different theories of what it means to practice healthy living, intermittent fasting incorporates fasting with exercise and proper eating to create an optimal method of healthy living. Fasting is the one component that so many great physicians of ancient times knew, but it was forgotten over time how beneficial it was for the mind, body, and soul.

Intermittent fasting takes the concept of how fasting is usually practiced, which typically lasts for days at a time, and alters it into a style that it is experienced for just a matter of hours. The amazing thing about this entire concept of IF is how flexible it is depending on each individual's needs and schedules.

There are many various ways to eat during a feeding window, many different varieties of exercises a person can do while in a fasted state, and there are different methods of scheduling of eating and fasting. IF has so much flexibility that anyone is able to develop a healthier lifestyle so each person can personally benefit them and fulfill their health needs.

Intermittent fasting is not for everybody. There are certain people who should not do fasting or should at least speak to a doctor before attempting to participate in it. Pregnant women are especially prohibited from practicing intermittent fasting. When a woman is pregnant, she will have certain nutritional needs as well as the fetus, so intermittent fasting would not be beneficial for either of them, or more importantly could harm the baby.

Anyone who is malnourished should also decide against practicing intermittent fasting. Malnourished people have not met their nutritional needs and fasting would cause more harm than good. Anyone who is underweight or malnourished should definitely seek medical attention for other nutritional issues. The one thing that people will want to be cautious of is anything that could potentially become an eating disorder.

Since one of the benefits of intermittent fasting is weight loss, and losing fat promotes the reduction of chronic illnesses and diseases, people who already suffer from an underlining medical condition should talk to a doctor before starting a new diet. If a person already has a condition, they need to seek a doctor's permission before doing anything drastic like fasting. The doctor could recommend some alternatives to IF or inform them of symptoms to watch for in case there are any potential dangers to fasting.

Once a person has decided to do intermittent fasting, they are going to be excited about this new journey to weight loss. They may feel an urge to do everything by the book and try to change everything all at once. It is impossible to make all the changes overnight. It is best to start with small goals that can be met, so people do not feel like they have set some high, unobtainable goals. Create a daily goal that can be met like trying to drink a certain amount of water each day. Then set a weekly goal such as walking each day to accumulate ten miles for the week. This would be an easy goal to accomplish because depending on the person's schedule, they walk

different distances each day. For example, it may be possible that they can only walk two miles on the first day, and then a half of a mile another day, and so on. Set things to strive for and not be upset if they are not met. The real challenge is making new habits, and this is just the beginning of a new lifestyle. People should celebrate every little milestone because it is more than what they were doing before, and they are doing it now.

Society has become a culture of overeaters. People eat in their car, at their desk, on the couch, in their bed, and all junk food. They mechanically alter food and make it taste good so that people will want to keep eating more. And then when they are full, they feel hungry again an hour later. Anytime someone decides that they are going to change their habits and improve their health, it will be the first step towards a new life.

There may be setbacks at times, but the great thing about intermittent fasting is that every day can be a chance to start fresh. A lot of times, people will get caught up in the moment and overeat or break their fast and feel like they completely ruined their progress. Sometimes a person can find themselves in situations like a coworker bringing them a coffee and donut for breakfast. They may feel obligated to not let it go to waste and consume it. That is not the end of the world.

There may be instances where someone will think fasting is a radical idea and try to coax the person into eating. This is an opportunity for the person who is fasting to use their willpower and resist the temptations. Some people will not understand intermittent fasting, but doing IF is to benefit the person who is wanting to better their health. They are not doing it to please other people.

It was mentioned before, fasting brings many different prejudiced notions and it may turn people off. But as they see the changes a person is going through; it validates the authenticity of

how beneficial fasting can be. It will show people that when it comes to personal health, all things affect each other. Healthy living is not just eating a certain way or going to the gym every day. It's about being motivated and determined to make important changes in all areas of life. Being mindful of what one eats, being aware of their daily physical activity, and controlling food so it does not control them are difficult at first.

It could take four to six weeks to fully emerge in two intermittent fasting. By then it will be very easy to maintain because new habits will have been made and there will be a new person who took control of their life. Fasting will be their new lifestyle and they will have to continue maintaining it. By this point, it could be a good opportunity to try other variations of intermittent fasting and see how manageable it is or individuals may want to stick with what they already know. Whatever the case maybe, intermittent fasting can adapt to any lifestyle.

When the weight begins to go down, it may be in large amounts at first. As the weeks go by, the weight loss may begin to drop to just one or two pounds a week and then other weeks there will be no loss at all. This does not mean that changes have stopped progressing. Changes are still happening like more energy, a clear mind, a good night's sleep, and more endurance. People did not become overweight or obese overnight. It one meal at a time. It was one snack at a time. And it was week after week, and month after month of unregulated eating.

So, it will take time to reset that kind of behavior. Every bottle of water replaces that can of soda. Every homecooked meal replaces that fast-food order. Every walk around the neighborhood replaces that hour of sitting on the watch and watching a rerun episode on television. The only difference now is people are aware of what they are doing. It will feel like a chore at first and there may be some days people will get irritated, it is a lifelong process of building new habits and living healthy.

In closing, any person who wants to embark on a new journey of intermittent fasting should research the topic as much as they can. This will give them ideas on how to succeed, what to expect, and what is taking place in their body. There are many credible books on the topic by doctors and some written by regular people who want to share their experiences. There has been a lot of success for people who have changed their life for the better. They have lost lots of weight, rid themselves of chronic diseases, and are genuinely happier than they've ever been.

Dieting and exercise do not work alone. So many have tried to lose weight, to get in shape, and then find themselves struggling to stay motivated. Next, they stop eating their restrictive diet and skip going to the gym. Before long, they completely give up trying all together, and they are overweight once again. Many times, they gain even more weight back than what they had before. Often when people eat a restrictive diet, once they start to eat the things they were missing out on, they cannot control their urge to gorge on those fattening foods again.

They often wonder what they could have done wrong. They blame themselves and give up trying again. But there was a missing piece to the puzzle, fasting. The secret to weight loss and improving chronic health conditions is an ancient practice that allows the body to heal itself; just by simply skipping breakfast.

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