

THE EFFECT OF SLIMMING COFFEES TO FILIPINOS HEALTH AND PHYSICAL APPEARANCE A STUDY OF THEIR WELL-BEING AND BODY SATISFACTION

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INTRODUCTION

Coffee has been part of one's daily life. People start their day drinking coffee to boost their energy and prepare their body for the day, on the other hand, some people drink slimming coffee to boost their confidence. There has been a lot of information about different slimming coffee products. People try to drink this to make them slim, but they lack knowledge and information if these products are safe or not. Through different platforms and information, they might get interested and start to buy without consulting any health professional.

In this time of the pandemic, people are willing to try everything for their bodies to get slim. Unfortunately, the information they use is from online platforms which are a powerful way to encourage people especially if some content creators are also using it. People purchase this kind of product for trend even if they do not have any idea of what kind of coffee ingredients they are drinking.

Background of the Study

Most people are familiar with slimming coffees. Some of them can be seen in different internet platforms and social media platforms like YouTube, Facebook, Instagram, and TikTok.

People cannot lose weight by only using caffeine. There isn't any conclusive proof that caffeine consumption causes notable weight reduction, although it may significantly improve weight loss attempts or prevent weight gain (Mayo Clinic, 2020). Drinking coffee can help, but there are a lot of processes to achieve the ideal weight.

Although there have been some studies suggesting that drinking coffee encourages weight reduction, there have not been enough of it to establish this as a generally accepted scientific fact (Bradley, 2020). There have been a lot of people taking slimming coffee because it is effective to some people, but according Bradley (2022), there is not enough agreement in scientific facts. Researchers found that women aged 20 to 44 who drank two or three cups of coffee daily would have the lowest rate of adiposity, with a contrast of 3.4% from non-coffee users. Four or more cups per day resulted in a 4.1 percent decreased adiposity percentage in women among the age

ranges of 45 and 96 (ScienceDaily, 2020). People between the ages of 18 and 50 were frequent drinkers of various slimming coffee brands.

Statement of the Problem

The main problem of the study is the health effects of slimming coffees to various age groups. Specifically, it attempts to answer these questions:

1. What is the age range that is usually purchasing and drinking different slimming coffees?
2. What made them convinced to take the slimming coffee without consulting a doctor?
3. What are the health effects of the said slimming coffees to the users?
4. What ingredients in the slimming coffee can help a person lose weight?
5. What are the medical considerations / contraindications of slimming coffees?
6. Is there satisfaction in the results of their weight using slimming coffee products?

Hypothesis

H₀₁: Taking any of the market's various slimming coffees has no discernible effects on one's life.

H₀₂: Taking any of the market's various slimming coffees has discernible effects on one's life.

Significance of the Study

This study will investigate the health effects of taking slimming coffees available in the market. The researchers aim to show the health benefits and side effects of the slimming coffees and its effect in their life specifically, body satisfaction.

This research will also present a trend of how the participants of the study were encouraged to drink a particular brand of slimming coffee. This aims to show how advertising with no familiarity in the ingredients presented in slimming coffee products and the said health benefit effects.

To the health care professionals. This study will lead to progress in the healthcare professional's development in providing the best care that they could provide.

To the community. This research will be able to produce data as to how they can be aware of the certain health effects of the slimming coffees. This can guide them on to how they will choose their future purchases. Since the researchers have noticed a scarcity of research that is related to these products.

To the academe. This research will broaden the knowledge of the effectiveness of slimming coffee. May this be positive or negative.

To the researchers. This research will broaden the information of the positive and negative health effects of slimming coffees. This will open new doors for other researchers to explore these products.

To the readers. This research will be their reference in knowledge about slimming coffees. This will serve as their guide as to how they can make an informed decision on the products they purchase.

Conceptual Framework

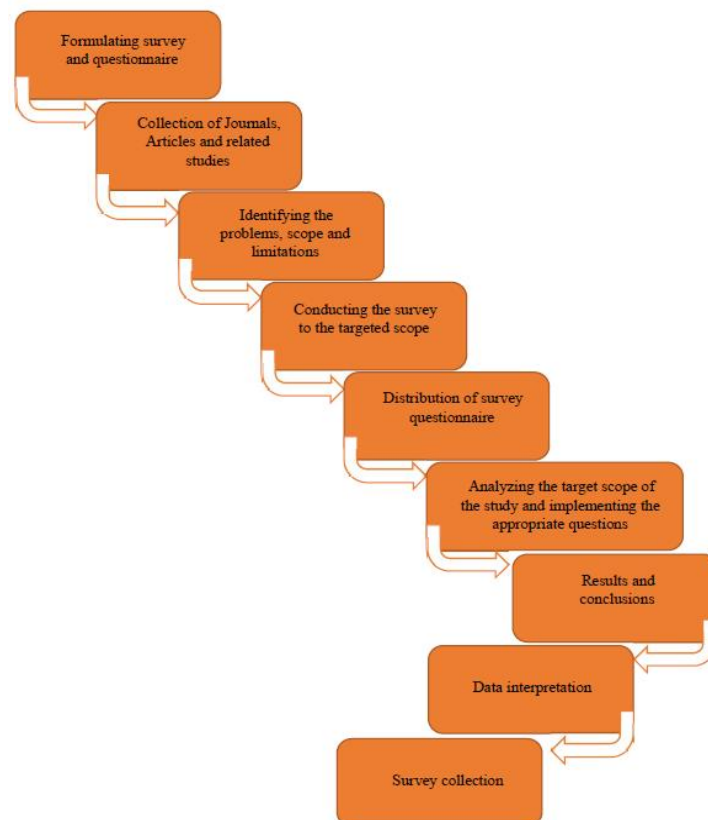


Figure 1: Research Flow of the Study.

Scope and Limitation of the Study

The focus of this study is to produce viable data on the effectiveness of slimming coffees as well as their power in encouraging people as to how effective they are. The researchers will find the possible effects in life of different slimming coffee. Also, to know which age range/ classification of people were most using slimming coffees.

- This study is limited to the locally distributed slimming coffees in the Philippines.
- This study will not include the slimming coffees that are imported to the Philippines and are not widely available to the public.
- The survey only includes Filipinos who are between the ages of 18 and 50. This serves to uphold the notion that they are of legal age to do so.
- Several calculations, assumptions, and judgements were made to produce an appropriate and practical design.

Definition of Terms

The following terms are operationally defined based on how the terms were used in this study:

Appetite is a desire or motivation that stems from a conscious bodily or mental need, such as a biological or psychological need for food, water, sex, or affection (Colella, 2017).

Bowel Syndrome also known as IBS or irritable bowel syndrome. A disorder in which the big intestine is involved. Constipation, diarrhea, bloating, gas, and cramps are some of the warning signs and symptoms (Katzung, 2018).

Caffeine is a natural stimulant most commonly found in tea, coffee, and cacao plants. It works by stimulating the brain and central nervous system, helping you stay alert and prevent the onset of tiredness. (Petre, 2020)

Consumption act of using, eating, or drinking (Wherry, et.al. 2019).

Decaffeinated coffee that has its caffeine removed. At Least 97% of caffeine has been extracted from the coffee (Bjarnadottir, 2020).

Demographic the statistical traits of human populations such as age or income that are used particularly to pinpoint changing markets (Cervellati, 2017).

Digestion is a process in which one's body digests food, or the ability of a person to digest food (Bauch, 2017).

Effect of the result of some action, event, agent, or cause, as in 'the impact of reading the paper was so significant that she immediately questioned her own methods' (Tetzner, 2020).

Habit something done often and regularly, sometimes without knowing (Holland, 2019).

Indigestion discomfort in upper abdomen, usually described as abdominal pain, and feeling of fullness soon after eating. Also known as dyspepsia (Katzung, 2018).

Misleading Some commercials give the consumer an idea about a product or its attributes that are false. Advertising that is deceptive has an impact on customer decisions and the purchasing process (Nuseir, 2018).

Nutraceuticals any material that is a food or a component of a food that has health advantages, including the ability to prevent or treat disease (Gupta, et.al., 2021).

Online Platforms an online digital service is described as one that enables communication between two or more different but related groups of users (either businesses or individuals) (OECD, 2019).

Slimming, also known as "weight loss," is loss of weight

that is not caused by reduction in caloric intake or exercise (Liu, et.al. 2017).

Toxicity describes how dangerous or poisonous a substance can be. When a person has an excessive amount of a prescription drug in their system, it is known as drug toxicity in pharmacology (Katzung, 2018).

Weight is characterized as the measurement made using a calibrated scale when the person can stand without assistance (Lahner, 2017).

REVIEW OF RELATED LITERATURE AND STUDIES

This chapter includes ideas, published, unpublished thesis, methodologies, and others. Those included in this chapter are aiming to familiarize information that is relevant and similar to the, present study:

I. Coffee

Coffea arabica Linn., a member of the Rubiaceae family, is the source of coffee's mature seeds. Coffee that has been separated from coffee beans is occasionally removed entirely, along with the spermoderm, which is also found in scarlet fruits. *Coffea* seeds can be consumed whole, crushed, roasted, or raw. The beverage produced from such coffee seeds is also known as coffee. Just three of the 70 species of coffee are grown. *Coffea arabica* accounts for 75% of the world's coffee production, followed by *Coffea canephora* at roughly 25% and *Coffea liberica* at less than 1%. Typically, coffee is grown between 1000 and 2000 feet above sea level. Ethiopia, Brazil, India, Vietnam, Mexico, Nepal, Guatemala, Indonesia, and Sri Lanka are among its native countries.

II. Caffeine

Coffee, tea, cocoa, guarana kola, and maté all contain caffeine, also known as 1,3,7- trimethylxanthine. Caffeine is often derived from tea, tea dust, tea sweepings, or coffee roasters, though it can also be made synthetically. Caffeine is anhydrous, or it only hydrates with one water molecule. The most popular psychoactive stimulant used worldwide is caffeine, a naturally occurring methylxanthine class central nervous system (CNS) stimulant. Although it also occurs naturally in some types of tea and cocoa beans, this medication is most frequently derived from coffee beans. It is also added to soda and energy drinks. Although there are numerous other uses for caffeine, its main function is to fight exhaustion and drowsiness (Evans, 2022).

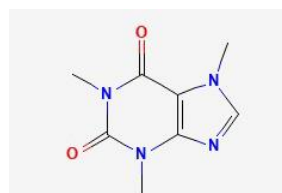


Figure 2: Caffeine Chemical Structure Depiction (National Center for Biotechnology Information., 2023).

Local Literature of Caffeine

As stated by Camargo et al (2019). Although it is well known that Caffeine boosts the brain's energy consumption while also decreasing cerebral blood flow, which causes a relative hypotension of the brain. Through the activation of norepinephrine neurons, caffeine appears to affect the local dopamine release. Methylxanthine's influence on serotonin neurons may be responsible for a variety of caffeine adverse effects. Thus, the purpose of this study was to identify the key effects that caffeine has on the human body. Through a survey of the literature, this research investigates the fundamental impacts of caffeine on the human body.

Reyes, et al. (2018) carried out an additional study. Caffeine is a key component of many foods and beverages, including coffee, tea, caffeinated soda, and energy drinks, but they also each have nutritional benefits. In this article, we examine how the development of food-based dietary recommendations has been influenced by our growing understanding of and concern about the effects of dietary caffeine on human health (FBDG).

Foreign Literature of Caffeine

According to Temple et al. (2017) caffeine is the most widely used psychoactive drug worldwide. Coffee, tea, and chocolate all naturally contain caffeine. Artificial caffeine is also added to products to promote alertness, stamina, and mood enhancement. Over the past ten years, the introduction of new food products containing caffeine as well as changes in the use of the more traditional sources of caffeine have caused health authorities and regulatory bodies to become increasingly concerned about overall caffeine intake and its potential cumulative effects on behavior and physiology.

The goal of this review was to look at the evidence surrounding coffee's and caffeine's influence on energy intake and appetite management. Another study was carried out by Schubert, et al. (2017) which evaluated the impact of caffeine and coffee on calorie intake, stomach emptying, hormones linked to appetite, and perceptual measures of appetite were looked up in the literature. According to the literature evaluation, caffeine taken 0.5– 4 hours before a meal may reduce acute energy intake while coffee taken 3–4.5 hours before a meal had little effect on food and macronutrient consumption. There is conflicting evidence about how caffeine and coffee affect stomach emptying, appetite hormones, and perceptions of hunger. Longer controlled trials are required to determine the impact of variables such as genetics of caffeine metabolism and phenotype of bitter taste.

III. Slimming Coffee

Slimming coffee, which comes in a variety of tastes, is a beverage that is meant to help people lose weight. It tastes good, is moderately priced, and is utilized to remove extra water weight. It is also quite convenient. To shed extra water weight, many people consume slimming

coffee. People can consume this kind of beverage, which will help them eliminate extra water from their bodies. The product's users ought to be able to lose a few pounds by doing this. This is often not a product that will aid in significant weight loss.

Local Literature of Slimming Coffee

Science nowadays has developed to the point that it has created coffee beverages that can aid in weight loss. Although there are several slimming coffee supplements on the market that promise to aid in weight loss naturally, not all of them include high-quality ingredients. To find out which of the Top 10 best-selling slimming coffees (such as Sakura Skinny Coffee Reviews, Vita Herbs Brazilian Agaricus Slimming Coffee Reviews, and MX3 Weight Loss Coffee Mix Reviews) in the Philippine market today also promised a boosted metabolism in addition to a natural fat-burning effect, they conducted a thorough investigation. They also work remarkably well to support healthy digestion, blood circulation, cholesterol, and other bodily and mental processes. Those brands of slimming coffee supplements are the best, and spending money on them can help you experience results from your weight-loss efforts. They provide you with all-natural substances, the majority of which are organic, as well as pure caffeine, along with several other nutrients that have the capacity to mobilize fat from fat tissue. These beverages provide you a sustainable, risk-free, and all-natural way to lose weight. Additionally, they never cause any adverse side effects.

Foreign Literature of Slimming Coffee

In accordance with Buchanan et. al., (2013). Green coffee is marketed for "natural" weight loss as a beverage and in a variety of various solid oral dosage forms. This product has garnered considerable interest and has been covered by The Dr. Oz Show and other lay media venues. Raw, unroasted coffee is known as "green coffee," which is classified as a nutritional supplement. The Dr. Oz Show featured a program promoting green coffee, claiming that it can help women lose 2 pounds per week based on internal research. In the weeks that followed, it ranked among the top Internet searches. The main ingredients in green coffee that are thought to promote weight loss are chlorogenic acids, which are natural antioxidants that are present in this beverage in high amounts. Green coffee contains chlorogenic acids, which change glucose metabolism, lessen postprandial hyperglycemia, decrease glucose absorption through the intestines, and limit fat accumulation, among other things. Caffeine itself may also help with weight loss, and the calculated caffeine concentration of green coffee is comparable to that of traditionally brewed coffee. Due to their extensive availability and expanding popularity because of media exposure, it is projected that pharmacists and other healthcare professionals would deal with patient inquiries concerning products containing green coffee.

Medical background of Slimming Coffee 1, Slimming Coffee 2, Slimming Coffee 3

Slimming Coffee 1

This product comprises the plant *Griffonia simplicifolia*, sometimes known as "Hunger-oblivion grass," which is indigenous to western Africa. A powerful and distinctive blend of natural herbs and premium coffee, sold under the labels Wizamony and Baian, provides high quality and effective hunger management. It facilitates rapid, simple, and comfortable weight loss. Because of its natural composition, the body may burn fat quickly.

Ingredients, Description, and Structure

1. Caffeine Description

Caffeine is a natural stimulant that is commonly found in coffee, tea, energy drinks, and other beverages. It acts on the central nervous system, increasing alertness and reducing fatigue. Caffeine has been the subject of numerous studies in recent years, with researchers investigating its potential effects on a variety of health outcomes.

One study published in the journal "Nature Neuroscience" in 2019 found that caffeine can enhance long-term memory in humans. The study, conducted by researchers at Johns Hopkins University, showed that participants who took caffeine after studying a series of images had better long-term memory retention compared to those who did not take caffeine. The study suggests that caffeine may have potential as a cognitive enhancer (Borota et al., 2019).

Type

A recent study published in the "Journal of Agricultural and Food Chemistry" in 2022 investigated the chemical composition of different types of coffee beans and their caffeine content. The study found that the caffeine content in coffee beans varied depending on the type of coffee bean, with Robusta beans having a higher caffeine content compared to Arabica beans. The study suggests that the chemical composition of coffee beans may impact their caffeine content, which can have implications for coffee consumers and producers (Chauhan et al., 2022).

This study provides insights into the different types of caffeine. They highlight the importance of considering the source and composition of caffeine in various contexts, including dietary supplements, clinical monitoring, and coffee production.

Mechanism of Action

Caffeine's primary mechanism of action is the inhibition of adenosine receptors in the brain. Adenosine is a naturally occurring neurotransmitter that promotes drowsiness and sleep. When caffeine is consumed, it blocks adenosine receptors, which results in increased neural activity and a reduction in drowsiness and fatigue (Aromatario et al., 2019).

A study published in the "Journal of Neurochemistry" in 2018 investigated the effects of caffeine on adenosine signaling in the brain. The study found that caffeine increases the release of the neurotransmitter glutamate, which in turn enhances adenosine receptor signaling. This enhancement may contribute to caffeine's stimulant effects and provide a potential therapeutic target for the treatment of neurological disorders (Kaster et al., 2018).

Moreover, Zhao et al. (2020) investigated the structural basis for caffeine's effects on adenosine receptors. The study used X-ray crystallography to determine the structure of an adenosine receptor in complex with caffeine. The study found that caffeine binds to a specific pocket in the receptor and stabilizes it in an active state, which may explain its ability to block adenosine signaling. The study provides new insights into the molecular mechanisms underlying caffeine's effects on the brain.

Structure

Caffeine's chemical structure is a purine derivative, specifically a xanthine, with the molecular formula $C_8H_{10}N_4O_2$. It consists of a fused ring system with nitrogen and oxygen atoms. (National Center for Biotechnology Information., 2023).

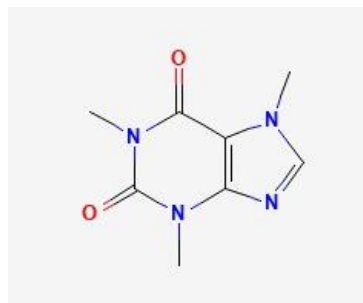


Figure 3: Caffeine Chemical Structure Depiction (National Center for Biotechnology Information., 2023).

A recent publication from 2020 in the journal "Molecules" investigated the synthesis and structural characterization of a new caffeine derivative with potential biological activity. The derivative, 1-(3-methoxypropyl) caffeine, was synthesized by reacting caffeine with 3-methoxypropyl chloride. The study found that the derivative exhibited antioxidant activity and could potentially be used in the development of new drugs for the treatment of various diseases. The study also confirmed the structure of the derivative using various spectroscopic techniques (Jelić et al., 2020).

This study highlights the potential for caffeine derivatives to exhibit new biological activity and be used in drug development. It also showcases the importance of structural characterization in the development of new compounds.

2. Lactose

Description

Lactose is a disaccharide sugar composed of galactose and glucose that is found in milk and dairy products. It is a common ingredient in many food products and is also used as an excipient in pharmaceuticals and as a carbon source for bacterial fermentation (Coulston et al., 2017).

A recent publication from 2020 in the journal "Food Chemistry" investigated the enzymatic production of lactose-derived oligosaccharides with potential prebiotic activity. The study found that lactose-derived oligosaccharides could be produced by using β -galactosidase enzymes to selectively hydrolyze lactose. The oligosaccharides showed potential prebiotic activity in promoting the growth of beneficial gut bacteria, and the study suggests that they could be used as a functional food ingredient (Hernández-Hernández et al., 2020).

Types

- Lactose monohydrate

This is the most common form of lactose used in food and pharmaceutical industries. It is a white, crystalline powder that contains one molecule of water per molecule of lactose.

A recent publication from 2019 in the journal "Food Science and Technology International" investigated the effect of drying temperature on the physicochemical properties of lactose monohydrate. The study found that increasing the drying temperature resulted in a decrease in the particle size and an increase in the bulk density of the lactose powder. The study also found that the lactose monohydrate produced at higher drying temperatures had a higher degree of crystallinity and was more resistant to moisture uptake (Pinto et al., 2019).

- Anhydrous lactose

This is lactose that has been completely dried and does not contain any water molecules. It is often used as a filler or diluent in tablets and capsules.

A recent publication from 2021 in the journal "Pharmaceutics" investigated the use of anhydrous lactose as a carrier for spray-dried dispersions of poorly water-soluble drugs. The study found that anhydrous lactose was an effective carrier for improving the dissolution and bioavailability of poorly water-soluble drugs in spray-dried dispersions. Interesting to note, the use of anhydrous lactose as a carrier did not significantly affect the physical stability or particle size distribution of the spray-dried dispersions (Wehling et al., 2021).

These recent publications highlight the importance of understanding the physicochemical properties of different forms of lactose and how they can be utilized in various industries. They also showcase the potential applications of lactose as a carrier or functional ingredient in pharmaceuticals and food products.

Mechanism of Action

Lactose is a disaccharide sugar composed of galactose and glucose that is found in milk and dairy products. In the body, lactose is broken down into its component sugars by the enzyme lactase, which is produced in the small intestine. The glucose and galactose are then absorbed into the bloodstream and used for energy.

A recent publication from 2020 in the journal "Nutrients" investigated the effects of lactose and lactase on gut health and microbiota composition. The study found that lactose and lactase had different effects on the gut microbiota, with lactose promoting the growth of beneficial bacteria such as Bifidobacterium and lactase promoting the growth of potentially harmful bacteria such as Clostridium. The study suggests that lactose may have prebiotic effects that promote the growth of beneficial gut bacteria, while lactase may have negative effects on gut health (Kumar et al., 2020).

Structure

Lactose is a disaccharide sugar composed of galactose and glucose, with a chemical formula of $C_{12}H_{22}O_{11}$. It has a beta-D-galactopyranosyl-(1 \rightarrow 4)-D-glucose linkage and a beta-D-galactopyranosyl-(1 \rightarrow 4)-D-galactopyranose linkage.

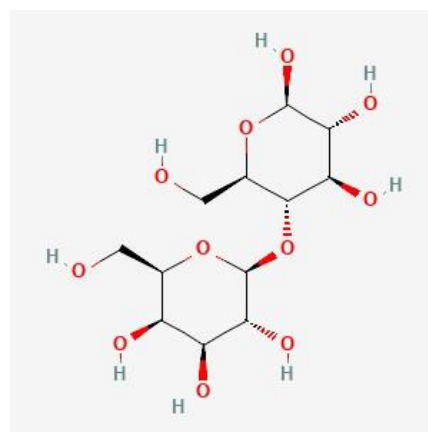


Figure 4: Lactose (PubChem, 2022).

A recent publication from 2018 in the journal "Journal of Molecular Structure" investigated the vibrational spectra and molecular structure of lactose using density functional theory calculations and experimental infrared and Raman spectroscopy. The study found that the vibrational spectra of lactose were influenced by the hydrogen bonding and intermolecular interactions between lactose molecules. Moreover, the glucose and galactose moieties of lactose had distinct vibrational spectra due to differences in their molecular structures (Zajac et al., 2018.).

This publication highlights the importance of understanding the molecular structure and properties of lactose, which can provide insight into its behavior and applications in various industries.

Sucrose

Description

Sucrose is a disaccharide sugar composed of glucose and fructose, commonly known as table sugar. It is found in a wide variety of natural sources such as fruits, vegetables, and honey, and is also widely used as a sweetener in processed foods and beverages (Malik et al., 2019).

Types

Sucrose is a disaccharide composed of glucose and fructose, and there are no different types of sucrose. However, there are different sources of sucrose, such as cane sugar and beet sugar, which can have slightly different properties.

A recent publication from 2019 in the journal "Sugar Tech" compared the properties of cane sugar and beet sugar. The study found that cane sugar had a higher color intensity and a lower pH than beet sugar, while beet sugar had a higher ash content and lower invert sugar content than cane sugar. The study suggests that the differences in properties between cane sugar and beet sugar may be attributed to differences in their production processes and the composition of the raw materials (Arora et al., 2019).

This study highlights the importance of understanding the properties of different sources of sucrose, which can have implications for their use in various industries such as food and confectionery. It suggests that the properties of cane sugar and beet sugar may differ due to differences in their production processes and raw materials.

Mechanism of Action

The mechanism of action of sucrose is related to its ability to act as a source of energy for the body, specifically through the breakdown of glucose and fructose that make up the disaccharide.

A recent publication from 2018 in the journal "Nutrients" discussed the mechanisms by which high sucrose consumption may contribute to the development of obesity and related metabolic disorders. The study found that high sucrose intake can lead to an increase in insulin secretion, which in turn can stimulate the accumulation of fat in adipose tissue. The study also found that sucrose consumption can impair the ability of the body to burn fat as an energy source, which can further contribute to the development of obesity and metabolic disorders (Lustig et al., 2018).

This publication highlights the potential negative effects of excessive sucrose consumption on metabolic health, specifically in relation to the development of obesity and related disorders. The study suggests that sucrose may have an impact on insulin secretion and the body's ability to burn fat, which can contribute to the development of metabolic disorders. Understanding the mechanisms by which sucrose affects metabolic health is important for developing strategies to reduce its negative effects and

promote metabolic health.

Structure

Sucrose is a disaccharide composed of one molecule of glucose and one molecule of fructose, linked by an α,β -1,2-glycosidic bond. The chemical formula for sucrose is $C_{12}H_{22}O_{11}$.

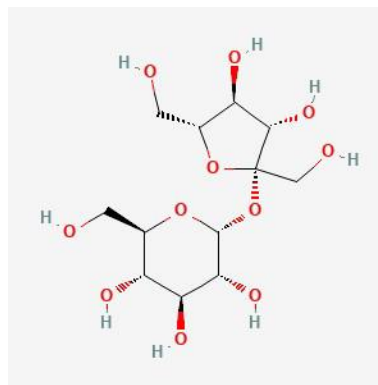


Figure 5: Sucrose Chemical Structure Depiction (National Center for Biotechnology Information., 2023)

Zhang et al. (2021) investigated the structure and physicochemical properties of sucrose-based nanoparticles for drug delivery applications. The study found that the sucrose-based nanoparticles had a uniform size and shape and were stable under various conditions such as changes in pH and temperature. The study also found that the sucrose-based nanoparticles had a high loading capacity for the model drug, which suggests their potential as drug delivery vehicles.

This publication highlights the potential applications of sucrose in the development of drug delivery systems. Understanding the structure and physicochemical properties of sucrose-based nanoparticles is important for the design and optimization of such systems. The study suggests that sucrose-based nanoparticles have promising properties for drug delivery applications, including their uniform size and shape, stability under various conditions, and high loading capacity for drugs.

3. Collagen

Description

Collagen is a fibrous protein that is the main component of connective tissues in animals, including skin, bone, cartilage, and tendons. It provides structural support and strength to these tissues and plays an important role in maintaining the integrity of the extracellular matrix (Scanes, et.al. 2022).

In addition, Chen et al. (2019) discussed the potential health benefits of consuming collagen-rich foods and supplements. The study found that collagen may have positive effects on skin health, joint health, and bone health, and may also have anti-aging and anti-inflammatory effects. The study also noted that collagen supplements are becoming increasingly popular, and that

there is some evidence to support their efficacy in promoting skin health and reducing joint pain.

This publication highlights the potential health benefits of consuming collagen-rich foods and supplements, which are becoming increasingly popular in the health and wellness industry. Understanding the effects of collagen on various aspects of health is important for promoting its use in a variety of applications, from food and supplements to medical devices and wound dressings. The study suggests that collagen may have positive effects on skin, joint, and bone health, as well as anti-aging and anti-inflammatory effects.

Types

Collagen is a family of proteins that includes multiple types, each with different structures and functions. The most common types of collagen are types I, II, and III, which are found in various tissues throughout the body.

A recent publication in the journal study of Guo *et al.*, 2021 discussed the different types of collagens and their roles in tissue development and repair. The study found that type I collagen is the most abundant type and is found in many connective tissues, including skin, tendons, and bone. Type II collagen is found mainly in cartilage and plays an important role in joint health. Type III collagen is found in skin, blood vessels, and internal organs, and is important for providing structural support.

The study also discussed the potential applications of collagen in tissue engineering and regenerative medicine. By understanding the roles of different types of collagen in tissue development and repair, researchers can design biomaterials that mimic the extracellular matrix and promote tissue regeneration).

Mechanism of Action

The mechanism of action of collagen is complex and involves multiple pathways and cellular interactions. Collagen provides structural support and strength to tissues and plays a role in cell signaling and the regulation of cell behavior (Cappelletti, *et al.* 2018).

A study discussed and conducted by Hynes *et al.*, 2019 the role of collagen in regulating cell behavior and promoting tissue repair. The study found that collagen activates integrin receptors on the surface of cells, which in turn activate signaling pathways that promote cell adhesion, migration, and proliferation. These cellular responses are important for tissue repair and regeneration.

The study of the journal also discussed the role of collagen in modulating immune responses and inflammation. The authors found that collagen can bind to and activate immune cells, leading to the production of cytokines and other signaling molecules that regulate inflammation and immune responses. In addition, collagen can also regulate the activity of matrix

metalloproteinases, which are enzymes that play a role in tissue remodeling and repair (Hynes *et al.*, 2019)

Overall, the study suggests that collagen plays an important role in tissue repair and regeneration by regulating cell behavior and immune responses. The authors note that further research is needed to fully understand the mechanisms of action of collagen, and to develop new therapies and strategies for tissue repair and regeneration.

This study shows the complex mechanisms of action of collagen and its role in promoting tissue repair and regeneration. Understanding the cellular and molecular pathways involved in collagen signaling and activity is important for developing new therapies and strategies for tissue engineering, regenerative medicine, and disease treatment. The study suggests that collagen has significant potential for use in these applications, and that ongoing research in this area will continue to advance our understanding of its mechanisms of action.

Structure

Collagen is a protein that is found in the extracellular matrix of various tissues in animals. It has a triple helical structure, with three polypeptide chains wound around each other in a rope-like structure. The specific structure of collagen can vary depending on the tissue it is found in, but it generally consists of repeating units of the amino acids glycine, proline, and hydroxyproline (Shoulders, M. D. 2017).

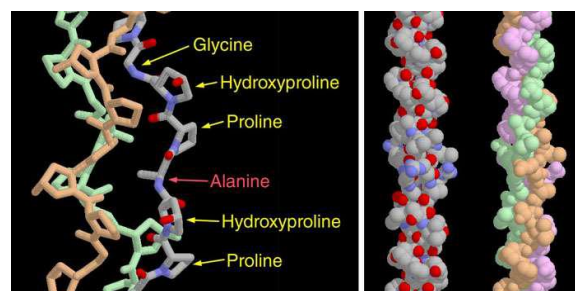


Figure 6: Collagen structure (right) and collagen's triple helix (left).

One recent publication on collagen structure is "Structural basis of type I collagen cleavage by ADAMTS2" by Tian *et al.* (2021), which was published in Nature Communications. The authors used X-ray crystallography to determine the structure of a specific enzyme, ADAMTS2, that is responsible for cleaving type I collagen. The study found that ADAMTS2 binds to a specific site on the collagen molecule, which triggers a conformational change in the collagen that allows the enzyme to cleave it.

Extracellular matrices mostly consist of collagen proteins. Both mechanical qualities to deal with external forces on tissues and well-defined protein binding sites to interact with cells are provided by self-assembled collagen fibrils (Goldberga, 2018, p. 51).

4. Maltodextrin

Description

Maltodextrin is a particular kind of carbohydrate, but it goes through a lot of processing. It is available as a white powder made from potato, corn, rice, or wheat starch. After cooking it, its creators add acids or enzymes to further break it down. The result is a tasteless, white powder that is water soluble (Sachdev, 2021).

Types

Maltodextrin is a carbohydrate that is commonly used as a food additive and thickener. It is produced by hydrolyzing starch, and the resulting product can vary in its composition and properties depending on the source of the starch and the conditions of hydrolysis. Here are the different kinds of Maltodextrin:

1. Corn maltodextrin

This type of maltodextrin is derived from corn starch and is commonly used in the food industry as a bulking agent, sweetener, and thickener. It is also used as a carrier for flavor and encapsulation of bioactive compounds (Saldaña et al. 2018).

2. Tapioca maltodextrin

This type of maltodextrin is derived from tapioca starch and is commonly used as a thickener, stabilizer, and bulking agent in the food industry. It is also used as a carrier for encapsulation of flavors, vitamins, and other bioactive compounds (Choi and Lee., 2019).

3. Potato maltodextrin

This type of maltodextrin is derived from potato starch and is commonly used as a thickener, bulking agent, and carrier for encapsulation of flavors and other bioactive compounds. It is also used in the production of powdered food products and as a substitute for sugar in certain applications (Rahman et al. 2021).

4. Rice maltodextrin

This type of maltodextrin is derived from rice starch and is commonly used as a thickener, stabilizer, and bulking agent in the food industry. It is also used as a carrier for encapsulation of flavors, vitamins, and other bioactive compounds (Li.et.al. 2019).

5. Wheat maltodextrin

This type of maltodextrin is derived from wheat starch and is commonly used as a bulking agent, thickener, and carrier for encapsulation of flavors and other bioactive compounds. It is also used in the production of powdered food products and as a substitute for sugar in certain applications (Shao et.al. 2021).

Mechanism of Action

The mechanism of action of maltodextrin in these applications involves its ability to form a gel or thickened solution when mixed with water. The exact mechanism of gel formation is not well understood, but it is thought to involve the formation of a network of

hydrogen bonds between the maltodextrin molecules. A study of Chao et al. (2021) investigated the rheological and structural properties of a high-maltodextrin formula for dysphagia, including the effects of different concentrations of maltodextrin on the gelation and rheological behavior of the formula. The study provides insight into the mechanism of action of maltodextrin in the formation of gels and thickened solutions.

Structure

The structure of maltodextrin is characterized by a chain of glucose molecules linked by $\alpha(1\rightarrow4)$ glycosidic bonds, with some branching through $\alpha(1\rightarrow6)$ glycosidic bonds. The degree of branching and the average chain length of maltodextrin can vary depending on the source of the starch and the production method (PubChem, 2022).

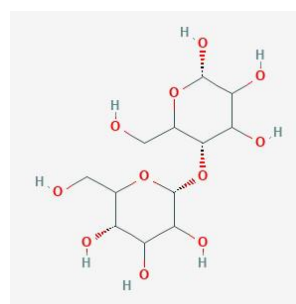


Figure 7: Maltodextrin (PubChem, 2022).

A study of Zhang et al. (2019) about Structural characterization and emulsifying properties of maltodextrins prepared by partial hydrolysis of potato starch gives insight into the relationship between the structure of maltodextrin and its emulsifying properties, which has important implications for the food industry. This study investigated the structure and emulsifying properties of maltodextrins derived from potato starch through partial hydrolysis. The researchers used various analytical techniques, including X-ray diffraction and nuclear magnetic resonance spectroscopy, to characterize the molecular structure of the maltodextrins.

Silicon dioxide

Description

Silicon dioxide, also known as silica, is a naturally occurring mineral that is widely used in various industrial and consumer applications due to its unique properties. It is a hard, brittle, and transparent material with a high melting point, and is highly resistant to chemical and physical degradation. Silicon dioxide is commonly used as an anti-caking agent, flow agent, and thickener in food and pharmaceutical products.

Xu et al. (2020) investigated the effects of adding silica nanoparticles to milk protein concentrates. The researchers found that the addition of silica nanoparticles significantly improved the stability of the protein concentrate, reducing the formation of aggregates and improving its dispersibility. The study suggests that silica nanoparticles may have potential applications in

improving the functionality of dairy proteins in food products. Overall, food grade silicon dioxide is considered safe for consumption by regulatory agencies such as the FDA and has been extensively studied for its safety and functional properties in food products. Ongoing research continues to explore its potential applications and improve our understanding of its properties and effects.

Types

Food grade silicon dioxide, also known as silica, is available in various types, including precipitated silica, fumed silica, and silica gel. These different types of silica have different properties and are used in different food applications. There are three types of silica:

1. Precipitated silica is produced by the precipitation of silicon dioxide from a solution of silicate salts. It is often used as an anti-caking agent in food, as well as a thickener and stabilizer in products like ketchup, salad dressings, and mayonnaise (Aoufi et al., 2020).
2. Fumed silica is a type of silicon dioxide that is produced by burning silicon tetrachloride in a flame of hydrogen and oxygen. It is often used as a thickener and stabilizer in products like mayonnaise, salad dressings, and sauces (Majzoub et al., 2018).
3. Silica gel is a form of silicon dioxide that is produced by the sol-gel process. It is often used as a desiccant to absorb moisture in food products, as well as a flow agent in powdered food products (Mangaraj et al., 2018).

Mechanism of Action

Each type of Silica Dioxide has different mechanism of action with each of them having different uses, all of them behave differently:

1. Precipitated silica

The mechanism of action for precipitated silica as an anti-caking agent is its ability to prevent the particles in a food product from sticking together, which helps to maintain the texture and appearance of the product. This is achieved through a combination of physical and chemical interactions with the food matrix (Kasprzyk, I., & Bączek, N. 2020).

2. Fumed silica

The mechanism of action for fumed silica as a thickener and stabilizer is its ability to form a network of particles that trap and hold water, which increases the viscosity and stability of the food product. This is achieved through a combination of physical and chemical interactions with the food matrix (Saeed et al., 2019).

3. Silica gel

The mechanism of action for silica gel as a desiccant is its ability to adsorb and hold moisture from the surrounding environment. This helps to maintain the quality and shelf life of food products by preventing moisture-related spoilage and degradation (Razali et al., 2018).

Structure

As silicon dioxide is a compound consisting of silicon and oxygen, its chemical structure can be represented by the formula SiO_2 .

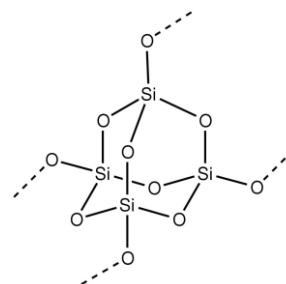


Figure 8: Silicon dioxide (Research Gate, 2022).

In a study by Hinterholzinger et al. (2018), the chemical structure of food grade silicon dioxide was investigated using solid-state nuclear magnetic resonance (NMR) spectroscopy. The authors used ^{29}Si and ^{13}C NMR to analyze the local atomic environment of silicon and carbon in the silicon dioxide particles, respectively. They found that the silicon atoms in the compound were tetrahedrally coordinated with oxygen atoms, which is characteristic of amorphous silicon dioxide. They also found evidence of trace impurities in the silicon dioxide particles, which could affect the chemical and physical properties of the compound.

6. Carrageenan Description

Li et al. (2018) mentioned that carrageenan is widely used in the food industry as a thickener, stabilizer, and gelling agent due to its unique rheological properties. Carrageenan is a high molecular weight polysaccharide that consists of repeating units of disaccharides, including D-galactose and 3,6-anhydro-D-galactose. The review also notes that carrageenan has been extensively studied for its biological properties, such as its anti-inflammatory and anti-tumor activities, and its potential use as a drug delivery system.

Types

Carrageenan is a type of polysaccharide derived from red seaweed that is commonly used as a food additive for its gelling, thickening, and stabilizing properties. There are three main types of carrageenan: kappa, iota, and lambda.

Kappa carrageenan forms strong, rigid gels in the presence of calcium ions and is commonly used in dairy products such as ice cream and yogurt. Iota carrageenan forms soft, elastic gels in the presence of calcium ions and is used in products such as puddings and jellies. Lambda carrageenan does not form gels but is a strong thickener and stabilizer, commonly used in dairy and other food products.

Recent research has focused on the potential health effects of carrageenan, particularly on inflammation and gut health. Some studies have suggested that carrageenan

may contribute to gut inflammation and disease, while others have found no significant adverse effects (Chua *et al.*, 2018; Nogueira *et al.*, 2019). Further research is needed to fully understand the potential health effects of carrageenan.

Mechanism of Action

Carrageenan is a food additive derived from seaweed that is commonly used as a thickener or stabilizer in food products. It has been suggested that carrageenan may cause inflammation in the digestive tract, although the exact mechanism of action is not fully understood.

One recent study published in 2020 investigated the effects of carrageenan on intestinal barrier function and inflammation in mice. The study found that carrageenan disrupted the intestinal barrier, leading to increased inflammation and damage to the intestinal lining. The researchers also found that treatment with a probiotic strain of bacteria was able to mitigate some of the harmful effects of carrageenan (Khan *et al.*, 2020).

Another study published in 2019 investigated the effects of carrageenan on the expression of genes involved in inflammation and immune function in human intestinal cells. The study found that carrageenan increased the expression of several pro-inflammatory genes and decreased the expression of genes involved in immune function, suggesting that carrageenan may have a negative impact on gut health (Yu *et al.*, 2019).

Structure

Carrageenan is a complex mixture of linear sulfated polysaccharides derived from red seaweed. It is composed of repeating disaccharide units of galactose and 3,6-anhydrogalactose. The exact structure and composition of carrageenan can vary depending on the source of seaweed and processing methods used.

One recent publication on the structure of carrageenan is a study by Chen *et al.* (2019), which used nuclear magnetic resonance spectroscopy to investigate the structure of carrageenan from the red seaweed *Eucheuma denticulatum*. The study found that the carrageenan from this source had a predominance of κ -carrageenan, with a minor amount of ι -carrageenan present. The study also identified a novel structural feature, in which an α -linked galactose residue is present in the backbone of the carrageenan.

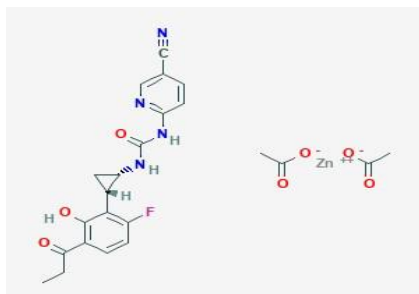


Figure 9: Carrageenan (PubChem, 2022).

5. *Psyllium fiber husk*

Description

Psyllium fiber husk is a type of soluble fiber derived from the seeds of the *Plantago ovata* plant. It is commonly used as a dietary supplement due to its various health benefits, including its ability to promote digestive regularity, lower cholesterol levels, and reduce blood sugar levels.

One recent study published in the journal *Nutrients* in 2021 investigated the effects of psyllium fiber supplementation on blood sugar control and insulin resistance in people with prediabetes. The study found that psyllium supplementation significantly improved insulin sensitivity and reduced fasting blood glucose levels, indicating a potential role for psyllium in the prevention and management of type 2 diabetes.

Type

Psyllium fiber husk is available in various forms and preparations, including capsules, tablets, powders, and granules. Some of the common types of psyllium fiber husk include whole psyllium husk, psyllium husk powder, and psyllium seed husk.

One study published in the *Journal of Food Science and Technology* in 2018 evaluated the physicochemical properties and *in vitro* digestibility of psyllium husk powder and psyllium seed husk. The results showed that both types of psyllium husk had similar physicochemical properties, but psyllium seed husk had a lower *in vitro* digestibility compared to psyllium husk powder (Kumar *et al.*, 2018).

Another study published in the *Journal of Agricultural and Food Chemistry* in 2019 investigated the effect of processing on the content and composition of psyllium fiber in different psyllium products, including whole psyllium husk, powdered psyllium husk, and psyllium seed husk. The results showed that the processing method affected the content and composition of psyllium fiber in the products, and that whole psyllium husk had the highest psyllium fiber content (Xu *et al.*, 2019).

Mechanism of Action

Psyllium fiber husk works as a soluble fiber, which can help with bowel regularity, cholesterol levels, and blood sugar control. When consumed, it absorbs water and forms a gel-like substance, which helps to increase the volume and softness of the stool, making it easier to pass through the digestive tract. Additionally, psyllium can also bind to bile acids and cholesterol, leading to their excretion from the body, which can lower cholesterol levels in the blood.

Recent studies have demonstrated the efficacy of psyllium fiber husk in improving glycemic control in individuals with type 2 diabetes (Imamura *et al.*, 2018) and reducing cardiovascular risk factors, including blood pressure and lipid profile (Santos *et al.*, 2020). Another

study found that psyllium fiber supplementation improved gut microbiome diversity and reduced inflammation in individuals with metabolic syndrome (Chen et al., 2021).

Structure

Psyllium fiber husk has a complex structure consisting of different layers of cells with varying chemical compositions. The outermost layer of cells is called the epidermis and is rich in lipids and waxes, while the inner layer contains cellulose and hemicellulose, which are the main components of the fiber. The seeds also contain other compounds such as mucilage, lignin, and protein.

Recent studies have focused on the structure of psyllium fiber husk and its interactions with water and other food components. One study used microscopy and spectroscopy techniques to investigate the swelling behavior of psyllium fibers in different solvents and found that the structure of the fiber plays a crucial role in its water-holding capacity (Gorji et al., 2019). Another study used X-ray scattering to study the internal structure of psyllium fiber and found that the fibers are highly ordered and have a crystalline structure (Sun et al., 2021).

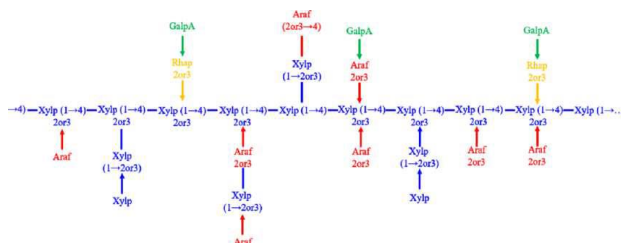


Figure 10: Psyllium Fiber Husk Molecular Structure (Chen, X. et.al., 2022).

6. *Griffonia simplicifolia*, Description

Griffonia simplicifolia is a plant species native to West and Central Africa, known for its high concentration of the amino acid 5-hydroxytryptophan (5-HTP), a precursor to the neurotransmitter serotonin. Extracts from *G. simplicifolia* seeds have been used in traditional medicine for their potential antidepressant, anxiolytic, and sleep-promoting effects. In recent years, *G. simplicifolia* and its extracts have gained attention in the scientific community for their potential therapeutic applications, including the treatment of depression, anxiety, and sleep disorders (Albuquerque et al., 2018; Silva et al., 2019).

Type

Griffonia simplicifolia is a plant commonly used for medicinal purposes due to its high concentration of 5-hydroxytryptophan (5-HTP). There are two main types of *Griffonia simplicifolia*, Type A and Type B, which have been shown to differ in their chemical composition and 5-HTP content.

Type A *Griffonia simplicifolia* has been found to contain higher amounts of 5-HTP compared to Type B. In a

study by Olatunde et al. (2020), Type A *Griffonia simplicifolia* extract was found to contain 2.08% 5-HTP, while Type B extract contained 1.09%. Furthermore, the study found that Type A extract had a higher antioxidant activity compared to Type B.

On the other hand, Type B *Griffonia simplicifolia* has been found to contain other compounds such as ecdysteroids and flavonoids, which are not present in Type A. In a study by Bäckman et al. (2018), Type B *Griffonia simplicifolia* extract was found to contain 0.11% ecdysteroids and 0.07% flavonoids.

Overall, while both Type A and Type B *Griffonia simplicifolia* contain 5-HTP, they differ in their chemical composition and potential therapeutic effects.

Mechanism of Action

Griffonia simplicifolia is a medicinal plant known for its high content of 5-hydroxytryptophan (5-HTP), which is a precursor to the neurotransmitter serotonin. Several studies have investigated the mechanism of action of *Griffonia simplicifolia*, particularly its effects on the central nervous system.

One study found that 5-HTP derived from *Griffonia simplicifolia* was effective in reducing anxiety and depression symptoms in patients with Parkinson's disease, potentially by increasing serotonin levels in the brain (Okereke et al., 2021). Another study investigated the effects of *Griffonia simplicifolia* extract on sleep quality and found that it improved both subjective and objective measures of sleep quality, possibly through its effects on serotonin metabolism (Schmidt et al., 2019).

Additionally, some studies have suggested that *Griffonia simplicifolia* may have potential antioxidant and anti-inflammatory effects, which could contribute to its neuroprotective effects (Kontoangelos et al., 2018; Lawal et al., 2021).

Structure

Griffonia simplicifolia is a plant species that belongs to the Fabaceae family. It is known to contain two primary forms of 5-HTP: Type A and Type B. Type A is the more commonly found and studied form of 5-HTP in *Griffonia simplicifolia*, whereas Type B is a newer discovery.

The chemical structure of both Type A and Type B 5-HTP in *Griffonia simplicifolia* is similar, with both forms consisting of a molecule of tryptophan and a hydroxyl group. However, Type B 5-HTP contains an additional carboxyl group, which may have implications for its biological activity.

One study analyzed the chemical composition of *Griffonia simplicifolia* seeds and found that Type A 5-HTP was the predominant form, making up 80% of the total 5-HTP content, while Type B 5-HTP made up the remaining 20% (Adefegha et al., 2020).

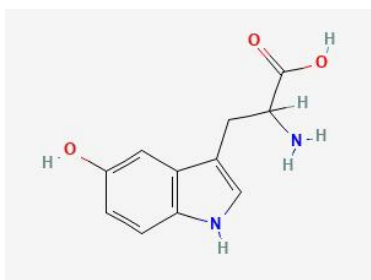


Figure 11: 5-Hydroxytryptophan (National Center for Biotechnology Information, 2023).

7. *Garcinia cambogia*

Description

Garcinia cambogia is a tropical fruit commonly used as a weight loss supplement due to its hydroxycitric acid (HCA) content. HCA is believed to inhibit an enzyme called citrate lyase, which is involved in the synthesis of fatty acids. This may lead to decreased fat accumulation and increased fat oxidation, ultimately resulting in weight loss.

Jung et al. (2019) investigated the effects of *Garcinia cambogia* extract supplementation on weight loss and metabolic parameters in overweight or obese women. The results showed that after 12 weeks of supplementation, the intervention group had significant reductions in body weight, body mass index, waist circumference, and blood pressure compared to the control group. The study concluded that *Garcinia cambogia* extract may have potential as a weight loss supplement in overweight or obese individuals.

Type

There is only one species of *Garcinia* that is commonly used for its potential health benefits, including weight loss: *Garcinia cambogia*. However, there are various forms of *Garcinia cambogia* extract available, such as standardized extracts and those with different percentages of active compounds like hydroxycitric acid (HCA).

Study conducted by (Patricia et al., 2015) *Garcinia Cambogia* have showed positive side effects on losing weight and appetite reduction in terms of body fat percentage, triglycerides, cholesterol and glucose levels and lipogenesis also have a positive effects.

Mechanism of Action

Garcinia cambogia is believed to have several mechanisms of action, including inhibition of an enzyme called citrate lyase, which is involved in the production of fat in the body, and increasing levels of serotonin in the brain, which can help to reduce appetite and food intake.

One study published in 2019 investigated the anti-obesity effects of *Garcinia cambogia* in mice and found that it significantly reduced body weight gain and fat accumulation, possibly by reducing the activity of citrate lyase and increasing levels of adiponectin, a hormone

involved in regulating metabolism (Wu et al., 2019).

Another study published in 2018 investigated the effects of *Garcinia cambogia* on appetite and food intake in overweight women and found that it significantly reduced appetite and energy intake compared to a placebo (Onakpoya et al., 2018).

Overall, the mechanism of action of *Garcinia cambogia* is not fully understood and more research is needed to determine its efficacy and safety for weight loss and other health benefits.

Structure

Garcinia cambogia is a fruit-bearing tree native to Southeast Asia and India, and its fruit rind contains a bioactive compound called hydroxycitric acid (HCA). HCA is a competitive inhibitor of the enzyme ATP-citrate lyase, which plays a role in fatty acid synthesis. This inhibition reduces the availability of acetyl-CoA for fatty acid synthesis and leads to a reduction in de novo lipogenesis. (Wielinga, P., et al., 2018)

Hydroxycitric acid (HCA) is a derivative of citric acid that is found in high concentrations in the fruit rind of *Garcinia cambogia*. The structure of HCA consists of a hydroxyl group and two carboxyl groups, which are responsible for its bioactivity. HCA has been studied for its potential weight loss effects, as it has been shown to inhibit an enzyme called ATP citrate lyase, which plays a role in the synthesis of fatty acids. (Chuah, L., et al., 2028)

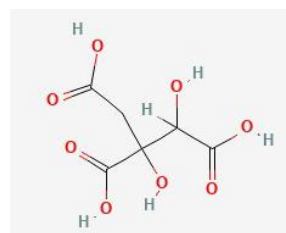


Figure 12: Hydroxycitric Acid Chemical Structure (PubChem, 2023).

8. *Coffea arabica*

Description

Coffea arabica, commonly known as Arabica coffee, is a species of coffee plant that is widely cultivated for its high-quality coffee beans. It is native to Ethiopia and is now grown in various parts of the world, including Latin America, Africa, and Asia. Arabica coffee is known for its rich, smooth flavor and lower caffeine content compared to other coffee varieties.

Recent studies have explored the genetic diversity of *Coffea arabica* and its potential for genetic improvement. For example, a study published in 2019 used whole-genome sequencing to analyze the genetic diversity of *Coffea arabica* and found that the plant has a narrow genetic base, which could make it vulnerable to climate change and disease. The study highlighted the

importance of conservation efforts to preserve genetic diversity in *Coffea arabica* and identified potential genetic targets for crop improvement (Mofatto et al., 2019).

Another study published in 2018 examined the chemical composition of *Coffea arabica* beans from different regions and found that the beans contained various bioactive compounds, including chlorogenic acids, caffeine, and trigonelline. The study also found that the chemical composition of the beans varied depending on the altitude and climate of the growing region, which could affect the flavor and health properties of the coffee (Ardhana et al., 2018).

Types

There are 3 different types of *Coffea Arabica*, these types occur depending on the region it was grown from:

1. Typica

This is one of the oldest and most widely cultivated varieties of *Coffea arabica*. It is known for its high-quality beans with a balanced flavor profile. Recent research has shown that the Typica variety may have a lower susceptibility to coffee leaf rust disease compared to other varieties, making it a desirable choice for farmers in regions affected by this disease (Barić et al., 2018).

2. Bourbon

This variety is known for its sweet and fruity flavor notes. Recent studies have suggested that Bourbon coffee may have higher levels of antioxidant compounds, such as chlorogenic acids, compared to other coffee varieties (Nunes et al., 2019).

3. Caturra

This is a dwarf mutation of the Bourbon variety, known for its high yield and good cup quality. Recent research has suggested that Caturra coffee may have a unique flavor profile compared to other varieties, with notes of fruit and floral aromas (Sánchez-González et al., 2021).

Health Benefits of Slimming Coffee 1

As compared to regular coffee, green coffee has much less caffeine. *Griffonia simplicifolia* is frequently used as a supplement to raise serotonin levels, although the Food and Drug Administration (FDA) has not approved 5-HTP. In several herbal treatments, 5-HTP is employed. Some data indicates that it might be successful in addressing some symptoms. Weight loss and sleep difficulties are only two of the many causes for supplement use. Negative moods (Carter, 2019), Sugar, lactose, Tuckahoe, and instant coffee. Strong appetite suppressant and fat-blocking Garcinia Cambogia helps you lose weight. The husk of psyllium seeds reduces cholesterol and eases constipation. The amino acid L-creatinine reduces serum fatty acids and is crucial for the synthesis of energy. In diabetics, green tea helps to maintain body weight. For strong hair and skin, collagen is best. The antioxidant and enhanced cognitive function of Arabica coffee. Natural sweetener Stevia, low-fat

cream. Carrageenan, Silicon dioxide, Maltodextrin, and Sucralose are the thickening, anti-caking, and sweetening ingredients. (Chelsea, 2018).

Side Effects of Slimming Coffee 1

The typical adverse effects include dry lips, frequent urination, daytime sleepiness, and nighttime activity. Additionally, sibutramine provides a risk to consumers because it has been shown to significantly raise blood pressure and/or heart rate in certain users, and it may be especially dangerous for those who have had a history of coronary artery disease, congestive heart failure, arrhythmias, or stroke. However, green coffee can also have the same negative effects of caffeine as coffee, such as sleeplessness, anxiety, restlessness, stomach issues, nausea, and vomiting, as well as increased heart and respiration rates and other adverse effects. Green coffee beans, which are rich in chlorogenic acid and antioxidants, are one of the ingredients.

Medical Considerations of Slimming Coffee 1

Pregnant women, those who don't consume coffee, people who have heart or kidney illness, and nursing moms should avoid using this product. The use of this medicine with other medications a user may be taking could have fatal interactions. (FDA, 2021).

Slimming Coffee 2

It is produced in the Philippines using local and imported components that are all-natural, safe, and efficient. It has 12 key ingredients that are all natural, safe, and effective and are excellent for slimming, whitening, and shining skin. It also has antioxidant health advantages that postpone the onset of diseases like cancer and other degenerative disorders. (Gatchalian, 2019). Slimming Coffee 2 is a delectable beverage that is proudly made in the Philippines and is FDA-approved to aid in weight loss, teeth whitening, and detoxification. There are 10 sachets (20g) in a package, which makes for roughly 15 cups of filling pleasure.

Ingredients, Description, and Structure

a. Glutathione

Description

A cellular antioxidant that is produced. Three amino acids—glutamine, glycine, and cysteine—make up the majority of its chemical makeup.

Poor nutrition, pollutants in the environment, stress, and other causes can all lower the body's levels of glutathione. Age also causes a reduction in its levels. You can provide glutathione intravenously, topically, or aromatically. Additionally, it is a liquid and capsule oral supplement. However, for some circumstances, oral glutathione consumption might not be as efficient as intravenous administration. (Whelan, 2018).

Antioxidant, free radical scavenger, and detoxifying agent, glutathione serves these functions. In addition, glutathione plays a crucial role in the formation of

leukotrienes, the absorption of amino acids, and as a cofactor for the enzyme glutathione peroxidase (Pubchem, 2023).

Types

1. Reduced Glutathione (GSH, or L-glutathione)

Active Structure (Popa, B., 2019). You may have also heard that some individuals use it before parties to lessen the effects of consuming alcohol. You may find it promoted as a detoxifier, immune system booster, or "master antioxidant" at your favorite nutritional supplements store (Salomon, S., 2019).

2. Oxidized Glutathione (GSSG)

Inactive Structure (Popa, B., 2019).

Mechanism of Action

Leukotriene production is aided by glutathione (GSH), which also functions as a cofactor for the enzyme glutathione peroxidase. It functions as a hydrophilic molecule that is attached to other lipophilic toxins or wastes before they reach biliary excretion, which is another function it performs in the hepatic biotransformation and detoxification process. (Pubchem, 2023).

Structure

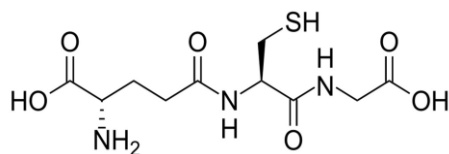


Figure 13. Glutathione (ChemSrc, 2022).

b. L-Carnitine

Description

An amino acid derivative that occurs naturally and is frequently consumed as a supplement. It helps people lose weight and might have an effect on how well their brains work. The science, however, doesn't necessarily support widely held assumptions about supplements. The function of these nutrients in your body is discussed in this article along with any possible hazards and advantages of using L-carnitine supplements. You might believe that taking L-carnitine would boost your body's ability to burn fat and shed pounds because it facilitates the movement of more fatty acids into your cells for energy production. (Mawer, 2018).

Types

1. Acetyl L-carnitine

This type, often referred to as ALCAR, is involved in metabolism. It has neuroprotective qualities that might aid in defending the neurological system (Bell, A., 2020).

2. D-carnitine

This kind is L-optical carnitine's isomer, or mirror image. As it could prevent the body from absorbing other types of carnitine, it is hazardous to the body (Bell, A., 2020).

3. L-carnitine L-tartrate

Sports supplements of this kind may be used by athletes. According to Research Trusted Source, it could be helpful in reducing muscular discomfort and speeding up recovery (Bell, A., 2020).

4. Propriionyl L-carnitine

This type has anti-rheumatic and pain-relieving qualities, and it may be good for your heart. (Bell, A., 2020).

Structure

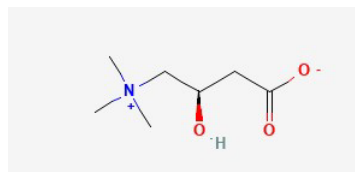


Figure 14. L-Carnitine (PubChem, 2022).

c. *Garcinia cambogia* (see in page 44)

d. Green tea

Definition

Can speed your metabolism and enhance fat burning. The ability of caffeine to release fatty acids from adipose tissue and make them available for use as energy may also contribute to an improvement in physical performance. It makes sense that green tea could aid in weight loss given that it has the short-term ability to increase metabolic rate. Numerous studies suggest that green tea may aid in the reduction of body fat, particularly in the abdominal region. One of these research involved 240 obese participants in a 12-week randomized controlled trial. When compared to the control group in this study, those who consumed green tea had significantly lower body fat percentage, weight, waist circumference, and belly fat. (Gunnars, 2020).

Types

1. Sencha

Sencha has a delicate sweetness and a little astringency that set it apart from other teas. Sencha, which is high in vitamin C, is excellent for treating the common cold during the winter (Singh, S., 2022).

2. Fukamushicha

The texture of fukamushicha leaves is withered, and the brew is black in color. The flavor is still somewhat sweet and fragrantly strong. Fukamushicha can be ingested in greater quantities and has relaxing effects on the stomach (Singh, S., 2022).

3. Gyokuro

A superior green tea is gyokuro. Because of the high quantities of amino acids, it has a sweet, mild taste. Gyokuro is high in caffeine & chlorophyll. The neurological system is stimulated by caffeine, while tissue development is aided by chlorophyll (Singh, S., 2022).

4. Kukicha

Stems and stalks from the manufacture of other green

teas are used to make kukicha. You will feel revived by the pleasant aroma and crisp flavor. Kukicha, which has more of a yellow or brown tint, is sometimes referred to as twig tea (Singh, S., 2022).

5. Matcha

Powdered after being dried and ground. Premium matcha has a brilliant green hue. When combined with hot water, this vibrant green powder offers extremely high levels of natural nutrients and aids in cleansing the body and reviving good skin (Singh, S., 2022).

6. Tencha

High quantities of vitamins, minerals, and nutrients may be found in tencha leaves. They are excellent for raising energy levels and accelerating metabolism. Natural caffeine included in this green tea aids in reviving and waking up the body (Singh, S., 2022).

7. Funmatsucha

Funmatsucha is well-known for its inexpensive pricing and bitter flavor. It likely contains more antioxidants than the other green teas combined. Funmatsucha is excellent for treating colds and headaches (Singh, S., 2022).

8. Konacha

Konacha is made up of the tea buds, scraps of leaves, and dust that are left over after other types of green tea are mechanically processed. The health advantages are not very significant, and it is moderately priced (Singh, S., 2022).

9. Shincha

The primary characteristic of Shincha is its invigorating and reviving leaf scent. It has less bitterness and astringency and is said to have more amino acids, which give it a rich taste and sweetness (Singh, S., 2022).

10. Brancha

Bancha is the ideal tea to sip following a heavy meal since it is less aromatic and more bitter. The bitterness is attributable to the high fluoride content, which makes it a successful treatment for tooth decay and foul breath. The top stem and portion of the leaf's rough texture are present in bancha leaves (Singh, S., 2022).

Structure

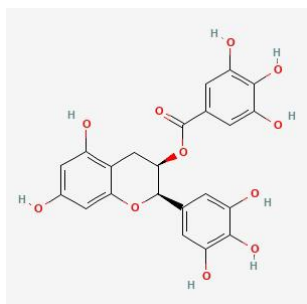


Figure 15: Green Tea (PubChem, 2023).

e. Collagen

Description

Amino acids make up the protein molecules that make up collagen. It gives connective tissues' extracellular space structural support. It is the ideal matrix for skin, tendons, bones, and ligaments because of its stiffness and resistance to stretching. Many categories of collagen can be further subdivided based on the kinds of structures they generate. Although there are 28 different forms of collagen that have been identified, types I through IV are by far the most prevalent, with type I accounting for more than 90% of the collagen in the human body (Wu et al., 2022).

Types

1. Type I collagen

It is used for strong hair, skin, nails and bones (Kiser, T., 2023).

2. Type II collagen

Even though it's less common in our systems, it nonetheless benefits the aging body by supporting joint and cartilage health (Kiser, T., 2023).

3. Type III collagen

It is used for strong hair, skin, nails and bones (Kiser, T., 2023).

f. Lead

Description

According to Pubchem, the earth's crust contains trace amounts of the natural metal lead, which is bluish-gray in color.

Can be found in every element of our environment. Human activity, including the use of fossil fuels, mining, and manufacturing, is responsible for a sizable percentage of it. Lead has a vast array of applications. It is used to make X-ray shielding technologies as well as batteries, ammunition, and metal products (such as pipes and solder). (PubChem, 2022). Lead poisoning occurs when lead builds up in the body, which often happens over months or years. Even at low amounts, lead can be hazardous to one's health. Lead poisoning can seriously harm a child's physical and mental growth, and it is especially dangerous for kids under the age of six. High quantities of lead poisoning are fatal. Lead-based paint and lead-contaminated dust in old buildings are common causes of lead poisoning in children. Contamination of the air, water, and soil are further possibilities. Adults may also be exposed to lead while working in battery manufacture, home remodeling, or auto repair shops. (MayoClinic, 2022).

Structure

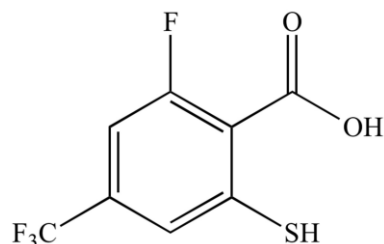


Figure 16. Lead (PubChem, 2022).

Health Benefits of Slimming Coffee 2

There are 12 active ingredients in Slimming Coffee 2 that have been shown to be healthy, including Garcinia cambogia, glutathione, L-carnitine, green tea, collagen, grape seed extract, mangosteen, goji berry, barley grass, malunggay, ampalaya, and lemon or coffee. The benefits of the product include cleansing, detoxification, colon cancer prevention, skin lightening, and weight loss. It purges and detoxifies the body, especially the colon or large intestine, and gets rid of extra waste and toxins like lead. For a powerful and effective fat-burning strategy, Slimming Coffee 2 contains Garcinia Cambogia and L-Carnitine. For healthy, glowing, white, firm skin, collagen and glutathione are also added. Lemon, Green Tea, Ampalaya, Malunggay, Barley Grass, Grape Seed Extract, Mangosteen, and Goji Berries are among the other organic ingredients found in Slimming Coffee 2 that contribute to a healthy body.

Side Effects of Slimming Coffee 2

L-carnitine makes sense as a weight loss supplement in general. You might assume that since L-carnitine facilitates the movement of more fatty acids into your cells for energy-burning, your capacity to burn fat and lose weight would be increased. Five of the L-carnitine individuals had nausea or diarrhea. (Mawer, 2018).

Medical Considerations of Slimming Coffee 2

The National Institutes of Health claim that some ingredients in dietary supplements for weight loss may interact with specific medications. One example of this is the supplement garcinia cambogia, which has been connected to serotonin poisoning in individuals who take it along with two selective serotonin reuptake inhibitor medications. (Lopez, et al., 2017)

Slimming Coffee 3

Slimming Coffee 3 helps people lose weight by being low in calories and having a high level of slimming substance. More slimming components are present in Slimming Coffee 3 Green Coffee. It helps people lose weight and has less calories. Perfect for coffee lovers. The manufacture of insulin with the help of green coffee beans helps to control blood sugar levels and ward off type 2 diabetes.

Ingredients, Description, and Structure

a. Green coffee

Definition

Becoming more widespread in the health and wellness industry. Regular coffee beans that haven't been roasted are known as "green coffee beans" since they are still entirely uncooked. Although their extract is well-liked as a dietary supplement, green coffee beans can also be bought whole and utilized to make a hot beverage, similar to roasted coffee. Dr. Oz, a well-known American celebrity doctor and talk-show personality, pushed green coffee extract as a miracle weight loss solution (Hill, 2019).

b. Stevia

Definition

Unhealthy sweetener. As a result, it contains nearly little calories. This feature can be intriguing to you if you're attempting to reduce weight. Stevia may assist diabetics in managing their blood sugar levels. Stevia dramatically reduced insulin and glucose levels in 12 obese and 12 lean subjects. Despite the lower calorie consumption, it also made study participants feel content and full after eating. (Marengo, 2020).

c. Garcinia cambogia (see in page 44)

d. L-Carnitine (see in page 53)

e. Psyllium Husk (see in page 38)

f. Aloe vera

Description

Aloe of aloes, also known as *Curaçao aloe* or *A. vera* Linné, is the dried latex (juice) of the leaves of *Aloe barbadensis* Miller (*A. vera* Linné). Miller and crossbreeds between this species and *A. black* Miller and *A. spicata* Baker, also referred to as Cape aloe in trade (Fam. *Liliaceae*). At least 50% of the extract from aloe is water soluble. The word aloe, which means a sparkling, bitter root, comes from the Arabic *alloeh* or the Hebrew *halal*. vera is derived from the Latin *verus*, which means true. The terms "barbadensis" and "ferox" allude to the Barbados Islands, "africana" denotes the plant's location in southern Africa, and "spicata" denotes the spike-shaped blossoms (Tyler, 1998).

Health Benefits of Slimming Coffee 3

People can lose weight more quickly and effectively by detoxing, mixing green tea extract with green coffee bean extract, and colon cleansing. The use of green coffee extract may help control high blood pressure, promote weight loss, and maintain steady blood sugar levels. Stevia is a healthy and safe sugar substitute that may be used to sweeten food without the risk to one's health that comes with using refined sugar. It has been demonstrated to reduce calorie intake, blood sugar levels, and the chance of developing cavities. Additionally, it helps to avoid upper respiratory infections. By reducing your appetite, garcinia cambogia may help you lose weight. It has been demonstrated that L-carnitine increases the body's ability

to burn fat. Green tea may help with calorie burning, which could lead to weight loss. A laxative that softens stool and promotes more frequent, smoother bowel movements is psyllium husk. Constipation, liver problems, and high blood pressure may all be treated with serpentina powder. Guarana may aid in weight loss by speeding up your metabolism. Aloe vera may function as an antioxidant, reduce constipation, and lower blood sugar levels. Almond milk may help lower your blood sugar, strengthen your bones, and reduce your risk of heart disease.

Side Effects of Slimming Coffee 3

According to the Nutrient Journal (2020), Serpentina powder does not have any known major adverse effects, although it does cause drowsiness, dizziness, and fatigue as well as nausea, vomiting, diarrhea, and a slow heartbeat.

Medical Considerations of Slimming Coffee 3

Caffeine, which is present in guarana, has been associated with miscarriage, low baby weight, early delivery, and birth abnormalities. As a result, pregnant women should stick to the prescribed caffeine intake guidelines according to the site of pregnantplate. If you are pregnant, always check with your doctor before using this product.

Health Benefits of Green Coffee Bean Extract

By reducing the release of glucose into the bloodstream after digestion and promoting fat metabolism, green coffee extract reduces fat absorption and increases fat metabolism (Vicky Mar Naturals 2021).

Pharmacologic studies on Slimming Coffees

Based on the research done by Cebi et al., (2017). Sibutramine may be illegally added to "100% natural" herbal slimming foods and supplements to speed up weight reduction. The need for an efficient, quick, and consistent method to identify sibutramine in herbal foods, teas, and dietary supplements is important given public health concerns and regulatory requirements. The study thoroughly investigated, for the first time, how to find sibutramine using chemometrics and the ATR-FTIR spectroscopic method in green tea, green coffee, and mixed herbs. For classification and discriminating using Euclidian distance and Ward's algorithm, the spectral range (2746-2656cm⁻¹) was subjected to hierarchical cluster analysis and PCA principal component analysis. Without making any incorrect predictions, unadulterated and contaminated samples were distinguished and categorised according to their sibutramine contents with flawless accuracy. The outcome shows that it may be possible to successfully identify the active ingredient. Using the FTIR- ATR approach along with chemometrics, 1.75g of green tea, green coffee, and mixed herbal tea were detected at amounts between 0.375 and 12 mg. Lafay, et al., (2019) conducted a different study. Numerous weight loss plans combine dietary supplements with lifestyle changes in the areas of

nutrition and exercise. For more than 15 years, caffeine-free and caffeinated coffee extracts have been used as weight-reduction nutraceuticals. However, the results of limited clinical research and a number of clinical biases preclude drawing any firm conclusions on the biological effects of this diet. Numerous epidemiological, *in vivo*, and *in vitro* investigations have also shown that chlorogenic acid, caffeine, and coffee—including decaffeinated coffee—can also be utilized as slimming agents.

Foreign Literature

According to research, life satisfaction is strongly correlated with factors that affect health, such as chronic illness, sleep issues, pain, obesity, smoking, anxiety, and physical activity (Strine et al., 2008). Although the relationship may go both ways, it is clear that as one improves or increases, the other will probably follow soon after. Furthermore, a recent study by Chapman University researchers discovered that life happiness is actually associated with a lower risk of mortality. Additionally, it has been demonstrated that erratic life pleasure is particularly detrimental to one's health and longevity (Boehm, et., al 2015).

The World Health Organization estimates that in 2016, more than 1.9 billion persons who were 18 years of age and older were overweight. Adult obesity affected nearly 650 million of these people. In 2016, 40 percent of women and 39 percent of males who were 18 years of age and older were overweight. In 2016, 11% of men and 15% of women in the adult population of the world were considered obese.

The U.S. Food and Drug Administration claims that the FDA controls both dietary components and completed dietary supplement products. Dietary supplements are subject to a distinct set of FDA rules than "conventional" foods and medication items. Dietary Supplement Health and Education Act of 1994 (DSHEA). It is against the law for manufacturers and distributors of dietary supplements and ingredients to advertise contaminated or falsely labelled goods. The Federal Food, Drug, and Cosmetic Act, as revised by DSHEA and FDA regulations, states that these companies are responsible for examining the safety and labeling of their goods before marketing to make sure they comply with all of those standards. After a dietary supplement product reaches the market, the FDA has the authority to take action against it.

About 50% of Americans between the ages of 18 and 35 who are currently living in the United States consume coffee every day, according to Lydia's 2017 study. The Netherlands was the world's top coffee consumer in 2015, with an average per capita consumption of 260.4 liters, according to the Roast and Post, even though the USA is the largest buyer of coffee. Finland consumes 9.6 kg of dry volume per person, according to statistics from 2013. With 6.7 kilos per person, the Netherlands comes in third. Each age group consumed coffee in different

amounts in the United States in 2016: 48 percent of 18 to 24 year olds, 60 percent of 25 to 39 year olds, 53 percent of 40 to 59 year olds, and 64 percent of those who were 60 years or older. They do, however, acquire this coffee in other ways. Millennials between the ages of 25 and 34 are the least likely of any age group to keep coffee on hand in their home, despite the fact that 86 percent of people who drink coffee at home do so.

Czarniecka-Skubina, et. al., research indicates that (2021). One of the most widely consumed beverages worldwide is coffee, which is also true of Poland. In the literature, the impact of coffee on human health, particularly the daily intake of caffeine, as well as consumer purchase behavior, is heavily discussed. There isn't enough study on consumer preferences and behaviors related to coffee drinking and brewing techniques. Because of this, the purpose of this study is to characterize the traits of coffee consumers and provide their segmentation based on consumer preferences and behaviors about coffee drinking. On a sample of 1500 adult respondents in Poland who reported drinking coffee, the study was conducted utilizing the computer-assisted web interviewing (CAWI) method. The study gathered data on consumer preferences and practices regarding coffee consumption, such as brewing techniques, locations where coffee is consumed, and variables influencing coffee preferences. The "cluster analysis" employed by the researchers revealed that there are "Neutral coffee consumers," "Ad hoc coffee drinkers," and "Non-specific coffee drinkers." Although the study's participants like and drink coffee, they are not coffee connoisseurs. Instead, they frequently switch up their coffee preferences. As a conclusion, it can be said that Polish consumers of coffee favor old techniques of brewing coffee like a "traditionalist," yet they are open to novelties and new sensory experiences. The results of the survey can be used to determine Poland's coffee consumption patterns.

In his article, Shaikh claims that (2020). In the US, coffee is one of the most consumed beverages. People claim that the frequent consumption of coffee keeps them alert and concentrated. Dr. Shaikh concurs, saying that it does. Caffeine, a stimulant, is responsible for the outcome. Most adults are generally thought to be safe with up to 400 mg of caffeine per day. This translates to almost four cups of coffee (one cup is equal to 8 ounces). When people overindulge in coffee owing to addiction, problems start to occur. Caffeine has a number of adverse effects on the body, including an increase in blood pressure, headache, agitation, restlessness, dizziness, heartburn, elevated levels of anxiety, muscular tremors (feeling shaky), and insomnia (problems falling asleep), Heart palpitations or missed beats, an irregular heartbeat, frequent bathroom visits, thirst, accelerated bone loss in menopausal women (if calcium intake is insufficient), and elevated cholesterol levels (due to unfiltered, unboiled coffee). The study found that even two to four cups of coffee a day could cause these effects

in some caffeine-sensitive people. Dr. Shaikh advises against drinking coffee at least 4 to 6 hours before bed because it can make you more alert.

According to Dowden (2019), the majority of the evidence between coffee and bowel movements originates from a landmark April 1990 study that was published in *Gut* and revealed that 29% of volunteers claimed that coffee made them feel like they wanted to urinate. According to the scientific assessments of the patients' bowel activity, both regular and decaffeinated coffee generated lower bowel contractions within four minutes. In November 2018, a review study discovered that consuming coffee helped people who had recently undergone abdominal surgery regain control of their digestive systems. Scientific Reports published an article on this discovery as well. The drink aided the patients' bowels in beginning to move once more, and researchers found that it enhanced the recovery of gastrointestinal function following the treatment. Coffee has long been known as a digestif, a beverage that, when consumed after a meal, is thought to stimulate digestion in addition to possibly aiding regular bowel movements. The evidence on coffee and digestion isn't strong enough to suggest the beverage can actually help break down food more efficiently, according to a study that was published in the *Proceedings of the National Academy of Sciences* in July 2017. However, caffeine boosts the secretion of stomach acid. Stomach acid is also required to aid in the digestion of proteins. Another study included in the *Harvard Health Publishing* article highlighted caffeine's capacity to create gastric acid as a side effect of its ability to relax the lower esophageal sphincter, which separates the esophagus from the stomach. This double whammy may make indigestion and dyspepsia symptoms, such as acid reflux, worse for those who are more susceptible. It may also be advisable to use caution when consuming coffee if you have certain medical conditions that make your gut more sensitive. The Crohn's and Colitis Foundation recommends that individuals with irritable bowel syndrome and inflammatory bowel disease abstain from consuming caffeinated beverages while experiencing flare-ups.

The article Aramyan claims that (2015). Recent years have seen a rise in the population's fixation with weight loss, which has intensified during the past ten years. Everyone wants to appear thin, fit, and beautiful in the photos and videos they share with the world because social media and video sharing have become so popular. When it comes to fitness and weight loss product promotion, Instagram is likely the most popular. By the same person on Facebook or Twitter. Companies in this area use social media marketing, sales, and promotion since it is now the best online platform to drive revenues because social media, especially Instagram, and fitness weight loss both rely heavily on visual material. The Millennial generation has certain distinct preferences for the social media content they enjoy viewing, and companies who wish to target them have plans for

marketing strategies that will precisely meet their wants.

In Accordance with the research done by Yeniocak (2021). With the COVID-19 pandemic, millions of people received instructions to stay at home and give up regular activities like going out or to work, school, or university. The majority of the population were shocked by the abrupt change in their life. But as they did with everything else in life, individuals eventually adapted to the "new normal." All of a sudden, "Quarantine Weight" was a thing, and many individuals felt self-conscious about it. The goal of losing quarantine weight occupied all indoor activities. People began exercising, adopting healthier eating and drinking habits, and carrying on with their everyday activities without giving their lock-in situation any thought. The usage of social media was still permitted even though people had to remain inside their homes. Many of them started to be influenced by the lives of the models and influencers who demonstrated ideal ways to live even during a global pandemic. Influencers began promoting exercise programs to help people shed this quarantine weight, leading people to believe that it is something to be ashamed of. This had a significant impact on how many people thought about their bodies and caused a lot of people to become body aware, which is a serious concern, especially for teenage boys and girls.

Local Literature

Negative Effects of Slimming Coffee

Slimming goods have been shown to include sibutramine, one of the most common adulterants. In many areas, most notably the US market, the appetite suppressant sibutramine is prohibited. Since 2010, it has been forbidden due to a high risk of heart attack and stroke (Parameesrijanya, 2022).

Positive Effects of Slimming Coffee

It has produced a number of outstanding results, and many individuals have started drinking slimming coffee in place of regular coffee or tea, according to the Blog Spot (2013). Coffee that helps you lose weight is made entirely without the use of any drugs. Weight loss benefits of green coffee. Due to the fact that it is created from natural herbs, it also has additional health-related advantages. Due to the fact that it is created from natural herbs, it also has additional health-related advantages. It is composed of ingredients that melt away fats and carbohydrates and speed up metabolism. The level of energy is effectively raised as well. Antioxidants, which have many benefits, are present in slimming coffee. It keeps the appetite in check and reduces stress. It also keeps a check on some of the harmful health problems like cancer, heart related disease. People with cardiovascular related issues and pregnant women should take recommendations from their respective medical practitioners before they start drinking it. Additionally, it controls several detrimental medical issues like cancer and heart-related illnesses. Before beginning to drink it, those who have cardiovascular conditions and pregnant

women should seek advice from their respective doctors.

The toxicity level of slimming coffees

In the study by Wikoff, D., it was discovered that Health in Canada's assessment of the safety of caffeine is one of the most frequently mentioned in the peer-reviewed literature (Nawrot, et.al., 2003). Data on caffeine's potential side effects that were published between 2001 and June 2015 were thoroughly reviewed by the researchers. Subject matter experts and research team members created five PECO (population, exposure, comparator, and outcome) questions to examine five outcomes in four healthy populations (adults, pregnant women, adolescents, and children) in relation to caffeine intake doses determined to not be associated with adverse effects by Health Canada (comparators: 400mg/da to children and adolescents). The majority of the evidence suggests that consumption of up to 400 mg/day in healthy adults is not associated with overt cardiovascular effects, behavioral effects, reproductive and behavioral developmental effects, acute effects, or bone status when the total body was evaluated, level of adversity, and magnitude of response were taken into account, and study quality consistency was also taken into account. Additionally, research suggests that healthy adults who use up to 300 mg of caffeine per day do not experience overtly harmful impacts on their ability to reproduce or develop. There is little data for children and adolescents, but what is known implies that the current advice of 2.5 mg of caffeine per kilogram of body weight per day is still adequate.

Also available is a report from the United States on dietary supplements for weight loss. The Government Accountability Office has stated that "little is known regarding the efficacy of weight-loss pills, although some supplements have been linked to the possibility of physical risk. American General Accounting Office, 2017. There may be interactions between some substances in dietary supplements for weight loss and some drugs. For instance, glucomannan (carrageenan) and guar gum may reduce the absorption of a variety of medications when given orally (Dwyer, 2015). The majority of these slimming coffees are Garcinia cambogia-based. When used with two selective serotonin reuptake inhibitor drugs, garcinia cambogia was linked to serotonin poisoning in a patient (Lopez, 2014).

IV. Health

In contrast to simply being free from illness or infirmity, health is a condition of whole physical, mental, and social well-being. (WHO, 2022)

Importance of Health Education

Health education and preventive services are crucial because they make a significant contribution to community education. By utilizing the skills and resources at our disposal, health care professionals help spread the word about good health. All aspects of wellness, including physical, psychological, social, and

spiritual wellness, are covered by our holistic approach to health education. (CCHC, 2019).

Local Literature of Health

In accordance with the research by Bendal et al. According to (2017), being healthy means that our body is free of disease and in good shape. It is also known as a condition in which we are in good physical, mental, and social health. (2018) Capistrano Despite the fact that we have been taught about health since elementary school, no one has ever been able to define it precisely. Some people may use it to mean all of the aforementioned criteria, defining it as a condition of whole bodily, mental, and social well-being rather than just the absence of illness or infirmity (Copiaco, 2016).

Foreign Literature of Health

The definition of health that we will find in a dictionary is "the condition of being sound in body, mind, or spirit" (Merriam-Webster Dictionary). With that in mind, we may assert that the word "health" can have many connotations depending on how it is used. Simply put, it depends on who is using it and how. We can take into consideration three different forms of health definitions, according to Croat Med J (2016). The first is being healthy and worry-free of illness or incapacity. The second is that good health makes it possible to successfully manage all of life's responsibilities (implying also the absence of disease and impairment). According to the third definition of health, a person has achieved harmony when they are in a state of equilibrium with themselves as well as with their physical and social surroundings. All things considered, health and well-being are intertwined because achieving health also results in achieving well-being. This is so because, as was already established, physical health also includes mental health. As stated by The Well-being Institute at the University of Cambridge, "Positive and sustainable traits that enable people and organizations to live and flourish" is how the term "well-being" is defined in the dictionary.

METHODOLOGY

This chapter presents the research procedures employed to gather significant data in accordance with the study. The methodology includes the research design, sampling procedure and instrument, and tools for data analysis.

The Research Design

The entire strategy you choose for integrating the many study components in a logical and convincing way, assuring you will successfully address the research issue, is known as the research design. It acts as a manual for gathering, measuring, and analyzing data. Making sure that you can tackle the research problem as simply and rationally as is practical is the aim of a research design (Creswell et al., 2018).

The research design of this study is descriptive-quantitative. The reason why the researchers have chosen

this, is because according to Bhandari, P. (2020), this process will involve analysis and collection of numerical data. This can then be used to find patterns and make predictions. Therefore, performing causal relationships and general results is possible. After collection of data through quantitative, it is then described therefore the use of descriptive analysis. According to Ethridge, D.E. (2017), "descriptive studies may be characterized as simply the attempt to determine, describe or identify what is, while analytical research attempts to establish why it is that way or how it came to be". Added to this, Fox, W. & Bayat, M.S. (2019), has described descriptive analysis. Accordingly, the researchers determined that descriptive-quantitative analysis was the best design to use for this study. Descriptive research "aims to shed light on present challenges or problems" and is a process of data collection that allows them to explain the situation more thoroughly than was possible without using this method.

The Sample

A sample is a manageable, smaller version of a bigger group. A grouping of persons who exhibit qualities common to a larger community. In statistical testing, samples are used when population sizes are too large to accommodate all prospective participants or observers in the test. The population as a whole should be represented by the sample, and it shouldn't be biased toward any one trait in particular (Will Kenton, 2022). The respondents for this research were 21 persons. Specifically, these participants were taking different slimming coffees available in the market.

Sampling Procedures

To get the respondents who will participate in this study, the researchers used a non-probability sampling technique. Non-probability sampling is respondents sampled because they are convenient sources of data and information for researchers. The type of Non-probability sampling technique is voluntary. We select respondents who are qualified and contact them to be part of our research study.

The Instruments

Ratio Scale Survey Questionnaire

Respondents are asked to provide measured responses to this sort of inquiry. You have probably encountered ratio scale inquiries concerning hours spent, age, or money. Questions on ratios have a genuine zero, and therefore are frequently given ordinally with ranges. These ranges can still be used for analysis as ratio answers, though.

This study utilized a 6-item Ratio scale Survey Questionnaire. Personal information is optional 1, Gender. 2, Current age. 3, From what age started drinking slimming coffee. 4, when did you start drinking slimming coffee

Likert Scale Survey Questionnaire

Likert Scale provides five possible answers to a

statement or a question that allows the respondents to indicate their positive-to-negative strength of agreement or disagreement of feeling regarding the question or statement.

This study utilized a 14-item Likert Scale Survey Questionnaire.

The survey questionnaire underwent validation, and reliability scoring with subject experts.

Data Collection

The following are the step-by-step procedure in the gathering of the data:

1. The researchers proposed the research paper subject for approval. Once approved, the researchers revised the paper based on the recommendation during the title defense.
2. A literature review was conducted to enhance the references, articles and related readings that could be a good source of inference for the discussion.
3. The researchers drafted items for the survey questionnaire specific to *Starting age of taking Slimming Coffee, Consideration in checking the Slimming Coffee ingredients before purchase, Familiarity in the Slimming Coffee Ingredients, Diet Suppression, Bowel movement.*
4. The test questionnaires were validated by means of face and content validity with subject matter experts. Inter-rater reliability was conducted in order to check consistency or inter-relatedness of items per factor being measured.
5. Once the survey questionnaire was validated, it was converted to a Google survey online form so that data gathering could be done online.
6. Data were then collated, tallied, and analyzed using statistics.

Data Analysis

The method of methodically using logical and/or statistical approaches to summarize, summarize, and analyze data. Different analytical techniques "offer a mechanism of deriving inductive inferences from data and differentiating the signal (the phenomena of importance) from the chaos (statistical fluctuations contained in the data)," according to Shamoo and Resnik (2003).

Sample of Survey

“THE EFFECT OF SLIMMING COFFEES TO FILIPINOS HEALTH AND PHYSICAL APPEARANCE: A STUDY OF THEIR WELL BEING AND BODY SATISFACTION.”

Dear Respondents,

We are 3rd year BS Pharmacy students from St. Dominic College of Asia and currently conducting research entitled “Impact of Slimming Coffees to Filipinos and Its Impact to their Health to Establish Health Education.” The purpose of this research study is to know the different impact of slimming coffees to Filipinos and to establish health education. The main objective of this thesis is to inform people on the possible effects of each different slimming coffees. With this, we are asking your time to answer the online survey via Google Survey Form and by choosing one and more choices. This consent form asks you to enable the researcher to record and view the survey answers and to use your responses to improve the understanding of the topic. Participation in this research is purely voluntary. If you decide not to participate, there will be no negative consequences. The researchers will personally ensure the confidentiality of research records or results. Thank you and more power!

By submitting this form, you show that you have read the study description and that you agree or disagree with the terms described above.

- Yes, I will give my consent to be part of this study.
No, I will not give my consent to be part of this study.

Camit, Angela Patricia Nicole A.
Lopez, Kayzelle Anne U.
Martinez, Nathalie Alezea R.
Somodio, Patricia Nicole B.
Researchers

Email:**Name:****What is your gender:**

Female

Male

Weight before using Slimming Coffee: _____

Please indicate with portrait picture:

Weight after using Slimming Coffee: _____

Please indicate with portrait picture:
_____**Current Age**

18-25 years old

26-35 years old

36-40 years old

41-50 years old

Since what age you are taking slimming coffee?

18-25 years old

26-35 years old

36-40 years old

41-50 years old

When did you start taking slimming coffee?

1-2 years

3-4 years

More than 5 years

Who encouraged you to drink this slimming coffee?

Family

Friends

Relatives

Online Platform

Others:

Did you feel any of the following below whenever you drink slimming coffee? Click the ones that apply. You can also explain your experience below.

Nausea

Dizziness

Loss of Appetite

Heart Palpitations

Dry Lips

Feeling Sleepy

Frequent Urination

Other:

Did you experience any of these claim effects on your journey in consuming the slimming coffee? Click the ones that apply. You can also explain your experience below.

Whitening effect

Improved digestion

Reduced belly fat
Reduced aging
Improved energy level
Less constipation
Sleeplessness
Reduces Anxiety
Other:

Do you consider checking the Slimming Coffee Ingredients before you purchase?

Strong Agree
Agree
Neither agree nor disagree
Disagree
Strongly Disagree

Are you aware that L-carnitine, Garcinia cambogia specifically the ingredients that can help a person to lose weight?

Strong Agree
Agree
Neither agree nor disagree
Disagree
Strongly Disagree

Were your bowel movements regular as usual whenever you drink slimming coffee?

Strong Agree
Agree
Neither agree nor disagree
Disagree
Strongly Disagree

Are you aware of the medical consideration/contraindications of Slimming Coffees?

Strong Agree
Agree
Neither agree nor disagree
Disagree
Strongly Disagree

Do you think this slimming coffee is effective to lose weight?

Strong Agree
Agree
Neither agree nor disagree
Disagree
Strongly Disagree

Are there significant changes (in weight, etc) that are seen after taking slimming coffee?

Strong Agree
Agree
Neither agree nor disagree
Disagree
Strongly Disagree

Did you see improvement in other people who are taking in slimming coffees?

Strong Agree
Agree
Neither agree nor disagree
Disagree
Strongly Disagree

Are you satisfied with your life after taking slimming coffee?

Strong Agree
 Agree
 Neither agree nor disagree
 Disagree
 Strongly Disagree

Is there deducted weight after you have taken slimming coffee?

Strong Agree
 Agree
 Neither agree nor disagree
 Disagree
 Strongly Disagree

Does taking slimming coffees boost your confidence?

Strong Agree
 Agree
 Neither agree nor disagree
 Disagree
 Strongly Disagree

Did you get a good outcome when you use slimming coffee?

Strong Agree
 Agree
 Neither agree nor disagree
 Disagree
 Strongly Disagree

Is there any hesitation that you made before you drank this slimming coffee?

Strong Agree
 Agree
 Neither agree nor disagree
 Disagree
 Strongly Disagree

Do you think this is the easiest way to lose weight by using slimming coffee?

Strong Agree
 Agree
 Neither agree nor disagree
 Disagree
 Strongly Disagree

Is it possible that you'll use the slimming coffee again in the future?

Strong Agree
 Agree
 Neither agree nor disagree
 Disagree
 Strongly Disagree

Instructions: Please read carefully for each question.

| Questions | Choices |
|---|--|
| 1. What is your current age? | a. 18-25 years old b. 26-35 years old c. 36-40 years old d. 41-50 years old |
| 2. Since what age you are taking slimming coffee? | a. 18-25 years old b. 26-35 years old c. 36-40 years old d. 41-50 years old |
| 3. When did you start taking slimming coffee? | a. 1-2 years b. 3-4 years |

| | |
|---|---|
| | c. More than 5 years |
| 4. Who encouraged you to drink this slimming coffee? | a. Family b. Friends c. Relatives d. Online Platform e. Others: _____ |
| 5. Did you feel any of the following below whenever you drink slimming coffee? Click the ones that apply. You can also explain your experience below. | a. Nausea b. Dizziness c. Loss of appetite d. Heart palpitations e. Dry Lips f. Feeling Sleepy g. Frequent Urination l. Others |
| 6. Did you experience any of these claim effects on your journey in consuming the slimming coffee? Click the ones that apply. You can also explain your experience below. | a. Whitening effect b. Improved digestion c. Reduced belly fat d. Reduced aging e. Improved energy level f. Less constipation g. Sleeplessness h. Reduces Anxiety l. Others |
| 7. Do you consider checking the Slimming Coffee Ingredients before you purchase? | a. Strong Agree b. Agree c. Neither agree nor disagree d. Disagree e. Strongly Disagree |
| 8. Are you aware that L-carnitine, Garcinia cambogia specifically the ingredients that can help a person to lose weight? | a. Strong Agree b. Agree c. Neither agree nor disagree d. Disagree e. Strongly Disagree |
| 9. Were your bowel movements regular as usual whenever you drink slimming coffee? | a. Strong Agree b. Agree c. Neither agree nor disagree d. Disagree e. Strongly Disagree |
| 10. Are you aware of the medical consideration / contraindications of Slimming Coffees? | a. Strong Agree b. Agree c. Neither agree nor disagree d. Disagree e. Strongly Disagree |
| 11. Do you think this slimming coffee is effective to lose weight? | a. Strong Agree b. Agree c. Neither agree nor disagree d. Disagree e. Strongly Disagree |
| 12. Are there significant changes (in weight, etc) that are seen after taking slimming coffee? | a. Strong Agree b. Agree c. Neither agree nor disagree d. Disagree e. Strongly Disagree |
| 13. Did you see improvement in other people who are taking in slimming coffees? | a. Strong Agree b. Agree c. Neither agree nor disagree d. Disagree e. Strongly Disagree |
| 14. Are you satisfied with your life after taking slimming coffee? | a. Strong Agree b. Agree |

| | |
|---|---|
| | c. Neither agree nor disagree d. Disagree e. Strongly Disagree |
| 15. Is there deducted weight after you have taken slimming coffee? | a. Strong Agree b. Agree c. Neither agree nor disagree d. Disagree e. Strongly Disagree |
| 16. Does taking slimming coffees boost your confidence? | a. Strong Agree b. Agree c. Neither agree nor disagree d. Disagree e. Strongly Disagree |
| 17. Did you get a good outcome when you use slimming coffee? | a. Strong Agree b. Agree c. Neither agree nor disagree d. Disagree e. Strongly Disagree |
| 18. Is there any hesitation that you made before you drank this slimming coffee? | a. Strong Agree b. Agree c. Neither agree nor disagree d. Disagree e. Strongly Disagree |
| 19. Do you think this is the easiest way to lose weight by using slimming coffee? | a. Strong Agree b. Agree c. Neither agree nor disagree d. Disagree e. Strongly Disagree |
| 20. Is it possible that you'll use the slimming coffee again in the future? | a. Strong Agree b. Agree c. Neither agree nor disagree d. Disagree e. Strongly Disagree |

Age Range

| Questions | Choices |
|---|--|
| 1. What is your current age? | a. 18-25 years old b. 26-35 years old c. 36-40 years old d. 41-50 years old |
| 2. Since what age you are taking slimming coffee? | a. 18-25 years old b. 26-35 years old c. 36-40 years old d. 41-50 years old |

Convinced them taking Slimming Coffee

| Questions | Choices |
|--|---|
| 1. When did you start taking slimming coffee? | a. 1-2 years b. 3-4 years c. More than 5 years |
| 2. Who encouraged you to drink this slimming coffee? | a. Family b. Friends c. Relatives d. Online Platform e. Others: _____ |

Health Effects

| Questions | Choices |
|---|---|
| 1. Did you feel any of the following below whenever you drink slimming coffee? Click the ones that apply. You can also explain your experience below. | a. Nausea b. Dizziness c. Loss of appetite d. Heart palpitations e. Dry Lips f. Feeling Sleepy g. Frequent Urination i. Others |
| 2. Did you experience any of these claim effects on your journey in consuming the slimming coffee? Click the ones that apply. You can also explain your experience below. | a. Whitening effect b. Improved digestion c. Reduced belly fat d. Reduced aging e. Improved energy level f. Less constipation g. Sleeplessness h. Reduces Anxiety i. Others |

Ingredients in slimming coffee

| Questions | Choices |
|--|---|
| 1. Do you consider checking the Slimming Coffee Ingredients before you purchase? | a. Strong Agree b. Agree c. Neither agree nor disagree d. Disagree e. Strongly Disagree |
| 2. Are you aware that L-carnitine, Garcinia cambogia specifically the ingredients that can help a person to lose weight? | a. Strong Agree b. Agree c. Neither agree nor disagree d. Disagree e. Strongly Disagree |

Considerations/contraindications of Slimming Coffee

| Questions | Choices |
|---|---|
| 1. Were your bowel movements regular as usual whenever you drink slimming coffee? | a. Strong Agree b. Agree c. Neither agree nor disagree d. Disagree e. Strongly Disagree |
| 2. Are you aware of the medical consideration/contraindications of Slimming Coffees? | a. Strong Agree b. Agree c. Neither agree nor disagree d. Disagree e. Strongly Disagree |
| 3. Do you think this slimming coffee is effective to lose weight? | a. Strong Agree b. Agree c. Neither agree nor disagree d. Disagree e. Strongly Disagree |
| 5. Are there significant changes (in weight, etc) that are seen after taking slimming coffee? | a. Strong Agree b. Agree c. Neither agree nor disagree d. Disagree e. Strongly Disagree |

Satisfaction in the results of their weight

| Questions | Choices |
|--|---|
| 1. Did you see improvement in other people who are taking in slimming coffees? | a. Strong Agree b. Agree c. Neither agree nor disagree d. Disagree e. Strongly Disagree |
| 2. Are you satisfied with your life after taking slimming coffee? | a. Strong Agree b. Agree c. Neither agree nor disagree d. Disagree e. Strongly Disagree |
| 3. Is there deducted weight after you have taken slimming coffee? | a. Strong Agree b. Agree c. Neither agree nor disagree d. Disagree e. Strongly Disagree |
| 4. Does taking slimming coffees boost your confidence? | a. Strong Agree b. Agree c. Neither agree nor disagree d. Disagree e. Strongly Disagree |
| 5. Did you get a good outcome when you use slimming coffee? | a. Strong Agree b. Agree c. Neither agree nor disagree d. Disagree e. Strongly Disagree |
| 6. Is there any hesitation that you made before you drank this slimming coffee? | a. Strong Agree b. Agree c. Neither agree nor disagree d. Disagree e. Strongly Disagree |
| 7. Do you think this is the easiest way to lose weight by using slimming coffee? | a. Strong Agree b. Agree c. Neither agree nor disagree d. Disagree e. Strongly Disagree |
| 8. Is it possible that you'll use the slimming coffee again in the future? | a. Strong Agree b. Agree c. Neither agree nor disagree d. Disagree e. Strongly Disagree |

PRESENTATION, INTERPRETATION, AND DISCUSSION**Presentation, Interpretation, and Analysis of Data**

Slimming coffee has been a famous drink in the Philippines as a way to reduce fats and remove toxins inside the body. This study aims to know the effects of

slimming coffees on Filipino's health and physical appearance.

Number of Respondents: 21

The Subject of the Survey Questionnaire: Female and Male that uses slimming coffees

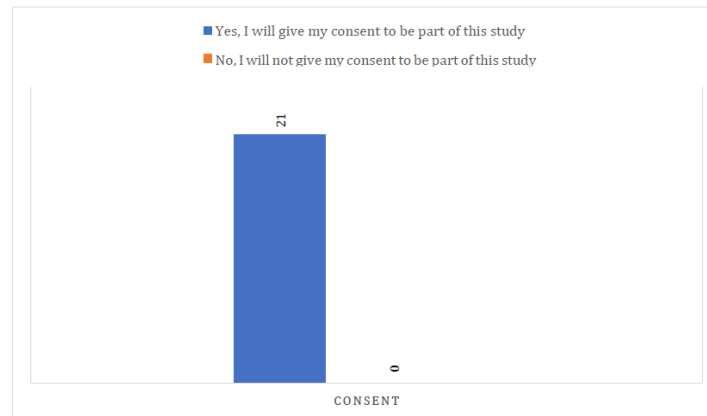


Figure 17: Consent Form.

Figure 1: illustrates the number of chosen respondents who answered the consent question of the questionnaire.

All 21 respondents who use slimming coffee agreed and is willing to participate and answer the survey.

Table 1: Demographic Profiling of Respondents.

| Demographic Profile | Frequency | Percent |
|---------------------|-----------|-------------|
| Female | 19 | 95.2% |
| Male | 2 | 4.8% |
| Total | 21 | 100% |

Table 1: presents the demographic profile of the participants; most of them are female with a total frequency of 19 which is equivalent to 95.2%, and 2 males, which is equal to 4.8%.

According to the study conducted by Lubeck, R. M., (2021). The results show that body dissatisfaction partially mediates the effect of physical appearance concern on the intention to use slimming products. The findings corroborate the idea that physical appearance may be a motivational factor to lead women to use

slimming products. Moreover, the analysis in the study shows the importance of physical appearance concern increases, mainly in favor of body dissatisfaction. Similarly, body dissatisfaction has a positive and significant effect on the intention to use slimming products. Concerning this issue, the findings show that for women, physical appearance concern leads to increased body dissatisfaction, thus reinforcing the relationship and increasing the intention to use slimming products.

Table 2: Weight before drinking Slimming Coffees.

| Kilos | Frequency | Percentage |
|--------------|-----------|-------------|
| 175 | 1 | 4.80% |
| 120 | 1 | 4.80% |
| 98 | 1 | 4.80% |
| 90 | 1 | 4.80% |
| 85 | 1 | 4.80% |
| 81 | 1 | 4.80% |
| 80 | 1 | 4.80% |
| 77 | 1 | 4.80% |
| 74 | 2 | 9.50% |
| 72 | 1 | 4.80% |
| 71 | 1 | 4.80% |
| 68 | 1 | 4.80% |
| 65 | 2 | 9.50% |
| 60 | 1 | 4.80% |
| 57 | 1 | 4.80% |
| 56 | 3 | 14.00% |
| 53 | 1 | 4.80% |
| Total | 21 | 100% |

Table 2: shows the weight of 21 participants before using the slimming coffee. Most of the respondents have different weights, the highest weight is 175 kilos with a percentage of 4.8%, and the 2nd highest weight is 120 kilos which is equivalent to 4.80%, there is also a respondent who has a weight of 98 kilos that equals to 4.80%, further, each participant has weights of 90 kilos, 85 kilos, 81 kilos, 80 kilos, 77 kilos, 71 kilos, 68 kilos,

60 kilos, 57 kilos, 53 kilos that are all equivalent to 4.80%. On the other hand, there are 2 respondents who have the same kilos of 74 kilos and another 2 participants that have a kilo of 65 kilos which are both equivalent to 9.50%. Lastly, there were three participants who weight 56 kilos which is equivalent to 14%. With a total of 21 respondents and 100%.

Table 3: Weight after drinking Slimming Coffees.

| Kilos | Frequency | Percentage |
|--------------|-----------|-------------|
| 160 | 1 | 4.80% |
| 78 | 1 | 4.80% |
| 77 | 1 | 4.80% |
| 75 | 1 | 4.80% |
| 72 | 1 | 4.80% |
| 70.76 | 1 | 4.80% |
| 65 | 1 | 4.80% |
| 64 | 1 | 4.80% |
| 64.75 | 2 | 9.50% |
| 62 | 1 | 4.80% |
| 58 | 3 | 14.00% |
| 56 | 1 | 4.80% |
| 50 | 1 | 9.50% |
| 47 | 1 | 4.80% |
| 46 | 1 | 4.80% |
| 45 | 3 | 14.00% |
| 44 | 1 | 4.80% |
| Total | 21 | 100% |

Table 3: represents the weights of respondents after drinking slimming coffee, if we compare the before and after weights of respondents, people will see the result and gap between the two recorded weights that indicates that the slimming coffee is effective. The highest kilos after drinking slimming coffee for months or years is 160 kilos, followed by 70 kilos, 77 kilos, 75 kilos, 72 kilos,

70.76 kilos, 65 kilos, 64 kilos, 64.75 kilos, 62, 56 kilos, 50 kilos, 47 kilos, 46 kilos, and 44 kilos which as all equivalent to 4.80%. There are also respondents who had the same kilos, there are 3 participants that have the weight of 58 kilos, and another 3 participants who weigh 45 kilos which equals 14%.

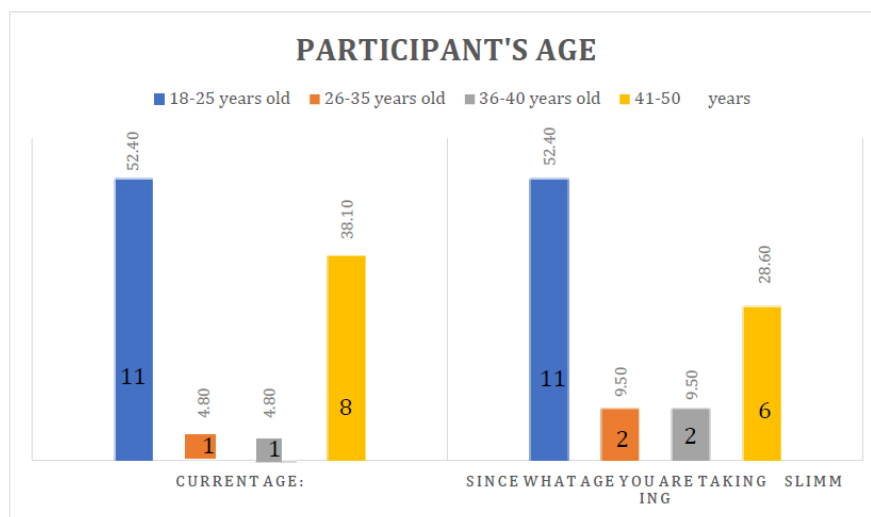


Figure 18: Age Group of Respondents and Usage of Slimming Coffee.

Figure 2: shows the participant’s current age as well as when or what age they started to drink slimming coffee.

The data shows that most of the participant’s current age ranges from 18-25 years old with a frequency of 11

which equals 52.40%, followed by 8 participants aged 41-50 years old equivalent to 38.10%, there is 1 participant in the age of 26-35 years old, and 1 participant that the age is a range to 36-40 years old which both equivalent to 4.80%. Additionally, the 2nd graph shows what age the participants started taking slimming coffee, majority of the respondents with the frequency of 11 answered that they started drinking slimming coffee at the age of 18-25 years old which is equal to 52.40%, there are also 6 respondents who answered 41-50 years old that is equals to 28.60%, there

are 2 participants who answered 26-35 and another 2 respondents who answered 36-40 years old with the percentage of 9.50%.

According to statistics published by Evgenia Koptug (2022), Statistics shows that the German population's interest in information in slimming products in 2020 by gender, that year 4.2 percent of women were very interested, compared to 1.3 percent of men and 2.8 percent of the general population. Starting age groups are more likely 14 years and older.

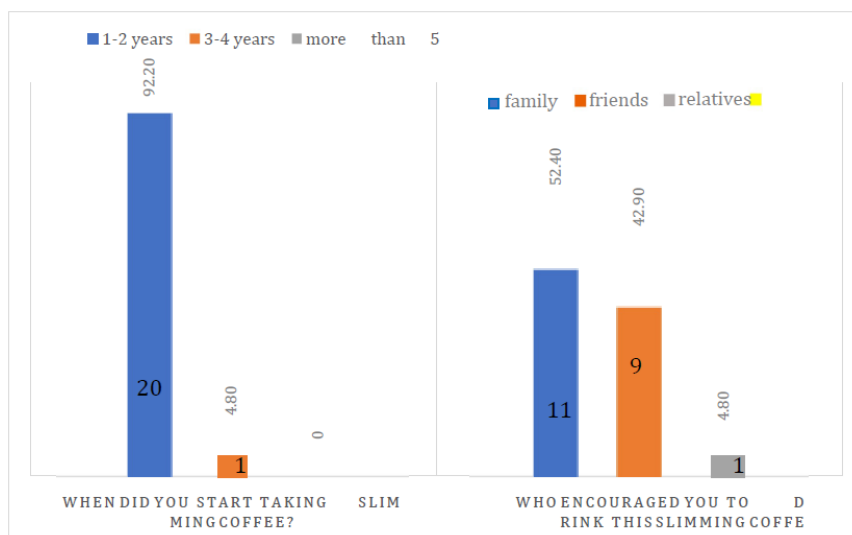


Figure 19: Encouragement of Drinking Slimming Coffee.

Figure 3: illustrates when the participants started drinking slimming coffee and who encourage them to drink these products. The majority of the respondents with a frequency of 20 which is equivalent to 92.20% answered that they are drinking slimming coffee for about 1-2 years, and 1 respondent answered 3-4 years with a percentage of 4.80%. Moreover, the participants were also asked who influenced them to drink and use this product, 11 (52.40%) of them answered family, 9 (42.90%) of them answered friends, and 1 of them answered that their relatives were the one who

encourages them to use slimming coffee.

According to the study conducted by Alvin Achenbaum et., al. (2020), based on the findings of their study, marketers may try to change consumers' attitudes towards the products, aiming to increase sales through persuasive communications. They bear in mind that many variables determine the effectiveness of such communications.

Table 4: Side Effects of Slimming Coffee.

| Side Effects | Frequency (f) | Cumulative Relative Frequency (cf) | Percentage |
|-------------------------------------|---------------|------------------------------------|------------|
| Nausea | 1 | 1 | 4.80% |
| Dizziness | 1 | 2 | 4.80% |
| Loss of Appetite | 18 | 20 | 85.70% |
| Heart Palpitation | 5 | 25 | 23.80% |
| Dry Lips | 3 | 28 | 14.13% |
| Feeling Sleepy | 1 | 29 | 4.80% |
| Frequent Urination | 2 | 31 | 9.50% |
| Headache | 1 | 32 | 4.80% |
| Loose Bowel Movement | 1 | 33 | 4.80% |
| Irregular to Regular Bowel Movement | 1 | 34 | 4.80% |
| No. of Participants = 21 | | | |

Table 4: shows the side effects of drinking slimming coffee to each respondent. The number of participants is 21 they can freely select the side effects they feel while drinking slimming coffee. Most of them with the f of 18 and cf of 20 (85.70%) said that they lose appetite while using slimming coffee, f = 5 and cf = 25 (23.80%) of people also said that experience heart palpitations, f = 3 and cf = 28 (14.13%) said they encounter having dry lips, f = 2 and cf = 31 (9.50%) said that they are frequently urinating, f = 1 and cf = 1 (4.80%) said that she is nauseous, f = 1 and cf = 1 (4.80%) experience being dizzy, f = 1 and cf = 1 (4.80%) said he is always feeling sleepy after taking the slimming coffee, f = 1 and cf = 1 (4.80%) said he suffers from headaches, f = 1 and cf = 1 (4.80%) said that he Loose Bowel.

Movement, and lastly, f = 1 and cf = 1 (4.80%) indicates that he or she is facing irregular to regular bowel movement.

According to the study by Murata S. et. al., (2017). Examined the relationship between the amount of free

carnitine and the degree of constipation. Age, sex, body mass index, length of bed rest, usage of anti-epileptic medications, valproate sodium, or enteral nutrition, and blood levels of albumin, pre-albumin, total cholesterol, free carnitine, folic acid, and trace elements were compared between the constipation and non-constipation groups. Additionally, the degree of constipation both prior to and following carnitine intake was evaluated.

According to the article authored by (Dr. Jasmine Shaikh, MD 2020). Generally up to 400 milligrams of caffeine in a day is considered safe for most adults. This comes to around four cups of coffee (1 cup = 8 ounces). Problems due to caffeine intake arise when people become addicted to it, crossing the limit. The negative effects or side effects include dizziness, nervousness, pounding heart or missed beats (palpitations) which shown above the table 24 or 24 percent experiencing these negative side effects of caffeine. Coffee contains phytochemical compounds called chlorogenic acids. This is the most abundant of the many naturally occurring acids in green and roasted coffee beans (Admin Tue 2021).

Table 5: Claimed Effects of the Slimming Coffee.

| Claimed Effects of the Slimming Coffee | Frequency (f) | Cumulative Relative Frequency (cf) | Percentage |
|--|---------------|------------------------------------|------------|
| Whitening Effect | 6 | 6 | 28.60% |
| Improved Digestion | 12 | 18 | 57.15 |
| Reduced Belly Fat | 16 | 34 | 76.20% |
| Reduced Aging | 1 | 35 | 4.80% |
| Improved Energy Level | 4 | 39 | 19% |
| Less Constipation | 9 | 48 | 42.90% |
| Sleeplessness | 5 | 53 | 23.80% |
| No. of Participants = 21 | | | |

Table 5: illustrates the claimed effects of the slimming coffee on the users of the product. Most participants f = 16 and cf = 34 (76.20%) reveal that the product reduces their belly fat, f = 12 and cf = 38 (57.15%) denote that they experience an improvement in digestion, f = 9 and cf = 48 (42.90%) specify that they have less constipation when using the slimming coffee, f = 6 and cf = 6 (28.60%) said that they see their skin lightens, f = 5 and cf = 53 (23.80%) reveal that they experience sleeplessness, f = 4 and cf = 39 (19%) said that their energy level improved, and f = 1 and cf = 35 (4.80%) reveals that the slimming coffee reduced aging.

According to the study of green coffee conducted by Mehnoosh Samadi et. al (2015). The beneficial effects of green coffee in relation to weight loss are attributed to its chlorogenic acid content. Chlorogenic acids have high bioavailability in humans because of the synergistic effect between caffeine and chlorogenic acid in green coffee extract, green coffee extract was shown to suppress body weight gain better than chlorogenic acid or caffeine alone.

According to the study conducted by (Sidharth Sonthalia 2016 et., al). Glutathione is a low molecular weight thiol-tripeptide that plays a prominent role in maintaining

intracellular redox balance. In addition to its remarkable antioxidant properties, the discovery of its anti-melanogenic properties has led to its promotion as a skin-lightening agent. The data shown above show that 8 or 8 percent of the respondents experienced a whitening effect with improved digestion. For whitening effect one of the ingredients in slimming coffee products contains glutathione which one of its pharmacological effects is for whitening skin. Glutathione is one of the world's lesser-known anti-aging effects. It helps to protect skin against high levels of oxidative stress and oxidative damage and detoxifies skin and body, helping reverse acne and wrinkles. The table shown above shows that 1 or 1 percent of the respondents experienced a whitening effect and reduced aging. Some of the slimming coffee ingredients contain glutathione that conclude in the data that some of the respondents are experiencing whitening effects and reduced aging. According to the study conducted by Astrid Nehlig (2022), a new study says that coffee has an effect on Gastro-intestinal tract. Incorporating coffee in morning routine aids in better digestion has been discovered. More specifically, that trip to the bathroom inevitably comes at first to second rounds of coffee, and has a positive impact on gastro-intestinal tract. The report findings state that coffee aids

in gastric, biliary, and pancreatic secretions, which is important for food digestion. The data shows above that 8 or 8 percent that the respondents experienced improved digestions. In the slimming coffee contains coffee, that concludes in our data the health benefits of slimming coffee are improved digestion.

Table 6: Awareness, Side effects, and Effective claims.

| | | Frequency (f) | Cumulative Frequency (cf) | Percentage (%) |
|--|---------------------------|---------------|---------------------------|----------------|
| Do you consider checking the Slimming Coffee Ingredients before you purchase? | Strongly Agree | 10 | 10 | 47.60% |
| | Agree | 8 | 18 | 38.10% |
| | Neither agree or Disagree | 1 | 19 | 4.80% |
| | Disagree | 2 | 21 | 9.50% |
| | Strongly Disagree | 0 | 0 | 0.00% |
| Are you aware that L-carnitine, Garcinia cambogia specifically the ingredients that can help a person to lose weight? | Strongly Agree | 7 | 7 | 33.30% |
| | Agree | 10 | 17 | 47.60% |
| | Neither agree or Disagree | 2 | 19 | 9.50% |
| | Disagree | 3 | 22 | 14.30% |
| | Strongly Disagree | 0 | 0 | 0.00% |
| Were your bowel movements regular as usual whenever you | Strongly Agree | 6 | 6 | 28.60% |
| | Agree | 14 | 20 | 66.70% |
| drink slimming coffee? | Neither agree or Disagree | 1 | 21 | 4.80% |
| | Disagree | 0 | 0 | 0.00% |
| | Strongly Disagree | 0 | 0 | 0.00% |
| Are you aware of the medical consideration/contraindications of Slimming Coffees? | Strongly Agree | 7 | 7 | 33.30% |
| | Agree | 10 | 17 | 47.60% |
| | Neither agree or Disagree | 2 | 19 | 9.50% |
| | Disagree | 1 | 20 | 4.80% |
| | Strongly Disagree | 1 | 21 | 4.80% |
| Are there significant changes (in weight, etc) that are seen after taking slimming coffee? | Strongly Agree | 11 | 11 | 52.40% |
| | Agree | 9 | 20 | 42.90% |
| | Neither agree or Disagree | 1 | 21 | 4.80% |
| | Disagree | 0 | | 0.00% |
| | Strongly Disagree | 0 | | 0.00% |
| Are you satisfied with your life after taking slimming coffee? | Strongly Agree | 12 | 12 | 57.10% |
| | Agree | 8 | 20 | 38.10% |
| | Neither agree or Disagree | 1 | 21 | 4.80% |
| | Disagree | 0 | 0 | 0.00% |
| | Strongly Disagree | 0 | 0 | 0.00% |
| Is there deducted weight after you have taken slimming coffee? | Strongly Agree | | | |
| | Agree | 11 | 11 | 52.40% |
| | Agree | 10 | 21 | 47.60% |
| | Neither agree or Disagree | 1 | 22 | 4.80% |
| | Disagree | 0 | 0 | 0.00% |

| | | | | |
|--|---------------------------|----|----|--------|
| | Strongly Disagree | 0 | 0 | 0.00% |
| Is there any hesitation that you made before you drank this slimming coffee? | Strongly Agree | 3 | 3 | 14.30% |
| | Agree | 6 | 9 | 28.60% |
| | Neither agree or Disagree | 10 | 19 | 47.60% |
| | Disagree | 2 | 21 | 9.50% |
| | Strongly Disagree | 0 | 0 | 0.00% |
| Do you think this is the easiest way to lose weight by using slimming coffee? | Strongly Agree | 7 | 7 | 33.30% |
| | Agree | 8 | 15 | 38.10% |
| | Neither agree or Disagree | 5 | 20 | 23.80% |
| | Disagree | 1 | 21 | 4.80% |
| | Strongly Disagree | 1 | 22 | 4.80% |
| Is it possible that you'll use the slimming coffee again in the future? | Strongly Agree | 11 | 11 | 52.40% |
| | Agree | 7 | 18 | 33.30% |
| | Neither agree or Disagree | 2 | 20 | 9.50% |
| | Disagree | 1 | 21 | 4.80% |
| | Strongly Disagree | 0 | 0 | 0.00% |

Table 6: depicts the questions regarding the awareness, side effects, effective claims of slimming coffee, medical consideration/contraindications, visible changes instantly, the satisfaction of users, hesitation before drinking, and using slimming coffee again in the future. The first question for clients is if they check ingredients before purchasing. The majority $f = 10$ and $cf = 10$ (47.60%) answered strongly agree, $f = 8$ and $cf = 18$ (38.10%) said they agree, $f = 1$ and $cf = 19$ (4.80%) choose neither agree nor disagree and, $f = 2$ and $cf = 21$ (9.50%) answered that they disagree. The 2nd question was about the awareness of users regarding L- carnitine, Garcinia cambogia where ingredients that can help with losing weight. Most of them $f = 10$ and $cf = 17$ (47.60%) indicate that they agree, $f = 7$ and $cf = 7$ (33.30%) said they strongly agree, $f = 2$ and $cf = 19$ (9.50%) said that they are neutral, and $f = 3$ and $cf = 22$ (14.30%) disagreed. The 3rd question is about the respondent's bowel movements regularly as usual whenever drinking slimming coffee. $f = 14$ and $cf = 20$ (66.70%) revealed that they agree, $f = 6$ and $cf = 6$ (28.60%) strongly agree, and $f = 1$ and $cf = 21$ (4.80%) were neutral. the 4th question addresses the awareness of the users in medical consideration/contraindications of the slimming coffee, $f = 10$ and $cf = 17$ (47.60%) agreed, $f = 7$ and $cf = 7$ (33.30%) strongly agree, $f = 2$ and $cf = 19$ (9.50%) were neutral, $f = 1$ and $cf = 20$ (4.80%) disagreed, and $f = 1$ and $cf = 21$ (4.80%) is strongly disagree. The 5th question is about the opinion of the 21 respondents if slimming coffee is effective to lose weight. $f = 12$ and $cf = 12$ (57.10%) strongly agreed. $f = 9$ and $cf = 21$ (42.90%) agreed. $f = 1$ and $cf = 22$ (4.80%) were neutral. The 6th question is whether there was a visible significant change after taking slimming coffee, the majority of the respondents $f = 11$ and $cf = 11$ (52.40%) strongly agreed, $f = 9$ and $cf = 20$

(42.90%) agreed, $f = 1$ and $cf = 21$ (4.80%) is neutral. 7th question focuses on the satisfaction in the life of these respondents after taking slimming coffee. $f = 12$ and $cf = 12$ (57.10%) said they strongly agreed, $f = 9$ and $cf = 20$ (38.10%) agreed, $f = 1$ and $cf = 21$ (4.80%) is neutral. the 8th question pertains if there is any weight loss after using slimming coffee. $f = 11$ and $cf = 11$ (52.40%) strongly agreed, $f = 10$ and $cf = 21$ (47.60%) agreed, $f = 1$ and $cf = 22$ (4.80%) is neutral. The 9th question is concerned with the possibility of being hesitant of the respondents before drinking the slimming coffee. The majority of the respondents $f = 10$ and $cf = 19$ (47.60%) were neutral, $f = 6$ and $cf = 9$ (28.60%) agreed, $f = 3$ and $cf = 3$ (14.30%) strongly agreed, and $f = 2$ and $cf = 21$ (9.50%) disagreed in having the hesitation on drinking their slimming coffee. The 10th question discussed about the thoughts of participants in drinking slimming coffee as the easiest way to lose weight. $f = 8$ and $cf = 15$ (38.10%) agreed that slimming coffee is the easiest way, $f = 7$ and $cf = 7$ (33.30%) strongly agreed, $f = 5$ and $cf = 20$ (23.80%) were neutral, $f = 1$ and $cf = 21$ (4.80%) disagreed, and $f = 1$ and $cf = 22$ (4.80%) strongly disagreed. The last question is about asking the respondent the possibility of them using slimming coffee in the future. The preponderance of the participants $f = 11$ and $cf = 11$ (52.40%) said that they strongly agree, $f = 7$ and $cf = 18$ (33.30%) agreed, $f = 2$ and $cf = 20$ (9.50%) were neutral, and $f = 1$ and $cf = 21$ (4.80%) disagreed in drinking slimming coffee in the future again.

According to Berkman and Gilson et., al (2020), described attitudes as our likes and dislikes, affinities for and aversions to objects, persons, groups or other identifiable aspects surrounding us, including abstract ideas and social policies. The beliefs, feelings, and

tendencies lead to favorable responses resulting in a purchase. To elaborate, we depend on the likes and dislikes aspects surrounding us and most of the time we forget to check the facts. We tend to rely on other people's perspectives. That concludes in our study that most of our respondents are not familiar with the ingredients.

According to Li et al., (2021), gaining weight and obesity are global issues, driving a search for several health products that give advantages such as rejuvenation, skin refinement, visual enhancement, and slimming effects, primarily based on herbal ingredients that are used to create supplements or drinking powder such as coffee and tea. Due to society's beauty standards as well as the danger of being obese or overweight people choose to buy slimming supplements and drinks. Furthermore, slimming products contain ingredients for weight-loss drugs to further improve their efficiency (Sirivibulkovit et al., 2022).

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

This chapter presents the summary of the findings of the study, the conclusions drawn from analysis of the data, inferred conclusions and the appurtenant recommendations presented by the researchers in order to address the issues revealed in the generalizations and conclusions.

Summary of Findings

The following are the summary of the results of the study:

- a. According to all the demographic profiles in terms of sex at birth, 94 percent of the respondents are females and 6 percent are male. In terms of age the result 65 percent of the respondents are ages 18-25 years old, 25 percent of the respondents are ages 26 to 35 years old, 6 percent of the respondents ages 36 to 40 years old, and 41 to 50 years old is at 4 percent. As for the starting age of taking slimming coffees the result 73 percent of the respondents started taking slimming coffee at the age of 18 to 25 years old.
- b. In terms of the kilograms of the participant's weight before and after taking slimming coffee, the highest would be 175 kilograms. The second highest would be 120 kilograms and the third would be 98 kilograms. According to the response of the participants, we can conclude that their weight significantly lowered. After drinking coffee, the highest weight of a participant is 160 kilograms. Second would be 78 kilograms and third would be 77 kilograms. If we compare the before and after of the respondents, we can see that 15 kilograms has been taken off from the initial weight that was recorded.
- c. As for the Age Group of the Respondents and their Longevity Usage. We can see that 11 out of 21 respondents or 52.40 percent started drinking slimming coffee at the age between 18 to 25 years

old. Second highest would be 41 to 50 years old which is 28.60 percent of the respondents. In correlation to this, the data also showed that 92.20 percent or 20 out of 21 respondents have been taking slimming coffee for 1 to 2 years since they first started.

- d. In terms of the Influence of Drinking Slimming Coffee, Out of 21 respondents, 11 or 52.40 percent of the respondents responded that they have been influenced by their family. 9 out of 21 respondents said that they were influenced by their friends and 4.80 percent or 1 respondent has said that they were influenced by their relatives.
- e. For the Side Effect of Slimming Coffee, The data shows that the most common side effect that they have experienced would be at 85.70 percent which would be Loss of Appetite. Second most common side effect would be heart palpitations at 23.80 percent, the third would be dry lips at 14.13 percent, and fourth would be frequent urination at 9.50 percent. Some of them also experienced nausea, dizziness, feeling sleepy, headache, loose bowel movement and irregular bowel movement, all of these are at 4.80 percent with 1 response each.
- f. In terms of the Claimed Effect of the Slimming Coffee that the user has experienced, the highest percentage that we got is 76.20 for Reduced Belly Fat which has 16 responses. Second highest would be Improved Digestion at 57.15 percent, third would be Less Constipation at 42.90 percent. Given the three most Claimed effects of the Slimming Coffee that the user has experienced, we also have the Whitening Effect at 28.60 percent, Sleeplessness at 23.80 percent, Improved Energy Level at 19 percent, and Reduced Aging at 4.80 percent.
- g. For the Awareness of Users regarding ingredients that can help lose weight such as L-carnitine and Garcinia cambogia, out of 21 respondents 47.60 percent indicate that they have considered checking the slimming coffee ingredients, and 9.50 percent of them have disagreed in considering checking the slimming coffee ingredients before purchasing. Since this is the case, 33.30 percent of the respondents have strongly agreed that they are aware of the L-carnitine and Garcinia cambogia ingredients as the main ingredients that help a person lose weight. Given the data, since some of them disagreed in checking the ingredients, 14.30 percent of the respondents are not aware of the said ingredients.
- h. For the response for their Bowel movements regularly as usual while drinking slimming coffee, out of 21 respondent's 66.70 percent of them agreed, 28.60 percent of the respondents strongly agreed, 4.80 percent of the respondents were neutral.
- i. For the Awareness of the Users in medical consideration/ contraindications of the slimming coffee, out of 21 respondent's 47.60 percent of the respondents agreed that they are aware, 33.30 percent of the respondents strongly agreed, 9.50 percent of the respondents were neutral, 4.80 percent

- of the respondents disagreed, and 4.80 percent of the respondents answered strongly disagreed.
- j. For the respondents' Opinion if Slimming Coffee is Effective to Lose Weight, out of 21 respondents' 57.10 percent strongly agreed, 42.90 percent of the respondents agreed and 4.80 percent of the respondents were neutral.
 - k. For the Visible Significant Change After Drinking Slimming Coffee response, out of 21 respondents, 52.40 percent of the respondents strongly agreed that there is a visible significant change, 42.90 percent of the respondents just agreed that there is, and 4.80 percent of them were neutral.
 - l. For the respondents Satisfaction in Life After Drinking Slimming Coffee, out of 21 respondent's 57.10 percent of them strongly agreed that they are satisfied with their Life after intaking it, 38.10 percent of the respondents just agreed, and 4.80 percent of the respondents was neutral.
 - m. For the response, if there is Any Weight Loss After Using Slimming Coffee, out of 21 respondent's 52.40 percent of them strongly agreed that there is weight that has been deducted after taking slimming, 47.60 percent just agreed and 4.80 percent of the respondents are neutral.
 - n. For the response concerned with the Possibility of Being Hesitant Before Drinking Slimming Coffee, out of 21 respondent's 47.60 percent were neutral, 28.60 percent of the respondents strongly agreed and 9.50 percent of the respondents disagreed.
 - o. For the respondents' thoughts on Drinking Slimming Coffee as the Easiest Way to Lose Weight, out of 21 respondents 38.10 percent agreed that slimming coffee is the easiest way, 33.30 percent strongly agreed, 23.80 percent were neutral, 4.80 percent disagreed, and 4.80 percent strongly disagreed.
 - p. For the respondents' Possibility of Using Slimming Coffee in the Future, our of 21 respondents 52.40 answered strongly agreed, 33.30 percent of the respondents agreed, 9.50 percent of the respondents were neutral and 4.80 percent disagreed in drinking slimming coffee in the future again.

CONCLUSIONS

In conclusion, the researchers found that mostly females at the age of 18-25 years old or the youth are the usual slimming coffee users. The said demographic has been convinced mostly by their family to take slimming coffee. Since they were convinced by their family, it is most likely that they will take slimming coffee without doctor consultation since they have the testimony of the people closest to them.

Alongside with this, the health effect of drinking slimming coffees to the said demographic is that they experienced mostly loss of appetite, heart palpitations, dry lips and frequent urination. Also, data has shown significant decrease in the respondent's weight since the highest before intake is 175 kilograms and has been

reduced to 160 kilograms after drinking slimming coffee for 1 to 2 consecutive years. Since the respondents have achieved their goal by taking slimming coffee, they are satisfied with their outcome after taking slimming coffee. With the data that has been procured can conclude that slimming coffee is effective in reducing weight and giving life satisfaction, these are based on the testimonies and the survey result given by 21 respondents. These results can also be correlated with the ingredients of slimming coffee.

As shown, slimming coffees mostly have L-Carnitine (helps in turning fat into energy), Garcinia Cambogia (hunger suppression), Psyllium husk (reduces constipation) and caffeine (increases energy level) in its ingredients. The researchers identified these as the key ingredients that have correlation to the health effects that slimming coffee has to its consumers. It is also seen that most of the consumers have considered checking the ingredients of the slimming coffee that they are purchasing therefore most of them are familiar with the ingredients with it.

Recommendations

The following recommendations has been made by the researchers:

1. For the students and future researchers, further research and deep understanding of the research is needed as well as trials of slimming coffee intake to prove the validity and reliability of results.
2. Use and test the difference of regular coffee and slimming coffee for better effectivity comparison.
3. Conduct face to face interviews and surveys.
4. Follow the step by step procedures of other research designs to obtain accurate results.
5. Be open to other previous research or study that is related to your topic to have an idea or overview to your study.