



T.R.

YEDITEPE UNIVERSITY

INSTITUTE OF HEALTH SCIENCES

DEPARTMENT OF NUTRITION AND DIETETICS

**ANALYSIS OF NUTRITION RELATED
INSTAGRAM POSTS FROM UNPROFESSIONAL
PROFILES**

MASTER THESIS

SEYMA ALMA

ISTANBUL- 2018



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ONAY

Bu tez Yeditepe Üniversitesi Lisansüstü Eğitim-Öğretim ve Sınav Yönetmeliğinin ilgili maddeleri uyarınca yukarıdaki jüri tarafından uygun görülmüş ve Enstitü Yönetim Kurulu'nun 12.../26.../2018... tarih ve 2018/10-87..... sayılı kararı ile onaylanmıştır.


Prof. Dr. Bayram YILMAZ
Sağlık Bilimleri Enstitüsü Müdürü

DECLARATION

I, hereby, declare that the current thesis is my own study and I did not act incongruously against ethical values during all steps of this study from planning stage to writing stage. Also, I declare that I obtained all information in this thesis within academic and ethical rules, I cited all necessary references for the obtained and non-obtained results at the end of my research, and I did not carry out any actions against copy rights and patent rights.

02/05/2018



Seyma ALMA

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LIST OF ABBREVIATIONS

BMI: Body Mass Index

CDC: Centers for Disease Control and Prevention



SUMMARY

ALMA, S. (2017). Analysis of Nutrition Related Instagram Posts from Unprofessional Profiles. Yeditepe University, Institute of Health Science, Department of Nutrition and Dietetics, Msc thesis, Istanbul.

Instagram which is prevalently in use with the rapid growth of technology nowadays, includes a significant number of profiles on nutrition and dietetics. However, most of them are managed by people except from dietetics profession. They disseminate knowledge about nutrition, recipes and diet programs to a wide range of people who can easily track their updates and shares. The motivation of this study stems from the requirement of the investigation of the accuracy of this kind of information considering the importance of human health. As a result of the investigations, it was discovered that such profiles mainly focus on detox and regional fat loose and the information they share contradicts. Thus, the topics of detox and spot reduction have been within the scope of this study. 284 Instagram profiles were analyzed and some frequency analyses were conducted on this data. The findings from the related literature supported to analyze the accuracy of the information obtained from these profiles. The results demonstrated that information disseminated from these pages contradicted with the information on the relevant literature. Moreover, they communicate information without proper references. As a result, this issue constitutes a huge problem for the health of individuals who have diet preferences based on the information from those pages. The findings revealed that information pollution exists in this area which should be regulated with appropriate control and sanctions. In addition to this, more accurate information should be given to individuals by professionals of dietetics and these professionals should be the consultants and provide proper guidance to the people.

Keywords: Social Media, Detox, Spot Reduction

ÖZET

Alma, Ş. (2017). Profesyonel Olmayan Profillerden Beslenmeyle İlgili Yapılan Instagram Paylaşımlarının İncelenmesi. Yeditepe Üniversitesi Sağlık Bilimleri Enstitüsü, Beslenme ve Diyetetik Anabilim Dalı Yüksek Lisans Tezi, İstanbul.

Teknoloji ile birlikte günümüzde yaygın olarak kullanılan bir sosyal medya aracı olan instagram'da beslenme ve diyet üzerine, diyetisyen olmadan bilgi paylaşımı yapan birçok sayfa bulunmaktadır. Paylaştıkları beslenme bilgilerini, tarifleri ve diyet programlarını insanların kolayca takip edebilmesini sağlamaktadırlar. İnsan sağlığının önemi göz önünde bulundurularak bu bilgilendirilmelerin doğruluğunun veya yanlışlığının araştırılması gereksinimi ile bu çalışmaya yön verilmiştir. Sayfaların özellikle detoks ve bölgesel zayıflama konusunda yaptığı paylaşımların yaygın olması ve bu konular hakkında paylaşılan bilgilerin birbiri ile uyuşmaması neticesinde bu iki konu üzerinde durulmuştur. Çalışma 284 kişinin profilleri incelenerek ve frekans dağılımları yapılarak, paylaştıkları bilgilerin tümü göz önünde bulundurulmuş ve literatür çalışmaları ile bilgilerin doğruluğu araştırılmıştır. Araştırmanın sonucuna göre, detoks ve bölgesel zayıflama ile ilgili paylaşılan bilgilerin birçoğu literatür çalışmaları ile örtüşmemektedir. Ayrıca paylaşılan bilgiler, kaynak bakımından eksik bilgilerdir. Bu paylaşımlar doğrultusunda beslenmesine yön veren bireylerin sağlığını tehdit edici unsurlar meydana gelebilir. Bu sonuçlar doğrultusunda, beslenme ve diyet konusunda bilgi kirliliğine yol açan bu durumun gerekli denetim ve yaptırımlar ile düzenlenmesi gerektiği düşünülmektedir. Ayrıca bireylerin beslenme konusunda daha fazla bilgilendirilmesi ve bu konuda mesleki yetkisi olan kişilere danışmaları gerektiği düşünülmektedir.

Anahtar Kelimeler: Sosyal Medya, Detoks, Bölgesel Zayıflama

1. INTRODUCTION AND SCOPE OF THE STUDY

This research was carried out with the aim of examining the information provided by the profiles sharing nutritional information except from dieticians in Instagram which is one of the most widely used social media platforms nowadays. It is a clear fact that a dietician is the person completing four years nutrition and dietetics program and s/he is entitled to practise his profession with the title of "Dietician" by taking the Diploma of "Nutrition and Dietetics Bachelor's Degree" [1]. According to the researches conducted on the social media, there appears several pages sharing nutrition information without being a dietician and it seems a necessity to examine and control the effects of these pages on the health of people. In this regard, with reference to the studies focusing on "the effects of social media on nutrition", the aim of this study is to detect and examine the posts of life coaches, trainers, mothers making comments about nutrition and the people sharing information about their own diets about detox and regional fat loose in Instagram. The primary purpose of this research is to examine whether the information available in the posts mentioned above is true or not and analyze whether the aforementioned information shared by ordinary people can be applied to everybody.

Considering that nutrition is special to the individual and it is a factor affecting many diseases, it can be risky for human health to have nutritional information from the Instagram on high follower capacity pages. Because this type of information can be overgeneralized and people adopt their nutrition habits following this type of information. For this reason, the current topic and possible findings of this research aim to make significant contribution to the related literature.

2.GENERAL INFORMATION

CHAPTER 1

1.WHAT IS SOCIAL MEDIA?

There is no doubt that the use of internet has gained a significant place in our life thanks to technology that evolves every single day and people use internet in different platforms such as job posts, social networks, general knowledge track and entertainment. [2]. The concept of social media has spread around the world with the effect of internet which has changed from Web 1.0 to Web 2.0 [3]. Social media is a kind of a Web 2.0 based concept including all platforms in which users can create, revise and share contents. Social media involves a great variety of platforms in which users can create content such as social networking sites, blogs, wikis, virtual interactive games, video sharing sites [3]. Another definition of social media is that social media is a combination of all fields in which people get in touch with each other online and share different contents such as news, videos and photos [4].

Nowadays, the use of social media is increasing day by day [5]. Thanks to mobile phones, people can easily use social media [6]. The most distinctive difference of social media from other types of media is its ability to have two-way communication [7]. While traditional media provide unilateral communication, communication in social media is intertwined. Compared to traditional media, social media enables interpersonal communication and interaction easily; therefore, social media has spread quickly [8]. People may not contact to everyone with social media, but social media helps interpersonal communication to reach the maximum number of people [9]. Below, Figure-1 displays social media fields. [10]. The use of social media with social, commercial, entertaining and broadcasting purposes is explained schematically.



Figure 1: Social Media Fields [10]

According to a research carried out in 2013, one of four people in the world use social media [5]. Social media provides easy access to personal communication and information. The ease of access to information increases the use of social media by people. That social media has a high usage rate reveals the advantages and disadvantages of social media. While internet usage rate in Turkey was 76.3%, it was 80.7% in 2017 [11]. Total number of people using social media in Turkey is 42 million people.

Social media has a variety of platforms, and these platforms provide a variety of uses for people [12]. According to a research, the rate of online social media users stands for 90%. [4]. In the direction of their demands, people can register to different social media platforms, start to use these platforms and begin interpersonal interaction with other people. Below Figure-2 displays general framework of social media [13]. In Figure-2, the usage areas of social media are divided into ten. Games, blogs, discussion, sharing and communication are some of them.

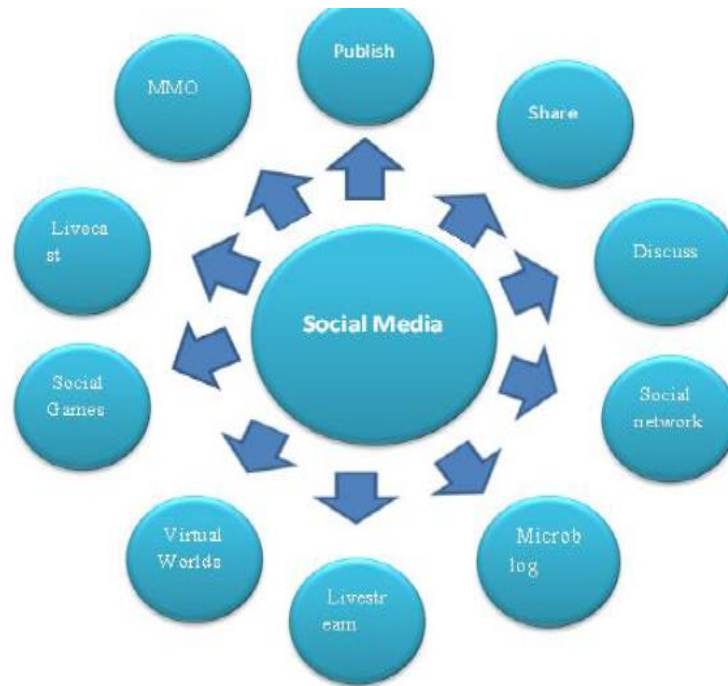


Figure 2: Social Media General Framework [13]

1.1.Social Media Platforms

The number of social media platforms and their users is increasing a lot day by day with the advances in technology and interpersonal communication becomes easier among people. While some of the social media platforms are free and some other platforms can charge users with some fee [6]. Social media platforms are web-based services enabling people to create their own profiles, share information with other users along with these profiles, and allow other users to see their information [14]. The first social media platform was SixDegrees.com which was launched in 1997 [14]. One of the most significant benefits of social media platforms is their ability to share online information and that function improves communication between people [13]. Social media does not consist solely of social network sites. Social media has different forms; namely, social blogs, online blogs, internet forums, wikis, podcasts, virtual games, photo and video sites [13]. Facebook, Twitter, LinkedIn, Google+, Foursquare, Blogs, YouTube, Pinterest, Instagram, Vine and Snapchat are social media platforms with widespread use [15].

Social media platforms which became prevalent with the aim of communication were Facebook, Twitter, Myspace and Skype [13]. Instagram, Youtube and Snapchat are social media platforms which are used for video sharing & searching, photo sharing and social communication. According to a survey conducted among young people in 2017,

32% of the young people expressed that Instagram is the most important social media platform for them [16]. Social networking sites provide communication between people and enable them to share their hobbies and activities, and strengthen communication between each other [13]. Blogs can be called online trips which enable people to share their beliefs, thought and activities [13]. Sharing sites are sources involving different topics such as music sharing sites, photo sharing sites (Flicker.com, picasaweb.google.com) and video sharing sites [13].

After the launch of social media platforms, users and members quickly began to grow and several investors began to be interested in social media platforms [17]. A study reveals that people in Turkey spent three hours a day with using social media in 2017 [18]. According to a statistical research carried out in 2017 in Turkey, the most widely used social media was Facebook with the rate of 32%, 24% Whatsapp, 20% Messenger, 17% Twitter and 16% Instagram [19]. Figure-3 below indicates the number of active users of social media and internet in Turkey in 2017 [18]. According to Figure-3, the number of active users of social media is 48.000 people among all population. Besides, 42.000 people among them are active users of social media on mobile devices.



Figure 3: The Rates of Internet and Social Media Usage in Turkey in 2017 [18]

1.2.Instagram

Instagram was found by Kevin Systrom and Mike Krieger in 2010 so that people could share photos with each other [20][21]. Instagram application which was launched in 2010 was sold to Facebook in 2012 [22]. Nowadays, Instagram has a widespread use as a social media platform. Also it plays an important role in marketing and publicizing the products of personal communication and brands [22]. It is well known that social media platforms such as Instagram, Facebook and Twitter advertise brands and products and market them, also these social media platforms charge less fees for firms for the above-mentioned facilities. Hence, these social media platforms have gained a significant place in advertising and marketing sector [21]. Compared to other social media platforms, because of the fact that Instagram gives priority to visuality and carries out marketing process at low cost, it can be seen that Instagram is more suitable to be used for many business organizers [21]. According to the statistics identified in 2017, active users of Instagram per month are more than 700 million people [23].

Thanks to Instagram, people can easily get access to other Instagram users worldwide and follow their videos and photos or follow Instagram accounts according to their interests. Some people have millions of followers in Instagram and these people are regarded as model for their followers because of their beauty, dressing & life styles [22]. By following the accounts of these famous people on social media, people can learn about where they eat & go for a drink, their social environment, hobbies and dressing styles. Additionally, they can get information about the lives of both local and international celebrities following their accounts and they can see the photos and videos that celebrities share on a daily basis. Companies can collaborate with celebrities or famous people in Instagram in order to promote their products to a larger target group easily. Figure-4 below shows historical development of Instagram [21]. Instagram was founded in March, 2010 and it is still developing.

Tarih	Gelişim
Mart 2010	Kevin Systorm ve Mike Krieger tarafından Burbn yani bugünkü adı ile Instagram kuruldu.
Kasım 2010	Instagram, AppStore'daki yerini aldı. John Riedel topluluk yöneticisi olarak, Shayne Sweeney mühendis olarak Instagram ekibine katıldı. Instagram ekibi San Franciscodaki ilk Twitter ofisine yerleşti.
Aralık 2010	Instagram bir milyon kullanıcıya ulaştı.
Ocak 2011	Instagram, kendi hashtaglerini üreterek insanları veya fotoğrafları kolayca bulmanızı sağlayacak özelliği kullanıma sundu .
Mart 2011	Instagram beş milyon kullanıcıya ulaştı.
Ağustos 2011	Instagram 150 milyar fotoğrafa ulaştı. Jessica Zollman topluluk yöneticisi olarak ekibe katıldı.
Eylül 2011	Instagram 2.0 yayınlandı. Yeni uygulamada farklı filtreler ve daha canlı bir görüntü kalitesi oluşturuldu. Instagram 10 milyon kullanıcıya ulaştı.
Nisan 2012	30 milyon kullanıcıya ulaşan Instagram Android tabanlı uygulamasını yayınladı. Uygulama bir günde bir milyon kez indirildi. 50 milyon dolarlık yatırım alan Instagram sonrasında Facebook tarafından bir milyar dolara satın alındı.
Mart 2015	Sponsorlu reklam uygulamasına geçildi.

Figure 4: Historical Development of Instagram [21]

Instagram application can be easily used on smart phones. Instagram users can access this platform anytime they want via their mobile phones; therefore, Instagram users can readily see sharings of people they follow themselves or people that they follow them by clicking the application many times a day. Or they can share photos and videos as they like.

2.THE EFFECTS OF SOCIAL MEDIA

With the ever-increasing number of social network users, social media has begun to have significant impact on people. The fact that social media users can communicate and interact with each other at any moment they like has caused social media to become a powerful tool in several ways. Social media offers a lot of opportunities for firms such as to introduce their products, get access to a lot of people at local and international base, market the brands and carry out online sales. Firms regard social media as an area which will increase their brand recognition and facilitate their sales [24]. Another feature of social media use for firms is that firms kind of prove the reliability of their brands [25].

Another effect of social media is that people urge other people to use specific brands, people who have millions of followers on social media advertise products and build trustworthiness and encourage people to buy these products [25]. Social media facilitates people's access to information, and they can have information about every topic which they search. There is no doubt that health sector is one of these fields. What needs to focus here is that information sharing must be reliable and display truths. In the US, 59% of social media users are interested in health-related information and are looking for topics related to this subject on social media platforms [26].

According to a research, social media users might learn a news that they come across while surfing on the internet; however, they tend to accept that news is absolutely correct without seeking for proof or they do not need to find proof for the reliability of the news, then such kind of activities might turn into information pollution [27]. Furthermore, social media has negative effects on education, one of them is surely that students are about to lose their face to face communication abilities due to social media platforms [28].

Apart from positive sides, the use of social media is believed to have negative effects, too. According to the researches, it is observed that the young people who often use Facebook tend to be narcissist and depressed [29]. According to research conducted in different countries, it was found that there was a relationship between suicide causes among young people and cyber bullying [29]. It was also reported that social media causes some negative effectson business life, too. These can be listed as follows; loss of time due to advertisement-oriented use of social media, the social media accounts of some large corporations being hacked via hackers, the rise of wrong advertisement

strategies, being exposed to negative criticisms of fans and followers in social media [28]. According to a research, 14 young people who survived from cancer were asked to share their videos on social media and this research continued for six months. At the end of the research, it was detected that the shared videos have negative effects and cause depression [30][31].

Some of the negative effects of social media on society are: Primarily, social media is addictive and people spend most of their time on social media. Some of social media contents might cause behavior disorder on children and young people, also they might negatively affect community life by abusing private life of people [28]. Social media users can easily substitute different people using different profiles online and they pretend to be those people [32]. Young people who are affected by social media at most, can communicate with people they do not know via social media. It was observed that the contents shared on social media increased the level of child kidnapping and theft; moreover, it was pointed out that spending a long time on social media can cause health problems to young people and increase their tendency towards violence [28].

Some words emerged with the use of social media. To illustrate the point, “Fitspiration” word is comprised of “fit” and “inspiration” words and this word is especially used for exercise and healthy nutrition based sharings of Instagram users and it is aimed to urge people to healthy alternative nutrition plans [33][34]. According to a research done on women in Instagram, 110 women, who did excessive exercise and shared the contents including healthy nutrition in Instagram, were investigated and it was eventually found out that these people had tendency for eating disorder [33]. It should be always kept on mind that the use of social media among young people have a good deal of negative effects as well as positive effects, social media should be used carefully, and parents should be more conscious about this issue.

3.SOCIAL MEDIA AND HEALTH SECTOR

There are different intended usage areas of social media, one of which is health sector. With the spread of social media use, these platforms started to be used for publishing health-related messages [35]. Social media users can use these social media platforms for several purposes such as to research health-related topics, show the introduction of health-related products, share this sort of information with other users and follow renovations in health sector. According to the definition of WHO, health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity [36]. Information sharing about health sector in social media provides convenience to appeal to large masses of people. It can be traced in several studies that especially women and children are affected by social media platforms.

It is thought that information sharing in health sector should be science-originated; however, it is observed that most health news or healthcare sharing lacks in terms of bibliography [37]. Some people can advise other people suffering from the same disease by contacting them easily through social media, nevertheless, this type of information sharing can have negative effects on human health. Since illnesses can have different effects on different people and need different treatment methods. In case of an illness, people should consult to doctors rather than taking medical advice from each other. Another negative effect of social media on health is drug companies that use social media platforms for advertisement purposes [38]. It is particularly stated that social media can cause dissatisfaction among women about their bodies and arise eating disorders [39]. A scientific research aimed to detect relationship between physical activities and social media usage. According to the survey results carried out by meeting 524 school children face to face, it was observed that boys spend more time on social media than girls and it was discovered that physical activity rates decrease as the rate of social media use increases [2].

CHAPTER 2

2.DETOXIFICATION

People have an important body mechanism which can remove toxic substances from their body. This mechanism is called “detoxification” mechanism and includes digestion system, liver and kidneys [40]. Detoxification system is associated with human body. Detoxification system works well unless there is an illness. Detoxification system is comprised of two processes [41]. The first phase makes toxics turn into less harmful substances [41]. Liver plays a crucial role in detoxification, liver transmits waste products to the blood pathway [42]. Through detoxification, harmful substances are transformed into less harmless structure. The aforementioned transformed substances are removed from body via urine, sweat and feces.

The second phase includes six different ways. Toxics are made ready for elimination in the second phase and this process is known as conjugation [43]. Glutathione, methylation, glucuronidation, sulfation, acetylation and amino acid conjugation procedures are specific procedures of the second phase and these might accelerate the elimination process of enzyme [43]. All this detoxification process is carried out in the body via enzymes. Enzymes are produced by body and they are helpful for removing toxic substances from body. According to Professor Kiat, toxic substances are detoxified by body detoxification system [44]. People can often be exposed to similar toxic substances, but some people's detoxification systems can work better than others. Human body has the best system to remove toxic substances [45].

Even though some people think that detox programs are good ways of driving toxic substances out of body, a human body can carry out this process on its own [41]. There is no need for an external effect for detoxification process and detoxification process is normally realized by organs. Some researches display that there is no detox diet that can affect detoxification process or there was found no effect for this process [44]. It was found out that detoxification systems in human bodies can function well enough if people choose quality foods and their eating habits are regular [41]. Detoxification system is known to have a lot of positive effects on human body such as decreased body pain, qualified sleep and a shiny and good-looking skin [45][41]. Detoxification system always functions inside body [41]. It is stated that women are particularly aware of their exposure to toxic substances; therefore, they are inclined to

take organic nutrition, purchase natural foods, drink plenty of water, and take other measures to prevent toxic substances [46].

2.1.What is Toxin?

Toxins are basic poisonous substances and may cause permanent or temporary damage to the body [47]. If our body is exposed to too much toxic material, our body may be damaged and some illnesses may be seen [48]. Toxins can be grouped under two categories, which are endotoxin and exotoxin. The toxic substances naturally produced by the body are called endotoxin. The other name of endotoxin is metabolic toxin [49]. Endotoxins often appear as the end product of our metabolism. The body does not produce exotoxins, but exotoxins can enter the body through external respiration and absorption. There are many kinds of exotoxins, some of which are heavy metals, pollution, dirty food and water, Bisphenol A, UV radiation and etc. Compared to the past times, human body can be exposed to more toxic substances owing to the developing technology and industrialization nowadays. The detoxification system is the basic system for removing toxic substances from the body, but necessary precautions need to be taken to protect the body from toxicants [50].

According to the suggestions of the experts, if it is desired to avoid toxic substances, it is a must to consume natural and reliable nutrients and obtain adequate energy intake for the body. In particular, stress must be avoided because stress can damage the metabolism of human body, in this way, the working order of the detoxification system may be impaired and the body may be exposed to more toxic substances. We must avoid from the processed food and the consumption of sugar. Aluminum foil should not be used while cooking. Besides, smoking and alcohol should not be used for healthy living. As each person's lifestyle and genetic factors are different, the precautions everyone should take to reduce exposure to toxic substances may be different. Toxic substances can cause diseases such as diarrhea, low energy intake, headache and food intolerance [50]. If people are nourished in a healthy way, detoxification system works properly and toxic substances can be removed from body [51]. Adequate intake of certain foods may ease the removal of toxic substances from the body. For example, if sufficient amounts of iron, calcium and magnesium are taken, the body may fight against extreme aluminum storage [44]. Below Figure-5 indicates the classification of toxins and detoxification methods [52].

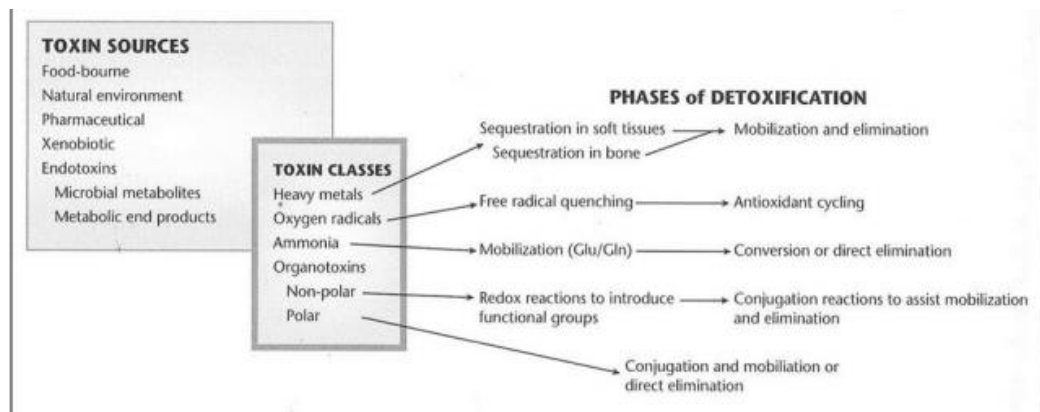


Figure 5: The Classification of Toxins and Detoxification Phases [52]

2.1.1. The Operation of Detoxification System

The liver plays a key role in the body's detoxification system. Some of the other organs that play a role in detoxification are; kidneys, digestion system and urinary system. Detoxification in the liver takes place in two stages [41]. Initially, the liver transforms harmful toxic substances through enzymes into more harmless form. For instance; alcohol is firstly converted to acetaldehyde, then acetaldehyde is transformed to carbon dioxide and water. During these processes, our body uses antioxidants to get rid of free radicals. Some toxins are converted into water-soluble substances. Secondly, toxic substances that are less harmful are sent to other organs via the liver.

During the detoxification process, the liver, kidneys, digestive system and urine system work together. The kidneys act as filters during the detoxification process. Undesirable substances are sent out of the body via stool and necessary chemicals are absorbed back [41]. Gastrointestinal system plays a role in transporting toxins and transmit toxins to other organs. The lymph node plays an active role during this process and takes charge in protecting body against toxins. The lymph system activates the removal of viruses and bacteria [40]. The second phase contains six different operations. Glutathione, methylation, glucuronidation, sulfation, acetylation and amino acid conjugation processes are specific to the second phase and they can accelerate the elimination process of enzymes [43]. In the second phase of the detoxification process, skin and mucosa are involved [46]. Some nutrients play a vital role for protecting detoxification system of the body. Spices are essential for healthy liver function. Milk increases glutathione levels and acts as an antioxidant [43]. Some nutrients are necessary for the second phase. These nutrients are: cereals, brassica

vegetables and vitamin C [43]. Below in Figure-6 the scheme of detoxification operation is displayed [48].

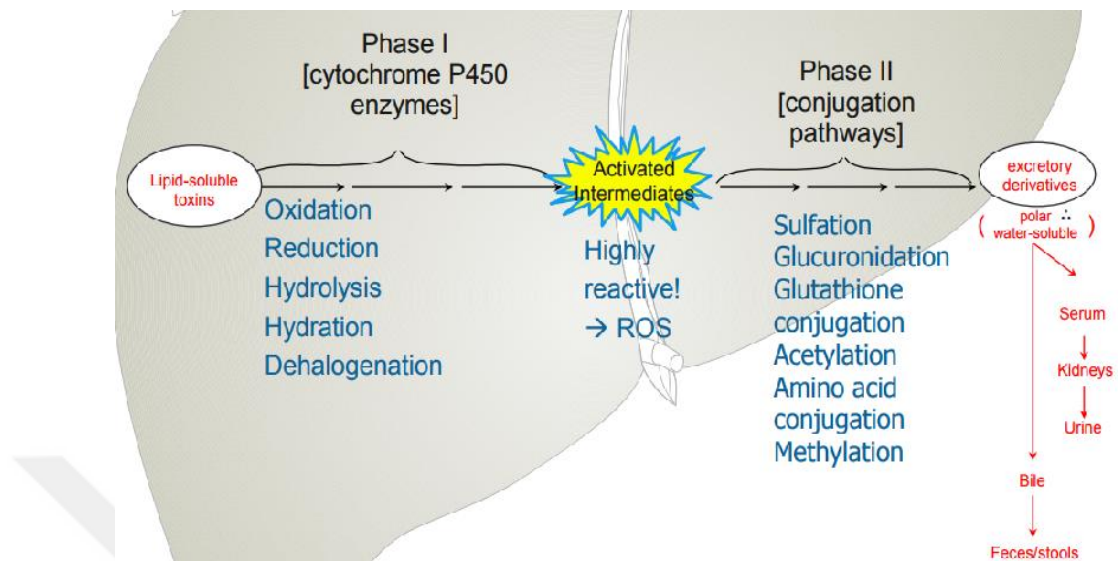


Figure 6: The Scheme of Detoxification Mechanism [48]

3.WHY DO PEOPLE PREFER DETOX?

According to CDC reports, 117 million people in the world are fighting against chronic diseases [53]. Obesity is a chronic disease, and obesity has become an increasingly prevalent disease among people owing to developing technology and industrialization nowadays [54]. In these days, people are doing less exercise and they consume more fast food. People have to allocate less time to eating because most people work very long hours, so fast food seems to be the ideal choice for them [55]. Nowadays, people are beginning to gain weight quickly, and as a result, the number of obese individuals is increasing, and obesity can even lead to death [54]. For this reason, people are looking for alternative ways to lose weight, and the detox diet is thought to be one of those alternatives [56]. Detox started to become popular in 1900s [42].

Detox diets have begun to appeal to people on television and web sites and in books [57]. The website named 'Sense about Science' revealed detox programs and their contents [40]. In Google, more than 70 million search was made about detox [40]. It can be seen that the definition of detox changes from one expert to the other [42]. The detox industry is reported to be growing rapidly day by day [40]. Detox diets have been underlined to enable toxic substances to be removed from the body [46]. People consider that detox programs can prevent cancer, provide loss of weight, and strengthen the immune system and the digestion system [46]. Some researches indicated that detox strengthens the nails and hair, revitalizes the skin and strengthens the immune system [57]. According to the experts, detox helps the cells of the body to renew [42]. Short-time detox provides motivation and energy. Additionally, people think that detox is effective for quick loss of weight. It has been observed that people who practice detox are away from certain foods such as food of animal origin, gluten, sweeteners, cereal, caffeine, alcohol, etc.) during the diet [58].

Detox diets are popular diet strategies promising short-term loss of weight. Detox diets usually last for three or seven days. Continuous application and continuity of these diets may reveal harmful effects on the human body. People may think that detox diet programs have positive effects on health and psychological well-being [56]. The fact that the contents of detox diets are liquid or are composed of vegetables and fruit may cause people to have insufficient energy intake [56]. According to the researchers; the people applying detox diet suffered from headache, muscle aches, fatigue and increase in bowel movements in the first days of their diet [59]. Some detox

diets have indicated that they can provide essential nutrients with certain mixtures and healthy bacteria for the bowels [59].

Spices, electromagnets, electricity and beverages are used for detox. Detox diets encourage people to consume fruit [60]. Some people believe that detox helps them to get rid of stress. Detox diet producers say that when people carry out detox, they can get rid of stress and toxins. What's more, some researchers assert that detox enhances emotional motivation and provides purification [49].



4. POPULAR DETOX PROGRAMS

Detox industry has various detox centers, various drinks and many materials, and these products are driven to the market by their centers through celebrities [40]. Advertisements play a significant role in purchasing these detox products. Nowadays, people can do anything through social media. They can follow celebrities via social media and they can wonder the life of people who are known by everybody. Hence, some detox firms carry out their advertisement process via celebrities. People, who are known by the majority of a given society, convince people to buy detox products.

Today, we encounter various detox programs. The first of them was “The Master Cleanser or Lemon Detox Diet” [40]. The Master Cleanser book was launched into the market through the advertisement facilities of Beyonce and Jared Leto [40]. Some experts call this diet as hunger diet [61]. This detox mixture consists of a mixture of maple syrup, lemon and pepper, and people consume this mixture for 10 days. This detox program suggests rapid weight loss, removal of toxins from the body, and people’s feeling more energetic [61]. Besides, it is thought that this mixture has the effect on increasing the brightness of the skin [40]. The second detox program is called as ‘The Clean Programme’. This therapy was put on the market by Alejandro Junger. The present detox program is applied for 21 days. People consume a mixture of probiotics and supplements twice a day. People prefer this mix instead of breakfast and dinner [62]. Another popular detox program is “Washout with Dr. Oz”. This detox diet contains kinoa, prunes, juices and dandelion tea [63]. Unlike other detox programs, people consume raw vegetables in this diet program because raw foods are thought to promote the development of the functions of organs such as the kidneys and liver [63]. Martha’s Vineyard detox program is another popular diet program and it is applied for 21 days. This detox diet only involves herbal teas, vegetable soups and vegetable juices [64]. It is claimed that a person can lose 21 pounds of weight in 21 days [64]. On the other hand, Blueprint Cleanse detox program is applied only for three days. People consume only six mixture drinks a day in this program [44]. This detox program aims at loss of weight and removal of toxins from the body. Today, there are many detox programs in different varieties. Although these detox programs differ from each other in terms of their ingredients, some features of these programs are similar to each other. One of the aforementioned similarities among these programs is that similar foods are forbidden in diets. These foods are: dairy products, processed foods, foods with gluten

and eggs. Also, most of these programs suggest the consumption of two liters of water a day, eating vegetables and fruit and having food without gluten.

Bowel prep has been one of the detox techniques applied for a long time in order to remove toxins from the human body. [65]. Some of the products used for bowel prep can be listed as follows: laxatives, tea, powder medicines and capsules [65]. Colon cleansing is applied in two ways, one of which is the method that laxatives, herbal teas and medicines are used; the other method is colon hydro therapy and it is connected to diarrhoea. [66]. Colon cleansing is now able to attract potential customers easily through advertisements, the reason behind its popularity is thought to be the fact that the method uses herbal products mostly instead of medicines. [67]. Colon cleansing has been reported to have effects on people to increase concentration and energy, to lose weight and to treat certain diseases (allergy, asthma, heart diseases ...) [67].

5. THE FACTS RELATED TO DETOX PROGRAMS

In the past, detox was used in the treatment of drug addicts and alcohol addicts [40]. Detox diets are trendy diet trends which were developed to make money for producers. Fad diets can be associated with rapid loss of weight [68]. Fad diets are unable to provide all necessary nutriment for human body; moreover, diet contents are composed of specific nutrients. Fast loss of weight can cause gallstone formation. Some researchers put forward that detox is just a fashion word [61]. Some of the main risks that detox diets can cause are listed as follows: inadequate energy intake of the body, lack of protein, fat, vitamin and mineral. Contrary to what detox drinks are thought to be, their fiber content is rather low because fruits and vegetables are converted into liquids and the amount of fiber they contain is reduced to a large extent. [40]. The results of a research reveals that detox diets cause fatigue, vomiting and dizziness [61]. Also, detox causes excessive feeling of hunger. Long-term hunger can lead to lactic acidosis, impaired electrolyte balance in the body, vitamin deficiency and even death [44].

Some detox programs contain colon irrigation because people think they can get rid of toxins in the bowels in this way. The colon cleansing process was proved to cause serious damage to our bowels and damage beneficial bacteria living in the bowels [42]. The researches in the literature found that detox prevents people from getting enough energy to their bodies [44]. It was also reported that the people applying detox might get excessive dosage supplement and laxative [44]. According to a research, serotonin syndrome was observed in a young child who applied detox recipes he learned on the internet because he consumed excessive amounts of tryptophan cocktails with his detox program [44]. Detox diets are types of diets lacking essential proteins for the body [66]. According to the researches in the related literature, detox diets are risky programs for diabetic patients because consuming fruit and vegetable juices can cause sudden changes in blood glucose [66]. The research in the field suggests that detox diets and other energy-restricted diets may lead to ketosis, which may end up with death [68]. According to research done in the literature, detoxification diets were not found to be helpful enough to detoxify the body, it was underlined that detox would enhance less processed food consumption [69]. Another study in the field indicated that another reason behind why people apply detox is that they think detox makes people more energetic [45]. After this energetic mood, problems related to people's health can arise.

Energy-restricted diets lead to loss of muscle and deceleration in metabolism, then people can re-gain their weight more quickly [45]. Some research findings reveal that healthy and regular diets, regular sports, and balanced consumption of all nutrients more effective than detox for humans. [45].

Some people consider that the digestion system needs to rest in terms of the metabolism's health, but according to researches, no positive effect of the resting of the digestion system was observed [66]. People should not apply detox programs on their own, instead they must get information from doctors or dieticians because the programs they apply can affect their health badly [45]. According to some researchers; detox products are labeled differently from their contents and it was found out that they can be harmful very much for human health [44]. A study in the field displayed that a man, who carried out liver cleansing detoxification by using epsom salt, was poisoned and died [44].

Most of the investigations stated that the detox industry is not acceptable because the effects of detox on humans cannot be explained completely [40]. Dieticians carried out numerous research about detox but they could not find satisfactory data related to why people prefer detox [57]. No significant evidence has been found to display that any drink can magically affect body and health [60]. Tomiyama et al. found that energy-constrained nutrition stimulates stress hormone in women [70].

Some studies have indicated that long-term detox programs can have negative effects on people both physically and psychologically [61]. People are able to lose weight with energy restrictions in detox programs, but this situation cannot be sustained for long time and is not permanent [42]. According to the researchers, people can apply detox by themselves, it was keynoted that being healthy and regularly fed, regular exercise, adequate water consumption and adequate sleep can be equal to detox [42]. Three pilot observational studies were conducted to understand detox diets [71]. According to the study, people have both negative and positive effects [71]. It was figured out that, in detox programs with turmeric plants, small doses have positive effects but large amounts cause anxiety and sleep disturbances [72]. It was also reported that too much water consumption with detox may cause hyponatremia [72].

People consume smoothie while applying detox and consider that smoothies can replace detox; however, smoothies usually have high amounts of sugar and carbohydrates and they do not include any proteins [73]. It has been reported that detoxification with long time and high amount of drinks can harm the kidneys because

some drinks include high amounts of oxalate and are harmful to the oxalate kidneys [74]. In a case study, an 31-year-old woman went to the hospital with symptoms such as nausea, vomiting and diarrhea. Indications found in women were stated as follows: fever, malaise, dizziness and dehydration. She had Crohn's disease and felt cramps in her abdominal area while being applied bowel prep in a detox center and then vomiting and diarrhea occurred after an hour of the operation applied to her. At the hospital, the woman was treated with two liters of normal saline and 90 meq of potassium chloride and discharged from the hospital [65]. Electrolyte loss was observed with diarrhea in colon cleansing and the problems such as electrolyte loss, fainting sensation, low potassium, cramp problems occurred [66].

It has been reported that colon cleansing with some herbal products can lead to liver poisoning or excessive anemia as a side effect [66]. Being one of the colon cleansing methods, coffee enema was reported to cause death and colon cleansing operation could lead to dehydration, tearing in the intestine and increased risk of infection [75]. Another research in the literature revealed that colon cleansing operation has no advantage and it was stressed that balanced nutrition, high fiber intake and regular physical activity were necessary for a healthy colon [67].

CHAPTER 3

3.1. THE MECHANISM OF LOSING WEIGHT

Obesity can be defined as the high ratio of body fat mass to fat-free mass [76]. Obesity is one of the biggest health problems today. The prevalence of obesity is increasing day by day and most of health institutions fight against obesity. Also, it can be easily stated obesity is related to other illnesses. It is associated with illnesses such as Type 2 DM, hypertension and heart diseases at first degree [77]. The most commonly used measurement technique for determining obesity is body mass index [54]. In Figure-7 below, BMI values are shown and the healthy values that the waist measurements should have are provided [54].

	BMI (kg/m ²)	Obesity class	Disease risk*	
			Men ≤40 in (≤102 cm) Women ≤35 in (≤88 cm)	>40 in (>102 cm) >35 in (>88 cm)
Underweight	<18.5			
Normal†	18.5–24.9			
Overweight	25.0–29.9		Increased	High
Obesity	30.0–34.9	I	High	Very high
	35.0–39.9	II	Very high	Very high
Extreme obesity	≥40.0	III	Extremely high	Extremely high

Source: NHLBI Obesity Education Initiative Expert Panel on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults (2000).

* Relative to normal weight and waist circumference, disease risk for type 2 diabetes, hypertension, and CVD.

† Increased waist circumference can also be a marker for increased risk even in persons of normal weight.

Figure 7: BMI Values and Waist Measurement Values [54]

While obese and overweight individuals are trying to lose weight, they should limit calorie intake, do exercise and have a balanced nutrition [76]. In addition, one of the issues that people who try to lose weight should pay attention is that intake of calories should not be below basal metabolic rates. There are many factors affecting people's losing weight. Many factors such as wrong nutrition, sedentary lifestyle, certain diseases, hormone levels, person's metabolic rate, genes and environmental factors can make loss of weight difficult. Weight management is provided by the relationships between the brain and the bowels [78]. The central nervous system, which plays a role in weight management, provides signals to other organs to control energy intake and expenditure and maintain energy balance [78]. Hypothalamus, neurotransmitters and hormones manage energy intake and expenditure. In Figure-8, the role of receptors in the central nervous system are demonstrated [79].

	Production site	Stimulation of production	Production inhibitors	Action	Effects on the regulation of hunger	Effects on EE
NPY	Arcuate nucleus of MH	Fast Ghrelin	Leptin Glucose	Increases food intake Increases lipogenesis in animals	Orexigenic action	Decreases
AgRP	Arcuate nucleus of MH	Fast Ghrelin	Leptin	Antagonizes the effects of MC4R	Orexigenic action	Decreases
MCH	LH	Flavor of foods	MSH-producing neurons	Uncertain Probable link with the NAc	Orexigenic action	No effect
α -MSH	Arcuate nucleus of MH	Leptin	AgRP	Agonist for the MC4R	Anorexigenic action	Increases

Figure 8: The Receptors Having a Role in the Central Nervous System and Their Functions [79]

Adipose tissue is a source of energy for the body. There appear two types of adipose tissues, which are white and brown fat tissues. Adipose tissues are tissues that display volume change according to energy need and expenditure [80]. Adiponectins are secreted by adipose tissue and they are polypeptides [81]. Adiponectins have a negative feed back mechanism on fat deposition [81]. Adipokines contain leptin, adiponectin, resistin, vasfatin, TNF-alpha, and some of these have been associated with obesity and metabolism [79]. The primary duty of leptin is to fix the amount of fat in the body [81]. The ghrelin hormone is indicated as an appetite-increasing hormone and is reported to increase in hunger and decrease in satiety. [82]. Figure-9 below shows the effects of digestion system hormones on nutrient uptake and their role in weight management [83].

Table 1 – Overview of gastrointestinal hormones known to affect food intake, and possible role in pathogenesis of obesity.					
S. no	Gut hormone	Site of release	Organ	Receptor	Role in body weight regulation
1	Peptide YY	Distal gut (L cells)	Small intestine	Y2	<ul style="list-style-type: none"> • Increase in satiation • Increase in satiety • Increase in energy expenditure • Long term regulation of body weight and has possible role in pathogenesis of obesity.
2	Pancreatic polypeptide	Pancreatic islet (F cells)	Pancreas	Y 4	<ul style="list-style-type: none"> • Increase in satiation • Increase in satiety • Increase in energy expenditure • Possible pathogenic role in obesity
3	Ghrelin	Gastric mucosa (X/A-like cells)	Stomach	GHS-R1a	<ul style="list-style-type: none"> • Meal initiator • Long term regulation of body weight • Fuel partitioning • Possible role in pathogenesis of obesity
4	Glucagon like peptide-1	Distal gut (L-cells)	Large intestine	GLP-1R	<ul style="list-style-type: none"> • Increases satiation • Increases satiety • Potentiates insulin release • Possible role in pathogenesis of obesity
5	Cholecystokinin	Proximal small intestine (I-cells)	Small intestine	CCK-1	<ul style="list-style-type: none"> • Increases satiation • Possible role in pathogenesis of obesity

Figure 9: The Effects of Digestion System Hormones on Nutrient Uptake and Their Role in Weight Management [83]

3.2 What is Spot Reduction?

There are two types of fat stored in the body, one of which is subcutaneous fat. It is stored under fat and takes a role while regulating body temperature and this type of fat is stored in men and women differently. This type of storage, commonly referred to as the apple type in males, is associated with android obesity and it might cause illnesses such as high blood pressure and heart diseases [84]. The more common type of subcutaneous fat in females is the gynoid type fat in the pear type and more fat is stored in the hip region [84]. Visceral fat is a kind of fat stored in the area of internal organs and it is related to the metabolic syndrome, heart diseases and insulin resistance. Some studies figured out that genes are effective in storing this type of fat [84]. In Figure-10 below, the apple type and the pear type fat storages are shown. [85].



Figure 10 :Gynoid type and Android type [85]

Spot reduction means burning fat in the body only in the desired part [86]. Cortisol and insulin hormones play an important role in android type fats [87].

3.2.1. Is Spot Reduction Possible?

It is stressed that when humans start to lose weight, they start to lose weight in all parts of the body, not just a specific part; however, some studies in the literature show that changes in the levels of certain key hormone hormones (cortisol and insulin) can lead to loss of fat in the abdominal region, which occurs without any calorie restriction [87]. While women were often reported to struggle with weights in the hip and the basal region, men were reported to fight with fats in the waist and abdominal area [88]. There are factors that affect where the fats need to be stored in the body: Genetic factors,

gender and hormone levels (insulin, estrogen and testosterone). It may be considered that when the loss of weight is achieved, the body only provides loss of weight from a certain part, but the reality is that loss of weight is in every part of the body [89]. Spot reduction is described as the loss of fat in the only desired part of the body [90]. The fatty tissues found in various parts of the body are regulated by various hormones, and the fat accumulation in those regions is carried out by the effects of hormones and body types [90]. It was suggested that genetic features play a key role while determining where to lose weight in the body and it was found that where to lose weight in the body is somehow related to where to gain weight in the body [91].

In a study, while a group of people was provided with seven different exercises for abdominal region, the other group did not do these exercises and the other environmental conditions were stabilized. At the end of this 6-week study, no significant difference was observed between the abdominal subcutaneous fat tissue of the two groups and regional exercise was not associated with subcutaneous fat tissue in the abdominal region [92]. Another research in the literature studied tennis players. The subcutaneous fat texture of the tennis players' hands was examined. It was thought that the fat tissue between the predominantly used hand and the less used handpiece would be different. However, the results of this study revealed that there was no significant difference in fat tissue between the right and left hands of the players [93]. According to some studies carried out in the literature, spot reduction researches evaluated together with exercise uncovered contradictory results. Although there were significant differences in regional weakness after sports in some researches, no differences were observed in other researches [94].

The fats in the body are stored in triglyceride form. Then triglycerides transit to bloodstream by shifting to free fatty acids, and glycerol and free fatty acids from any part of the body during exercise and glycerol are used as fuel and loss of weight occurs, therefore it becomes impossible to intervene a specific area [95]. According to a study in the literature, 24 people did exercises which affect only the abdominal regions for 6 weeks, but no significant result was found in terms of loss of weight in the abdominal region at the end of these studies [96][95]. In another study, 40 obese and overweight women performed resistance exercises for abdominal regions for 12 weeks and no meaningful result for loss of weight in abdominal areas alone was observed [97][95].

3. METHODOLOGY

The current study was conducted so as to measure the accuracy or misinformation of the sharing of nutrition and diet programs by the life coaches, trainers, mothers and self-motivated people who are not dieticians in the instagram which is a widely used social media tool nowadays. In this regard, Instagram which is one of the most widespread and significant social media platforms were used as data source. In order to reach user profiles within the context of this research, the following key words were used in Table 1 below.

Table 1. The Key Words Used During the Research

# Mother	#Spot Reduction
# Baby nutrition	# Popular diets
#Detox	# Trainer
# Life coach	# Nutrition Coach
# Sport nutrition	#Diet

Using the key words above, 284 instagram users' profiles were reached. After reviewing the pages, it was decided to investigate the correctness or inaccuracy of the web pages sharing information about detox and spot reduction. The lack of consistent information sharing about detox and spot reduction, and the inability to establish a unity about information sharing in the pages examined have led us to address these issues.

Keeping on the mind the fact that the present study was administrated for academic purposes, it was necessary to find the profiles which are free to access by anyone and this study was carried out with ethical values on mind. The personal information and the names of the people who are subjects in the study are not included for ethical reasons. The data obtained from the profiles of these persons were categorized according to the gender, occupation, category (mother, trainer, life coach and self-motivated people who want to get thinner), follower and follow-up number, number of shares they made and a data base was set up.

A content analysis was administrated with the obtained data in the database of this study. The aim was to determine the frequency distributions of these profiles

according to certain variables and to interpret the results. The broad category of the profiles in this research is given in Table 2 below.

Table 2. The Categories of the Profiles

PROFILE CATEGORIES
Mother-baby nutrition
Nutrition counselling
People who want to get thinner alone
Nutrition suggestions by trainers
Life Coaches
Unknown

Profiles included in the study were also examined according to the information sharing subjects in Instagram. First, the scope of the information contained in each profile was determined and the shares contained in these profiles were coded using certain key words. By gathering the coded data under certain themes, it was determined to which category the issues in the shares of the examined profiles belong to in the widest sense. In this regard, the determined categories are summarized in Table 3.

Table 3. The Categories of Profiles Nutrition Information

NUTRION INFORMATION CATEGORIES
The suggestions about baby nutrition
Spot thinning (the fats of abdominal region)
Detox recipes, informing
Information about nutrition, recipes, formula
Popular diets
The suggestions for sportsman nutrition
Diet suggestions without sugar
Nutrition suggestions for tube stomach surgery

Frequency distributions were performed according to certain variables in the study. These variables are; gender, nutrition information categories, professions of the profile owners, followers and follow-up numbers, number of shares they share and profile categories. After the examinations, the research was further deepened by focusing on “Spot thinning”, “Detox recipes” and “informing” categories. The reason why we particularly focused on these issues is that the information and sharing in these categories of the profiles are more structural. The number of pages sharing detoxification and spot reduction is excessive and these pages have a significant impact on information pollution.

After categorizing 284 pages examined in the study, the profiles which shared information about the issues categorized as detox recipes were examined according to gender, profession of profile owners, follower, number of follow up, number of shares and profile categories. Then, the data on the profiling which focuses on the regional weakening issues were examined in the same way. The results of the examinations are presented in the next chapter.

4. FINDINGS

4.1. General Frequency Distributions

The results related to gender variable after examinations are given in Table 4.

Table 4. Gender Distribution of 284 people

FEMALE	MALE	UNIDENTIFIED
154	31	99

After the examinations, the gender of 99 profile owners was unable to be determined, 31 profile owners were male, while 154 profile owner were female.

The results displayed that 38 profiles shared information about mother and baby nutrition and 13 profiles are carrying out nutrition counseling. Another finding is that 86 profiles contained people who want to lose weight by themselves and 47 profiles are about trainers' sharing about nutrition. Additionally, 79 profiles were grouped under life coach category and 21 profiles were categorized as unidentified. Table 5 below indicates the categories of people sharing nutrition information.

Table 5. The Categories of People Sharing Information about Nutrition

CATEGORIES	NUMBER
Mother-baby nutrition	38
Nutrition counselling	13
People who want to get thinner alone	86
Nutrition suggestions by trainers	47
Life coaches	79
Unknown	21

Once the jobs of the profiles were examined, no information could be obtained regarding the professional aspects of the pages of 212 people. 24 people stated that they are engaged to a job related to sports (personal trainer, sportsman, yoga trainer). 15 of them are teachers and students. The profiles related to the health sector (doctor, nurse, and pharmacist) are equal to 13. Other profiles consist of engineers, lawyers and life coaches, each of these jobs is not more than five. Table 6 below gives information about the number of profiles in respect to jobs.

Table 6. Distribution in Respect to Jobs

JOBS	NUMBER
SPORTS (personal trainer, sportsman, yoga trainer)	24
TEACHERS AND STUDENTS	15
HEALTH SECTOR (doctor, nurse, and pharmacist)	13
IRRELEVANT JOBS (engineer, lawyer, life coach)	20
UNKNOWN	212

When the number of followers of the people mentioned above is examined, it is clearly seen that there are only five pages whose followers are fewer than 100 people. In addition, it can be said that there are 42 pages whose follower frequency is between 100 and 1000. There appear 96 pages whose followers are between 1000-10.000 people. Also it is shown that 124 pages have follower frequency between 10.000-100.000 people. The follower number of 12 pages are more than 100.000 people. When followee numbers are considered; 52 people follow only 100 people or fewer. 151 people have nearly 100-1000 followees. On the other hand, 81 people follow 1000-10.000 Instagram users. Table 7 below shows the number and frequency of followers and followees.

Table 7. Distribution of Pages' Follower and Followee Numbers

FREQUENCY	FOLLOWER	FOLLOWEE
<100	5	52
100-1000	47	151
1000-10000	96	81
10000-100000	124	-
>100000	12	-

When the number of the photos people shared is examined; it can be stated that there are 36 people who shared photos between 10 and 100, 145 people shared photos in the frequency of 100-1000, 103 people shared 1000 photos or more. Table 8 below displays the number of photos shared by the users.

Table 8. Categorization of the Numbers of the Shared Photos

THE NUMBER OF PHOTOS	THE NUMBER OF PEOPLE
10-100	36
100-1000	145
>1000	103

The shares of 284 people were examined and analyzed in respect to the intensities of nutritional information in their shares. According to this examination, 17 people shared information about baby nutrition. 61 people shared information about spot reduction and getting rid of the fats in abdominal region. Moreover, 41 people shared recipes about detox and informative texts about the topic. Also, 95 profiles are the ones that shared recipes, formula and information about nutrition. Totally, 19 people shared information about popular diets on their profile pages. What's more, the number of people who shared information about sportsman nutrition is 39. The number of pages in which sugar-free nutrition information or sugar-free diet occur is nine. Three pages belong to people who had tube stomach surgery and shared information about their own nutrition program. Table 9 shows the categories of nutrition information.

Table 9. The Distribution of Nutrition Information

NUTRITION INFORMATION	THE NUMBER OF PEOPLE
The suggestions of baby nutrition	17
Spot Reduction (abdominal region fats)	61
Detox recipes and informing	41
Information, recipes and formula about nutrition	95
Popular diets	19
The suggestions of sport nutrition	39
The suggestions of sugar-free diet	9
The suggestions of nutrition about tube stomach surgery	3

4.2. Frequency Distribution with reference to the data about Detox recipes

The pages of 41 people who shared about detox were also examined as gender, job, category, follower and followee number, and the number of photos they shared. Then, the gender of eight people was unable to be identified, two people were found to be male while 31 people were female. Table 10 shows the gender distribution of the people who shared information about detox.

Table 10. The Distribution of Detox Sharing in Respect to gender

FEMALE	MALE	UNIDENTIFIED
31	2	8

In category-based evaluation, (life coach, trainer, mother and people who want to lose weight alone) six people were found to be in mother category, eight people were nutrition or life coaches, five people were trainers and 22 people were the ones who want to lose weight alone. In Table 11 below, the people who shared information about detox are displayed.

Table 11. The Categories of the Ones Who Shared Information about Detox

CATEGORIES	THE NUMBER OF PEOPLE
Mother	6
Life coach	8
Trainer	5
People who want to lose weight alone	22

There appeared no information about the jobs of 33 individuals. The rest of the pages belongs to pharmacists, trainers, students and teachers. Table 12 below gives information about the jobs of the people who shared information about detox.

Table 12. The Distribution of People Sharing Information about Detox in Respect to their jobs

JOBS	THE NUMBER OF PEOPLE
Unknown	33
Pharmacist/ Trainer/ Student and Teacher	8

According to the number of followers, three pages have followers in the frequency of 10-1000; 13pages have followers in the frequency of 1000-10.000, 22 pages have followers in the frequency of 10.000-100.000 and three pages have more

than 100.000 followers. In Table 13 below, the number of followers is provided about the people sharing information about detox.

Table 13. The Follower Number of the People Sharing Information about Detox

FREQUENCY	FOLLOWER NUMBER
10-1000	3
1000-10000	13
10000-100000	22
>100000	3

According to Table 13, eight pages follow people in the frequency of 1-100, 27 pages follow people in the frequency of 100-1000 and the number of the pages who followed more than 1000 is six. When we examined them regarding to the number of photos they shared, it was figured out that five pages made photo-sharing in the frequency of 1-100, 16 people shared the photos in the frequency of 100-1000 and 20 pages shared more than 1000 photos. Table 14 shows the frequency of the followees of people making detox-related sharigs and the range of photos they shared.

Table 14. The Number of Followees by the Pages and the Number of the Shared Photos in Respect to their Frequencies

FREQUENCY	FOLLOWEES	THE NUMBER OF PAGES ABOUT SHARES
1-100	8	5
100-1000	27	16
>1000	6	20

4.3. Frequency Distributions Related to Data about Spot Reduction

61 pages pertaining to spot reduction were examined according to these categories; gender, job, category, etc. 36 people's gender was unable to be identified, eight people were found to be male and 17 people were found to be female. Table 15 below categorizes the gender statuses of pages related to spot reduction.

Table 15. Gender Status of the Pages Related to Spot Reduction

FEMALE	MALE	UNIDENTIFIED
17	8	36

In respect to the categories, only one person is in mother category, 55 people are in the category of nutrition and life coach category, two people are in trainer category and three people are in the category of people who want to lose weight by themselves. Table 16 below categorizes the pages that make sharings about spot reduction.

Table 16. The Distribution of Spot Reduction Pages by Categories

CATEGORIES	THE NUMBER OF PEOPLE
Mother	1
Life Coach	55
Trainer	2
People who want to lose weight by themselves	3

When they were categorized according to their jobs, it was found; three people are life coaches, a person is a doctor, a person is an accountant, a person is a veterinary, three people are trainers and 52 people's jobs were unable to be identified. Table 17 below displays the distribution of the shares on Instagram about spot reduction with reference to jobs.

Table 17. The Distribution of the Pages about Spot Reduction with Reference to Jobs

JOBS	THE NUMBER OF PEOPLE
Life Coach	3
Accountant	1
Veterinary	1
Doctor	1
Trainer	3
Unidentified	52

With reference to the number of their followers; a person has followers in the frequency of 10-100 people, 12 people have followers in the frequency of 100-1000 people, 23 people have followers in the frequency of 1000-10000, and 25 people have more than 10000 followers. Below, Table 18 indicates the frequency of the number of followers about spot reduction for the pages.

Table 18. The Follower Frequency of the Pages about Spot Reduction

FREQUENCY	THE NUMBER OF FOLLOWERS
10-100	1
100-1000	12
1000-10000	23
>10000	25

With reference to the number of their followees; six people follow other people in the frequency of 0-100, nine people follow other people in the frequency of 100-1000 and 46 people follow other people in the frequency of 1000-10.000. Finally, when we look at the pages on spot reduction according to their numbers of shares; it can be said that seven people shared photos in the frequency of 0-100, 28 people shared photos in the frequency of 100-1000 and 26 people shared more than 1000 photos. Table 19 below shows the number of pages followed by pages about spot reduction and the range of photos they share.

Table 19. The Number of the Pages Followed by the Pages about Spot Reduction and the Range of the Photos They Share.

FREQUENCY	FOLLOWEES	THE NUMBER OF PAGES ABOUT SHARES
0-100	6	7
100-1000	9	28
>1000	46	26

4.4. The Summary of the Findings

Under the light of the examinations, many findings related to detoxification and spot reduction were revealed. According to the examinations on detox, it was determined that fat-burning mixture cures are called detox and have a long application period for 30 days. There are marrow detox applications aiming to lose 3.5 kg in three days. It is also seen that there are many beverages, called detox, which are applied by people and which are described as weakening ayran. Unlike regular ayran, there are only dill, mint, parsley and cucumber in it. Additionally, many detox drinks are also recommended for the purpose of providing regional fat burning. A mixture which consists of mangoes, carrots and ginger is advertised to people as a belly and a hip thinning drink. Another example is the detoxified beverage recipe that accelerates metabolism focusing on fat-filled parts of the body and contains mint, cucumber and ginger. It is consumed 15 minutes before three main courses and it is applied for 10 days. Detox mixtures, which are usually composed of brassica vegetables, are called fat burning night drinks. One of the other commonly used detox types for loss of weight is strawberry detox. Also there appear some detox program applied only for a single day. A 1-day detox drink recipe consisting of banana and soy or almond milk is given and it is a must here not to eat or drink anything else. It is emphasized that walnut water consumption on an empty stomach results in rapid loss of weight. While preparing the detox-related mixtures, the vegetables commonly found in the mixtures are cucumber and parsley. Besides, detox beverages are used as a burning agent for belly fat. Detox mixtures are usually prepared with the aim of burning fat quickly and a mixture of lemon, vinegar and water is also called a detox drink. It is said that a glass of a drink can burn 80-100 kcal calories. Among the applications related to loss of weight are belly-melting yoghurt cure and it includes chili powder, yogurt and lemon. Furthermore, the recipes of drink called miraculous beverages that provide fat burning while sleeping are available.

Safflower oil consumption is widely used to burn belly fat. It was found that a drink prepared with aloe vera plant allows spot reduction. Additionally, before the meals, consuming the mixture which consists of apples, black pepper and cinnamon helps to lose weight. Soup recipes are also available to help with fat burning and removing oedema. Daily consumption of the mixture consisting of yoghurt and sumac between 4 and 5 pm, until the desired weight is reached, is also useful for nursing

mothers. One of the beverages that help loss of weight as detox and remove lung and liver toxic substances is wheat grass powder. It is stated that the body is free of drug residues and heavy metals thanks to wheat grass powder. Detox mixtures used to purify the body from toxins usually consist of cucumber, parsley and ginger. It is expressed that olive oil, cinnamon and yogurt mixture melts 81% of belly fat even when consumed alone. The fat burning effective detox water comes from a mixture of apple, vinegar and lemon and it must be consumed before and after doing sports. The studies on spot reduction claim that detoxification and regional weakening are intertwined with each other. It is stated that the mixtures prepared for detox especially burn the belly fat. Also a brand has a beverage that help spot reduction. It is said that the aforementioned beverage helps getting one size thinner in a week. Additionally, it has been reported that different beverages provide rapid spot reduction in the body parts such as back, waist, base, leg and arm. What's more, it is said that a meal consumed as snack burn settled fats and provided spot reduction. Tomato water on an empty stomach is said to be effective in removing belly fat. It is also stated that consuming the mixture consisting of mineral water, pepper mint and yoghurt three-four hours before sleeping burn the fats in belly and hips. Another finding is that a specific type of tea, which a brand launched, purifies body toxins from toxins and provides local fat burning by consuming 4-5 cups a day. The products helping spot reduction were launched to the market and they are reported to lose fat from the expected part of the body until a size per week.

5. DISSCUSSION

The results of the current thesis reveal that there are many people who are not nutrition and dietetics experts and these people have made many sharing about nutrition in the social media and have many instagram accounts. When the data on the pages related to detoxification and spot reduction are examined, it appears that there is information pollution related to people's health. As a natural consequence of social media, this type of information is open to all people and reach to them in a widespread manner. Considering the increasing influence of social media and its place in human life, the accessibility of this information is increasing and people are now searching solutions from social media even for some problems in their lives. To this end, many instagram profiles for commercial purposes have emerged, which can meet the people's needs and requirements of them. In non-commercial profiles, the products, ideas and services proposed by non-specialists are solely presented for the personal purposes or satisfaction of the profile owner. The results of the present research coincide with the statement above. Nutritional information spread by people who are far from nutrition and dietetic discipline is easily accessible to people and attracts people's intense interest. A lot of people apply the diet programs recommended by these pages for themselves.

Nutrition is a concept unique to a person and everyone should take nourishment differently regarding his/her weight, height and any disease. At 284-page examinations, the fact that the number of followers on most pages has exceeded thousands is the biggest proof that people follow this kind of information. However, this situation is likely to come up with dangerous consequences. On the pages opened with the aim of increasing their motivation while dieting, people share their own nutritional programs all time, and most of their followers apply these programs together with them. Whereas, these programs may not be suitable to apply for other people and even cause serious health problems. The nutritional program of a diabetic or hypertensive patient is different from the others. If people who practice someone else's nutrition program suffer from any disease, they do not know it and no diagnosis has been made yet, these nutrition programs can lead to greater health problems. When the researches about social media and health information were examined, it was found that the information related to health in social media lacked in terms of bibliography [37]. According to Klein's research, social media can reveal dissatisfaction to the body over women and can also lead to eating disorders [39]. Lau et al. put forward that another issue that could

affect people's health-related knowledge in a negative way in the social media is that the pages advertising for drug companies or dietary products may cause adverse effects on people [38].

This research has revealed striking results about detox and spot reduction. The research has displayed that detox has many negative effects on people's health. In the current research examining the pages of 284 people, it was discovered that 41 people shared information about detox and supported detox. There are various people from different professions in the aforementioned pages such as trainers, mother and the people who want to lose weight alone. The people on these pages have generally seen mixtures of different fruits and vegetables as detox, people have stated that they sometimes only drink these mixtures or consume this mixture only as a snack or meal, and shared the descriptions of these mixtures for other people. According to Nierenberg, detoxification is not a program suitable for the practice of diabetic patients because it can disrupt the balance of blood glucose [66]. Detox is a way of life for people when consciously practiced, and it is known that the conscious people apply it for a life time. On the examined pages, people often practice detox with the aim of loss of weight and mislead other people. According to Baggett, detox is a program applied to purify the body from toxins [46]. According to a study carried out by Klein and Kiat, detox may cause excessive hunger in the long term due to insufficient energy intake, lactic acidosis, deterioration of electrolyte metabolism in the body, vitamin deficiency and even death [44]. Besides, fiber intake has a very important place in healthy nutrition. Vegetables and fruit are the main fiber sources of our body, and the vegetables and fruits consumed via detox reduce fluid intake as they are made liquid. According to the examined papers, there are evidences that the detoxification programs help the body's detoxification system and facilitate the removal of toxins from the body but research has shown that detox provides only less processed food consumption, which is not a significant effect on the detoxification system of the body [69]. According to the examined pages, the drinks made from fruit and vegetables are called detox but there are high amounts of sugar in these beverages and they lack in terms of other nutritional values [73]. According to the examined profiles, detox application is usually recommended because it provides rapid loss of weight but according to Filipic, the individuals applying detox are not able to obtain adequate energy intake, which can lead to loss of muscle in their bodies and their metabolism may slow down over a long period of time [45].

In the profiles investigated for spot reduction, it is stated that the consumption of the mixture of mint, yoghurt and mineral water provides the burning of the fat in the hip and belly regions. The review of the literature has shown that there are many factors affecting loss of weight in the body and loss of weight cannot be achieved only in a specific part of the body [95]. According to Ridpath, when loss of fat occurs in the body, it does not occur in a specific part but in the entire body but it was noted that the loss of abdominal fat could be achieved by hormonal effect and this is not the effect of any energy restriction [87]. In the examined profiles, spot reduction is advocated and it is stated that some nutrient mixtures, teas or detox products provide spot reduction. According to the literature review, no significant studies have been found on the effect of consumed foods and spot reduction. Campillo et al. found that there were conflicting results when studying spot reduction with sports. While some studies found significant differences for spot reduction with sports, no significant differences were found in some studies [94]. It is also stated in the investigated profiles that the consumed foods provide spot reduction but no information on the effect of sports on spot reduction is available. In the examined profiles, there are sharings claiming that the mixture consisting olive oil, cinnamon and yogurt destroy 81% of the fat in the belly area. In a study, it was stated that genetic factors affect the loss of fat in the body and it is key noted that that loss of fat mostly occurs in the part of the body just as the gain of weight occurs in that part of body [91].

It can be explicitly seen that there is a research gap on spot reduction. The studies in the related literature mainly focus on the area where sport or hormonal effects provide spot reduction.

6.CONCLUSIONS

The present study uncovered that the examined profiles in Instagram are far from being scientific and they can mislead other people and the information they shared can put peoples' health into danger. These profiles sharing information without professional competence are thought to be able to risk human health seriously. It is also considered that the examined pages are making information pollution about nutrition and diet, and they make it difficult for people to access accurate information. It was observed that the supported information in these pages was shared without providing reference. Besides, It is thought that diets and nourishment should be taught to people, and they should be informed in this regard more than current situation. People should consult dietitians or doctors about nutrition and diet programs, and they should review the information they receive from social media before they can apply it. Regarding spot reduction, research on the effect of consuming nutrients on spot reduction is rather limited, and it is thought that scientific research on this area must be enriched. It is thought that the sharing and information about nutrition field should be investigated and sanctions must be made about the sharings that put human health into risk.

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8.APPENDIX

PERSONAL INFORMATION

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Place of Birth	Sakarya	Date of Birth	01.03.1992
Nationality	T.C.	Identity Number	31453734976
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Education Background

Degree	Field	School	Graduation Year
Master	Nutrition and Dietetics	Yeditepe University	2018
Bachelor's	Nutrition and Dietetics	Yeditepe University	2016
Highschool	Science	Private Adabilim College	2010

Foreign Languages	Score
ENGLISH	IELTS: 6.0

Job Experiences

Position	Institution	Period
Dietitian	Gentest	2017-2017

Computer Skills

Program	User Level
Microsoft Office	Advanced
Spss	Elementary