

## Influence of Non-Professional Information Sources in the Dietary Behaviour of Civil Servants in Southeast Nigeria

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### ABSTRACT

Proper nutrition is essential for maintaining good health, preventing diseases, and enhancing overall well-being. The dietary choices people make are often influenced by the information they receive regarding food and nutrition. Healthy habits play a fundamental role in enhancing longevity of life and prevention of non-communicable diseases and this raises concerns about the potential consequences of relying on non-professional information sources for dietary decision making particularly in a region like southeast Nigeria where diet related health issues are a growing concern. The overall objective of this study was to investigate the influence of non-professional dietary information sources in the dietary behaviour of civil servants in Southeast Nigeria. The specific objectives are: To identify the non-professional dietary information sources used by civil servants in southeast Nigeria, to identify ways in which non-professional dietary information sources influence the dietary behaviour of civil servants in southeast Nigeria and to find out if non-professional dietary information sources provide accurate and reliable information among civil servants in southeast Nigeria. Mixed method design such as survey and in-depth interview was used, data were collected from a representative sample size of 399 of civil servants across various ministries. The study was anchored on Theory of Planned Behaviour. Findings from the study show that a significant high level of the respondents uses the social media platforms to seek for dietary information from non-professional information sources also findings from the study revealed that majority of the civil servants were influenced by recommendations by non-professionals dietary sources also the study revealed that civil servants in southeast Nigeria believe that non-professional dietary information sources provide accurate and reliable information. The study however recommends Improve Access to Professional Dietary Information: Encourage Workplace Nutrition Support Systems, Regulate and Monitor Dietary Content on social media, Enhance Nutrition Literacy Programs among civil servants in the region.

**KEYWORDS:** Influence, Non-professional, Dietary information sources, Dietary behaviour, Civil servants

### 1. BACKGROUND OF THE STUDY

Proper nutrition is essential for maintaining good health, preventing diseases, and enhancing overall well-being. The dietary choices people make are often influenced by the information they receive regarding food and nutrition. Thus, in the realm of dietary behaviour, due to the increase in food related diseases that have been associated with poor eating habits, individuals seek for dietary information from non-professional sources to prevent the occurrence or progression in these chronic conditions. The prevalence of chronic diseases in Nigeria has made individuals to rely on a variety of sources for information when making dietary decisions (Bunkechukwu, 2023). These sources can be broadly categorized into professionals such as health care providers, dietitians and nutritionists and Non-professionals sources like family, friends, social media posts, online forum, the media, blogs and traditional beliefs where individuals share their experiences, opinions and advise people on various aspects of diet and nutrition. Unlike information provided by health care professionals or certified nutritionists, these non-professional sources seem to lack formal validation and oversight. Despite this, they still seem to exert a substantial influence on the dietary decisions of adults. Diet is the cornerstone for maintaining health and also for management and prevention of a wide range of chronic diseases.

Acquiring accurate and adequate dietary information is important as it could inform dietary choices, positively, as well as promote and maintain a healthy nutritional status(Quaidoo et al., 2018). Over the years, people have been considering some food intake to determine their healthiness. A healthy diet refers to a special course of food to which one restricts oneself, either to lose weight or for medical reasons (Advanced English Dictionary, 2015). World Health Organization (WHO) in 2022, drew attention to the fact that unhealthy diets are directly related to various diseases. Unhealthy dietary behaviour can be linked to growing availability of fast food outlets, ultra-processed foods, rising income and decreased time available to prepare meals at home(Colozza, 2021). The relation between diet choices and various health problems has been known for a long time (Hakli, Ucar, Ozdogan, Yilmaz, Ozcelik, Surucuo, Cakiro & Akan., 2016). It is crucially important to gain a habit of healthy diet in order to reduce the risk of contracting various chronic diseases. Chronic health conditions related to inappropriate dietary choices among adults are a major public health concern especially with an increasing aging population(Oliveira et al., 2021). Among this population, the prevention and treatment of chronic diseases requires consistency not only in their selection of appropriate foods but also in the long term maintenance of healthy habits(Oliveira et al., 2021).

In Nigeria, due to the prevalence of food- related diseases which has been associated with poor dietary choices, understanding the dietary recommendations followed by adults is crucial. In the past century, the leading causes of death among adults have shifted from infectious diseases to chronic diseases such as cardiovascular diseases, diabetes, and adult bone loss and cancer and these are well known to have a link with poor eating habits or dietary choices (Akinwusi & Ogundele., 2011) Dietary habit is indispensable for the management of chronic diseases. However, as adults age, they tend to eat nutritional foods to enhance longevity of life. Individuals seek for appropriate dietary information from sources in order to prevent the occurrence or progression of these chronic conditions.

Acquiring health information can be seen as individual's overall ability to gain access, to understand and use information in ways that promote and maintain good health. The dietary choice of adults can be linked with the health information that they have obtained from various sources, professional and non-professionals (Jackson, 2021). These health professionals give out health information, which entail dietary guidelines about what foods to eat, in what quantities, with what frequency and in what way they have to be consumed. The ability to access, understand, and utilize health information plays a crucial role in an individual's overall well-being. Adults make dietary choices based on the health information they acquire from a variety of sources, including both professionals and non-professionals (Jackson, 2021). Health professionals provide valuable dietary guidelines, outlining recommendations for food choices, portion sizes, consumption frequency, and meal preparation methods. Diet information from professionals helps in preventing nutritional deficiencies, which can lead to various health problems and compromise the body functioning. It can also change the dietary behaviour of adults and help them to set realistic goals, overcome obstacles, and establish long-term healthy eating patterns.

Perception of what constitutes a healthy diet have also been found to differ from individuals based on the information obtained from popular dietary trends, the media, online sources, family, friends and expert dietary advice.

Diet information can be given by anyone and not necessarily health professionals. Non-professionals that declare themselves as "subject experts" also have a voice in dietary information and can effectively influence people's dietary choices(Adamski et al., 2020). According to Paquette, (2015) individuals combine foods into healthy food patterns and ways of eating within this context. People gather information on food and diet from multiple sources such as television, food labels, food manufacturers and health professionals. These sources present diet information each in their unique way. In line with this, individuals give meaning to this information and decide on its usefulness and applicability in their daily nutrition life. If people follow these directions, there is no doubt that the health of the population will improve.

Greater understanding of adults' perception of healthy eating is essential to assess how dietary information from non-professionals is interpreted and put into practice in their dietary choices. The Access to credible dietary information may serve as the basis for appropriate practices. In western countries, adults consider health professionals to be trustworthy, but adherence to nutritional guidelines remains rather low, with people perceiving the information as confusing and hard to understand. As a result of this, countries like US, Finland, Canada, Norway and Australia show how the internet used by non-professionals has become an increasingly prominent source of diet or food information(Lowie et al., 2022).

Due to the challenges faced by individuals to get access to dietary information from certified professionals, they usually engage in self-management of chronic disease, which involves the individuals taking responsibility to manage this condition (Cash, Tracee, Desbrow, Ben, Leveritt, Micheal, Ball & Lauren., 2015). To understand the extent to which different sources of diet information are sought, trusted and relied upon for making dietary changes, it is crucial to understand that individuals' access to information from non-professionals is not challenging as that of a professional health worker (Survey, 2023).

Studies like Lowie et al., (2022) and Survey, (2023) have identified that accurate and reliable dietary information from qualified professional is essential, adults will change their diets appropriately when they get accurate information about what they should eat and they should know the effects of foods consumption on health but Nigeria faces challenges in the availability and accessibility of such resources. As a result of this, individuals often turn to family members, close friends and their community for diet information on food choices (Hamidianshirazi, Ekramzadeh, Nouri., 2022). These influences are integral to an individual's dietary decision-making process. These dietary information sources are non-professional. Despite the potential consequences of relying on unverified dietary information, limited research has been conducted to examine how these non-professional sources influence the dietary behaviour of civil servants in Southeast Nigeria. This study seeks to fill this gap by exploring the influence of non-professional dietary information sources in the dietary behaviour of civil servants in south-east Nigeria.

## **2. STATEMENT OF PROBLEM**

With the increasing availability of dietary information from various non-professional sources, there is growing concern about the accuracy and reliability of such information. Civil servants, like many other individuals, are exposed to dietary advice from social media influencers, traditional healers, family, friends, and unverified online sources. Unfortunately, much of this information lacks scientific backing and may promote unhealthy eating habits. The influence of these non-professional sources on dietary behaviour raises critical public health concerns. Poor dietary practices resulting from misinformation can contribute to malnutrition, obesity, and chronic diseases, affecting not only individual health but also workplace productivity. Civil servants, who are expected to maintain a balanced and healthy lifestyle for effective service delivery, may be at risk of adopting harmful dietary practices due to misleading information. Despite these concerns, little is known about how non-professional dietary sources shape the eating habits of civil servants in Southeast Nigeria.

### **Objectives of the Study**

The primary objective of this study is to investigate the influence of non-professional information sources in the dietary behaviour of civil servants in Southeast. The specific objectives of this study are:

1. To identify the non-professional dietary information sources used by civil servants in southeast Nigeria.
2. To identify ways in which non-professional dietary information sources influence the dietary behaviour of civil servants in southeast Nigeria.
3. To find out if non-professional dietary information sources provide accurate and reliable information among civil-servants in southeast Nigeria.

### **Research Questions**

1. What is the non-professional dietary information sources used by civil servants in southeast Nigeria?
2. In what ways do non-professional dietary information sources influence the dietary behaviour of civil servants in Southeast Nigeria?
3. Do non-professional dietary information sources provide accurate and reliable information among civil servants in southeast Nigeria?

## **3. LITERATURE REVIEW**

### **The concept of Dietary lifestyle**

Dietary habits include what a person eats, how much a person eats during a meal, how frequently meals are consumed, and how often a person eats out. Other aspects of lifestyle include physical activity level, recreational drug use, and sleeping patterns, all of which play a role in health and impact nutrition (Human nutrition, 2017). In Nigeria, their consciousness of healthy lifestyle living is respectable, Nigerians seeking to live a healthy life, seek for dietary advice on how to live a healthy lifestyle and live a longer life. Some diseases are strongly influenced by individual food choices, as a result of developing eating habits during the life course.

According to Bunkechukwu, (2023), a healthy lifestyle includes getting enough sleep, exercising, and eating a well-balanced diet. Making a healthy lifestyle a habit is the most effective way to achieve it. It is critical for individuals to take care of their body and mind by eating well, exercising regularly, and sleeping enough. Nigerians have some of the world's unhealthiest lifestyles this is due to the fact that their culture and environment have a large influence on their lifestyles, which are not conducive to good health practices Bunkechukwu, (2023). A healthy dietary lifestyle is a way of living that lowers the risk of being seriously ill or dying early. Not all diseases are preventable, but a large proportion of deaths, particularly those from coronary heart disease and lung cancer, can be avoided. Fenta et al, (2023) have identified certain types of behavior that contribute to the development of non-communicable diseases and early death. Health is not only just about avoiding disease. It is also about physical, mental and social wellbeing. When a healthy lifestyle is adopted, a healthier and longer life is achieved (WHO, 2019).

The scientific connection between food and health has been well for many decades with substantial and increasingly robust evidence showing that a healthy lifestyle including following a healthy dietary pattern can help people achieve and maintain good health and reduce the risk of chronic diseases throughout all stages of life span (Dietary guidelines for Americans, 2020). The aim of dietary information or recommendations is to promote health and prevent diseases. It is not intended to contain clinical guidelines for treating chronic diseases. Dietary recommendation is just about everyone no matter their health status in order to better support healthy patterns of living at every life stage from infancy through older adulthood. According to dietary guidelines for Americans, dietary recommendations have remained relatively consistent over time with its recognition on diet related chronic diseases such as cardiovascular disease, type 2 diabetes, obesity.

In order words, dietary information encourages healthy eating patterns at each stage of life and recognize that individuals will need to make shifts in their food choices to achieve healthy pattern. Thus, dietary recommendations are not a rigid prescription. Rather, they are frame work of core elements within which individuals make tailored and affordable choices that meet their personal, cultural and traditional preferences. Bunkechukwu (2023) suggests that there are four steps on how to get a healthy lifestyle in Nigeria which includes exercising regularly, drinking more water, getting enough rest and eating a natural balanced diet. Healthy diet, regular sleep, daily physical activity, and a moderate approach to life's stressful moments are components of healthy lifestyle as well as avoiding unhealthy habits such as smoking and drinking alcohol Joelle Singer, (2019). For individuals at risk of chronic disease, or living with chronic disease, learning the skills to enhance their dietary behaviour through appropriate information sources is central to the concept of self-management of healthy dietary lifestyle(Cash et al., 2015).

### **Eating Behaviour**

Eating habit is indispensable for adult health promotion and for chronic disease management. It is recognized that adults who develop healthy eating habits early in life are likely to maintain them into older age, and have a reduced risk of chronic diseases such as cardiovascular disease, certain cancers, diabetes and osteoporosis (Dunneram & Jeewon, 2015). Older people suffering from non-communicable diseases can be prevented as well as control of morbidity and premature mortality if they know and apply the nutrition or appropriate dietary choices. Above all, these diseases are strongly influenced by individual food choices, as a result of developing eating habits during the life course.

Eating behaviour of adults differ based on their attitudes towards food and eating in general. Perceptions of what constitutes a healthy diet or eating behaviour have also been found to differ, for example, due to the influence of popular dietary trends, the media, family and friends, and expert nutritional, traditional food cultures are also a key influence on individual nutritional behaviours. For example, preference for traditional cuisines has often been found resilient to socio-economic change (Colozza, 2021).Adequate nutrition knowledge has been described as having an awareness of practices and concepts related to nutrition including adequate food intake and wellbeing, food intake and disease, foods signifying key sources of nutrients and dietary guidelines and references. Some studies have suggested that adequate level of nutrition knowledge is related to optimal eating behaviours (Quaidoo et al., 2018). As one of the factors influencing food choices, nutrition knowledge positively impacts the adoption of healthy eating habits.

It is assumed that diet knowledge will lead to an improvement of the diet by providing individuals the necessary information about choosing healthy foods, preparing and consuming these foods as recommended in dietary guidelines and on the health consequences of eating unhealthy foods (Scalvedi et al., 2021).

**Diet information seeking**

Spronk, Kullen & Burdon., (2014) defined diet information seeking as the degree to which individuals have the capacity to obtain, process, and understand nutrition information and skills needed in order to make appropriate nutrition decisions. This definition focuses on possession of nutrition knowledge and skills that have practical relevance to dietary choices. Information seeking can be defined as the purposive acquisition of information from selected information carriers. In the context of health, it takes form in how people sort through external health information and, thereby, determines what is useful and what is not. It includes both the active or passive gathering of health or medical information through a complex network of sources and is a vital process that people can use to achieve good health, to elude health threats (Beaudon & Hong, 2016).

Certainly, individuals will change their diets appropriately when they get accurate information about what they should eat and know the effects of foods consumption on health. Several studies addressed knowledge effects on dietary intake and the broad range of consumer attributes and behaviours related to foods such as attitudes, perceptions, and choices (Scalvedi et al., 2021). Adults seek for dietary information between low and high quality sources but there is limited knowledge about how effectively individuals can distinguish the reliable dietary information sources (Survey, 2023). Wide spread information related to diet and nutrition are through vast array of sources available to individuals. According to Ruani et al., 2023, is of the argument that in as much as there is availability of dietary information sources from professional and non-professional, the issue of trust in inferior quality sources like social media platforms ( facebook, whatsapp, forwarded message) popular personalities were termed that their messages might be riddled with misinformation.

People are increasingly accessing or seeking dietary information from user generated sources such as the social media and diet and health appear to be subject areas where dietary information sources wish to share their personal experiences, beliefs and opinions (Adamski et al., 2020). Dietary information seeking from credible dietary information sources may serve as the basis for appropriate practices in the dietary behaviour of adults (Quaidoo et al., 2018).

Illness and disease cause disequilibrium to the individual's well-being. The provision of diet information on patient's health problems and self-care at the right time may serve to encourage individuals to meet the challenges of living with the diseases and promote optimum health.

Adults with chronic diseases have multiple needs, including information about their illness and the various treatment options; social support; support with making decisions; and help with achieving behaviour change, for example, changes in diet (Philosophy & Anyaoku, 2017). According to Nwosu & Anyaoku, (2017), patients with chronic diseases have good access to health information, they are better equipped to: improve their health and quality of life, increase their ability to take control of their health, be aware of treatment options and act as equal partners in their care.

People seek for diet information due to the fact that they have specific health condition (Kreft et al., 2023). Kim & Yeon, (2016) reported that 81 per cent of U.S. adults use the Internet and 72 per cent of them had used the Internet to search for diet health information during the previous year. Young adults tend to more actively use the Internet and social networking sites than older adults. Approximately 93 per cent of young adults (aged 18-29) go online and 72 per cent of online young adults use social networking sites. In addition, and according to (Oliveira et al., 2021) older adults seek for diet health information via traditional media such as in newspapers/magazines and through radio, important channels of simple and direct dissemination of diet information. Diet is influenced by dietary information, as nutritional knowledge is a prompting factor for the selection of a healthy diet. Dietary choices may undoubtedly be influenced primarily by acquired knowledge through information on diet benefits (Salami & Isoken, 2017).

**Sources of dietary information**

Dietary information can be obtained from various sources, and it's essential to rely on reputable and evidence-based information. Quaidoo et al., (2018) holds that the sources of nutrition information used by adults in a society can be used as an effective tool to disseminate accurate nutrition information to the masses. Information disseminated through old (traditional media) and new (online resources) media play a role in determining nutrition choices as they market ideas and products that have the ability to influence behaviours. Dietary information sources include health professionals such as General Practitioners (GPs), Dietitians, Nurses, Exercise Physiologists, Pharmacists, Naturopaths and Nutritionists as well as Government pamphlets, and non-professional sources such as the media, social media, family, friends and the fitness industry. The limitations and advantages



of dietary information sources are anticipated to influence individuals differently depending on personal factors such as age, economic resources and health literacy.

Dietary information sources need to provide appropriate information to facilitate greater self-efficacy and consequently better self-management for those with or at risk of chronic disease (Cash et al., 2015). Adults get information about nutrition from a variety of sources, they may have a preference for a specific source, such as a primary care provider, family or a friend (R Heuberger & Ivanitskaya, 2015). According to Oliveira et al., 2021, adults obtain diet information from these minor reliefs are friends, family members, internet, the media and other major sources such as health care providers, pharmacists. These sources share dietary information on healthy eating and how adults should adopt healthy eating habits in order to eradicate the prevalence of chronic diseases or malnutrition associated with unhealthy diet. In studies, the main sources of diet information are mass media (social media, internet, TV, radio) and interpersonal communication with friends, family, workplaces and social gatherings traditional beliefs. Adults with better knowledge of healthy diet have a good adherence to treatment and healthy lifestyle practices (Naaz, 2021).

### **Non-professional dietary information sources**

Non-professional dietary information sources are suggestions or advice related to diet, nutrition and eating habits provided by individuals who do not possess formal training, education, or credentials in the fields of nutrition, dietetics, or healthcare. These advices are typically based on personal experiences, anecdotal evidence, cultural beliefs, or information gathered from informal sources, such as social media, friends, or family members. Unlike advice from registered dietitians, nutritionists, or medical professionals, non-professional dietary information may lack scientific rigor, individualized assessment, and evidence-based support, potentially leading to inaccurate or unsafe dietary choices (Quiadoo et al, 2018). It's important to critically evaluate the credibility of the source when considering and implementing non-professional dietary advice. These sources can provide valuable insights into dietary practices, but they can also perpetuate misconceptions or dietary habits that may be less health-conscious.

Most of the dietary recommendations people adopt in their healthy life style is based on what they are advised through various sources of communication. According to Kundu et al., (2020) Adults diet knowledge depends on the awareness of and practices on diet and its source. As a source, adults favor mainly family members, friends, internet, television, and textbooks for dietary information or advice. Cash et al., 2015 suggest that individuals frequently seek for dietary information from non-professional sources in which they are unsure of the trustworthiness, credibility and effectiveness and may indicate low levels of health literacy in this group. Studies describe the impact of non-professional information sources in the dietary behaviour of individuals:

**Family:** According to Vizcarra & Galvez, 2022, family holds an essential role in influencing daily food choices and preferences. Family members can significantly influence the dietary choices of their members. This influence starts from early childhood and continues throughout a person's life up to adult or older age. Furthermore, the health disease process happens within the family context; family is where we learn, live, and experience health and diseases; it is a place where family members meet and face disease throughout their lifetime. Evidence has pointed out that family could even impact the way its members evaluate the consequences of their decisions about health and eating habits. Vizcarra & Galvez, 2022, stated some ways in which family members can impact each other's dietary choices:

**Traditional/Cultural beliefs on dietary behaviours:** In Nigeria, some traditional and cultural practices in some geographical zones have an influence on food habits. For example, in areas where yam tubers thrive well, yam festivals take place when cooked/roasted and pounded yams are consumed by people in such societies (Eastern Nigeria) for a period of time and there is health benefits derived from the various ways of eating yam Akinwusi & Ogundele, (2015). In some areas where some people worship snakes as idols snake meat which is a good source of protein is forbidden for their consumption using my home town "Amesi" in Anambra State (South-east Nigeria) as a reference. All our food habits are intimately tied up with our whole way of life. Dietary information based on traditional beliefs affects the dietary behaviour of the people in that particular society. According to Akinwusi & Ogundele, (2015), in some northern part of Nigeria, pig meat (pork) which has nutritional value to the health of individuals is a taboo. These traditional beliefs influence food habits and ultimate food choices of people; it leads to unhealthy dietary lifestyle and increase of NCDs due to restrictions on certain foods.

Consequently, some traditional beliefs of food choices promote healthy living of people in that area if the traditional diet pattern is followed, it will prevent the progression of chronic diseases and NCDs (Chukwu & Dogbe, 2023).

**Social media:** social media (SM) is an interactive mobile platform, where communities and individuals can create, co-create, discuss and share content generated by the users on the platform. There are no policies in place regarding who is allowed to share health and diet-related information on SM. Research shows that SM users tend to accept diet information with no concern for qualifications of the source. Individuals still trust and implement dietary or nutritional information from someone with personal experience in a particular health topic (Kreft et al., 2023). Social media content is a major and valuable source of health information for millions of people. It is vitally important that any information and advice which could impact on an individual's health and healthcare is accurate. People tend to consider diet health information with low sensitivity levels as significantly more credible and useful than diet health information with high sensitivity levels on Facebook. Regardless of topic sensitivity, individuals tend to consider professional information and Non-professional sources as more credible and useful than on Facebook. However, among Non-professional information sources, they prefer an experienced person over family when it comes to serious health issues (Kim & Yeon, 2016).

Accessing food and diet information through social media is popular with the public, with it being the second most accessed area of science news, behind health and medicine. Food, diet and health appear to be subject areas where people wish to share their personal experiences, beliefs and opinions, which are often either purported or interpreted as facts. Social media users seeking health or medical information commonly favour commentary from people's personal experiences on social media and blogs. Non-professional are frequently preferred as sources of credible diet information. People not only look up to these sources, but may be vulnerable to information provided by them, including misinformation (Adamski et al., 2020).

### Empirical literature

Tell, N., Aishawish, N., Badraswi, M. (2023) investigated on the three types of nutrition literacy: functional literacy, interactive literacy and critical literacy among a group of Palestinians. The objective was to investigate the connections between various nutrition literacy levels, eating habits and the habit of seeking out nutrition-related information. The study used a cross-sectional design with a sample size of 149 persons between the ages of 40 and 70 years to evaluate nutritional literacy and its association with dietary behaviours.

It was discovered that nutritional consumption and diet behaviour are all strongly correlated with diet literacy in Palestinians who seek diet information. Participants with a high degree of functional diet literacy seemed to trust nutritional information sources such as books, the internet, doctors, and nurses. In the study, those with greater levels of functional diet literacy were also less likely to engage in unhealthy eating patterns. It was also discovered that people's knowledge of a healthy diet was lacking.

Adamski, M., Truby, H., Klassen, K.M., Cowen, S., Gibson, S. (2020) The research used a multi-methods approach to investigate how laypeople participating in a large-scale online diet course from May 2016 to March 2018 used the internet to seek for diet-related material. 62,144 participants in three nations—Australia, the United Kingdom, and the United States were addressed. The objective of the study is to identify people who turn to online nutrition information and how they discuss information that they found. The findings indicate that participants most frequently cited internet websites as their source for nutritional information. Information on diets could also be found via books, movies, TV series, social media, and scientific publications. Participants cited specific individuals, such as non-professionals, as sources of diet-information. This highlights that the dietary behaviour of adults is also affected by non-professional diet information sources with no identifiable nutrition qualifications and professional dietary sources.

Davis, S. (2022). Investigated the association between women's nutrition knowledge level and the sources of diet information they sought and their perception of their dependability. 398 English-speaking women between the ages of 18 and 64 in total. The study's conclusions reveal that 88.4% of participants cited the internet and reputable dietary sources as their most often used and trustworthy sources of diet information. 67.1% of people get their information from radio, TV, or newspapers. These were thought to be the least trustworthy sources; also, the results indicate that friends and family were cited as sources of diet information less frequently (28.6% and 27.4%, respectively). The participants concluded by saying they regularly used the internet to obtain dietary information from reputable sources.

Oliveira, L., Poinhos, R., Afonso, C., Almeida, M.V., (2020). Examined the dietary information sources on the healthy eating among community living older adults, the researchers utilized data on the preferred dietary information sources of older adults. The aim of the research is to study the perceived need and preferences regarding sources of information about healthy eating among older adults and to relate them with sociodemographic characteristics. Results from the study show that out of 602 participants aging from 65-74

years, 87.5% (females) and 69.3% (males) would like to receive information on healthy diet and how to go about it.

Findings from the study show that there were significant differences in the preference for different sources of information with most of the participants preferring to receive diet information through audio visual materials or leaflets. Participants in the study with higher level of education prefer to get diet information from professionals and participants with a higher level of independence prefer to get diet information from non-professionals, family and friends.

Kim, S.U., Yeon, (2016). In survey research examined the ways in which college students perceive the credibility and usefulness of diet information on facebook depending on the topic sensitivity. Based on their findings which were carried out through an online survey from two universities. 351 respondents were used for the analysis. The respondents tend to consider diet information with low sensitivity levels as significantly more credible and useful than high sensitivity levels on face book. Also, respondents reported that professional diet information sources as more credible and useful than the non-professional sources on facebook. However, among non-professional diet information sources, they prefer an experienced person over family when it comes to serious health issues. The study concluded that female students tend to trust highly sensitive diet information sources more than male students.

### **Theoretical Framework**

The theoretical framework for this study is based on the Theory of Planned Behaviour (TPB), The Theory of Planned Behaviour (TPB) is a social psychological theory that was developed by Icek Ajzen. It is an extension of Ajzen's earlier theory, the Theory of Reasoned Action, and it is widely used to understand and predict human behaviour in various fields such as health, psychology, marketing, and organizational behaviour.

The Theory of Planned Behavior posits that human behaviour is determined by three key factors:

Attitude toward the behaviour (A): This refers to an individual's positive or negative evaluation of performing a particular behaviour. It includes beliefs about the consequences of the behaviour and the individual's overall assessment of whether the behaviour is favorable or unfavorable.

Subjective Norms (SN): Subjective norms involve the perceived social pressure or influence to engage or not engage in a specific behaviour. This includes the perceived expectations and opinions of relevant others, such as family, friends, or colleagues.

Perceived Behavioral Control (PBC): This component reflects the individual's perception of their ability to perform the behaviour. It considers factors such as the individual's perceived ease or difficulty in performing the behaviour, the presence of facilitating or hindering factors, and the level of control the person feels they have over the behaviour.

In addition to these three main components, the Theory of Planned Behavior introduces the concept of intention as a central mediator between these factors and actual behaviour. The theory suggests that the stronger an individual's intention to perform a behaviour, the more likely they are to engage in that behaviour.

The theory of Planned Behaviour posits that an individual's attitude towards a behaviour significantly influences their intention to engage in that behaviour. In the context of dietary behaviour, individuals may form attitudes based on the information they receive from non-professional sources. Information individuals get from non-professionals will determine the way the individual will follow the dietary pattern and the overall assessment of whether the behaviour is favorable or unfavorable to their healthy well-being.

The theory emphasizes that non-professional information sources, such as family, friends, or online communities, can influence perceived control by providing practical tips, advice, or success stories related to dietary changes. Additionally, in the context of dietary behaviour, the perception and utilization of non-professional information sources can shape individuals' intentions to adopt specific dietary practices.

## **4. METHOD**

Convergent mixed methods design will be adopted in this study. This design allows a simultaneous collection of both quantitative and qualitative data. According to George (2021) convergent mixed methods combines elements of quantitative and qualitative data to gain a more complete picture of the study than a stand-alone quantitative and qualitative study as it integrates benefits of both methods. It entails the use of a survey research design and



in-depth interviews since in a study of this nature the opinions of people would contribute to the primary data collection. With this design, the study delves into identifying the potential health implications associated with the reliance on non-professional information sources for dietary guidance.

### Population of Study

The population of this study comprise the entire civil servants in different five state government ministries in the southeast geopolitical zone of Nigeria. The population of these civil servants is estimated at 176,700, according to data from the information ministries of the various states in the Southeast region.

**Table 1: Population Distribution by states**

S/N	State	Total Number of Civil Servants
1.	Abia State	37,421
2.	Anambra State	37,424
3.	Ebonyi State	22,550
4.	Enugu State	38,305
5.	Imo State	41,000
Total		N= 176,700

### Sample Size and Sampling Techniques

The sample size for this study was 399. This was determined using Slovin's formula (Ellen, 2020). Slovin's Formula:  $n = N / (1 + Ne^2)$ . Whereas:

n= sample size

N= population

e= margin of error (0.05)

Therefore, for the population of 176,700 the sample size was calculated thus:

$$n = 176700 / (1 + 176700 \times 0.05^2)$$

$$176700 / 1 + 176700 \times 0.0025$$

$$176700 / 1 + 441.75$$

$$176700 / 442.75$$

$$n = 399.09655562$$

Based on the Slovin's formula for determining sample size, we have a sample size of 399. This is slightly above the sample size of 384 for a population at infinity as suggested by Meyer (1973). And, according to Minsel (2021), a representative sample size of 300 respondents, with a margin of error of .05 and a confidence level of 95 percent, is within an acceptable margin of error and confidence level for a population that is above a million.

Since our population is 176,700 (below a million) and our statistically determined sample size is 399, we can safely say we are within the bounds of good scholarship to use a sample size of 399.

In order to proportionally determine the sample units per state, we used the formula:  $X = \frac{n}{N} \times 399$

Where X= number selected from a state

n = population of civil servants of the state

N= total population of civil servants in the 5 selected states.

Mixed sampling technique was used in our study. This consist of the single stage cluster sampling, where the ministries' form clusters for random selection, and opportunity sampling technique where members of the population from the ministries are selected based on availability. Table 2 shows the distribution of the sample units.

**Table 2: Distribution of sample units**

S/N	State	Civil Servants
1.	Abia	84
2.	Anambra	85
3.	Ebonyi	51
4.	Enugu	86
5.	Imo	93
Total		399

## Analysis

**Table 3 Demographic Variables**

Variables	Items	Frequency	Percentage
Gender	Male	125	32%
	Female	263	68%
<b>Total</b>		<b>388</b>	<b>100%</b>
Age Bracket	18-24	20	5.2%
	25-34	70	18.0%
	35-44	81	20.9%
	45-54	114	29.4%
	55-60	103	26.5%
	<b>Total</b>	<b>388</b>	<b>100%</b>
Educational qualification	Primary Education	35	9%
	Secondary Education	78	20%
	Tertiary Education	275	71%
	<b>Total</b>	<b>388</b>	<b>100%</b>

The result in table 3 is on the demographic details of the respondents. From the section on the gender of the respondents, the result reveal that the number of female respondents were higher than that of the male respondents. As regards to the age of the respondents, the result reveals that the bulk of the respondents fall within the older age brackets, with 29.4% between 45-54 years, and 26.5% aged 55-60 years. Followed by 5.2% in the 18-24 age bracket, 18.0% in the 25-34 range, and a slightly higher 20.9% in the 35-44 age group.

**Table 4 Respondents' view on the most commonly used non-professional dietary information source.**

S/n	Index	Ratings	Score (x)	Frequency (F)	%	Fx
1	Social media platforms	SA	5	240	62	1200
		A	4	42	11	168
		FA	3	20	5	60
		D	2	66	62	330
		SD	1	20	5	20
		Total	N = 5	$\Sigma f = 388$	100	$\Sigma fx = 1778$
	Mean score =	4.58 (significant) = 92%				
	Friends and family	SA	5	38	10	190
		A	4	254	65	1016
		FA	3	35	9	105
		D	2	31	10	62
		SD	1	30	8	30
		Total	N = 5	$\Sigma f = 388$	100	$\Sigma fx = 1403$
	Mean score =	3.62 (significant) = 73%				
	Online forums/blogs	SA	5	86	22	430
		A	4	42	11	168
		FA	3	220	57	660
		D	2	20	5	40
		SD	1	20	5	20
		Total	N = 5	$\Sigma f = 388$	100	$\Sigma fx = 1318$
	Mean score =	4.14 (significant) = 83%				

Table 4 shows the Respondents' views on the most commonly used non-professional dietary information source. Mean scores of 4.58, 3.62, and 4.14 were obtained representing 92%, 73% and 83% of the respondents who used different sources of non-professional dietary information sources. Data presented in this table indicates that majority of the respondents obtain diet information from non-professional sources via social media platforms. While other respondents indicate that they are convinced through referrals and recommendations by family, friends and online blogs.

**Table 5: Respondents view on Non-professional sources that influence their dietary behaviour**

S/n	Index	Ratings	Score (x)	Frequency (F)	%	Fx
1	Fad diet trends	SA	5	245	63	1225
		A	4	41	11	164
		FA	3	20	5	60
		D	2	62	16	124
		SD	1	20	5	20
		Total	N = 5	$\Sigma f = 388$	100	$\Sigma fx = 1058$
	Mean score =	2.72 (not significant) = 54%				
	Recipe recommendations	SA	5	254	65	1270
		A	4	38	10	152
		FA	3	35	9	105
		D	2	31	10	62
		SD	1	30	8	30
		Total	N = 5	$\Sigma f = 388$	100	$\Sigma fx = 1619$
	Mean score =	4.17 (significant) = 83%				
	Cultural traditions	SA	5	86	22	430
		A	4	42	11	168
		FA	3	20	5	60
		D	2	220	57	440
		SD	1	20	5	20
		Total	N = 5	$\Sigma f = 388$	100	$\Sigma fx = 1118$
	Mean score =	2.88 (not significant) = 58%				
	Personal anecdotes	SA	5	66	17	330
		A	4	52	13	208
		FA	3	20	5	60
		D	2	200	52	400
		SD	1	30	8	30
		Total	N = 5	$\Sigma f = 388$	100	$\Sigma fx = 1028$
	Mean Score	2.65 (not significant) = 54%				
	Testimonials from others	SA	5	86	22	430
		A	4	42	11	168
		FA	3	20	5	60
		D	2	220	57	440
		SD	1	20	5	20
		Total	N = 5	$\Sigma f = 388$	100	$\Sigma fx = 1118$
		2.88 (not significant) = 58%				

Table 5 presents respondents view on Non-professional sources that influence their dietary behaviour. Mean score value of 4.17 was obtained after analyzing the response from 83% of the respondents said that recipe recommendations from non-professional sources influence their dietary behaviour. This therefore means that majority of the respondents said that recipe recommendations have the strongest influence, likely due to their practicality and accessibility. 58% portion of the respondents reported that cultural traditions influence their dietary behaviour. Those who believed in testimonials from others formed another 58% portion of the respondents, while those who believed in personal anecdotes and fads and diet formed 54% of the respondents respectively.

**Table 6: Response rate of respondents who believe that non-professional dietary information sources provide accurate and reliable information**

S/n	Index	Ratings	Score (x)	Frequency (F)	%	Fx
1	Strongly believe	SA	5	66	17	330
		A	4	42	11	168
		FA	3	20	5	60
		D	2	240	62	480
		SD	1	20	5	20
		Total	N = 5	$\Sigma f = 388$	100	$\Sigma fx = 1058$
	Mean score =	2.72 (not significant) = 54%				
	Believe	SA	5	259	67	1295
		A	4	38	10	152
		FA	3	30	8	90
		D	2	31	10	62
		SD	1	30	8	30
		Total	N = 5	$\Sigma f = 388$	100	$\Sigma fx = 1619$
	Mean score =	4.17 (significant) = 83%				
	Strongly do not believe	SA	5	86	22	430
		A	4	42	11	168
		FA	3	20	5	60
		D	2	220	57	440
		SD	1	20	5	20
		Total	N = 5	$\Sigma f = 388$	100	$\Sigma fx = 1118$
	Mean score =	2.88 (not significant) = 58%				
	Do not believe	SA	5	66	17	330
		A	4	52	13	208
		FA	3	20	5	60
		D	2	200	52	400
		SD	1	30	8	30
		Total	N = 5	$\Sigma f = 388$	100	$\Sigma fx = 1028$
	Mean Score	2.65 (not significant) = 54%				
	Do not know	SA	5	76	20	380
		A	4	42	11	168
		FA	3	20	5	60
		D	2	230	59	460
		SD	1	20	5	20
		Total	N = 5	$\Sigma f = 388$		$\Sigma fx = 1088$
	Mean Score	2.80 (not significant) = 56%				

Table 6 shows the Response rate of respondents who believe that non-professional dietary information sources provide accurate and reliable information. Those who believed that non-professional dietary information sources provide accurate and reliable information were significant in the result with percentage value of 83% and a mean score of 4.17. Those who strongly believed that non-professional dietary information sources provide accurate and reliable information formed 54% of the result with mean score value of 2.72. There was a less significant portion of the population of the respondents who reported that they strongly do not believe that non-professional dietary information sources provide accurate and reliable information. This result is backed up with a percentage value of 58 and a mean score of 2.88.

**Demographic Distribution of In-Depth Interview (IDI) Respondents**

State	Designation	Gender	Age
Anambra	Respondent 1	Male	56
	Respondent 2	Female	40
	Respondent 3	Female	38
Abia	Respondent 4	Female	54
	Respondent 5	Male	27
	Respondent 6	Male	50
Imo	Respondent 7	Female	43
	Respondent 8	Male	59
	Respondent 9	Female	44
Ebonyi	Respondent 10	Female	34
	Respondent 11	Female	52
	Respondent 12	Male	55
Enugu	Respondent 13	Male	23
	Respondent 14	Male	45
	Respondent 15	Female	53

Table 7 shows that eight of the respondents were females while seven respondents were males representing the entire age spectrum.

## 5. DISCUSSION OF FINDINGS

The first finding of the study reveals that civil servants in south-east Nigeria seek for dietary information from non-professional sources. This was determined by the data generated from quantitative and qualitative data. Data in table 4 indicate that majority of the respondents seek for dietary information from non-professional information sources.

Further probe on the extent civil servants in south-east Nigeria seek non-professional dietary information sources, the interview was held with 15 respondents. The interview discovered that majority of the respondents seek for dietary information from non-professional sources and that some of the respondents seek for diet information because they want to try a new diet or that a specific health issue came up in their families. This implies that the quantitative data agreed with the qualitative data generated earlier.

This shows prevalent reliance on informal channels such as social media, friends, or unverified internet platforms. The finding of this study aligns with the study by Tell, Aishawish, and Badraswi (2023) on nutrition literacy and its impact on dietary behaviour among Palestinians. Both studies emphasize the importance of information-seeking behaviour in shaping dietary habits. The study by Tell et al revealed that individuals with high functional nutrition literacy were more likely to trust professional information sources and engage in healthier eating patterns. However, it also revealed a general lack of knowledge about healthy diets. While this study highlights the predominance of non-professional sources in influencing dietary decisions as presented in table 4.

Furthermore, table 4 shows that a significant high level of the respondents uses the social media platforms to seek for dietary information from non-professional information sources this finding agrees with the findings of Quaidoo et al (2018) that majority of the respondents seek for diet information from the social media because they believe that they get a lot of information on diet via social media and that it is a prominent platform where individuals seek dietary information due to the abundance of accessible content. This aligns with the present study's findings in Table 4, where majority of the respondents confirmed using social media to access dietary information from non-professional sources. This shared observation emphasizes the role of social media as a modern, convenient medium for dietary information.

The second finding revealed as presented in table 5 and in-depth interview respectively that majority of the respondents claim they frequently follow dietary advice from non-professional sources and also majority of the respondents said that they are influenced by recipe recommendations, second in influence are testimonials from



others and the third is personal anecdotes influence their dietary behaviour these respondents often find relatable, real-world examples more trustworthy than clinical or professional advice, especially when these stories match their lifestyle or health concerns this also validate the theory of planned behaviour (TPB) on which this work is anchored given that attitudes towards a behaviour are a crucial determinant of the intention to engage in it. Non-professional sources like recipe recommendations, testimonials, and personal anecdotes appear to shape these attitudes by providing relatable, practical, and culturally relevant dietary advice.

Testimonials from others and personal anecdotes reflect how social norms and shared experiences encourage dietary changes and influence of family, friends, and online communities strengthens the role of non-professional information in shaping dietary norms. This aligns with TPB's notion that individuals are influenced by their perception of what significant others (family, friends, peers) believe they should do, thus reinforcing dietary patterns consistent with cultural expectations and social norms.

The finding in this work aligns with the study findings by Adamski et al., (2020) who examined the use of non-professional sources for dietary information in a large-scale online nutrition course. The findings from the study, highlighted the growing influence of non-professional sources such as internet websites, social media, and testimonials from individuals without formal nutrition qualifications as sources that influence the dietary behaviour of individuals.

The third findings of the study from table 6 shows that majority of the civil servants in south-east Nigeria believe that non-professional dietary information sources provide accurate and reliable information. This finding aligns with Kim and Yeon's (2016) observation that non-professional sources resonate with users for low-sensitivity dietary topics, where the stakes are perceived to be lower, and personal experiences are deemed more relatable. Kim and Yeon found out that respondents reported professional sources as more credible and useful overall.

## 6. CONCLUSION/ RECOMMENDATIONS

The study used relevant research questions to establish the influence of non-professional dietary information sources in the dietary behaviour of civil servants in southeast Nigeria. The study reveals a prevalent reliance on non-professional dietary information sources such as social media, family, friends, and internet platforms. Moreover, social media influencers and bloggers in South-East Nigeria are particularly influential among civil servants, echoing similar trends observed in other global contexts with celebrity chefs and lifestyle gurus as influential in their dietary decision. Also, civil servants often view these non-professional sources as reliable and trustworthy, there remains an undercurrent of uncertainty about the accuracy of the information. In conclusion, the findings underscore the importance of addressing barriers to professional dietary consultations while promoting awareness of the risks associated with over-reliance on non-professional sources. Policies and interventions aimed at enhancing access to credible dietary information and improving nutrition literacy among civil servants in South-East Nigeria are essential to fostering healthier dietary behaviours.

### Recommendations

Based on the conclusions of the study, the following recommendations were made';

1. **Improve Access to Professional Dietary Information:** Government and health organizations should establish accessible and affordable channels for civil servants to consult professional dietitians and nutritionists. This could include subsidized health services or workplace nutrition programs.
2. **Enhance Nutrition Literacy Programs:** Initiatives should be introduced to educate civil servants on how to critically evaluate dietary information from both professional and non-professional sources. Workshops, seminars, and digital campaigns can improve their ability to distinguish credible information from unreliable sources.
3. **Regulate and Monitor Dietary Content on social media:** Authorities should collaborate with social media platforms to ensure that dietary information shared by influencers and bloggers is accurate and evidence-based. Certification programs for dietary influencers could also be introduced to improve the quality of information disseminated.
4. **Encourage Workplace Nutrition Support Systems:** Employers, particularly in government ministries, should incorporate nutrition education and support into workplace wellness programs. This could include periodic talks by nutrition professionals, distribution of credible dietary resources, and on-site dietitian services to make professional advice more readily available.

# REFERENCES

1. Adamski, M., Truby, H., Klassen, K. M., Cowan, S., & Gibson, S. (2020). Using the internet: Nutrition information-seeking behaviours of lay people enrolled in a massive online nutrition course. *Nutrients*, 12(3). <https://doi.org/10.3390/nu12030750>
2. Anyaoku, E. & Nwosu, O.C. (2017). Determinants of Health Information Use for Self-Efficacy in Lifestyle Modification for Chronic Diseases Patients. *Evidence Based Library and Information Practice Journal* DOI: 10.18438/B8TC9D.
3. Cash, T., Desbrow, B., Leveritt, M., & Ball, L. (2015). Utilization and preference of nutrition information sources in Australia. *Health Expectations*, 18(6), 2288–2295. <https://doi.org/10.1111/hex.12198>
4. Chukwu, E., & Dogbe, W. (2023). The cause and effect of the nutrition transition in Nigeria: analysis of the value of indigenous knowledge and traditional foods in Enugu State, Igboland. *Journal of Ethnic Foods*. <https://doi.org/10.1186/s42779-023-00198-z>
5. Colozza, D. (2021). Dietary health perceptions and sources of nutritional knowledge in an urban food environment: A qualitative study from Indonesia. *Public Health Nutrition*, 24(10), 2848–2858. <https://doi.org/10.1017/S1368980020003900>
6. Davis, S. (2022). Exploring the relationship of sources of nutrition information sought and perceived reliability with nutrition knowledge level among women. Rutgers, The state university of New Jersey. New Brunswick, New Jersey. <https://rucore.libraries.rutger.edu>
7. Dietary Guidelines for Americans (2020). USDA Publication, Department of Health & Human Services USA.
8. Dunneram, Y., & Jeewon, R. (2015). Determinants of eating habits among older adults. *Progress in Nutrition*, 17(4), 274–283.
9. Ellen, S. (2020). Slovin's formula for sample size. <https://sciencing.com/slovins-formula-sampling-techniques-5475547.html>
10. Fenta, E. T., Tiruneh, M. G., & Anagaw, T. F. (2023). Exploring Enablers and Barriers of Healthy Dietary Behavior Based on the Socio-Ecological Model, a Qualitative Systematic Review. *Nutrition and Dietary Supplements*, Volume 15(February), 13–23. <https://doi.org/10.2147/nds.s395444>
11. Hakli, G., Asil, E., Uçar, A., Özdoğan, Y., Yilmaz, M. V., Özçelik, A. Ö., Sürücüoğlu, M. S., Çakiroğlu, F. P., & Akan, L. S. (2016). Nutritional knowledge and behavior of adults: Their relations with sociodemographic factors. *Pakistan Journal of Nutrition*, 15(6), 532–539. <https://doi.org/10.3923/pjn.2016.532.539>
12. Hamidianshirazi, M., Ekramzadeh, M., & Nouri, M. (2022). Sources of Nutritional Information among Adults. *International Journal of Nutrition Sciences*, 7(2), 90–95. <https://doi.org/10.30476/IJNS.2022.95548.1188>
13. Heuberger, R., & Ivanitskaya, L. V. (2015). Preferred Sources of Nutrition Information: Contrasts Between Journal of Intergenerational Preferred Sources of Nutrition Information Contrasts Between Younger and Older Adults. September. <https://doi.org/10.1080/15350770.2011.567919>
14. Kreft, M., Smith, B., Hopwood, D., Blaauw, R., Kreft, M., Smith, B., Hopwood, D., Blaauw, R., Group, F., Kreft, M., Smith, B., Hopwood, D., & Blaauw, R. (2023). The use of social media as a source of nutrition information The use of social media as a source of nutrition information. <https://doi.org/10.1080/16070658.2023.2175518>
15. Lowie, V., Proesmans, J., Vermeir, I., Backer, C. De, & Geuens, M. (2022). Food Media and Dietary Behavior in a Belgian Adult Sample: How Obtaining Information from Food Media Sources Associates with Dietary Behavior. 67(May), 1–9. <https://doi.org/10.3389/ijph.2022.1604627>
16. Naaz, S. (2021). Knowledge, attitude and practices pertaining to healthy lifestyle in prevention and control of chronic diseases: a rapid review. 8(10), 5106–5112.
17. Oliveira, L., Póinhos, R., Afonso, C., & Vaz Almeida, M. D. (2021). Information Sources on Healthy Eating Among Community Living Older Adults. *International Quarterly of Community Health Education*, 41(2), 153–158. <https://doi.org/10.1177/0272684X20915362>
18. Paquette, M. C. (2005). Perceptions of Healthy Eating: State of Knowledge and Research Gaps. *Canadian Journal of Public Health*, 96(July 2005), S16–S21. <https://doi.org/10.1007/BF03405196>
19. Quaidoo, E. Y., Ohemeng, A., & Amankwah-Poku, M. (2018). Sources of nutrition information and level of nutrition knowledge among young adults in the Accra metropolis. *BMC Public Health*, 18(1), 1–8. <https://doi.org/10.1186/s12889-018-6159-1>
20. Salami, L. I., & Isoken, I. (2017). Media information on nutrition and perceived benefits by adults living in Benin metropolis, Edo state , Nigeria. 8, 150–154.
21. Scalvedi, M. L., Gennaro, L., Saba, A., & Rossi, L. (2021). Relationship Between Nutrition
22. Knowledge and Dietary Intake: An Assessment Among a Sample of Italian Adults. 8(September), 1–13. <https://doi.org/10.3389/fnut.2021.714493>

23. Spronk, I., Kullen, C., Burden, C.A., & O'Connor, H. (2014). Relationship between nutrition knowledge and dietary intake. *The British Journal of nutrition*. DOI: 10.1017/S0007114514000087.
24. Survey, W. (2023). Diet-Nutrition Information Seeking, Source Trustworthiness, and Eating Behavior Changes: An International Web-Based Survey.
25. Wagner, M. G., Kim, Y., & Rhee, Y. (2018). Healthy and Unhealthy Dietary Behaviors among Adults: A Cross-Sectional Healthy and unhealthy dietary behaviors among adults: a cross-sectional study. January. <https://doi.org/10.14367/kjhep.2017.34.5.83>