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# Nutrition knowledge of gym members

**Alisson Gabriel de Lima Oliveira[1], Rodrigo de Magalhães Vianna[2].**

**ABSTRACT**
Nutrition is crucial to health, involving the ingestion, digestion, absorption and utilization of food. Poor diet is a significant global risk factor, increasing diseases such as obesity. Physical exercise is essential for improving health and quality of life, but it can promote stereotypical aesthetic standards and poor eating habits. The regular practice of physical activity requires a balanced diet for better performance and well-being. The research assessed the nutritional knowledge of adults who practice physical exercise.

**Keywords:** Nutrition, Physical exercise, Public health.

## INTRODUCTION

According to Mitchell (1978), nutrition is the science of food and nutrients, which involves the process by which the body ingests, digests, absorbs, transports, uses and eliminates food substances, and also refers to the balance that determines their association with health and disease. Poor diet is one of the main risk factors related to the global burden of disease in the world. Although people are increasingly aware of the need to take care of their health, diseases such as obesity are becoming more and more prevalent (BORTOLINI et al, 2020).

In this sense, physical exercise has been gaining strength and notoriety in the face of the demand for better health and quality of life, above all because of the countless benefits it provides. Physical exercise is considered to be any type of planned, structured and repetitive physical activity that aims to improve or maintain physical capabilities and adequate weight (BRASIL, 2021).

According to Moreira and Rodrigues (2014), the environment of gyms, popular spaces for physical exercise, favors the dissemination of stereotyped aesthetic standards, leading many regulars to develop inadequate eating habits and often resort to the use of dietary supplements. The need to eat a healthy and balanced diet while practicing physical activity not only has repercussions in terms of aesthetics, but is also a case of public health and longevity in relation to old age, i.e. becoming increasingly active and healthy even as the years go by.

Physical fitness and good health are not synonymous, but complementary. While good health simply means the absence of disease, physical fitness presupposes sufficient energy to pursue life's rewards and not be physically dependent on other people (FIME, 1997). The popularization of regular

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physical activity, as well as the demand for greater personal satisfaction with self-image, has therefore not always led to good health conditions, especially with regard to diet, given that many excesses are committed in the name of performance and results (BERNARDO et al, 2020).

Given the recurrent encouragement to exercise by various media, it is common for bodybuilding students to neglect diet as a way of enhancing the benefits of exercise, adopting the practice of fasting, for example (BERNARDO et al, 2020). Such practices should not be encouraged, as they can compromise the body's health and functional performance.

In individuals who practice physical activities, nutrition therefore emphasizes the importance of a diet in maintaining well-being, so that the process of nutrition is characterized by the conversion of substances into nutrients that are used to maintain organic function (MAHAN; ESCOTT-STUMP; RAYMOND, 2012).

Thus, each nutrient ingested can be used for a specific purpose and of specific importance, for example, a well-balanced diet can reduce muscle fatigue, further improving an individual's physical performance, while a lack of these nutrients can lead to a reduction in the ability to perform sports (MAHAN; ESCOTT-STUMP; RAYMOND, 2012).

The aim of the study was to assess the nutritional knowledge of adults who exercise.

## METHODOLOGY

### RESEARCH DESIGN

This is a cross-sectional, quantitative, descriptive and analytical study.

### SAMPLE

An intentional sample of 15 adults aged 30-65 who practiced regular physical activity (aerobic and/or resistance exercise for at least 60 minutes a week) was selected.

People who did not practice regular physical activity were excluded from the study, giving a total sample of 13 subjects.

### PROCEDURES

The interviews were carried out between August and September 2023, on the premises of the Eugênio Fortes Prime Academy, located at Rua General Adelmar da Rocha, 910, in the city of Teresina-PI, a co-participating institution in this research, whose authorization is included in (APPENDIX 1). The participants, chosen at random from among the locals, were invited to take part in the research after being informed of the purposes and guarantees contained in the Free and Informed Consent Form, model (APPENDIX 2), as well as signing it.

The interview consisted of two data collection instruments: (1) a sociodemographic questionnaire containing: identification, age, weight, height, gender, schooling, how long they had been practicing physical activity and how often, as well as whether they had been/are being monitored for nutrition and for what reason (APPENDIX 1). (2) the Nutritional Knowledge Scale (APPENDIX 2) proposed by Harnack et al. (1997) and later translated into Brazilian Portuguese by Scagliusi et al. (2006).

ETHICAL AND LEGAL ASPECTS

Participation in the study was voluntary, with the signing (or fingerprinting) of the Free and Informed Consent Form, after due clarification and verbal explanation of the study's objectives and procedures.

The research was approved by the Research Ethics Committee under CAAE: 74423723.5.0000.5648.

## RESULTS AND DISCUSSION

Table 1 shows the profile of the interviewees in the study's sample group. It is clear that in terms of age, the group is more mature, with the majority aged over 33. They have been practicing exercise for a long time, with ten (10) of the thirteen (13) interviewees having practiced regularly for more than four years and doing physical activity more than three times a week. The most practiced activity was weight training (11 subjects). Gender was well balanced. Another relevant point is that the majority of participants have a good level of education, with a 3rd degree completed, 11 individuals.

In a study published with 59 bodybuilders of both sexes and aged between 18 and 65, from a gym in Goiânia, Santos (2013) pointed out that bodybuilding is one of the physical activity practices sought to improve physical conditioning due to its ability to increase muscle mass and decrease fat mass, improving quality of life. Menezes (2019), in his study, pointed out that users' bodybuilding training has a weekly frequency of 3 times a week (58.5%), with session duration between 46 and 60 minutes (70.7%) and moderate intensity (73.2%).

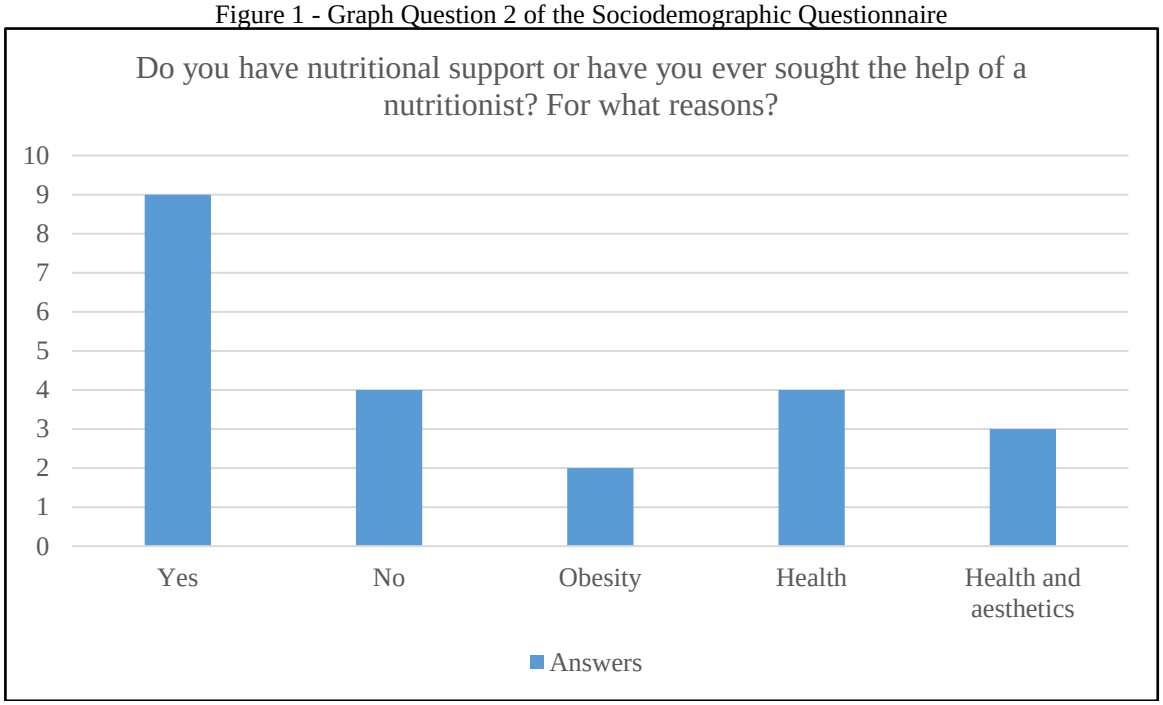
Table 1 - Sample profile

| **Age** | **Number of students** |
|---|---|
| Over 48 | 6 |
| 38 to 47 years old | 2 |
| 33 to 37 years old | 4 |
| 30 to 32 years old | 1 |
| **Weekly practice frequency** | |
| 3 to 4x weekly | 5 |
| 4x a week or more | 7 |
| **Practice time** | |
| Up to 1 year | 2 |
| 1 to 2 years | 1 |

| | |
|---|---|
| More than 4 years | 10 |
| **Type of activity practiced** | |
| Weight training | 11 |
| Aerobic activities | 1 |
| Both | 1 |
| **Education level** | |
| 2nd degree complete | 2 |
| 3rd degree complete | 11 |
| **Genre** | |
| Male | 7 |
| Female | 6 |
| **Weight Kg (average)** | |
| Male | 78,1 |
| Female | 62,3 |
| **Height m (average)** | |
| Male | 1,68 |
| Female | 1,56 |

Source: Authors (2023)

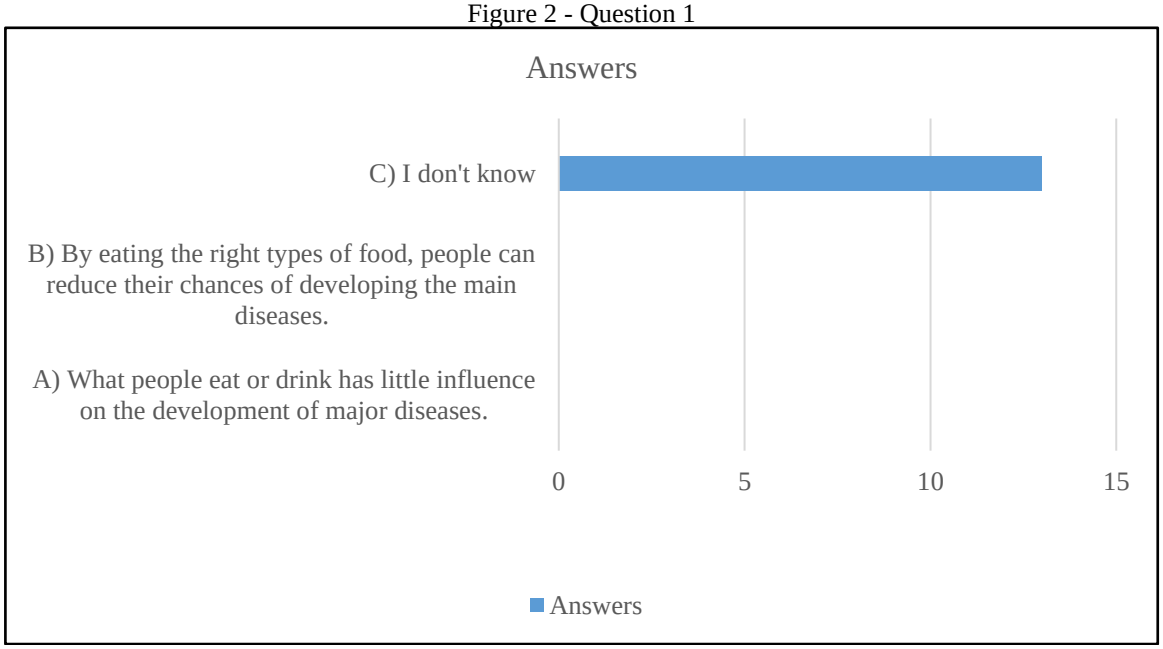
Figure 1 - Graph Question 2 of the Sociodemographic Questionnaire




Source: Authors, (2023)

In Figure 1, the aim was to investigate whether the subjects had or had ever sought nutritional help and for what reason(s). The reasons were health and aesthetic issues. Approximately 70% of the sample answered that they had already sought this assistance. According to Moreira and Rodrigues (2014), the gym environment favors the use of dietary supplements, but there is still a lack of information and guidance regarding their use, which can have harmful effects on health.

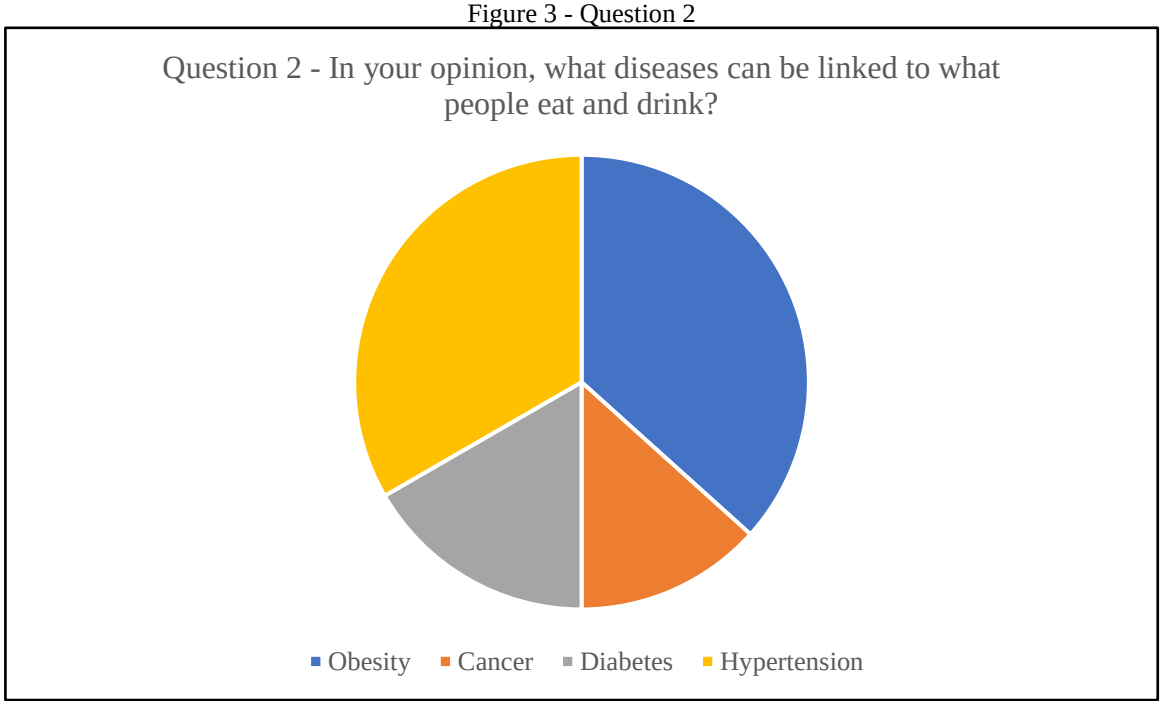
Figure 2 - Question 1




Source: Authors, (2023)

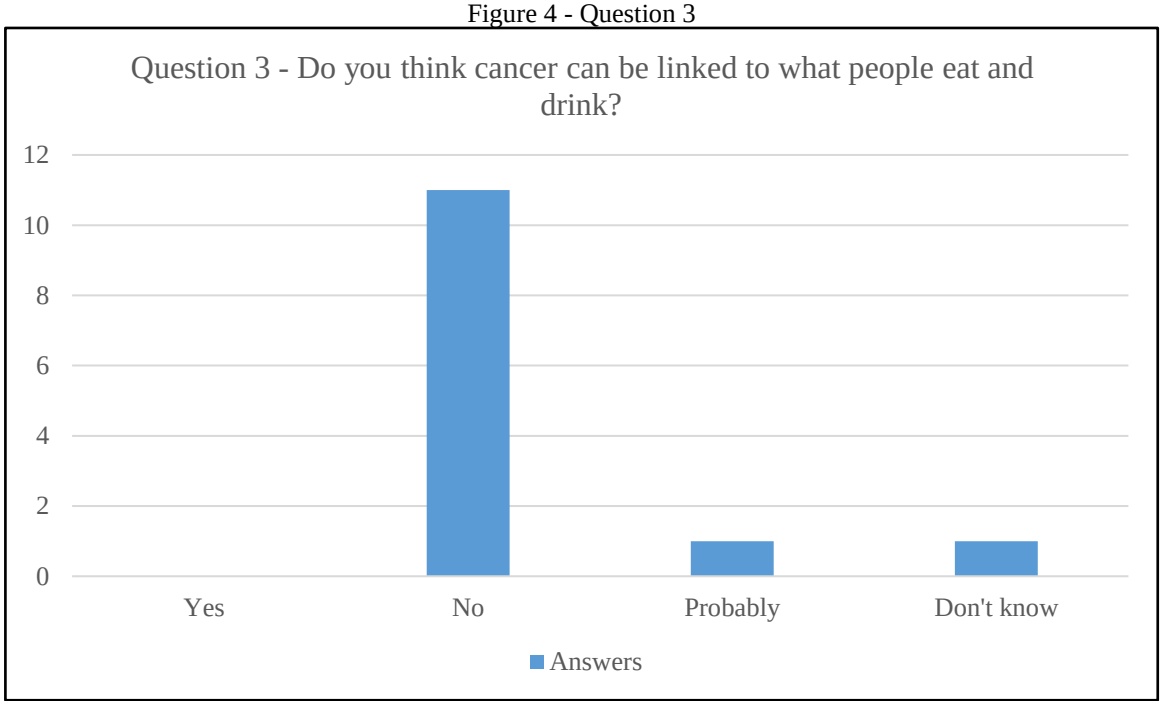
According to the answer to Question 1, Figure 2, the individuals questioned seem to be unaware of the relationship between health and food. However, in the next question, Figure 3, they demonstrated that the types of food can influence chronic diseases. They point to hypertension and obesity as the greatest correlation. In Figure 4, they were unable to directly relate food to cancer (CA). Despite the results showing the relationship between food and disease, it can be seen that there is still a lack of reliable information about food, and this fact strengthens the need for nutritionists in gyms, with the aim of disseminating reliable nutritional information to this public in question, as pointed out by Souza and Navarro (2011).

Figure 3 - Question 2



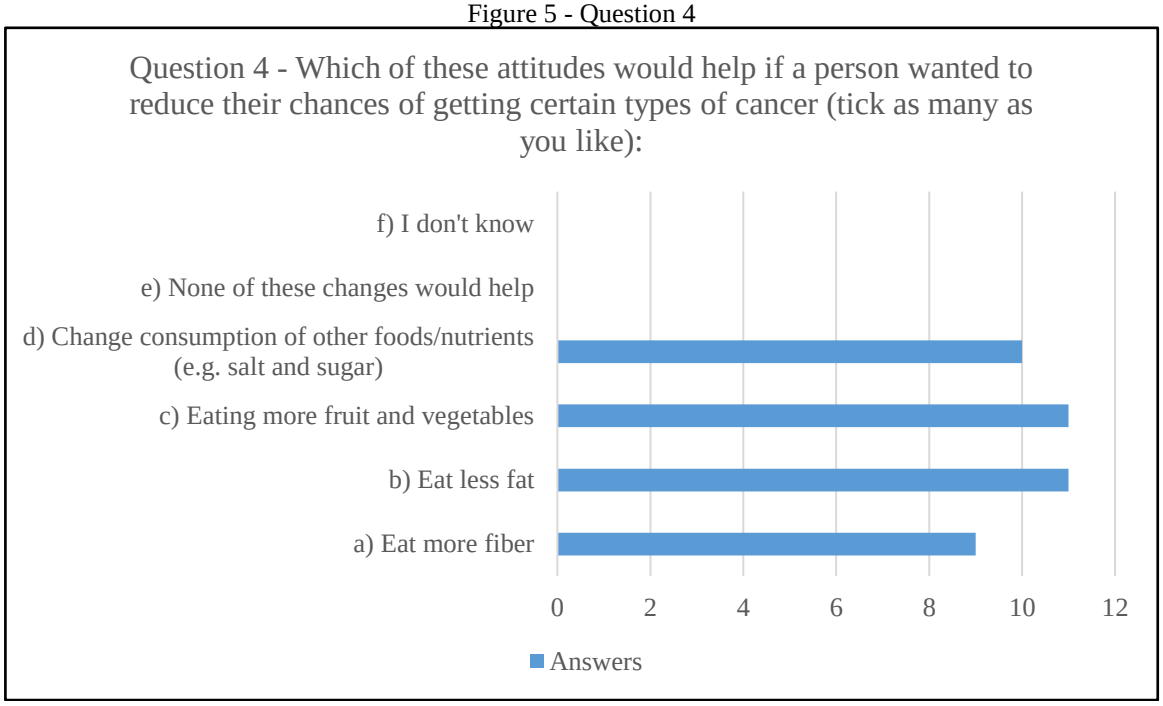

Source: Authors, (2023)

Figure 4 - Question 3




Source: Authors, (2023)

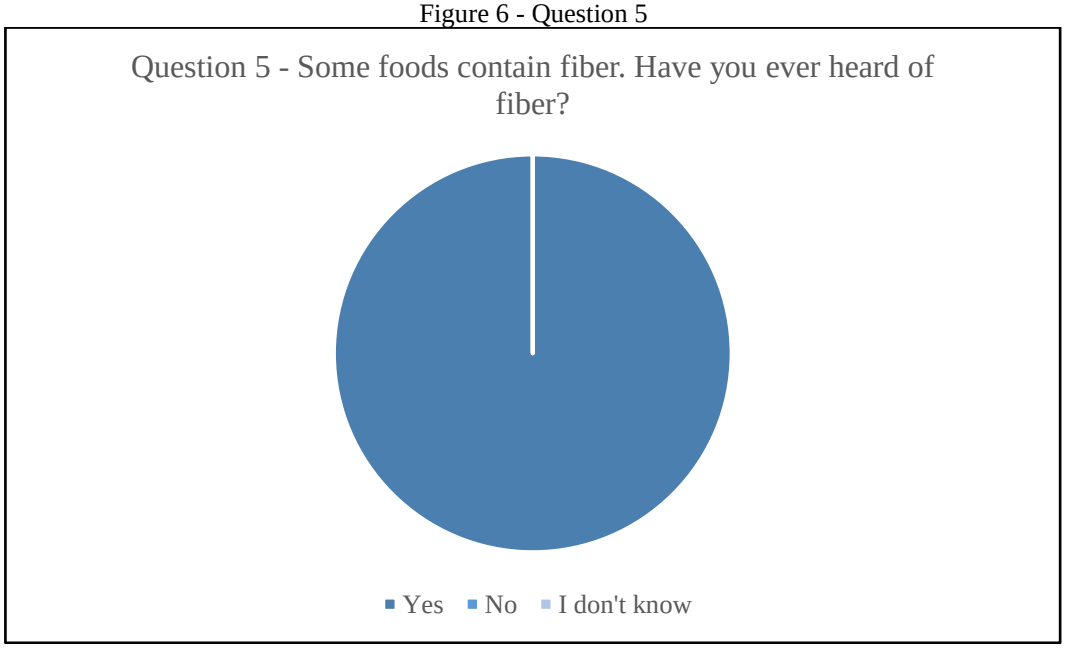
Figure 5 - Question 4




Source: Authors, (2023)

In Figures 5 and 6, when they list types of food, the interviewees demonstrate common sense knowledge when they think about reducing the incidence of AC. They choose foods that are less harmful to health and healthier. Fruits, vegetables and legumes provide a wide variety of nutrients, such as vitamins, minerals, fiber, water and antioxidants, which are essential for maintaining the health of any being, especially physically active individuals, who are constantly undergoing oxidative and inflammatory processes (Rebelatto et al., 2008).

Figure 6 - Question 5




Source: Authors, (2023)

In the block of questions on types of food and macronutrients, Figures 7 to 11, the sample had a lot of doubts in answering the questions, but in general they were able to see which class they belonged to among the types of food.

In the study by Sommer et al. (2019), it was found that more than half of the sample evaluated answered correctly about the food sources of macronutrients.

Figure 7 - Question 6

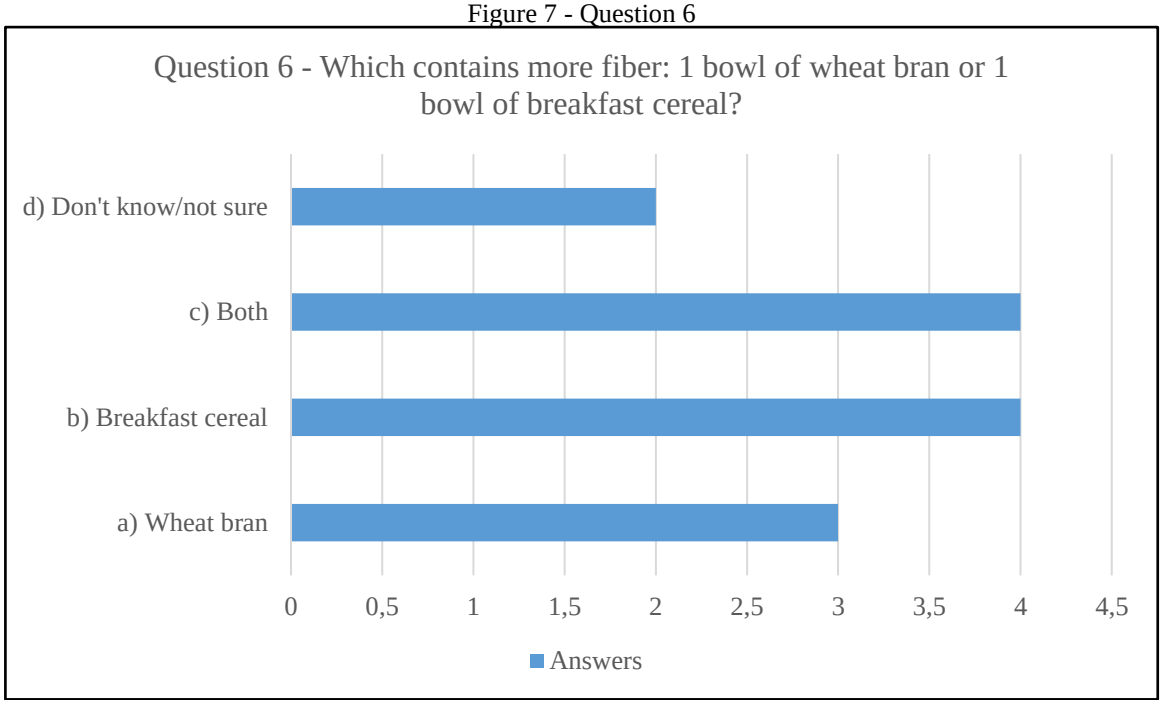



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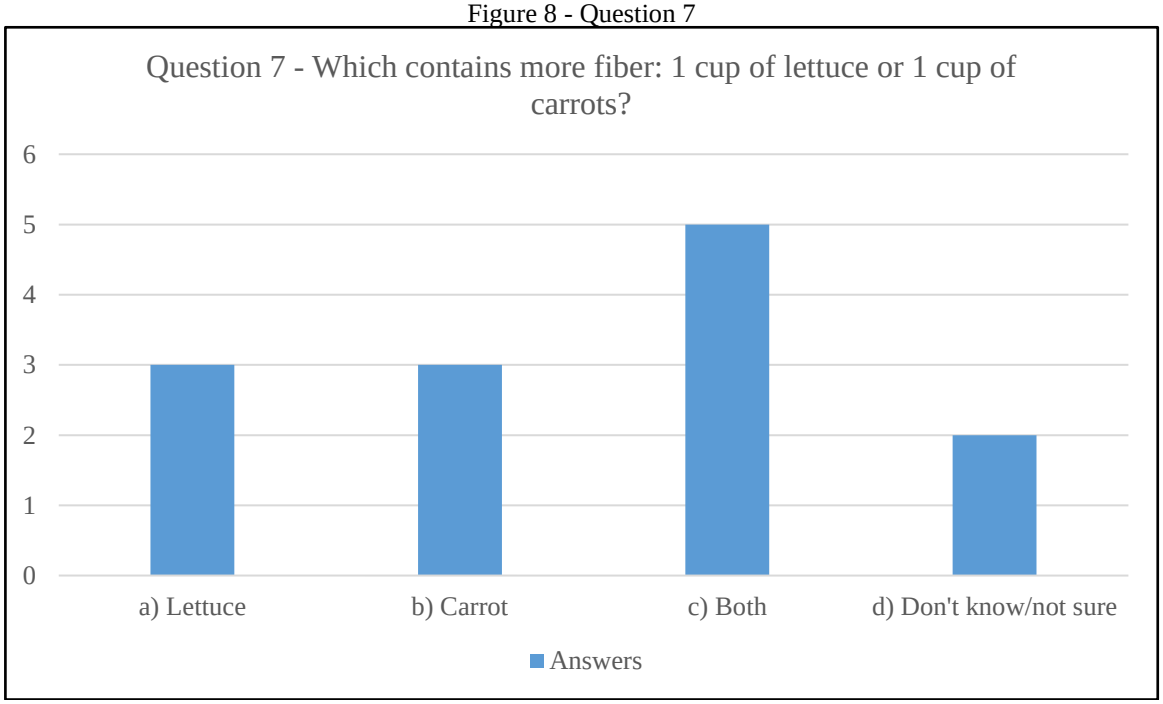
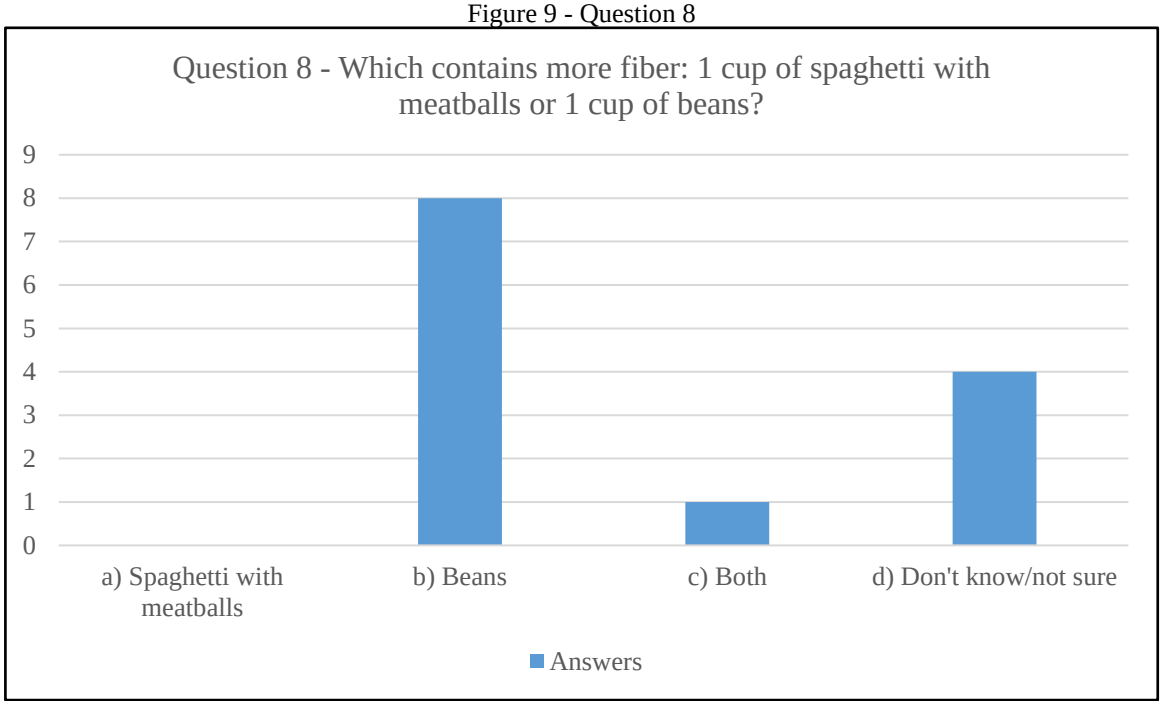
Figure 8 - Question 7




Source: Authors, (2023)

Figure 9 - Question 8

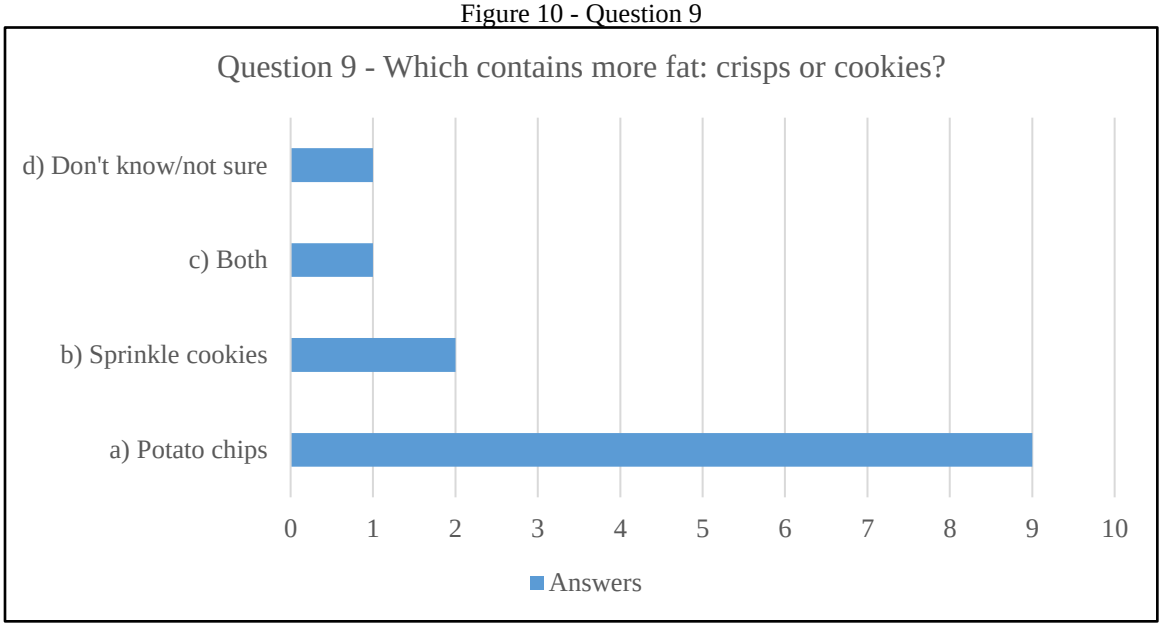



Source: Authors, (2023)

In this study, the relationship between fiber and type of food was well understood by the participants.

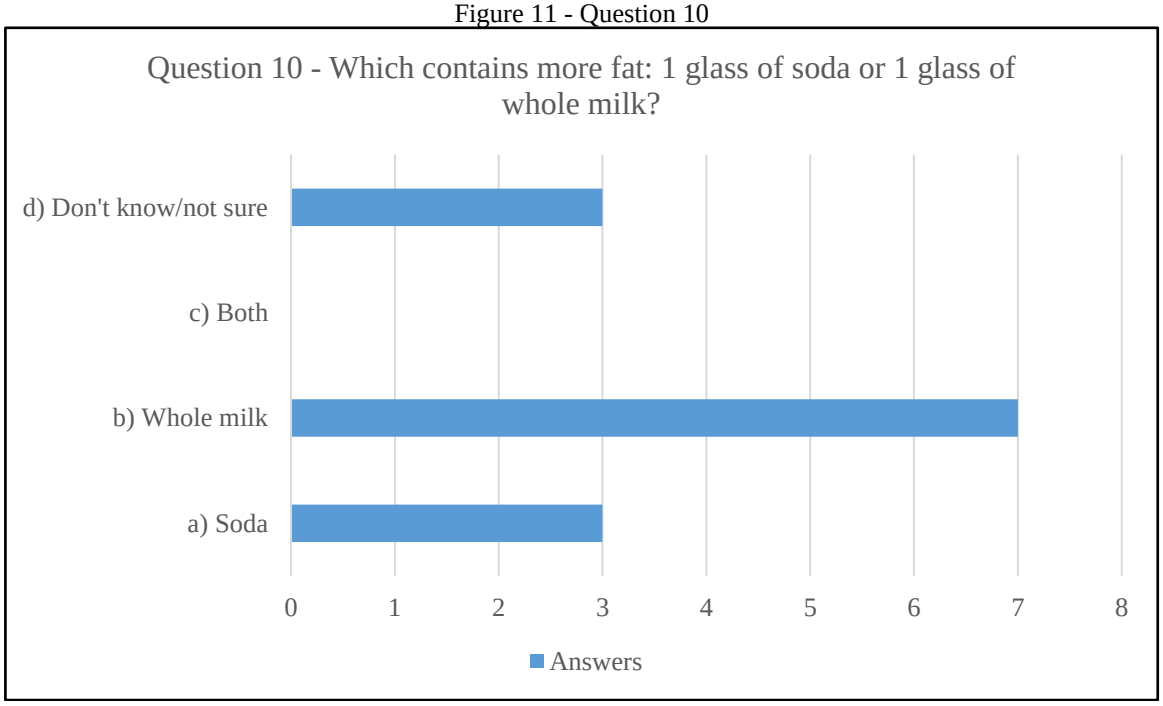
In the study by Yano et al (2021), although the vast majority of participants reported having "sufficient" or "very good" knowledge about nutrition, 66.4% believed that protein was the macronutrient that should have the highest daily intake and 60% considered protein to be the macronutrient that contains dietary fiber.

Figure 10 - Question 9



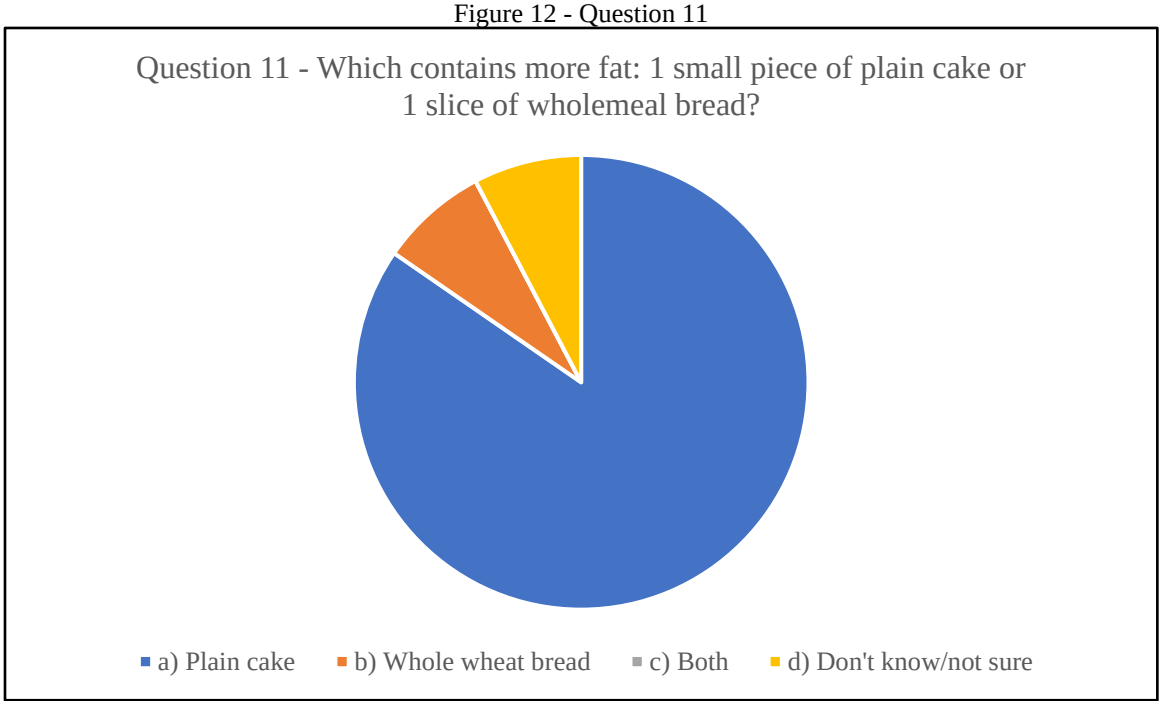

Source: Authors, (2023)

Figure 11 - Question 10




Source: Authors, (2023)

Figure 12 - Question 11




Source: Authors, (2023)

In questions 10 and 11 on fats, respondents answered correctly about the types of food that have more or less fat.

In question number 12 - “How many portions of fruit and vegetables do you think a person should eat a day to be healthy?”, 8 of the interviewees said 3 portions and 5 said 2 portions.

## CONCLUSION

According to the scale used approximately 70% of the sample has a high level of knowledge about nutrition. The fact that the sample was made up of gym-goers with a higher level of education and a education level and a higher age age group may have contributed to the responses.

There are still doubts about macronutrients, especially fiber, and the relationship between types of food and diseases. types of food and diseases. Although they understand the importance of a healthy diet for health.

As a limitation of the research, we leave the number and sample group. We recommend that new studies of this type should be carried out in other realities and we found that contact with nutritionists could be relevant for a better understanding of some aspects related to.

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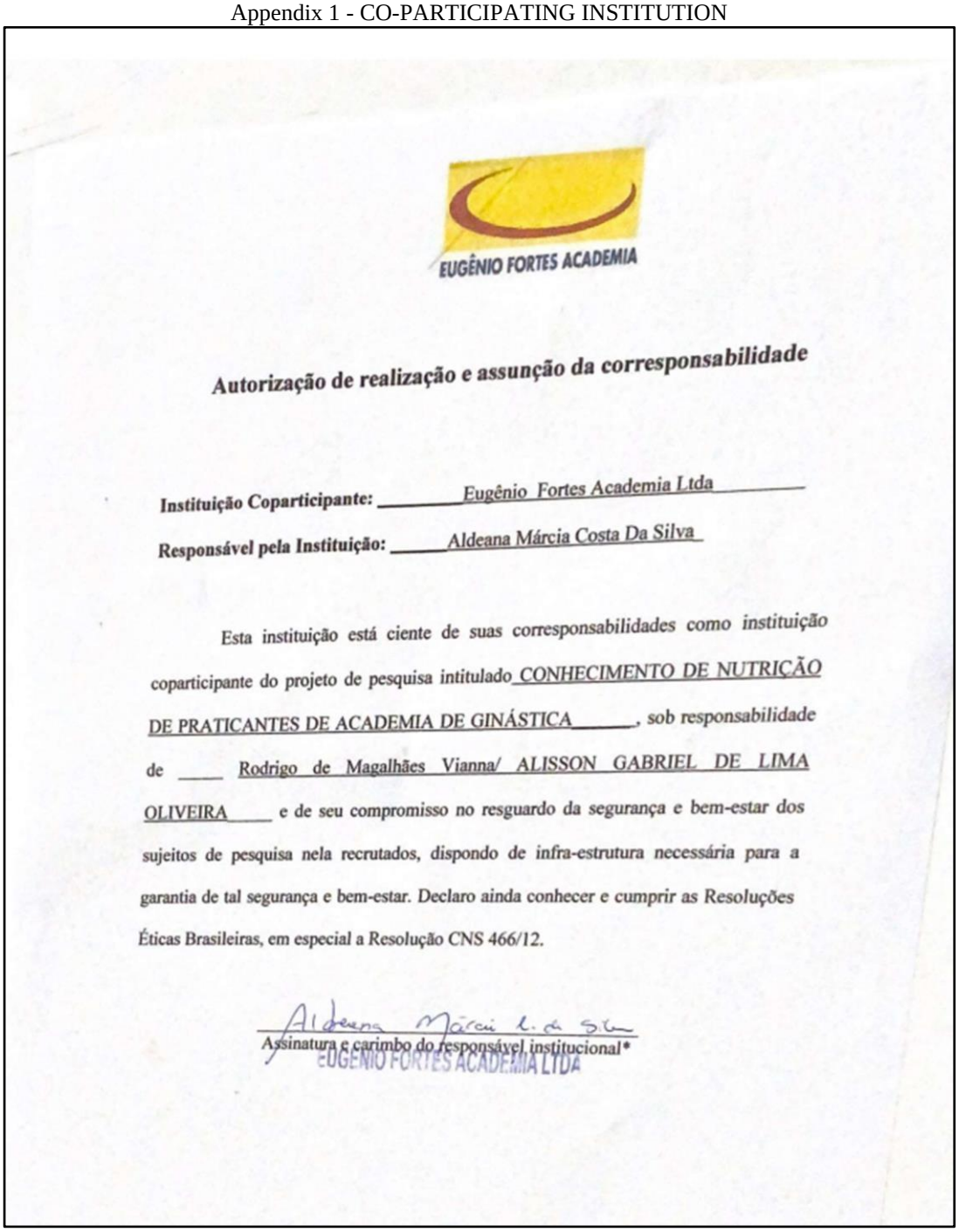
# APPENDIX

Appendix 1 - CO-PARTICIPATING INSTITUTION



EUGÊNIO FORTES ACADEMIA

**Autorização de realização e assunção da corresponsabilidade**

**Instituição Coparticipante:** Eugênio Fortes Academia Ltda

**Responsável pela Instituição:** Aldeana Márcia Costa Da Silva

Esta instituição está ciente de suas corresponsabilidades como instituição coparticipante do projeto de pesquisa intitulado CONHECIMENTO DE NUTRIÇÃO DE PRATICANTES DE ACADEMIA DE GINÁSTICA, sob responsabilidade de Rodrigo de Magalhães Vianna/ ALISSON GABRIEL DE LIMA OLIVEIRA e de seu compromisso no resguardo da segurança e bem-estar dos sujeitos de pesquisa nela recrutados, dispondo de infra-estrutura necessária para a garantia de tal segurança e bem-estar. Declaro ainda conhecer e cumprir as Resoluções Éticas Brasileiras, em especial a Resolução CNS 466/12.

Aldeana Márcia C. da Silva

Assinatura e carimbo do responsável institucional*

EUGÊNIO FORTES ACADEMIA LTDA

Appendix 2 - Free and Informed Consent Form

Research: Nutrition knowledge of gym-goers Researchers: Rodrigo de Magalhães Vianna and Alisson Gabriel de Lima Oliveira. Nature of the research: You are invited to take part in this research, which aims to assess the level of nutritional knowledge in adults who practice physical activities. To do this, 2 questionnaires will be administered.

Participants: 30 people aged between 30 and 60. Involvement in the research: By taking part in this study you will be asked to answer the questionnaires. It is important that you answer all the questions, but

you are free to refuse to take part and/or you can refuse to continue taking part at any stage of the research, without any harm to you. Whenever you wish, you can ask for more information about the research by contacting the researchers on (86) 99945 9671.

Confidentiality: All the information collected in this study is strictly confidential. Only the researchers will be privy to the data. In reports or publications resulting from this work, the participant's identity will not be revealed.

Risks and discomfort: Participation in this research does not involve any complications, risks or discomfort, and you have the right not to answer any of the questions if you do not want to or do not consider it appropriate.

Benefits: You will receive information about the importance of regular physical activity and the contributions of a good diet to maintaining good health.

Payment: You will not be charged anything for taking part in this research. And nothing will be paid for your participation.

Therefore, I_____,CPF (or ID)_____, declare that I have been informed, in a clear and detailed manner, about the objectives of the questionnaires I will be answering and about the benefits of this project. My participation is voluntary and does not involve any kind of financial reward. The questionnaires will be kept confidential and, under no circumstances, will the answers provided by me be prejudicial.

_____

Rodrigo de Magalhães Vianna – Participant Researcher

_____

Alisson Gabriel de Lima Oliveira – Participant Researcher

Teresina,_____of_____2023.

# ATTACHMENTS

Annex 1 - SOCIO-DEMOGRAPHICAL QUESTIONNAIRE

IDENTIFICATION:
Age:
Sex: Male ( ) Female ( ) Weight: Height: What is your level of education?
1st grade incomplete ( )
1st grade complete ( )
2nd grade incomplete ( )
2nd grade complete ( )
Higher education incomplete ( )
Higher education complete ( )
Do you exercise regularly? If yes, how often, for how long and what is the activity?

Do you have nutritional support or have you ever sought help from a nutritionist? For what reasons?

Annex 2 - NUTRITIONAL KNOWLEDGE SCALE

1. I'm going to read you two sentences. Please tell me which one you agree with more:
a) What people eat or drink has little influence on the development of major diseases;
b) By eating the right types of food, people can reduce their chances of developing major diseases.
c) I don't know.

2. In your opinion, which diseases could be related to what people eat and drink?

3. Do you think cancer could be related to what people eat and drink?
a) Yes b) No c) Probably d) I don't know

4. Which of these attitudes would help if a person wanted to reduce their chances of getting certain types of cancer (check as many boxes as you like):
a) Eating more fiber
b) Eat less fat
c) Eating more fruit and vegetables
d) Change the consumption of other foods/nutrients (e.g. salt and sugar)
c) None of these changes would help
d) I don't know

5. Some foods contain fiber. Have you ever heard of fiber?
a) Yes b) No c) I don't know

6. Which contains more fiber: 1 bowl of wheat bran or 1 bowl of breakfast cereal?
a) Wheat bran b) Breakfast cereal c) Both d) Don't know/not sure

7. Which contains more fiber: 1 cup of lettuce or 1 cup of carrots?
a) Lettuce b) Carrots c) Both d) Don't know/not sure

8. Which contains more fiber: 1 cup of spaghetti with meatballs or 1 cup of beans?
a) Spaghetti with meatballs b) Beans c) Both d) Don't know/not sure

9. Which contains more fat: crisps or cookies?
a) Potato chips b) Biscuits c) Both d) Don't know/not sure

10. Which contains more fat: 1 glass of soft drink or 1 glass of whole milk?
a) Soda b) Whole milk c) Both d) Don't know/not sure.

11. Which contains more fat: 1 small piece of plain cake or 1 slice of wholemeal bread?
a) Plain cake b) Wholemeal bread c) Both d) Don't know/not sure

12. How many portions of fruit and vegetables do you think a person should eat a day to be healthy?