DIET ASSESSMENTS OF FEMALE FITNESS CLASS PARTICIPANTS OF THE MOST POPULAR FITNESS CLUBS AND CLASSES IN RZESZOW (POLAND)

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- women
- fitness
- fitness club

Abstract

The goal of this paper is to analyze whether people who are exercising in different disciplines of fitness will eat properly and proportionally. Improper nutrition leads to problems with achieving the desired effect of long term continued fitness which can lead the individual to 'throwing in the towel'. This paper evaluated the diet of women training in various selected fitness clubs in Rzeszów, Poland. The research was conducted in May 2019, on 55 women between 19 and 36 years old who attended fitness club classes at least once a week, whose average body weight was 56 kg and body height 165 cm.

INTRODUCTION

Physical activity nowadays is often undertaken by people of all ages. More and more gyms and fitness clubs become available everyday in which people go to improve one's self security, increase body definition, strengthening muscles and for better well-being. However, the undisputed fact is that society needs physical activity, because more and more of us suffer from diseases related to market conveniences and leading a sedentary life. Such ailments can certainly include obesity or being overweight, in which both are dangerous to human health and are the root of many other health issues.

Obesity is associated with malaise, complexes, and an overall deteriorating life. Eliminating all of these imperfections and improving your general lifestyle is not difficult. In the era of variety, we can choose from many places for physical activity with a wide variety of subjects; ranging from amusement parks, ending with fitness clubs specifically for body building. There are many forms of fitness classes carried out in every club in which that everyone will find something for themselves, regardless of prerequisites or taste.

The participants have a different level of training and each presents a different level of knowledge about proper nutrition. Some of them attended classes much more often, which resulted in their physical fitness being much higher than those who attended classes solely for recreational purposes. However, the ways they ate or combined diet with activity were the areas with the most differences.

MATERIALS AND METHODS

The method used to carry out these studies was the diagnostic survey method. The questionnaire was divided into 3 parts and it contained a set of 41 questions. Two participants

were overweight, five underweight, and the remainder had a normal BMI, which was largely due to training and nutrition. It should be noted that this distribution may have been influenced by genetic, metabolism, or both. The place of residence had no influence on BMI as both underweight and overweight people, though few in number, come from a variety of backgrounds.

Fitness is an activity undertaken by people of all ages in order to gain adequate physical ability. Exercise is very commonly combined with music. In addition, exercise also has interesting wide range of activities. Exercises can also be performed with additional equipment designed to achieve your desired goal faster. Physical exercises can be done from a young age until old. The only barrier is the individual motor disability [Supińska A., Zabrocka A., 2015: 5-6].

Table 1. Exercise Type

Exercise Type			
Shaping body posture and muscle core	**Shaping cardio-respiratory endurance**	**Flex and Relaxation**	**Mixed (cardio+muscle)**
Body Sculpt	High Impact	Pilates	Spinning
ABT	LowImpact	Yoga	Step
TBC	Hi-Lo Combo	Stretching	Interval Training
Pump	Aeroboxing		Core Board
	Dance		AquaAerobic

Source: Based on own research: D.Ambroży, A. Ambroży, 2010, p.16; A. Supińska, A. Zabrodzka, 2015, p. 11-16; L. Kuba, M. Paruzel-Dyja, 2013, p. 15-26.

The most important benefits of fitness training include:

1) increased muscle mass
2) burning fat
3) improved circulation in the body
4) improved flexibility/mobility
5) good posture
6) delaying the aging processes
7) reduction of cardiovascular diseases
8) reduction in stress
9) increasing self-esteem [Ambroży A., Ambroży D., 2010: 14].

The number of meals you eat during the day is important and it is important not to overdo it. When we overeat, we may feel lazy and reluctant to engage in any physical activity. The most beneficial for health for the body is the consumption of 3 to 5 meals a day with an appropriate caloric value [Tarczyk D., 2018: 30].

Carbohydrates

Carbohydrates are necessary in our diet because they are the main source of energy, eliminating completely them is not good for the body and especially in people who are body building. It is known that too much sugar can cause obesity, but we should not completely give them up. Carbohydrates can be found in plants and in protein products. These are further

subdivided into simple and complex, the latter into disaccharides and polysaccharides. Our daily total carbohydrate intake should be comprised of 40% to 70%. In people who training for an event, the daily total intake should be between 55 and 60% [Mizera J., Mizera K., 2017: 30-33].

The amount of carbohydrates in our diet affects sport performance, so it is worth remembering them. It is especially important to eat them when we engage in any physical activity. During exercise, we burn a lot of energy, so it is necessary to supplement it with food. We experience carbohydrate deficiencies the most during endurance and speed training, as that is when the most calories are burned [Traczyk D., 2018: 73].

The products such as refined sugar, honey, dried fruits are made up of 65-100% carbohydrates. Various types of grains are also rich in sugars, with an average of 50-80% by volume. Eating the right products is important because they not only provide the body with energy needed for the whole day, lower your metabolism, and provides protection for your cellular proteins [Wądołowska L., Cichon R., 2012: 163-167].

Proteins

Proteins and amino acids are one of the most important components of our diet as they play a building role in our body; especially in the case of skeletal muscles, hair, nails and brain. They make up 20% of the total body weight. Protein is delivered to our body with food. Exactly 1g of protein gives us 4kcal [Zydek G., Michalczyk M., Zając A., 2017: 77].

Proteins, also called cellular proteins, are the structural base in physical exertion because they regenerate tired muscles and increase muscle mass. They are of great value for endurance training, during which overtraining and micro-injuries often occur. In addition, proteins are involved in maintaining neutral pH balance and support water retention in the body. They are also responsible for the transport of nutrients and oxygen [Mizera J., Mizera K., 2017: 56-57].

Protein deficiency can reduce the body's performance and immunity. Avoiding animal protein is not good for your health. Therefore, you should constantly supplement protein with food [Mizera J., Mizera K., 2017: 57].

Fats

Fats, or lipids perform the energy storage function and most importantly, they dissolve some nutrients that are not soluble in water, e.g. vitamins A, D, E and K. They are divided into two groups: simple and complex [Ciborowska H., Rudnicka A., 2014: 66]. A more common division is that of unsaturated fats, which are recommended, and saturated fatty acids, unlike unsaturated fatty acids, we should limit. Unsaturated acids can be found in plants in liquid form, i.e. omega 3 and omega 6 acids. Saturated acids are found in animal products or in palm or coconut oils. Fats supplied with food should contain 20-35% of the daily energy requirement. In obesity or overweight cases, it is recommended to reduce the amount of fats that are consumed. [Traczyk D., 2018: 71-73].

Saturated fatty acids are solid at room temperature. They are found in such products as: lard, sausages, bacon, butter, milk and its products as well as nuts. On the other hand, unsaturated fats are in liquid form and they are most often oils such as rapeseed, nut oil, olive oil or also olives [Zydek G., Michalczyk M., Zając A., 2017: 63-65].

Principles of proper supplementation and hydration of the body

Water is the main component of our body and is of great importance to our health. It transports nutrients supplied with food to the body cells. It also takes part in the excretion of

unnecessary and dangerous metabolic products that accumulate in the human body, especially in the muscles during intense physical workouts [Pilch W., 2009: 47].

Adequate hydration is the basis of the food pyramid. Every human being consists of 60% water. The greater the physical activity, the more water we lose in the form of sweat, in which therefore should be replenished every day [Poprzęcki S., 2019: 281].

Supplements

Supplements replenish vitamin and mineral deficiencies in the diet or increase the human body efficiency. There are different types of supplements and one can divide them into sports and erogenous. Sports supplements are used to compensate for the demand for certain ingredients or vitamins, and erogenous supplements are used to improve motor skills [Bean A., 2019: 121].

Athletes are advised to supply the body with protein as a supplement for a quick and simple regeneration effect after training with appropriate amino acids [Mizera J., Mizera K., 2017: 57].

Proper nutrition is associated with a high energy requirement and nutrients. Insufficient amount of appropriate ingredients or inappropriate selection of products may cause deficiencies of some necessary substances in the human body. Therefore, various stimulants and supplements are available to enrich the diet. Such supplements support the work and strength of muscles, improve efficiency, concentration and help reduce the unnecessary amount of fat [Jędrzejczyk H., Kolanowski W., 2018: 287].

However, supplements do not always support the body's functioning, they can also be harmful. We are never quite sure how our body will react to a given product. Care should be taken when choosing the right supplement and the amount consumed dose [Bean A., 2019: 123].

Vitamins

Vitamins are essential for the proper functioning of the body. They contribute to the transformation of carbohydrates, fats and proteins, they are needed for the synthesis of hormones, and some have a direct impact on our immune system [Pieczyńska J., Grajeta H., 2018: 83].

Vitamins are contained in food products and can be absorbed into the body with food. We can provide a large amount of vitamins using a properly balanced diet, which will contribute to the improvement of health and improved well-being [Clark N., 2015: 202].

During highly intense workout sessions, we have a greater need for vitamins B, C and E. Therefore, athletes should increase the supply of vitamins to the body due to their increased need [Jędrzejczyk H., Kolanowski W., 2018: 290].

Vitamins are essential for health, which is extremely important for athletes. Infections can weaken the body, which makes it difficult to return to proper and effective training sessions. It is vital to get the right amount of vitamins. However, we cannot get all of them from food. An example is vitamin D, which is supplied to our body through the sun's rays, so it is important to spend plenty of time outdoors [Orzeł D., 2012: 47].

RESULTS

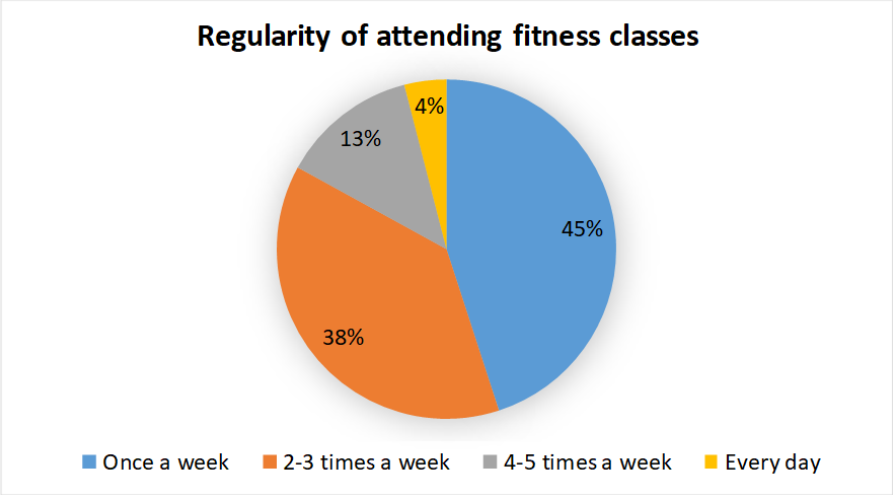

Figure 1. Regularity of attending fitness classes, source: based on own research.

In order to achieve satisfactory sports results and achieve the goal of sculpting a perfect figure, systematic training is necessary at least 3-4 times a week. Unfortunately, almost half of the respondents, i.e. as many as 45.5%, undertake physical activity only once a week. However, it is satisfactory that more than half of the respondents attend fitness classes 2-3 times a week (38.2%) and 4-5 times a week (12.7%) and every day (3.6%) respectively.

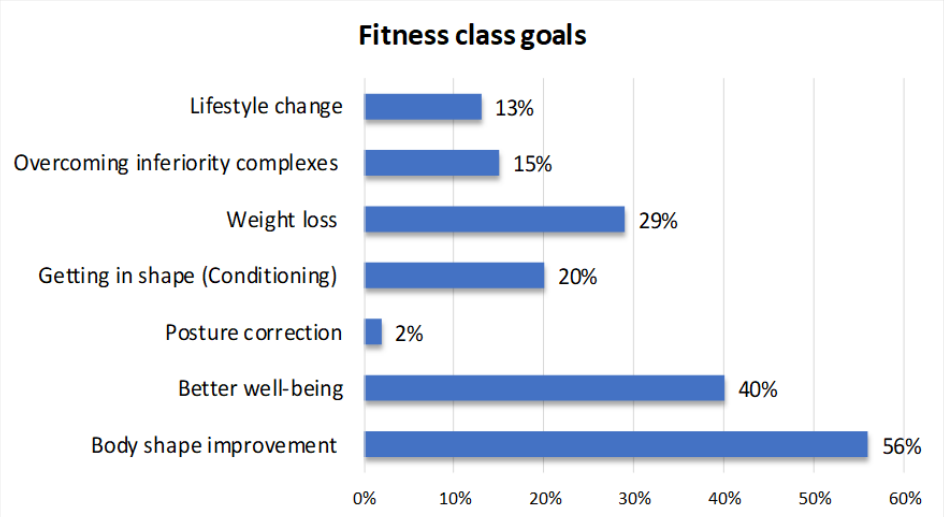

Figure 2. Purpose of practicing fitness, source: compiled on the basis of own research

Everybody has different expectations and different personal goals that they wish to achieve by means of taking fitness classes. However, the main reason of the respondents to undertake such activity is the improvement of appearance (56%) and, consequently, better mood (40%). Important aspects for the respondents are also weight loss and strengthening the muscles, which accounts for 29% of the survey. The least desirable goal is posture correction (2%), which may be done through other physical activities. The optimal goals of undertaking fitness training by the respondents are to get in shape (20%), overcome inferiority complexes (15%), or lifestyle change (13%). The percentage sum of the results is not equal to 100%, because the respondents could select up to 2 answers for a given question.

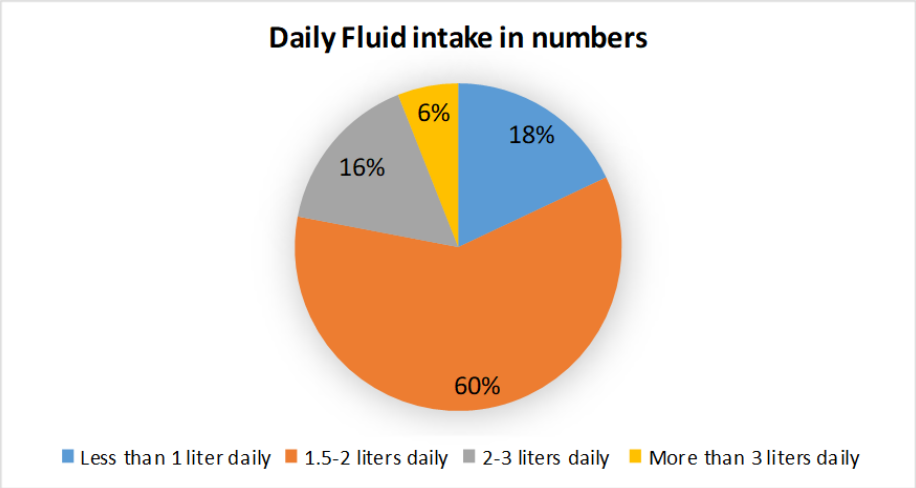

Figure 3. Daily Fluid intake in numbers, source: based on own research

Proper hydration of the body plays a vital role in its proper functioning. Keep in mind to drink about 2 liters of fluids a day or more. Most of the respondents follow the appropriate standard. As many as 60% of the respondents provide the body with 1.5 to 2 liters of fluid daily. It is satisfactory that 16% of them increase this level by drinking 2-3 liters of fluids per day, and 6% even drink more than 3 liters. Unfortunately, 18% drink less than 1 liter per day, which should be considered insufficient during intense physical workout sessions.

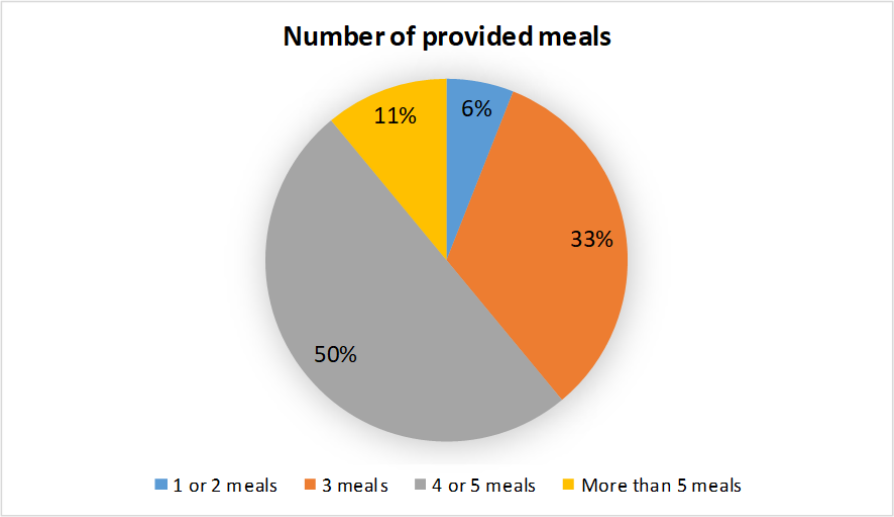

Figure 4. Number of provided meals, source: based on own research

The amount of food that you eat is very important, but it depends on the food caloric content. However, eating 1-2 meals a day, as indicated by 6% of the respondents, may be too irrational a solution due to insufficient calories or overeating. Also, 11% of the survey respondents ate 5 meals or more. To a large extent (33%), the number of meals is 3 per day, and as many as half of the respondents eat 4-5 meals a day, which is the most optimal for people who work out.

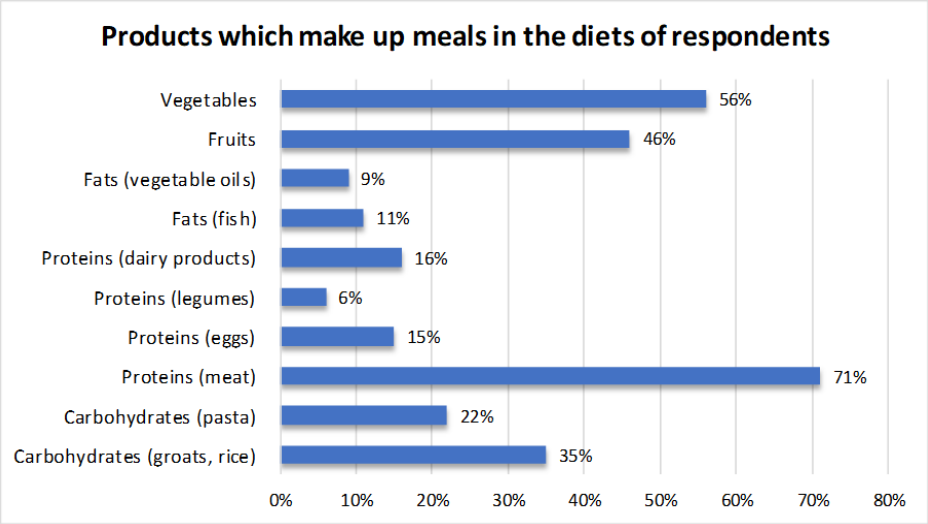

Figure 5. Products which make up meals in the diets of respondents, source: based on own research

In this question, the respondents could choose up to 3 possible answers. It turns out that the meals in their diet most often consist of meat (71%), which is a good source of protein, followed by vegetables (56%) and fruits (46%). Additionally, 35% are groats, rice and potatoes, which are a good source of carbohydrates. Pasta (22%), dairy products (16%) and eggs (15%) are of less interest. Fish is the least frequent in the meals of respondents (11%) as well as vegetable oils (9%) and legume seeds (6%).

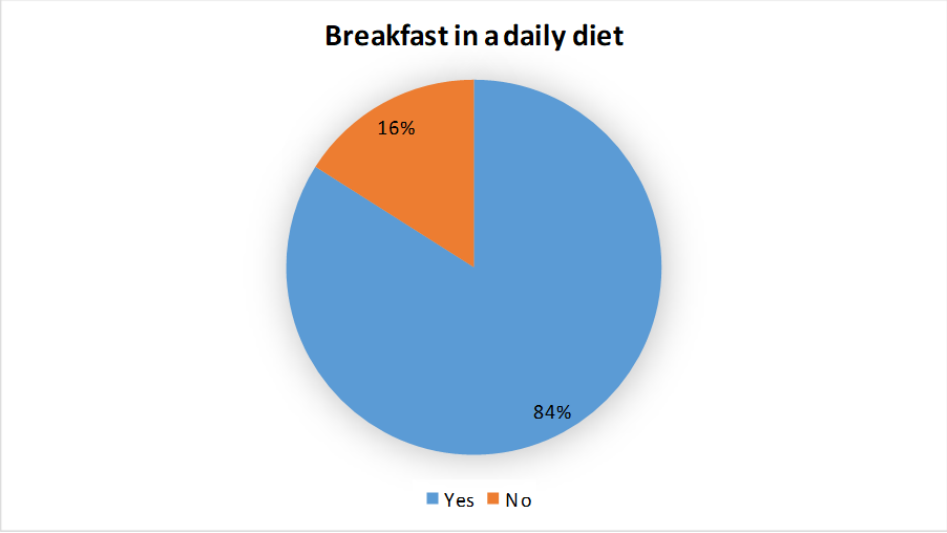

Figure 6. Breakfast in a daily diet, source: based on own research

Breakfast serves as the most important meal of the day, and has the most impact for the body's operation through the entire day. It should be noted that many people miss this important start. 16% of the respondents did not include breakfast in their diet, and the majority of 84% ate breakfast.

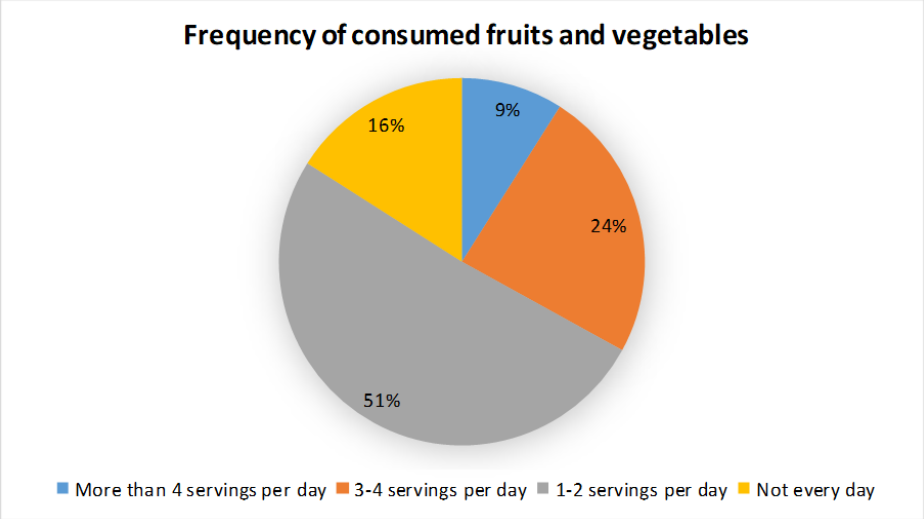

Figure 7. Frequency of consumed fruits and vegetables, source: based on own research

Fruits and vegetables are a good source of vitamins and nutrients. We should eat 3-4 servings of fruits and vegetables a day. As can be seen from the chart, the respondents do not fully comply with these recommendations. Only 24% of all respondents eat fruits according to the standard of 3-4 servings per day, and even 9% eat more than 4 servings. A significant part of the respondents (51%) eat 1-2 servings a day, and 16% do not eat fruit and vegetables every day, which may result in the deficiency of various nutrients and vitamins, and in this case will need to be supplemented in an alternative way.

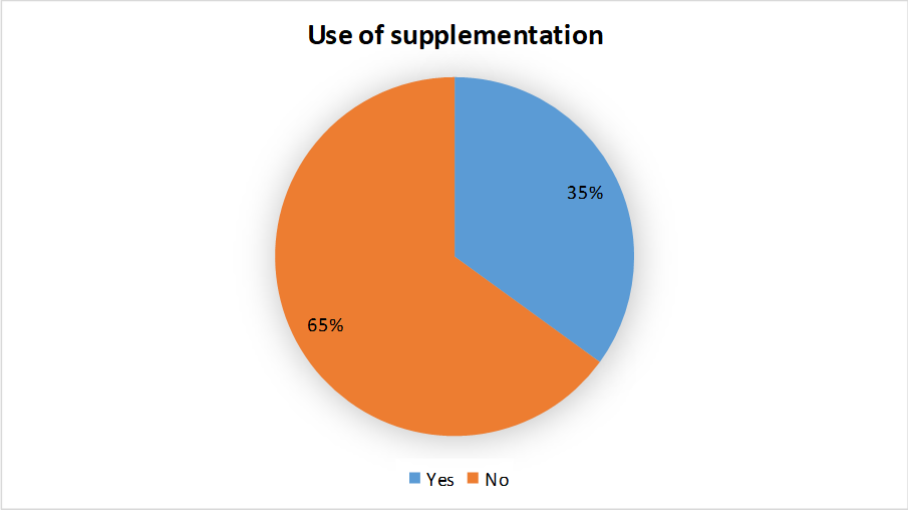

Figure 8. Use of supplementation, source: based on own research

Vitamin supplementation allows the supplements to bridge any gaps in the diet. However, opinions on taking supplements differ as some believe that it is unnecessary. This is due to the fact that the diet is able to provide all nutrients that are needed for the proper functioning of the body. On the other hand, one cannot envision the training process without taking supplements. When analyzing the results of the respondents, it is concluded that most of them do not use supplementation - 65% of respondents, and the remaining respondents, i.e. 35%, take selected supplements.

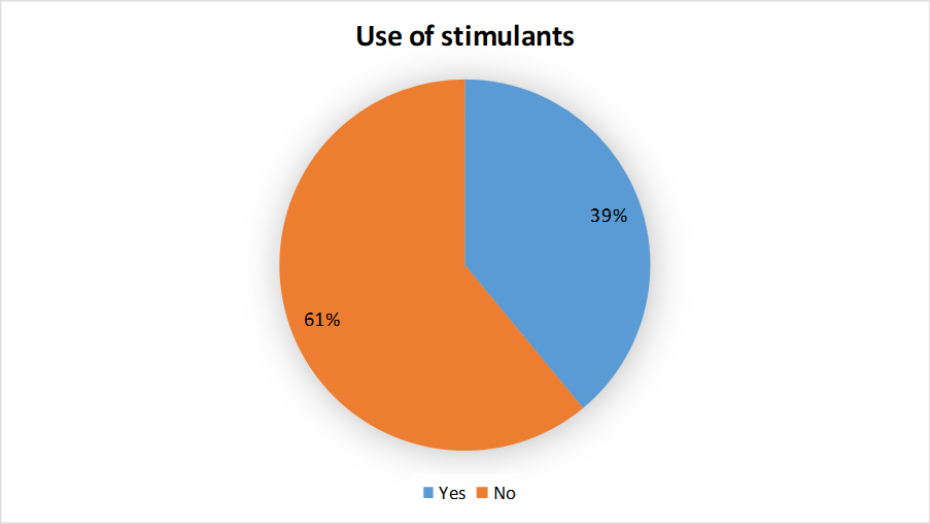

Figure 9. Use of stimulants, source: based on own research

Regardless of what type of stimulants we use, they do not contribute in a positive way to our health. However, in today's world they are "trendy" and easily available, and for many people they bring relief from problems and everyday stress. The respondents do not use stimulants extensively (61%), but a fairly large group of them use them. However, looking at the age of the respondents, they should not take any stimulants at such early stages of their lives.

Chart Summary

To conclude, people who do exercise in fitness clubs in Rzeszów attempt to follow the principles of healthy eating to achieve the best results and their set goals. However, along the way they make many common mistakes either consciously or not and have bad habits. Thanks to the obtained results, the respondents are aware of their mistakes and can implement appropriate behaviors that will allow them to improve the quality of their fitness activities and lifestyle. These behaviors mainly boil down to: regularity of meals, increasing the amount of fluid intake and energy from food.

CONCLUSION

It was found that most of the surveyed women have a normal BMI, which is associated with physical activity. Research has shown similarly in which 98% of women attending fitness classes at least once a week had a normal body weight, A. Ponder, D. Włodarka and J. Krusiec (2016). Fitness workouts significantly improve the body shape and appearance of the respondents. Moreover, diet also plays a significant role. In their own research, women followed the principles of proper nutrition and hydration. 98% of the respondents drank the appropriate amount of fluids, at least 1.5 liters a day and more. On the other hand, in the studies by K. Graji and M. Suchanecka (2018), only 33.3% of women consumed 1.5 liters per day, the rest drank much less, which may be related to the difference in the lifestyle of the surveyed women and less attention to proper hydration. Nutrition is also crucial for the proper functioning of the body and better training effects. According to E. Malczyk et al. (2015), 87% of women ate breakfast, which is a very important meal during the day, and 57% ate 4-5 meals a day. Similar results were shown by our own research, where 61% of the respondents ate 4 or more meals a day, and 84% ate breakfast.

Dietary supplements complement the diet and deficiencies in the body. The percentage of respondents using supplements in the studies by A. Ponder, D. Włodarka and J. Krusiec (2016) was 56%, and in our own research - 35% of women. It can be concluded that the diet of women attending fitness clubs in Rzeszów sufficiently covers the need for vitamins and minerals.

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DISCLOSURE STATEMENT

No potential conflict of interest was reported by the authors.