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To conduct a survey on the awareness of sport foods in the population of Punjab.

Shruti Sharma

Department of food technology and nutrition
Lovely professional University, Phagwara, Punjab, 144411

Abstract

Sports diet has been quite a familiar topic for many people, these days. An ideal diet is balance of adequate proportions protein, carbohydrates, high quality fats, vitamins and minerals popular as balanced diet. For fit and healthy life one has to know what they are eating how much they are eating and what nutrients they are getting. Healthy lifestyle among all age group is now becoming a trend. People from all possible sources, look for healthier alternatives, diet plans, workout tips and exercises. Physical activities need a proper diet for enhancing their performance. Similarly, there is an ideal dietary requirement for a person who is involved in sports. Therefore, a survey was conducted and reported on 100 people both men and woman on an online basis in the state of Punjab. The survey was reported on the respondents from different domains like age, gender, types of sports activities, diet plans, and knowledge on various diet plans, reason to do sports, meals before and after the physical activities. The motive of the survey was to check weather people are aware of various sports diets and if so what sources they get information from and reasons to do sports activities. The age was no bar as to check if middle aged people are equally informed and active in performing sports as the youth are. Based on the information collected, here it was seen that no matter the age or gender people are inclined towards sports activates mainly to remain active and use this as a stress bursting tool.

Keywords

Sports food, balanced diet, physical activity, dietary supplements, health

1. Introduction

Sports foods are formulated products which are specially designed for athletes and active people to improve their performance, nutritional intake, muscle growth or recovery from exercise (Arenas-Jal et al; 2019). Nowadays, there are so many convenient sources of nutrients when it is impractical to consume as an everyday food such as whey protein, sports gel or electrolyte replacement drinks, energy bars. Among sports foods, sports nutrition included food/dietary supplements intended to contribute to an optimal performance (ESSNA2018). According to law, sports nutrition products can only contain vitamins, minerals, food ingredients, macronutrients, herbal ingredients with a significant history of use, and other ingredients that are generally safe to consume (Arenas- Jal et.al; 2019).

The most important global trend affecting the food industry is healthy living.

Natural, animal-free, plant-based, minimally processed, local, and seasonal foods are more popular among consumers. As more consumers become aware of the importance of a well-designed diet for a good training, use of sports nutrition products is becoming main-stream. For the past ten years, due to the trend for adopting a healthy lifestyle, the interest of the masses has inclined greatly towards the usage of Sports food.

Apart from the fact that the increasing numbers of fitness centers are motivating fitness enthusiasts to use nutrition products, we cannot roll out the importance of innovation behind the increased acceptance of these products. It is estimated that the global growth rate of new launches of these products between the years 2011 to 2016 was 10.4%. It has also been seen that unlike other categories, when users find the positive results after usage they keep on using them for a longer period of time which results in a greater degree of customer loyalty (Mordor Intelligence, 2018) Besides being a nutrition trend, sports nutrition is a large and quickly growing consumer health category that promotes the achievement of an optimum nutrient intake, which is having positive impact in health care costs and well-being (Arenas-Jal.et.al; 2019).

Although sports food is a latest trend, it is a much older phenomenon. In the history of Olympic games, athletes used to eat into a bulk quantities of meat, bread, dried fruits, and honey with different types of fungi and herbs in one attempt so that they can get better performance. But soon after last century scientists have develop a well nutritional food products of some certain ingredients (ESSNA, 2018). A well-designed diet, with a pack of nutrient foods, that meets energy intake requirements and incorporates proper timing of nutrients, is the beginning of a good training (Kerksick et al.2008). However, sometimes a regular diet cannot help to achieve all the nutrition, and for this reason, dietary supplement sand sports nutrition products are often needed.

Diet is only one method for preventing illness. Other important strategies include limiting caloric intake to maintain a healthy weight, exercising regularly, and not smoking.

Over a 14-year period, women who followed a healthy lifestyle pattern that included these four strategies were 80 percent less likely to develop cardiovascular disease, according to data from the Nurses' Health Study (Stampfer MJ. et.al; 2000). Sports activity increases the energy outflow (calories used) since energy is required to fuel contracting muscles, increased breathing, heart rate, and metabolism. It also lowers your risk of developing a variety of chronic diseases, such as heart disease. According to in order to maintain the several functions of the human body, such as, respiration, circulation, sport and exercise and protein synthesis, energy needed is provided by the macronutrients i.e, carbohydrates, proteins and fats (Kerksick et al; 2018).

2. Materials and methods

2.1 Research methodology

In this study a questionnaire was formulated and survey was conducted in the areas of Punjab, India. A total of 100 respondents were involved in this survey study. A physical survey was conducted by contacting the people in the region of Punjab, India. The participants were asked general information regarding their age, profession, and awareness of various sports diet and their attitude for the sports diet. They were also asked about their source of information and routine of physical activities and how long they have been doing physical activities or exercise. The respondents of the questionnaire belonged to no specific age group, race, caste, etc.

2.2 Data interpretation and analysis

The obtained data was categorized according to gender, profession backgrounds and age. The statistical difference in the exercise and diet behaviors and the consumption of a particular product were determined using SPSS 16.0 software. The graphs were drawn using Microsoft Excel 10.0.

2.3 Interpreted and Analyzed data:

With the situation of Covid-19 pandemic, it was hard to conduct survey personally from people so it was conducted online. The questioner of survey was made on Google forms and shared to 100 people specifically belonging to Punjab region through social media networks such as Whatsapp, Facebook and Instagram. Any doubts or queries by respondents were answered telephonically. The questions asked were related to sports, food, diet plans and the regarding knowledge. It was prepared according to people's interest and was kept simple for everyone to understand. As consuming different diets are in trend these days, it was seen that the sports diet is also quite popular and is followed by many. In few of the questions they were asked to choose multiple answers. With the sincere and honest replies this survey was feasible. Further the data was then converted in percentage which was inserted in the tabular form for more clear results.

2.4 Gender, age, profession, local health foods, most consumed health food:

Out of the total respondents involved in the study 62 were male and 38 were female. The difference in the gender of the population might be due to the more interest of the males in overall sports. The males were also seen to have more knowledge about the sport foods in comparison to the female respondents. In both the genders the majority of the population was aged between 20 to 30 years showing that the youth is more active. In comparison to females, male participants were observed doing high intensity sports. From business man to home makers everyone was a participant. However, students and middle-income are observed knowing much about trendy diets. Also, in survey it is revealed that consumption of sports diet during physical activities leads to better health benefits and helps to attain all the nutrients in adequate amount which is essential for body. In Punjab, most of the people are likely to have fruits and vegetables as a primary source of carbohydrates. Carbohydrates serve as the source of energy during activities of higher intensity. The sources of healthy carbohydrates include fruits, vegetables, whole-grain cereals, breads and pastas. Clarified butter (ghee) is the most consumed fat. Dietary fat also plays a vital role in helping persons meet their energy needs as well as supporting healthy hormone levels. The sources of healthy fat include nuts, nut butters, avocados, olive and coconut oils. Alongside, Pulses, Beans, Chicken breast and eggs were consumed respectively as the source of protein. Dietary protein plays a major role in repair and growth of muscles. Most preferred sources of protein include lean meats, eggs, dairy (yogurt, milk, and cottage cheese) and legumes. Also, Water is essential for rehydration. Sources of sports drinks that include electrolyte or natural coconut water are among the top choices. Electrolytes (energy drink) are essential for maintaining a healthy sodium and potassium balance in our body. They help to stimulate as well as quench thirst, as well as enhancing the body's ability to hold water.

Gender:

Survey Table	
Gender	Data (n=100)
Male	62%
Female	38%

Professions:

Profession having knowledge about sports diet life	
Profession	Data (n=100)
Students	45%
Self employed	30%
Trainers or athletes	15%
Business person	10%

Observation:**Table 2: Awareness amongst people for sports food:**

Awareness on sports diet life	
Awareness	Data (n=100)
Less than 40%	45%
Less than 60%	28%
Less than 80%	27%

Observation:

The above table represented the awareness level among respondents for sports diet life.

Overall it can be seen that around 45% of respondents are aware less than 40% about the diet plans. 28% are aware less than 60% about the diet plan. Further 27% of respondents are aware more than 60% about diet plan information which are somehow quite similar to previous.

Table 3: There were different kinds of diets plans they are aware about.

Awareness on different types of diets	
Types of diets	Data (n=100)
Balanced diet	81%
Keto diet	43%
Paleo diet	11%
Vegan diet	56%
Protein rich diet	70%
Carbohydrate rich diet	54%
None of the above	5%

Observation:

The respondents in this question were asked to select the multiple diet plans they have heard or are aware of and the results are as follows. It can be observed that the highest numbers of people are somehow aware about the Balanced Diet followed by the Protein Rich diet, which is essential for their performance in sports. Alongside, Carbohydrate rich diet is seen equally familiar as the vegan diet. However it can be seen that Paleo Diet is not seen to be common amongst people whereas keto-diet being a new trend thing is somehow getting quite popular.

Table 4: Sources from which people got to know about the above mentioned diet plans.

Source of information	
Source	Data (n=100)
Social media	53%
Trainer and Dietician	26%
Newspaper & magazines	17%
Others	5%

Observation:

We tried to incorporate the sources from which people get information regarding any diet plans. Social media in this case can be seen to play the prominent role in people's lifestyle, even when it comes to choosing or getting informed about the diet plans. However, trainers and nutritionists are also serving the role. But the traditional media seems to be informative here as well. When asked about any other source of information people also mentioned their families, friends and some paid courses regarding diet plans.

Table 5: Kinds of sports activity included in the routine

Sports activity in regular routine	
Exercise/ SA type	Data (n=100)
Low intensity	74%
Moderate intensity	13%
High intensity	15%

Observation:

There were certain sport activities which were mentioned as categorized sports. This included Walking, Cycling, Jogging, and Yoga as Low intensity sports. Swimming, Football, Cricket, Badminton, Skipping rope were mentioned as moderate intensity sports. Tennis, Hockey, Gymnastics, Boxing were mentioned as high intensity sports. People were seen to be more into low intensity sports in their daily lives followed by high intensity and moderate intensity sports respectively. However when asked about other sports they were into the most common answers were aerobics and gym.

Table 6: Views on what balanced diet is according to them:

Awareness on Balanced diet	
Balanced diet	Data (n=100)
Protein, Carbohydrate, Fat, Vitamins and Minerals	92%
Only Carbohydrates & Protein	4%
Only Protein	4%
None	0

Observation:

People were well aware that a balanced diet consists of foods consumed in specific amounts and proportions to meet the body's needs for calories, proteins, minerals, vitamins, and substitute nutrients, with a small allowance set aside for additional nutrients to help them survive the brief period of leanness. Only a small percentage of people opt for only carbohydrates and proteins, or just protein. With a very few people choose only carbohydrates and proteins or just protein. Eating a balanced diet is a key in maintaining good health and keeping your body in most favorable condition. A balanced diet doesn't cut out food groups; it consists of a broad variety of foods to support and maintain a body and to keep it energized, motivated and healthy.

Table 7: The sources of carbohydrates that they consume the most:

The sources of carbohydrates that they consume the most	
Source of CHO	Data (n=100)
Fruits and vegetables	75%
Pasta, energy bar, oats	14%
Beans, lentils, fried peas	33%
Brown bread, brown rice	25%

Observation:

The primary role of carbohydrates in physical activity is to provide energy as it is the key fuel for the brain and for muscles during exercise. The body can store carbohydrates in the muscles and liver in the form of glycogen. If glycogen stores are insufficient and you are doing high-intensity training for an extended period of time, you may feel tired, lack energy, and be unable to perform at your best. The right food can help ensure that the body has enough energy for activity while also aiding recovery. Also, it was revealed from the above table that majority (75%) of the respondents consume fruits, vegetables, grains as a source of carbohydrates followed by beans, lentils, dried peas (33%). About 25% of respondents consume brown bread, brown rice as a source of carbohydrate and only 14% consume pasta, energy bars, and oats as a source of carbohydrate.

Table 8: The sources of proteins that they consume the most:

The sources of proteins that they consume the most	
Source of protein	Data (n=100)
Chicken breast, egg, fish	42%
Sprout, soy milk and its products	18%
Pulses and beans	66%
Supplements and whey protein	13%

Observation:

Protein aids athletic performance by increasing glycogen storage, reducing muscle soreness, and promoting muscle repair. For the general population, the importance of high protein diets is frequently exaggerated. It's a common misconception that eating a lot of protein alone will help you gain muscle mass. It was found that most of respondents (66%) consume pulses and beans as source of proteins. Around 42% of respondents consume chicken breast, egg, and fish for protein rich diet only (18%) of respondents consume sprouts, soy milk and its products and few of respondents (13%) consume supplements and whey protein diet.

Table 9: The sources of fats that they consume the most:

The sources of fats that they consume the most	
Source of fat	Data (n=100)
Ghee	73%
Mustard oil	42%
Olive oil	34%
Nuts	41%
Salmon and tuna fish	47%
Avocados	12%
Olives	11%

Observation:

Fat is necessary for the body in little amounts, but it is also high in calories. Too much fat can lead to excess calorie intake and weight gain over time. Also, the type of fat consumed is also significant. It is preferable to eat foods that contain more unsaturated fat and less saturated fat. As shown in table, most of the people, around 73% of respondents consume ghee as source of fats followed by salmon and tuna fish, mustard oil, and nuts in their daily life. Few of the respondents consume olive oil whereas very few of them consume avocados and olives.

Table 10: The most important factor to you in terms of choosing a sports nutrition product:

Important factor in choosing sports nutrition products	
Factor	Data (n=100)
Taste	9%
Ingredients	24%
Performance benefit	28%
All of above	38%

Observation:

We tried to incorporate the important factor which helped them to choose a sports nutrition product. It was observed that most of the respondents preferred to choose a sports nutrition product which has ingredients, taste as well as performance benefits. Very few preferred taste as a sole factor to choose a sports nutrition product.

Table 11: Water intake is there into your regular routine:

Water intake in their regular routine	
Glasses	Data (n=100)
1-3 glasses	10%
3-6 glasses	43%
6-8 glasses	47%

Observation:

Adequate hydration is a key element in sports performance because the body tries to cool down by sweating, which leads to dehydration. This not only has an impact on your performance, but it can also be extremely harmful to your health and lead to

additional complications. Dehydration can occur during any activity, but it is more common when exercising in hot and humid weather. As shown in table, 47 per cent of the respondents take 6-8 glasses of water into their regular routine and 43 per cent of them usually take 3-6 glasses of water regularly in their routine. It was observed that only 10 per cent of them take 1-3 glasses of water into their regular routine.

Table 12: Sources of sports drink prefer the most:

Sources of sports drink prefer the most	
Source of sports drink	Data (n=100)
Coconut Water	47%
Milk shakes	48%
Smoothies	36%
Energy drinks	26%
Others	3%

Observation:

Respondents were enquired about their preference of sports drinks and asked to choose multiple options. It was found that most of the respondents preferred milk shakes and coconut water as sports drink. Only 36 per cent of them preferred smoothies and few of them preferred energy drinks as sports drink.

Table13: Meals taken before doing sports activities:

Meal before sports activity	
Meal	Data (n=100)
Whole grain cereals or whole wheat pasta	13%
Brown rice, brown bread	20 %
Fruits and vegetables	56 %
Skim milk low fat yogurt	18 %
Energy drinks, smoothies	28 %
Others	8 %

Observation:

Respondents were asked to choose multiple options for the meal that they take before their sports activity. Majority of the respondents take fruits and vegetables before going for sports activity. Respondents preferred to take energy drinks and smoothies before sports activity. Very less respondents like to take brown rice, brown bread, skim milk, low fat yoghurt and wholegrain cereals, whole wheat pasta.

Table 14: Meals taken after doing sports activity:

Meals after sports activity	
Meal	Data (n=100)

Oatmeal, banana, almonds	55 %
Chicken, roasted vegetables	20 %
Egg, whole wheat bread	45 %
Fried food, cake burger	7 %
Others	8 %

Observation:

Respondents were also asked about after sports activity meals where it was found that oatmeal, banana, almonds was the meal that was mostly preferred by them followed by eggs, whole wheat bread and chicken, roasted vegetables. Very few take fried food, cakes and burger.

Table 15: Awareness on the supplements and powdered protein whether it is good or bad:

Awareness on the supplements and powdered protein whether it is good for health or not	
Awareness	Data (n=100)
Yes	23%
No	50%
May be	27%

Observation:

Most of the respondents (49 per cent) denied supplements and powdered protein to be good for health whereas equal number of respondent are sure and bit unsure that supplements and powdered protein good for health.

Table 16: Effects after consumption of sports diet in their health:

After consumption of sports diet any changes in body/health	
Changes	Data (n=100)
Yes	74%
No	26%

Observation:

It was revealed that a large majority (74%) of the respondents noticed changes in their body/health after consuming sports diet. Consuming the right balance of food and drink is necessary for everyone, especially for those who actively participating in sports. .

3. RESULT AND DISCUSSION

Result of the survey revealed information regarding the gender, awareness on sports diet life, different types of diet, source of information, sports activity in regular routine, awareness on balanced diet, factors in choosing sports nutrition products, a awareness on protein supplements, effects seen after consumption of sports food, intake of water in regular routine, sources of carbohydrates, proteins, fats and sports drinks, meals taken before and after sports activities. The related data information was further compiled,

processed and explained in the sections under different sub-headings. During the survey it was revealed that there is almost everyone well aware of sports diet as well as balanced diet followed by carbohydrate and protein rich diet. Similarly, the survey also revealed that, as sports diet is in trend so most of the people got aware about it through social media. However, due to different professions, people are mostly like to do low intensity type of sports activity which includes basic exercises. Also, as people are becoming very health conscious these days they were aware about the bad terms of protein supplements and considered it not healthy. Moreover, before doing any sports activity most of the people consume fruits and vegetables and oatmeal, bananas and almonds after the workouts. As there were many sources mentioned in the options of sources of carbohydrates, proteins, fats 75% people consume fruits, vegetables and grains, where, 42% people consume chicken breast, eggs and fish as source of protein and ghee was taken by 73% on the basis of fat.

4. CONCLUSION

To conclude, it can be said that the awareness level about the health foods is increasing day by day in all the section of society regardless of their age and gender. People who were reluctant in the past to make these products as a part of their diet are now wholeheartedly accepting them. The main reason observed behind this phenomenon is the increased awareness among masses about the benefits of these foods and social media plays dominant source of information for most of the people adapting these types of foods.

APPENDIX:

Survey on the awareness of sport foods in the population of Punjab:

Name:

Place:

Age:

Gender:

Profession:

Q1. How much are you aware about sports diet life?

- Less than 40%
- Less than 60%
- More than 60%

Q2. How many different types of diets you are aware of? (You can select multiple)

- Balanced diet
- Keto diet
- Paleo diet
- Vegan diet
- Protein rich diet
- Carbohydrate rich diet

Q3. From which source did you get to know about these diets?

- Social media
- Newspaper
- Trainers or Nutritionists

Q4. What kind of sports activity you do in your regular routine?

- Low intensity sports (Walking, Cycling, Yoga, Jogging)
- Moderate intensity sports (Swimming, Football, Cricket, Badminton, Skipping rope)
- High Intensity sports (Tennis, Hockey, Gymnastics, Boxing)

Q5. According to you what is balanced diet?

- Protein, Carbohydrates, Fats, Vitamins and Minerals
- Only Carbohydrates and Protein
- Only Proteins
- None

Q6. What are the sources of carbohydrates you consume the most? (You can select multiple)

- Fruits, Vegetables, Grains
- Pasta, Energy bars, Oats
- Beans, Lentils, Dried Peas
- Brown bread, Brown rice

Q7. What are the sources of proteins you consume the most? (You can select multiple)

- Chicken breast, Eggs, Fish
- Sprouts, Soy milk and its products
- Pulses and beans
- Supplements and Whey protein

Q8. What are the sources of fats you consume in your daily life? (You can select multiple)

- Ghee
- Mustard oil
- Olive oil
- Vegetable oil
- Nuts
- Salmon and tuna fish
- Avocados
- Olives

Q9. What is the most important factor to you in terms of choosing a sports nutrition product?

- Taste
- Ingredients
- Performance benefits
- All of the above

Q10. How much water intake is there into your regular routine?

- 1-3glasses
- 3-6 glasses
- 6-8 glasses

Q11. What kind of sports drink do you prefer the most? (You can select multiple)

- Coconut water
- Milk shakes
- Smoothies
- Energy Drinks
- Others

Q12. Which meal do you take before your sports activity? (You can select multiple)

- Wholegrain cereals, whole-wheat pasta
- Brown rice, brown bread

- Fruits and vegetables
- Skim milk, low fat yoghurt
- Energy drinks, smoothies
- Others

Q13. Which meal do you consume after sport activities? (You can select multiple)

- Oatmeal, Banana, Almonds
- Chicken, Roasted vegetables
- Eggs, Wholegrain bread
- Fried foods, Cakes, Burger
- Others

Q14. Do you think supplements and powdered protein is good for health?

- Yes
- No

Q15. After consuming sports diet have you noticed any changes in your body/health?

- Yes
- No

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