

IMMUNITY BOOSTING BAR FOR THE FEMALE ATHLETE AT HOUSEHOLD LEVEL DURING COVID-19

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Abstract:-

Background :- *The present study is based on the developing “Immunity boosting bar for the female athlete at household level during COVID-19”. All over world is suffering from the global pandemic because of the Coronavirus or SARS (Severe Acute Respiratory Syndrome) Virus. It is important to pay attention towards the health and immunity of the athlete’s body because due to the lockdown they are not consuming the adequate amount of nutrients.*

Aim :- *The aim of the study is to provide the immunity boosting bar for the female athlete for their post and pre workout by using those ingredients which are easily available in the kitchen and also which are beneficial for the body to fight against the virus.*

Method and Materials :- *Making pre and post workout immunity boosting bar, different ingredients are used which are easily available in the local grocery shops like turmeric powder, oats, dates, dry fruits, honey etc.*

Results and Conclusions :- *The evaluation is done by the sensory evaluation methods by the female athlete, living in a sports hostel of Sultanpur. In a result, found that pre workout immunity bar (T1) is highly accepted by the athletes. In sensory evaluation taste, smell, texture, appearance everything is analysed by the athlete.*

Keywords: *COVID-19, female athlete, immunity, sensory evaluation.*

INTRODUCTION:

As the all over world is suffering from the effect of COVID-19 pandemic. It becomes difficult for female athlete to ensure about their health and fitness and also making their immunity system strong to fight against the SARS (Severe Acute Respiratory Syndrome)

virus. The COVID-19 pandemic fundamentally changed the players' cognitive assumptions in that they will no longer take these events and schedules for granted. From now on, it may be that, in the back of their minds, no matter how they prepare, the game may be postponed or cancelled. Another aspect that was lost is the daily, weekly, monthly, and annual routine, affecting the mental and physical status of players. The spread of COVID-19 has not only forced nearly every training location to shut down, but also forces players to stay home. These changes have increased a sense of uncertainty, confusion, and frustration, and made it difficult to set a series of concrete goals.

Effective diet and nutrition are an important part of an athlete's training. A sportsman's valued qualities like strength, agility, endurance, and vigilance are the result of his nutrition-rich diet regimen most often recommended. Immunity is somewhere playing a major role. We've to ensure that the immunity of athletes is strong because high performance will affect it. Citrus fruits, anti-inflammatory fruits, and food with anti-oxidant and anti-infection properties will be included in their diet. A healthy life demands proper nutrition as well as regular exercise. Both are key to the prevention of diseases and also help improve overall mental and physical health. Exercise is the physical exertion of the body, while proper nutrition is one that contains all food values in the right amount. Athletes are staying at home, with their outdoor physical activities being compromised. Most importantly, they should ensure there is proper hygiene. The food should be rich in protein, with a moderate amount of carbohydrate and fibre. They should stay away from any kind of junk food.

Table no.1- Nutritive value of Energy Bar

Weight	45-80 gram
Energy	200-300 calorie
Fat	3-9 gram
Protein	7-15 gram
Carbohydrates	20-40 gram

Carbohydrates helps to provide energy quickly, most of the carbohydrates are various types of sugars like fructose, glucose, maltodextrin and others in various ratios, combined with complex carbohydrate sources like oats and barley. Proteins come mostly in the form of fast digesting whey protein. Energy bars generally don't contain sugar alcohols, since these bars, due to type of carbohydrate content, don't require low calorie sweeteners to improve their

taste. Fats in energy bars are kept to minimum and their main sources are often cocoa butter and dark chocolate. Energy bars are used as energy source during athletic events like marathon, triathlon and other events and outdoor activities, where energy expenditure is high, for longer period of time. Energy bars are supplemental bars containing cereals and other high energy foods targeted at people who require quick energy but do not have time for a meal.

Ingredients of Energy Bars:

The choices of ingredients depend upon the consumer or moreover you can say that on athlete because of the taste. In most of the energy bar jaggery and honey are used for sweetening purpose. Almonds, cashew, coconut powder etc are used for increasing the nutritional value of the bar. Dates and oats are the most important ingredients because they bind the other ingredients and give a definite shape to the bar.

But at the time of this dangerous pandemic a little modification is necessary in the immunity boosting bar because the body needs to be strong and healthy, so I added immunity boosting items or that item which is important for the body to fight against the virus like cinnamon, clove powder, black pepper, turmeric powder, seeds such as sunflower seeds, flax seed, and pumpkin seeds. They all act as antioxidants and as well as nutraceuticals.

OBJECTIVE:-

1. To prepare energy bar for the female athlete.
2. To analyse the energy bar by the sensory evaluation.

METHODOLOGY:-

For the female athlete, to maintain their health and immunity prepared pre workout immunity boosting bar named T1 and post workout immunity boosting bar named T2. Both immunity boosting bars are made by the help of different ingredients.

1. **Selection of subject:** For this research I needed almost 100 female athletes but because of this lockdown I found only 20 female athletes in a sports hostel, they all are belonging from 20-25 age groups. The survey is quite difficult because of the coronavirus and due to the lockdown.
2. **Materials:**

For pre-workout bar (T1): Dates, honey, oats, dry fruits like cashew and almonds, flax seeds, pumpkin seeds and sunflower seeds; are purchased from the local grocery shop of Sultanpur which is easily available.

For post-workout bar (T2) : Same materials as above but instead of seeds, using turmeric powder, black pepper, cloves and cinnamon.

3. Method:

Making T1 immunity boosting bar for pre-workout:- Soak the dates in a warm water for 2 hour. After that blend the dates and make a thick paste. In a pan roast dry fruits and seeds (pumpkin, sunflower and flax seeds). Add dates paste, honey and pinch of salt and mix well. In another pan roast oats and make it a fine powder. Add oats powder to the mixture of dates and seeds, mix well. Transfer it into tray and spread it uniformly. Refrigerate the bar for 2 hour, after that cut into the desired shapes.

Making T2 immunity boosting bar for post-workout: The making of T2 Immunity boosting bar is same as T1 but a slightly change in ingredient, i.e. to used turmeric powder, black pepper, cloves and cinnamon on the behalf of seeds.

RESULT :-

The result and discussion chapter is based on the sensory acceptability of Immunity Boosting Bars. In this study the sensory evaluation is done by the female athlete living in a sports hostel of Sultanpur belonging from the age group 20-25, and the technique of sensory evaluation was hedonic scale.

In a result, the sensory evaluation helps to find out the texture, flavour, taste, aroma, body, colour and overall acceptability of both immunity boosting bars. T1 bar is highly accepted by the female athlete as it is shown in the giver graphical representation. Due to the changes in T2 bar were not accepted more by them. The taste, color, flavour, texture, aroma of T2 bar is different from the T1 bar just because of the different ingredients.

Distribution of bars on the basis of ingredients:

T1- Pre-workout bar

T2- Post-workout bar

I. Table no. 2- Marking of body and texture of bar

IMMUNITY BOOSTING BAR	NO. OF ATHLETE
T1	11
T2	09
TOTAL	20

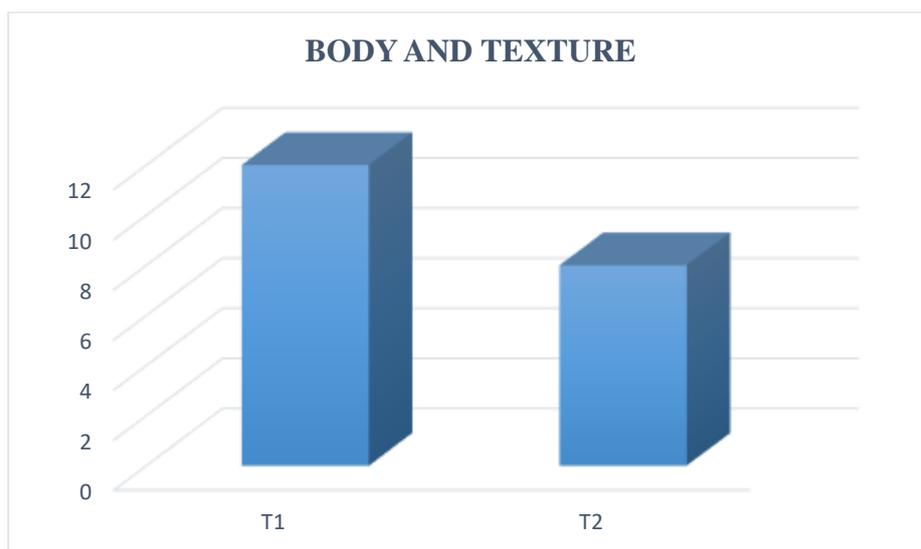


Figure no. 1- Graphical representation of body and texture

II. Table no. 3- Marking of colour and appearance of bar

IMMUNITY BOOSTING BAR	NO. OF ATHLETE
T1	15
T2	05
TOTAL	20

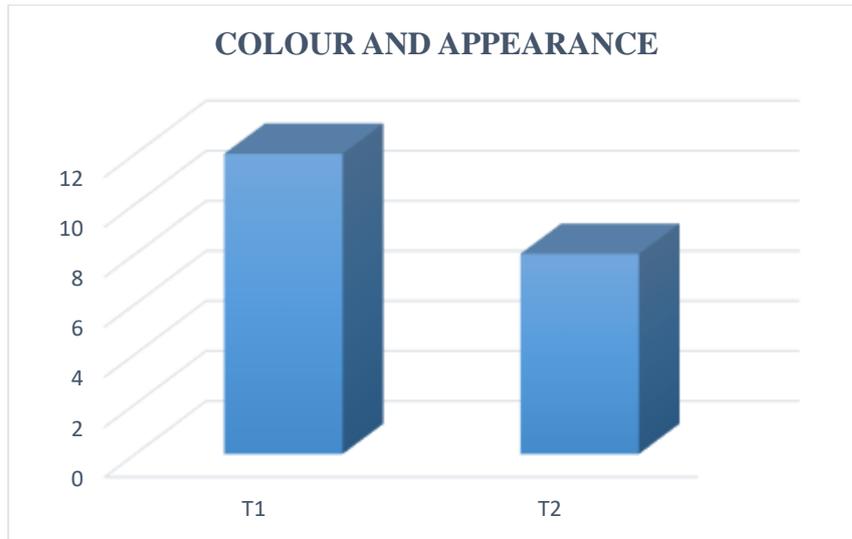


Figure no.2-Graphical representation of colour and appearance

III. Table no. 4 -Marking of taste and flavour

IMMUNITY BOOSTING BAR	NO. OF ATHLETE
T1	13
T2	07
TOTAL	20

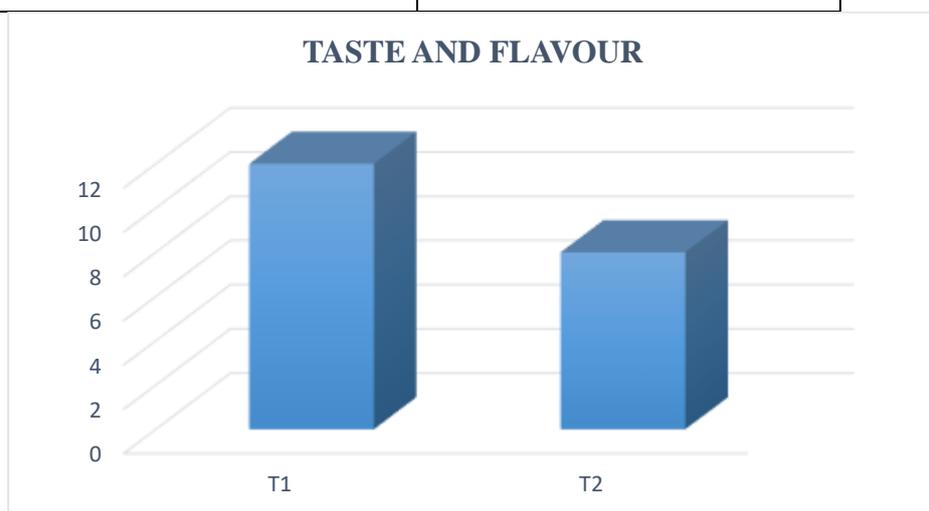


Figure no. 3-Graphical representation of taste and flavour

IV. Table no.5- Overall acceptability of bar

IMMUNITY BOOSTING BAR	NO. OF ATHLETE
T1	12
T2	08
TOTAL	20

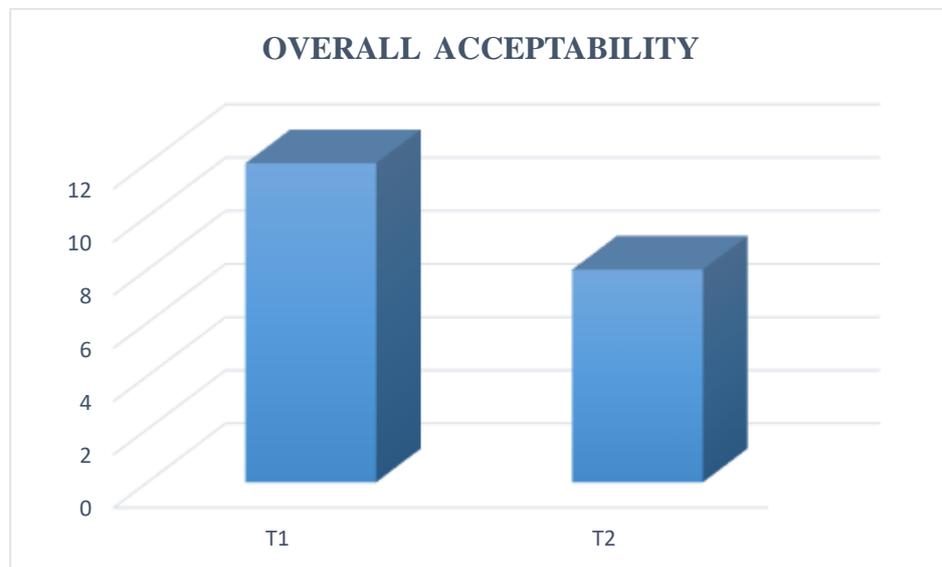


Figure no.4-Graphical representation of overall acceptability

CONCLUSION :

As in result we can clearly see that immunity boosting bar sample no. T1, which is made up of seeds like pumpkin seeds, flax seeds and sunflower seeds is highly accepted by the member. By the nutritional point of view T1 bar is highly nutritious but on the other hand T2 bar is helpful to fight against the virus in this global pandemic (COVID-19). The taste, texture and colour of the bar is perfect in T1 as compare to other, because of the ingredients. I highly recommend immunity boosting bar T1 and T2 for the instant energy as it is the good source of energy, carbs and protein. If you don't have the time for your meal you can take this bar to complete your nutritional requirement. But at the time of this pandemic T2 is

highly beneficial for the body because the ingredients such as curcumin, clove, cinnamon, black pepper are helpful for protecting the body to fight against the virus.

Immunity boosting bar is the good source of instant energy as it is full of macro and micronutrients. In the bar sufficient amount of protein, carbohydrates, energy, fibre are present which is easily digested and utilized in the body. Athlete needs energy rapidly for their pre and post workout. They prefer energy bar and sports drinks for the strength and endurance. Bar which is available in market are unhealthy and adulterated. Therefore the present study was undertaken with a view to formulation of nutrient bars using recipe standardization. Quality of the bar was judged by using sensory evaluation techniques. The bar was store for the few days in the cold and dry place.

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