

EFFECT OF PROTEIN SUPPLEMENT ON VISCERAL ORGANS

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Abstract

Protein is one of the essential nutrients which is required by our body for formation of healthy and strong muscles, maintenance of body tissue, maintenance of fluid balance, maintenance of moderate pH balance in the body and many other functions. We can get protein from animal product as well as plant product. The main sources of animal protein are meat, milk, cheese, salmon, steak, chicken and many more. On the contrary the rich source of plant protein are soya beans, soya milk, nuts, nuts butter, pumpkin seeds, beans, pulses and legumes etc.

Natural/Supplement Protein

Basically, protein when metabolized is converted into amino acid and this amino acid helps in building and repairing of the body tissues and muscles.

Nowadays, the youngsters are consuming the protein supplement in order to make and strengthen the muscles in short duration of time. This intake of protein supplement helps in the formation/strengthening of muscles but its side effects are many. The negative impact of protein supplement varies from person to person, but its severity depends upon frequency and amount of protein supplement taken.

Natural / Synthetic Protein-

1. Natural Protein – These are the proteins which are extracted by natural sources whether by plants or animals. The digestion of natural protein takes place in the stomach, where the acid breaks down the protein into smaller fragments called peptides. From there, the peptides move to the small intestine where they are broken down further into amino acids. These amino acids are then absorbed into the bloodstream and transported to different parts of the body. The time required for digestion of natural protein varies from 1 to 4 hr (depending upon the type of protein). The natural protein doesn't have any kind of artificial or added flavour, preservative,



sugar or any other product . These product have balanced amount of amino acid. They have high metabolism as it took long time to give energy but more effective than synthetic one.

2. **Synthetic Protein-** These are the protein supplements taken to fulfil the need of instant energy . Such supplements protein is prepared with many ingredients such as added flavours, sweetness, acid regulators ,artificial flavoring, thickeners, vitamins and minerals etc. It should be taken under supervision of nutritionist or health doctors. The metabolism of this is high but with later side effects. It is useful only for short period as needed instant energy. But taken in larger amount it can harm your liver which is used to filter protein.

Major Types of Protein Supplement-

- **Whey protein** - One of the most popular protein supplements, whey protein is derived from milk and is rapidly absorbed by the body. ...
- **Casein Protein** - Another milk-derived protein, casein is absorbed at a slower rate than whey protein
- **Soy Protein** - A plant based protein,it is a complete protein which consist of all nine amino acids..
- **Rice Protein-** It is plant based protein,it is hypoallergic and easily digested. It is not complete protein and it lacks certain amino-acids.
- **Pea Protein-** It is plant based protein which is hypoallergic in nature.It is good source of iron.

As seen in today's scenario the consumption of synthetic protein powders grows rapidly rather than natural proteins, which lead to problems at very young age or lead to life time . Many nutritionist also suggest to have natural than synthetic one,its because the metabolism of natural protein is high ,easy to consume, give more nutrition, energy, and healthy without any added preservatives , added flavours ,sweetness, acid regulators and keep body and mind healthy.

Why Do Youngster/Adult Intake Synthetic Protein-

- The youngsters and adult intake protein supplement in order to build and strengthn the muscles,
- encourage weight loss
- helps to sustain growth and development, muscle building and repair, as well as fueling intense exercise.



Side Effect Of Synthetic Protein

Protein supplements are metabolised quickly by are our visceral organ in short duration but to metabolise the protein in short time the organ need to work hard due to which collapse/weakening of organ take place .Some of the major side effect of supplement proteinNowdays, the youngsters are consuming the protein supplement in order to make their muscles strong. This intake of protein supplement helps in the formation / streghthen of muscles but its side effects are many, some of the side effect of supplement protein are as follows-disturb stomach, intestinal problem, irregular heart beat, nausea feeling

Effect Of Extra Protein On Our Body-The requirement of the protein in the body vary according to the body weight ,it means that for low body weight small quantity is required and for high body weight as compared to the individual having high weight . If the person intake extra protein- more than the required amount then it is stored in the body in the form of fat, the layer of fat also developed around the visceral organs, and when excess of fat develops around the viscerals organs than the functioning of the organs get disturbed(liver,stomach,pancreas etc) which futher effect our body functioning.

Safe level of protein intake for adult men and women^a

Body weight (kg)	Safe level of protein intake (g/kg per day) ^b
40	33
45	37
50	42
55	46
60	50
65	54
70	58
75	62
80	66

^a All ages >18 years.

^b 0.83 g/kg per day of protein with a protein digestibility-corrected amino acid score value of 1.0.

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As seen in today's scenario the consumption of synthetic protein powders grows rapidly rather than natural proteins, which lead to problems at very young age or lead to life time. Many nutritionists also suggest to have natural than synthetic one, its because the metabolism of natural protein is high, easy to consume, give more nutrition, energy, and healthy without any added preservatives, added flavours, sweetness, acid regulators and keep body and mind healthy.

Problem Caused by Consuming Synthetic Protein Powders- The intake of protein supplements may lead to visceral problem, the visceral problem may vary from mild to severe depending on the type and quantity of protein supplement taken. The symptoms can vary from mild to severe.

- "Ornithine Transcarbamylase (OTC)" - It is a rare genetic condition which causes ammonia to build up in blood and is commonly found in boys than girls (Dr. Ankit Gupta, 2020) and tends to get more severe symptoms emerge shortly after birth.
- Problem related to kidney/kidney failure
- Hormonal Disturbance (soya protein supplement)
- Discomfort related to digestion

As it can be seen that today's generation (16-25 year) old people are indulge themselves in activities like weight lifting, building muscles etc. which make them to use synthetic protein powders in liquid or powder form.

* 45% young boys mostly consume it. As they get influenced easily, and at time of hormone changes it affects them most.

- It is the generation which need result instantly without even knowing the side effect, which can harm them for all over their lifespan.

- Even though they don't consume alcohol , drug or any weed still it effect it.
- One more reason that they believe in show-off.

Is it actually harmful-

Acc. To dietitians , health instructors branded protein powder is not as harmful but in excess it can cause serious health issues.

In many cases it is noticed that person who consume low quality or excess intake are the main prey of heart attacks or health issues.

- Most harmful reaction can be seen when individual want to build muscles, cause for building muscles 3 to 4scops are needed on daily purpose.
- Even when individual is physically fit it directly effect their internal organ.

Data collection

In order to collect the data the researcher went to various gym. and collected the data through the interview method.

Sample Size

In the present research total 60 male participants are selected.Out of 60 - 20 participants belong to the age group of 16 to 18 yr, 20 belong to the age group of 19 to 20 and rest 20 belong to 21 to 22 yr.

RESEARCH DESIGN-

In order to carry out the research the qualitative research design was used 1*3. The researcher used the interview method in order to collect the data.

PROCEDURE-

In order to collect the data the researcher visited the different gym. which are located in the Meerut city. Initially, the researcher took the permission of the owner of the gym. so that she could collect the data easily. Once,the subject got the permission she started the research work which is as follows-

Taking the detail interview of the subject, the interview last for 25 to 30 min. per subject. And the findings of research are as follows-In About participants-

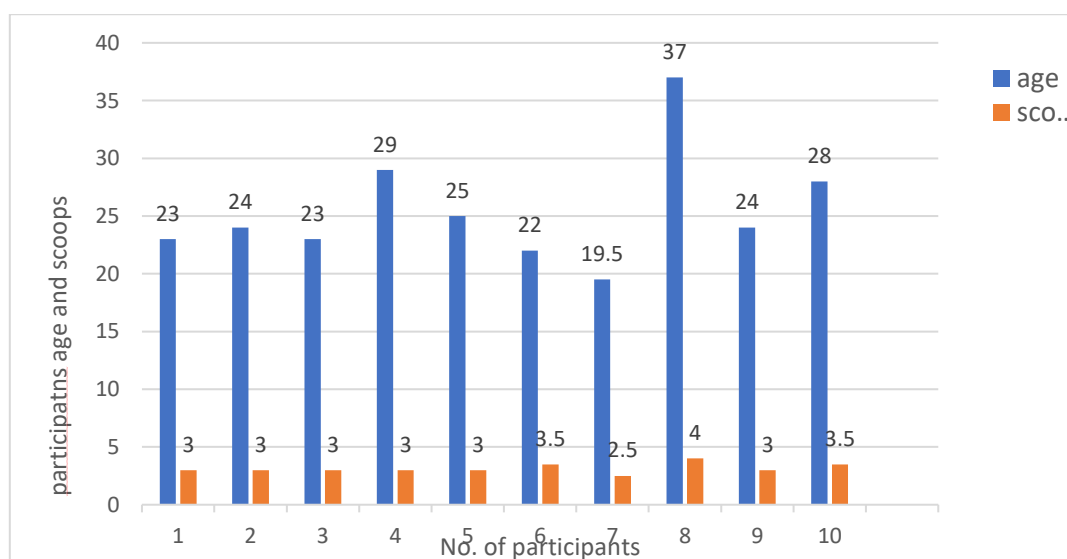
- Digestion /intestine related problems
- Nausea and vomiting
- Severe stomach ache/irritation

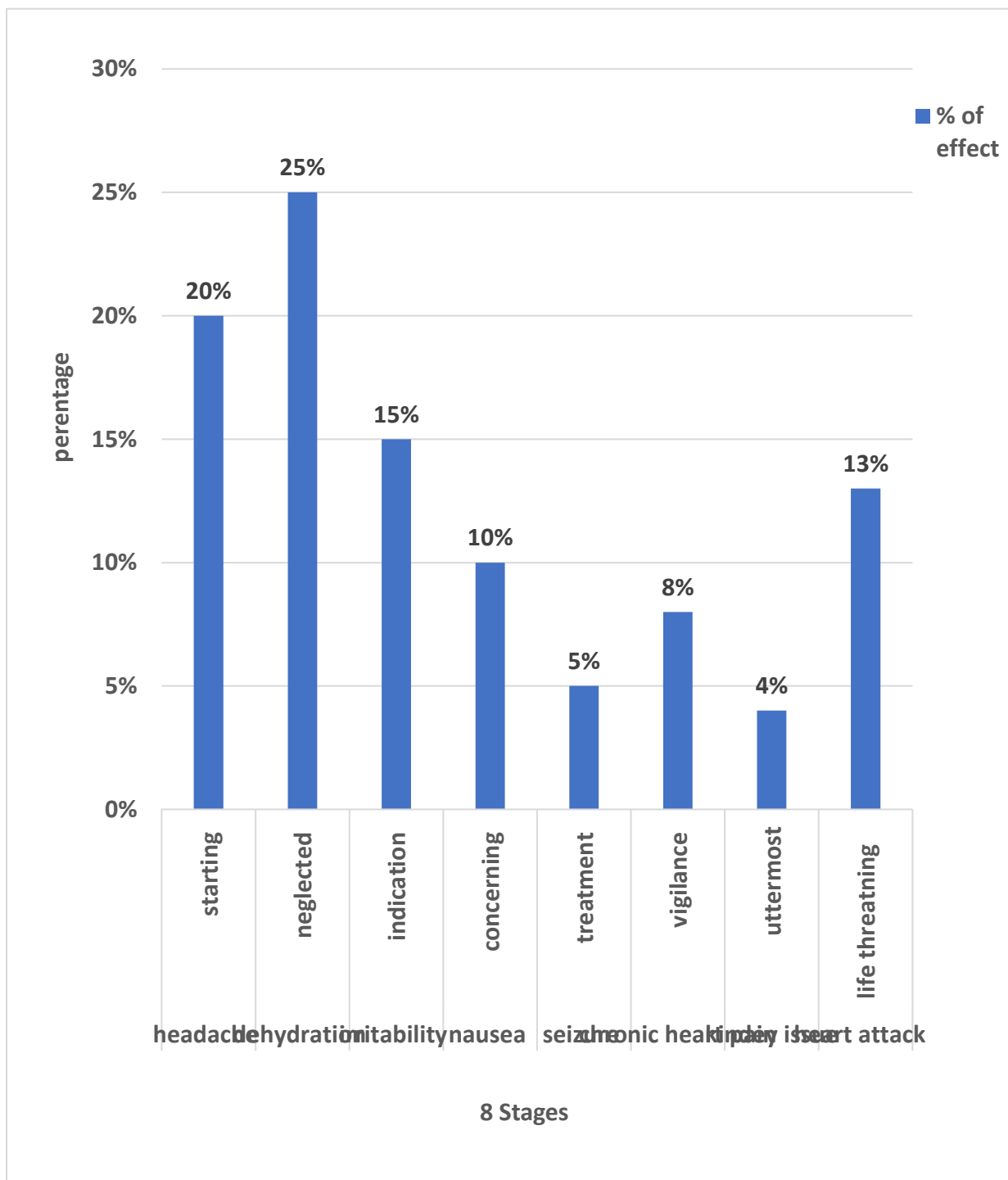
- Heart related issues
- Visceral organ related problems -liver /kidney malfunctioning or failure.
- Metabolism Disorder
- Neurological Disorder-Headache/Seizure

Data Analysis

Most common things about the above participants who went from healthy to unhealthy condition is that they want to gain muscles in less time and with little efforts (specially teenagers). The individual who intake protein supplement in large quantity may suffer from various kind of health issues which are related to visceral organ, heart or even brain. All the participants were healthy before using protein powder.

- Most common is that everybody wants to gain muscle weight and to be fit.
- They used powder in excess from 2.5scoop to 4 scoops which is more for the body.
- Used low brand products which include added flavour , sweetness , less protein , fats , fake ingredients ; which is more harmful for body.
- Time period is short from 6 months to 3 year.
- Most affected age is of working between 20-40 year.
- And main point which is noticed is that participants who took 3 scoops have the minor problems like nausea, dehydration etc., 3.5 scoop lead to have pressure on heart (minute / less pain) and the one with four scoops got kidney failure.





This table depict the stages individual go through or find some symptoms which can lead to major health issues and the percentage which actual effect individual.



Conclusion

The purpose of this research is that the Protein powders are harmful for health and in excess use of it can lead to varying health issues such as many cardiovascular, health problem, liver problem and many other issues. It can be seen that people who take protein more than needed have to face issues for lifetime, even non curable and have to change their lifestyle total differently. But on the positive side person who take protein just for fulfilment of need having healthy and good bodies. Although it does not affect you directly. So be cautious about protein powder and even with brands, use authentic and under guidance of nutritionist, and try to avoid artificial just go for natural healthy protein options.

Therefore, it is concluded that supplement protein is not good for health and it leads to various health issues.

Reference

- Gym trainers
- Google
- Trainees