

Study Evaluating Awareness Level of Body builders Regarding Use of Protein Supplements in Lahore City

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Abstract

Background: Bodybuilding workout involves weight exercises which may look similar to weight lifting and powerlifting but the main focus here is to beautify the physical appearance rather than gaining strength.

Objective: To evaluate awareness level of bodybuilders regarding use of protein supplements

Methodology: This study used the cross-sectional research design, in which level of awareness about protein supplements of amateur (n=30) and professional (n=30) bodybuilders was measured. The specific objective of the study was to compare the level of awareness about protein use by amateur and professional bodybuilders. The data was collected from bodybuilders who were going to different gyms of Lahore and the age range was between 20-25 years. The administered questionnaire consisted of 17 questions, divided into three main parts i.e. the first part included questions about demographic characteristics such as age, weight, height and educational background; the second part dealt with sports-related features, such as frequency, and total duration of PA and the third part consisted of questions related to protein use. Independent Sample T-Test was used to compare the awareness level of amateur and professional bodybuilders.

Results: Descriptive analysis indicated mean age of amateur was (M=20.63, SD=0.30) and for professional bodybuilders, it was (M=21.43, SD=1.16); weight in KGs of amateur was (M=75.50, SD=6.40) and for professional bodybuilders, it was (M=73.26, SD=4.94); height in cm of amateur (172.17, SD=8.59) and professional bodybuilders, it was (M=171.62, SD=8.82). Independent Sample T-Test indicated there were no significant difference about the level of awareness about health benefits between amateur and professional bodybuilders ($p=1.00 > 0.05$) and no significant differences regarding risk associated with the use of WPC ($p=0.11 > 0.05$).

Conclusion: These findings support the evidence that bodybuilders need special training programs to increase their knowledge about health benefits and health hazards of using WPC.

Keywords: *Bodybuilders, Protein, Supplements, Muscle Building, Strength, Sports Performance*

Introduction

Using resistance training in a progressive manner for muscles hypertrophy for aesthetic purposes is called bodybuilding. Bodybuilding workout involves weight exercises which may look similar to weight lifting and powerlifting but the main focus here is to beautify the physical appearance rather than gaining strength. A large population from youth seems to be inclined toward bodybuilding these days in Lahore. Local Gyms as well as university gyms are surprisingly increasing their members day by day. These gym members may have diverse objectives. Some of them just following their ideals in movies and sports begin to have an interest in bodybuilding activities and now they want to look alike and have an aesthetic physique like their favorite celebrities. Whereas others may have a purpose to adopt this field as their profession. Gym going youth therefore can be categorized on the bases of their objectives into two categories, professional bodybuilders and amateur bodybuilders. Basically, the rewards that both of the categories receive for their performances is the main difference.

Professional bodybuilders are those who get incentives and monetary compensation according to their level of success and are paid annual salaries as well, by the departments, gyms or other sponsors they represent. They are allowed to compete in all national and international professional competitions for monetary prizes. Locally Mr. Lahore and Mr. Junior Lahore competitions are organized by the Pakistan Bodybuilding

Federation every year. Results from several previous decades highlight the importance of this competitions. As it happens most of the time that the winner of this competition wins at provincial national level as well.

Amateur bodybuilders, by contrast, are those who are not paid for their performances. They usually represent different universities and colleges and compete in Inter- Board and Inter-University level competitions and are not allowed to sponsor commercial products. However, public and private universities and boards of intermediate and secondary education offer scholarships to them for their participation in intercollegiate and intervarsity competitions. These scholarships may include tuition fee, free hostel accommodation and free mess. These facilities continue as long as they keep participating in competitions and remain enrolled in the institution maintaining their academic eligibility. In Lahore, at college level Inter-Collegiate Bodybuilding competition is organized by Board of Intermediate and Secondary Education, Lahore, and at university level Higher Education Commission annually conducts "All Pakistan Intervarsity Bodybuilding Championship".

When it comes to the competition, rules remain the same in both professional and amateur competitions. Bodybuilders are supposed to show their aesthetically appealing bodies in competition by performing various specified poses on stage in front of a panel of jury, for which they are ranked on the basis of their size, symmetry, conditioning, posing, muscularity, and their overall presentation on stage. For this purpose, they always try to increase their lean body mass and try to reduce their total body fat percentage as low as 5-6% or even lower. Moreover, tanning and shaving body are also an essential part to make the muscles look even sharper by accentuating the skin contrast in spotlights.

In bodybuilding regardless of one's goals, training and nutrition work together synergistically. Whether you are in bulking phase with an aim to gain muscles or in cutting phase and trying to lose non-essential fats, in either cases without an appropriate diet all of your hard training will result in sub-optimal or even non-existent outcomes. In bodybuilding at certain stages placing more attention to the nutrition can bring great improvements. In order to put on muscles, bodybuilders must need to consume the optimal amount of carbohydrates, protein, and healthy fats in their diet and must keep the caloric intake a slight surplus than their caloric expenditure. Near competition, as the cutting phase starts every bodybuilder wants to get a lean and shredded physique. For this purpose, they have to lower their overall body fat percentage by limiting their total calories intake a slightly lower than their caloric expenditure. Maintaining this deficit, they also have to consume more protein and healthy fats and comparatively less carbohydrates as opposed to their gaining phase.

Protein being key to maintaining and building all types of muscles and other body tissues is an essential part of our diet. Protein basically has amino acids, which being the building blocks are responsible for muscle recovery and growth. Protein can be taken from natural sources as well as through supplements. Natural sources of protein include eggs, meat, fish, nuts and milk etc. Protein supplements are easily and legally available in form of protein bars, tablets, protein powders, and shakes. These supplements can be consumed before, during and after workout to improve growth and recovery. Same benefits and nutritional values can be obtained from the natural sources by consuming protein-rich foods, but the convenience is one of the most convincing factors, which makes youth to choose supplement over natural diet. Despite being convenient to be consumed, digested and absorbed, these supplements lack some of essential nutrients that a well-balanced diet should contain.

Literature Review

Protein and amino acid supplements are widely marketed to commonly active athletes and consumers as products for muscle growth and performance, and high-protein, low-carbohydrate diets are traditionally used for weight loss (Baskin, 2017). However, information about the healthful significance and impacts of dietary proteins and protein supplements shifts significantly among expert and beginners who are into bodybuilding, particularly according to individual degree of action and generally diet and the metabolic state. Protein is a fundamental healthful part in the human eating routine over the course of life, as it guarantees development in youth, upholds muscle and bone digestion, guarantees the upkeep and improvement of the sensory system and keeps up with bulk and weight lifting (Raben, 2018).

Competitors might have raised physiological protein prerequisites to keep up with satisfactory protein combination and energy creation, as well as adequate insusceptible capacity and great stomach uprightness under the numerous pressure states of continuous, objective coordinated work-out schedules, serious and/or delayed (Horvath, 2019). Protein necessities increment alongside expanding power and length of athletic execution; accordingly, proteins ought to be remembered for dinners when the genuine run and consistently over the course of the day to guarantee a proficient stockpile of fundamental or irreplaceable amino acids (Duyff, 2017). To meet these particular nourishing prerequisites, different food sources and enhancements have been created. For instance, fanned chain amino corrosive supplements are frequently utilized by competitors and it has been proposed to lessen muscle irritation after concentrated practice and further extend the training time (Newby, 2018). It is all around noticed that protein supplementation assumes a part in managing the creation of synapses and, thus, in the improvement of weariness during exercise. Moreover, because of their quick processing and retention, whey protein supplements are a famous protein type for weight lifters (Ashar, 2016).

Many examinations demonstrate that it is likewise exceptionally normal for customary gym participants to take protein, amino corrosive, and creatine supplements and sadly, these enhancements are much of the time taken notwithstanding other protein-rich food varieties and without the direction of expert sustenance specialists (Kieszak, 2016). The responsibility of normal gym attendees seldom arrives at the degree of expert competitors and subsequently it has been proposed that the protein necessities for ordinary individuals with dynamic ways of life don't contrast from the rules given for the typical grown-up populace (Paddon, 2018). Thus, the proposals are not satisfactory and are at times conflicting.

These items frequently contain possibly unsafe synthetic substances, and some are even sullied with poisons and metals. Under the Dietary Supplement, the FDA manages no dietary enhancement, including protein supplements, to ensure it is protected or powerful or not (Smeets, 2017). There is likewise no prerequisite that enhancements be tried to ensure they contain what the marks say they do. Research has shown that numerous protein supplements sold in significant pharmacies, wellbeing food stores, and regarded internet based outlets don't contain what they should contain, nor do they contain fixings that are not recorded on the mark (Poppitt, 2017).

As indicated by Racette, (2018) while looking at and buying protein supplements, customers ought to give close consideration to the fixing list. Added substances, like caffeine, creatine, and sugars, are at times found in these items, however they are not referenced in the commercials. Whenever purchasers know nothing about these added substances, they can be particularly harmful. For instance, consuming a few cups

of espresso or tea over the course of the day notwithstanding a protein items that contains caffeine could make upsetting side impacts, like headaches, and sleep deprivation (Bressan, 2017). Creatine, a well-known sports supplement, expands how much water in muscle cells, prompting huge weight gain and expanding the gamble of parchedness, stomach issues, and muscle cramps (Butts, 2018). Creatine can be especially hazardous as it can cause kidney or liver sickness, and its wellbeing in youngsters or youths more youthful than 18 years has not been examined (Trexler, 2018) Additionally, specialists suggest an everyday breaking point for "added sugar of 25 to 36 grams, however some protein supplements have as much as 23 grams of added sugar per tablespoon". Others contain "counterfeit sugars" like sucralose or aspartame, which can be hurtful in enormous sums. Consequently, shoppers need to know the exact thing is in their day to day protein enhancements and what it can mean for their wellbeing (Avelar 2017).

Methodology

This study used the cross-sectional research design, in which level of awareness about protein supplements of amateur (n=30) and professional (n=30) bodybuilders was measured. The specific objective of the study was to compare the level of awareness about protein use by amateur and professional bodybuilders. The data was collected from bodybuilders who were going to different gyms of Lahore and the age range was between 20- 25 years. The administered questionnaire consisted of 17 questions, divided into three main parts i.e. the first part included questions about demographic characteristics such as age, weigh, height and educational background; the second part dealt with sports-related features, such as frequency, and total duration of PA and the third part consisted of questions related to protein use. Independent Sample T-Test was used to compare the awareness level of amateur and professional bodybuilders.

Results

Descriptive analysis indicated mean age of amateur was (M=20.63, SD=0.30) and for professional bodybuilders, it was (M=21.43, SD=1.16); weight in KGs of amateur was (M=75.50, SD=6.40) and for professional bodybuilders, it was (M=73.26, SD=4.94); height in cm of amateur (172.17, SD=8.59) and professional bodybuilders, it was (M=171.62, SD=8.82). All the participants (100%) were using whey protein concentrate (WPC). Independent Sample T-Test indicated there were no significant difference about the level of awareness about health benefits between amateur and professional bodybuilders ($p=1.00 > 0.05$) and no significant differences regarding risk associated with the use of WPC ($p=0.11 > 0.05$), which indicates that both the amateur and professional bodybuilders were not fully aware of the health benefits and risks associated with WPC.

Table-1: Mean Comparisons of Awareness of Benefits and Risks of Protein Use

Bodybuilders		Awareness of Benefits	Awareness of Risk
Amateur	Mean	4.3333	1.5000
	N	30	30
	Std. Deviation	.88409	.50855
Professional	Mean	4.3333	1.8667
	N	30	30
	Std. Deviation	.84418	.57135

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Tablw-1 shows the mean value of awareness of benefits of amateur and professional bodybuilders was similar ($M=4.33$, $SD= 0.88$). There were differences regarding the risk of using WPC (1.50 , $SD=0.50$) for amateur and ($M=1.86$, $SD=0.57$) for professional bodybuilders.

Figure-1

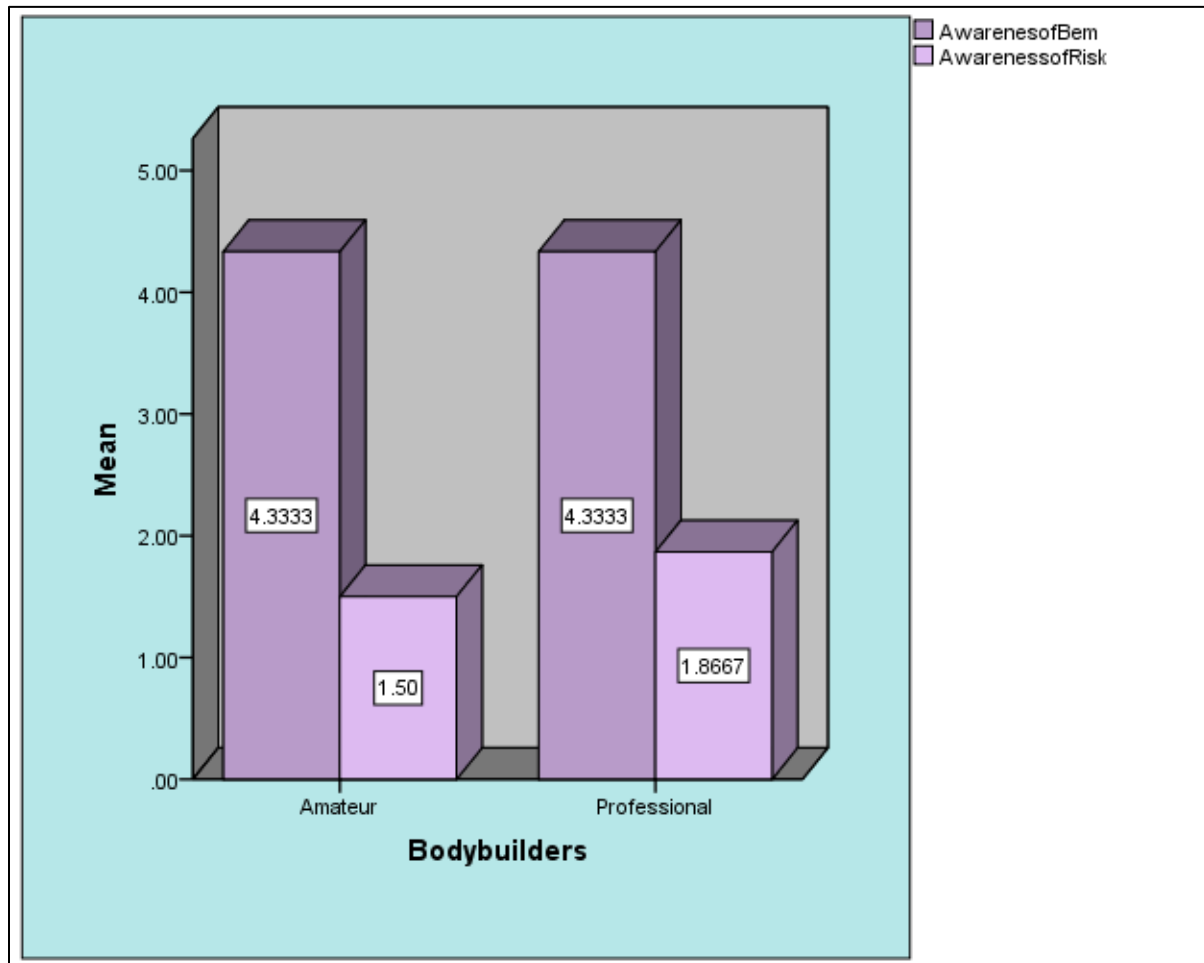


Figure-1 is showing the mean value of awareness of benefits of amateur and professional bodybuilders.

Table-2: Awareness of Health Benefits and Risk of Protein Use

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Awareness of Benefits	Equal variances assumed	.245	.622	.000	58	1.000	.00000	.22318	-.44674	.44674
	Equal variances not assumed			.000	58	1.000	.00000	.22318	-.44676	.44676
Awareness of Risk	Equal variances assumed	1.742	.192	2.626	58	.011	-.36667	.13965	-.64621	-.08713
	Equal variances not assumed			2.626	58	.111	-.36667	.13965	-.64629	-.08705

Independent Sample T-Test indicated there were no significant difference about the level of awareness about health benefits between amateur and professional body builders ($p=1.00 > 0.05$) and no significant differences regarding risk associated with the use of WPC ($p=0.11 > 0.05$).

Discussion

Out of 60 bodybuilders, 80% were under-graduates and 20% were graduates; all of them were doing workout daily with maximum 5-7 and minimum 4 hours a week. All the participants were using protein supplements of different brands but "Rule-1" was the most frequently used brand (60%) and all of them were using WPC. Mostly they get information about WPC from the gym (51.7%), second source of information was their friends (33%) and others get to know about WPC by visiting different shops (15%). Muscle building was the main reason of using WPC (58.3%), muscle building and strength was the second reason (25%) and improving sports performance was the third reason (16.7%). As far as the awareness of health benefits of WPC is concerned, all the participants reported weight gain (100%) and awareness of

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risks of using WPC 41% of the participants reported there are no risks associated with the use of WPC and 59% reported there may be some risk of using WPC.

A concentrate by Trexler, (2018), which evaluated the predominance of WPC use, showed that for the most part muscle heads who utilized WPC were more youthful than 30 years. Racette, (2018), showed that those utilizing WPC involved 2% somewhere in the range of 15 and 25-years of age 85% somewhere in the range of 26 and 30 years of age, and 10% somewhere in the range of 31 and 40 years of age. Concerning motivation behind the utilization of WPC, the greater part (92%) said that their fundamental goal was muscle building, trailed by strength (4%) and followed by improved sports execution (6%). Newby, (2018) assessed that the best advantage by and by weight training was for donning exercises (53%) and muscle building (57%). In this review there is an extraordinary transcendence on the people's part to work on weight training focusing on muscle building.

This is presumably a result of the example bodybuilders to consume protein, since it is generally consumed to gain weight. According to the information on how much protein ingested from the eating regimen, there were 52% who professed to know the particular measure of protein consumption, while 48% didn't have the foggiest idea how much protein they consumed each day. The results indicated that the participants (21.42%), who ingest 20 to 30gm of WPC, and the rest used 30 to 40gm per day. Whereas, the recommended daily intake is 40% of the daily calories. The results of this study indicate that the participants were not following any guidelines on recommended intake.

Mostly, they get information about WPC from the gym (51.7%), second source of information was their friends (33%) and others get to know about WPC by visiting different shops (15%). These results indicate that both amateur and professional bodybuilders were not having proper coaching on WPC intake. Secondly, cultural differences are visible as in other countries, people search online or get guidelines from books as reported by Shultz, (2018).

At the same time, it was reported by Zuniga, (2017) there is a culture inside the gyms that guesses that overabundance of protein causes muscle building or to put on weight. It tends to be checked by the aftereffects of this review. A large portion of the members asserted involving WPC as the method for getting an expansion in bulk. Be that as it may, in light of how much WPC admission, to develop muscles and fortitude, weight lifters would have their requests met with an admission somewhere in the range of 1.6 and 1.7gm/kg/day, with a most extreme admission of 1.8 g/kg/day, and for perseverance work an admission somewhere in the range of 1.2 and 1.6 g/kg/day as revealed by Statfleu, (2017). All in all, this admission surpasses the greatest measure of WPC per body kilogram each day. A portion of the interviewees are taking in a sum underneath the suggested admission for muscle building, and different members have a sufficient protein consumption with the end goal of muscle developing and fortitude.

The consequences of this study showed there were no tremendous distinction about the degree of mindfulness about medical advantages among beginner and expert weight lifters and no huge contrasts in regards to risk related with the utilization of WPC. These discoveries support the proof that weight lifters need exceptional preparation projects to build their insight about medical advantages and wellbeing perils of utilizing WPC.

A concentrate by Gahche, (2017), in which the examined the weight control plans of jocks, saw that the eating regimens prevailed. Almost 50% of the weight lifters (42%) were in the suggested range, and 47%

were over the suggested range for actual activity. Another 11% of the members had protein utilization beneath the suggested level. Inordinate admission of protein and amino acids, through food and enhancements, has been displayed to destructively affect wellbeing as to have a protein-rich eating regimen frequently above suggestions, because of prevailing fashions, absence of data and deficient direction.

The significance of the mediation of thoroughly prepared experts for direction and individualized solution of protein utilization is accentuated. Feskanich, (2016) contends that there is no proof to recommend that WPC is expected for streamlining muscle development or strength gain or upgrade wearing execution, on the grounds that the boost to protein union builds the effectiveness of protein use, which lessens the requirement for high portions of protein in the eating routine. An overabundance of protein can make harm wellbeing, and perhaps bring about metabolic dangers both for the hepatic capacities, and for the renal capacities.

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