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Nutritional Science

USAGE AND AWARENESS OF NUTRITIONAL SUPPLEMENTS AMONG GYM GOERS

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ABSTRACT Since the past few years, an enormous increase of usage of nutritional supplements has been seen in gyms. Objective of the study was to assess the awareness and usage of nutritional supplements among gym goers. A purposive random sampling study was conducted among 100 gym goers after screening 125, across gyms in Bengaluru. 73% used them. Awareness of protein (59%) and BCAA's (35%) was highest. Protein was the most commonly used, followed by MVM's. Majority of respondents agreed nutritional supplements (58%) were unsafe. Complaints included mood swings (5%), GI distress (4%) and cramps (4%). Coaches were considered as best sources of information (45%), 41% considered their advice. Conversely, dieticians were also considered to be trusted sources of information by 43% but 8% considered their advice. Majority hadn't visited a registered dietician for advice. Hence, creating awareness about nutritional supplements among gym goers is important.

KEYWORDS : Gym, Nutritional supplements, Nutritionists.

INTRODUCTION

Nutrition and fitness go hand in hand. Food is medicine and time and again it's been proven that diseases that cannot be treated by medication have been treated by food. Nutrition plays an important role in keeping a person fit.

"Nutritional supplements" is a general term used for concentrated sources of nutrients that are usually prescribed in addition to the daily diet to increase nutrient intake. Supplements are thought of as "super foods" and "designer foods" because they are high in nutrients and are designed to meet certain nutritional goals. Nutritional supplements are also referred to as, "food supplements", "supplements" and "dietary supplements".[1]

Nowadays, the abuse of nutritional Supplements in gyms has increased. Supplements should not be taken only unless and until necessary. Many people going to the gym take supplements purely for aesthetic purposes. They have numerous health consequences that might be very dangerous in the long term. The use of these substances is generally made indiscriminately, without proper knowledge from specialized professionals, and with a limited number of studies in any grounds for recommendations of usage in humans.

MATERIALS AND METHODS

A purposive random sample selection was employed to select 100 respondents. 125 gym goers were screened. A pre designed questionnaire was used to collect the data from the participants. The questionnaire included questions to extract information related to demographic characteristics and usage and awareness of nutritional supplements among the respondents.

The questionnaire included general information of respondent such as name, age, gender, education, number of siblings, ordinal position, and frequency of going to gym and reasons of going to the gym.

Nutritional supplements related information was taken by the respondents including the definition, reasons of use, awareness on various types, commonly used nutritional supplements, places of purchase, sources of advice and information, side effects due to intake, amount of intake, beliefs and perceptions and safety of nutritional supplements in the market.

Inclusion Criteria:

Clients who workout in gyms regularly.
Gym goers who are willing to participate in the study.
Gym goers who intake nutritional supplements.

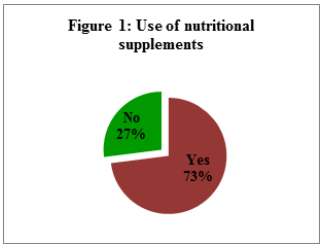
Exclusion Criteria:

Fitness trainers and clients who are not willing to be a part of the study.

Statistical Analysis:

The $\chi 2$ test has been employed in order to measure the association between respondents and nutritional supplements and tested further for significance at 5% level.

RESULTS AND DISCUSSION



As reflected in the figure, 73% of the respondents had used nutritional supplements. On the contrary, 27% had not used nutritional supplements. A study done by Ayman *et al* [9] concluded that prevalence of dietary supplements use among the gymnasium users was 37.8%.

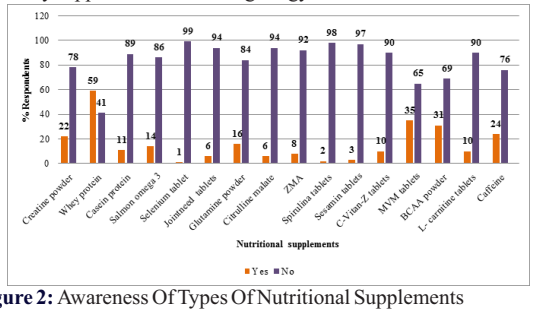


Figure 2: Awareness Of Types Of Nutritional Supplements

Figure 2 shows the awareness of nutritional supplements among gym goers.

Among proteins, majority of the respondents were aware of whey protein (59%) followed by casein protein (11%). As per vitamin supplements, majority of the respondents were aware of MVM tablets (35%) followed by Vitamin C (10%) and sesamin (3%). 22% and 16% of the respondents were aware of BCAA powder and glutamine respectively, among amino acids and 6% aware of glucosamine, an amino sugar.

Not many of the respondents were aware of omega-3 tablets (14%). Respondents were aware of trace elements, ZMA (8%), spirulina (2%) and only 1% aware of selenium tablets. Among fat burners, 10% were aware of L carnitine. The respondents were also aware of energy boosters like Caffeine (24%), creatine (22%) and Citrulline malate (6%). These also help to lift heavier weights.

In the study by Antonio *et al.* [3] it was observed that whey protein shakes

(50.5%) mixed with creatine and amino acids (48.3%) were the most frequent choices amongst the users. A study by Luciana *et al.*[5] also had the similar results, regarding people who used only one supplement, protein was the most consumed supplement, with 27.6%. In another study by Mohammed *et al* [6], the number one listed supplement was protein powder with (55%) participants consuming it, whey protein (32.1%), and casein protein by (19.8%).

In a study by Ayman *et al* [9], the most common used supplements consumed were whey protein (22.1%), amino acids (16.8%), multivitamins (16.8%), creatine (11.5%), and omega 3 (11.5%). 55% of supplement users in the study by Arvind *et al.*[11] used MVM's, the most popular being multivitamins and B - complex. Kaufman *et al.* [10] found that older persons were more likely to take multivitamin and mineral supplements, while younger persons were more likely to take creatine.

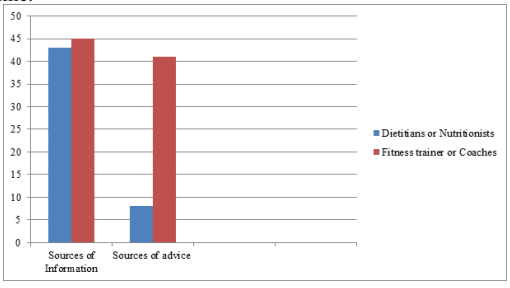


Figure 3: Sources Of Information And Sources Of Advice

As reflected in figure 3, 45% of the respondents considered the most trusted sources of information as coaches and 41% considered their advice. 43% considered dieticians as the source of information nut only 8% considered their advice. Study done by Ayman *et al* [9] concluded that supplement users acquired information mainly from online sources (38%), 35.4% from coaches and 11.5 % by dieticians.

It was also observed that majority (60%) of the respondents never visited a dietician/ nutritionist which is evident in considering them as sources of advice (8% consulted dieticians) and the trusted sources of information (43%).

Similar results were seen in the study by Antonio *et al* [3] where 34% of the respondents relied on their gym trainers (coaches) for their advice on intake, followed by 13% on physicians and none of them on nutritionists. In another study by Tatiane *et al* [4], it was concluded that 29% of the professionals who were advising the clients to take nutritional supplements did not have any background in Physical Education.

The most frequent sources of supplement indication were acquaintances, fitness instructors, and self prescription, whereas dieticians were only mentioned by 10.3% of the sample [12]. In another study most products were used by personal choice (77%) rather than by the recommendation of a health care provider (23%).[13]

Safety of usage and complaints after usage:

With regard to safety of usage, it was observed that only 42% of the respondents agreed that the commercially available nutritional supplements were safe to use. A higher percentage of 39% of the respondents consulted a gym trainer to decide the safety of the supplement followed by 37% consulted a dietician, 27% read the label and 19% used the internet.

A study by Baume *et al* [2] confirms that supplements were not safe for use and contain drugs that will cause the athletes to test positive for substances that are currently on the banned list. Gayer *et al* [7] detected products that were intentionally faked with 'classic' anabolic steroids such as metandienone, stanozolol, testosterone, etc. in the nutritional supplement market. These anabolic steroids were not declared on the labels either.

Due to intake of nutritional supplements, 5% of the respondents experienced mood swings followed by 4% having GI distress and constipation, 3% had other side effects like hair loss etc., 2% had hypertension and rapid bowel movements.

In a study by Luciana *et al* [5] insomnia, aggressiveness, acne and tachycardia were the most reported adverse effects along with an elevated serum creatinine due to usage of nutritional supplements. Another study concluded that water retention and nephritis have been associated with creatine supplementation. Anxiety, insomnia, headache, tachycardia and diarrhoea have been associated with caffeine pills and gastrointestinal distress with sports bars, meal replacements and proteins.[8]

CONCLUSION:

In view of the findings of the study, it could be concluded that Nutrition education and intervention programs should be promoted to spread awareness on use of nutritional supplements in gyms and a nutritionist should be a part of every gym, for appropriate information on the same. Education and awareness on use of nutritional supplements should be given by a registered dietician (RD) or a sports nutritionist. Hence, it is of great importance to shift the focus of gym goers to nutrition experts in order to derive appropriate information on nutritional supplements.

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