

**116 - STRENGTH TRAINING AND USE OF SUPPLEMENTS**

MARCOS ANTONIO TORQUATO DE OLIVEIRA  
ÁLVARO LUIS PESSOA DE FARIAS  
MARCOS ANTONIO MEDEIROS DO NASCIMENTO  
DIVANALMI FERREIRA MAIA  
UNIVERSIDADE NORTE DO PARANÁ - UNOPAR  
prof\_torquato@hotmail.com

doi:10.16887/90.a1.116

**INTRODUCTION**

Increasingly the number of young practitioners of exercise in gyms in campina grande, and not satisfied with the exercise, seek another way to increase the goal with dietary supplementation. According to Airton in his monograph project in the city of João Pessoa - PB the number of gym practitioners who use supplementation has been growing year after year.

**STRENGTH TRAINING**

Strength training is one of the ways for those aiming to quit physical inactivity, to have an active and healthy life along with a beautiful, well-toned body.

Over the years it is normal for sarcopenia in the human body (decreased muscle mass) and only with strength training can we prevent or at least delay this sarcopenia, becoming healthier elderly.

For those looking to get out of physical inactivity it is suggested to start exercising at the gym at least 3 times a week.

Supplementation are preparations designed to supplement the diet and provide nutrients such as vitamins, minerals, fiber, fatty acids or amino acids that may be missing or not consumed in sufficient quantity in a person's diet. Nutrition corresponds to the general processes of ingestion and conversion of food substances into nutrients that can be used to maintain organic function. These processes involve nutrients that can be used for energy purposes (carbohydrates, lipids and proteins), for the construction and repair of tissues (proteins, lipids and minerals), for the construction and maintenance of the skeletal system (calcium, phosphorus and proteins) and to regulate body physiology (vitamins, minerals, lipids and water) (Wolinsky & Hickson Junior, 1996).

According to Williams (2002) young people between 15 and 18 years old need 0.9g / kg of weight per day in sedentary individuals, as Tarnopolsky quoted by Arruda. In active individuals or athletes, who exercise this amount rises to 1.7 to 2.0g / kg daily weight.

**SUPPLEMENTATION AND STRENGTH TRAINING**

According to Santos amino acids, vitamins and creatine are preferably used by students who have 1st. and 2nd. degrees, already students who have 3rd. grade use vitamins, minerals, weight loss compounds, creatine and L-carnitine. Strength training along with supplementation will enhance the results of athletes seeking the gym for increased muscle hypertrophy.

The objective of this research is to analyze the use of supplementation by young men who exercise in gym and to evaluate the improvement in muscle hypertrophy.

**LITERATURE REVIEW****Physical exercise**

According to the Ministry of Health (2004), the advantages of promoting physical activity are numerous. It works to prevent disability and premature death, control health care costs and maintain a better quality of life. Regular exercise by healthy people triggers a series of physiological, psychic and social adaptations in both men and women of any age, which will provide important and numerous beneficial health effects (BRAZIL, 2004).

While physical activity is considered an important resource for health promotion policies, low levels and physical inactivity are alarming worldwide. Regular physical exercise is an important resource to maintain the recommended level of physical activity, especially in an increasingly urbanized and industrialized society. However, it is necessary to identify the most appropriate practices to the needs recommended as a protective effect of physical exercise for health (POLISSENI , MLC; RIBEIRO, LC, 2014).

**Healthy eating**

One of the guidelines of the National Food and Nutrition Policy (PNAN) and one of the priorities for food and nutritional security of Brazilians, is the promotion of healthy eating (BRASIL, 2015).

The formation of healthy eating habits is a process that begins at birth, with the eating practices introduced in the first years of life by parents, the first responsible for their formation (AMARAL, C.M.C., 2008).

Food has functions that go beyond the supply of biological needs, adding primordial cultural, behavioral and affective meanings that cannot be ignored. Thus, an adequate and healthy diet should include the search for eating habits and practices that value the production and consumption of low cost, high nutritional value, free of contaminants, as well as the most varied dietary patterns in the cycles. of life (BRAZIL, 2012).

Taking into account the principles of healthy eating, all food groups should make up the daily diet. Healthy eating must provide nutrients such as water, carbohydrates, proteins, lipids, vitamins, minerals and fiber, which are irreplaceable molecules and indispensable for the proper functioning of the body (MATTA, I.E.A., 2011).

**Supplementation**

As the professionalization of sports physical activities has grown, the need to look for new resources to improve performance has made it crucial to seek positive results in training (BRAGGION, G.F., 2008).

Thus, since athletes often seek to exceed their goals and that physical activity itself promotes a lifestyle that makes adequate food intake impossible, supplementation is highlighted in their diet (BRAGGION, G.F., 2008). According to CFN Resolution No. 380\2005 nutritional supplements are foods that serve to supplement the daily diet of a healthy person with calories and / or nutrients when their dietary intake is insufficient or when the diet is insufficient. requires supplementation.

These supplements are divided into six different categories, according to the National Health Surveillance Agency (ANVISA): hydroelectrolytic replenishers, energy replenishers, protein foods, compensatory foods, branched chain amino acids and other special purpose foods for physical activity practitioners (ANVISA). 1998).

According to Moreira and Rodrigues (2014) the environment of gyms favors the spread of stereotyped aesthetic standards, leading many people to develop inappropriate eating habits and often resort to the use of food supplements. There is still a lack of information and guidance regarding optimal nutrition, which can hinder sports performance.

#### METHODOLOGY

In addition to a literature review, a questionnaire was administered to 50 strength training practitioners aged 18 to 50 years old, whether or not they use supplementation to achieve their goals, and who practice physical exercises in gyms. Data collection was performed through the evaluation of the proposed questionnaire, consisting of questions that address objective, intake of food supplementation, amount of supplements, type of supplements, among others.

The approach was made upon arrival of the practitioners at the gym before they performed the training, randomly and at different parts of the day.

Those students who agreed to participate were aware of the study and were volunteers at no cost. Prior to the application of the questionnaire, which was only applied after the student's consent, the student was informed of its purpose. The questions were multiple choice, and the student could choose, if desired, more than one answer to the same question.

#### RESULTS

In the current study 50 forms were obtained, completed in their entirety. According to the result, it was observed that males prevail over females with 62% of volunteers.

Looking at the age table, it was clear that the majority of gymgoers are young people under 30 years of age. What attracted a lot of attention was the much lower number of practitioners over 40, who are people who need the gym. to keep your body up to date, as over time the body is decreasing more and more hormonal rates, sarcopenia, loss of minerals. Diseases also begin to appear with the sedentary lifestyle that becomes more evident as they age, obesity, diabetes, osteoporosis, arthritis and others.

With the fact that most of the interviewees were younger than 30 years old, it was very interesting the goal of the majority, muscle hypertrophy, where 20% chose two options, hypertrophy and quality of life, all who said weight loss 6.6% did not report quality of life. Which is very worrying because they must have a BMI and high fat percentage, thus leaving the health compromised in the long term.

76% of volunteers reported taking dietary supplements and only 24% said they did not use or have used it in the past. A very relevant data if this percentage were prescribed by professionals in the area, where in this same study we will see that the vast majority is not accompanied by nutritionist or sports doctors.

Among respondents who were taking food supplements was quite different about the amount, 65.8% said they use 3 or more supplements, which is a warning because most do not have proper monitoring, even knowing of the risks of poor health, either excess or inadequate supplementation, where most supplements are not scientifically proven to be effective for a particular purpose.

Something very consistent happens, where the most commonly used supplements are amino acids and or proteins 53.2%, compared to the goal of practitioners that was 70% for hypertrophy, it is already known that much of the muscle mass is protein, leaving It is quite clear that not necessarily the use of protein to obtain hypertrophy.

A fact that could not draw attention is that 62% of respondents are not accompanied by a dietitian, that is, they use supplementation on their own. As reported earlier, this data is worrisome knowing that 76% of respondents reported supplementation and 65.8 use 3 or more supplements, which can lead the body to excess substances not needed for the body, where having a good diet can adequate nutritional value can be obtained.

#### DISCUSSION

The increase in dietary supplement in the national and international market has raised questions for the daily life of people, which supplement is necessary, for whom it is necessary, if it is really necessary, because the exercise practitioners have been increasing the tendency more and more. supplement consumption, this according to the pursuit of the perfect body in less time practiced.

The use of dietary supplementation should be prescribed by the appropriate professional, in the case of sports nutritionist or sports physician, in partnership with a physical educator the results may arrive faster since the food depends on the exercise and vice versa, where the caloric expenditure of the activity, intensity, duration and frequency directly affect the composition of the client's diet.

It is important to remember that 76% of respondents make use of some type of supplement and more than half do not have the monitoring of a nutritionist. In this study it was observed that the vast majority of consumers were male aged up to 30 years. Monthly spending on supplements has made the life of physical activity practitioners normal, even though they have not yet been accompanied by a nutritionist, as they follow the opinions of friends, physical educators, salespeople. The expenses are huge and may not bring the expected result as the real need for an individual is not known.

According to Gomes (2008) the most consumed supplements by practitioners are amino acids, whey protein and carbohydrates (Guedes et al 2008).

According to Frazini et al (2003), a survey conducted in gyms in the state of São Paulo found that 76.1 of the respondents did not consume any type of supplement and only 23.9 consumed some type of supplement. .9 consumed some type of protein concentrate.

#### FINAL CONSIDERATIONS

As observed in the study, the consumption of supplements among the attendees of the academies of Campina

Grande in Paraíba proves to be significant and sufficient, opening a gap for future authors to do further research on the subject.

It is noticed that the practitioner still has little information on the subject and prefers to do it on their own, even knowing the high health risk that runs when self-supplementing. With the wide range and quantity of new products that come up all the time and also those already on the market, getting and using them is extremely easy, even without scientific proof of their real effectiveness.

Regarding the age of practitioners, it was found that most supplement users are young people up to 30 years old and male. Regarding the prescription, it can be observed that many are not accompanied by nutritionists or sports doctors, thus indicating the justification for the lack of correct information.

#### BIBLIOGRAPHICAL REFERENCES

- Airton, M.A. Praticantes de Musculação Usando Suplementos Alimentares na Cidade de João Pessoa. Monografia, João Pessoa – PB.
- AMARAL, C.M.C. Educação alimentar. Portal FMPB. 2008. Disponível em: <[www.fmpb.org.br/mostraconteudos.asp?cod\\_conteudo=6](http://www.fmpb.org.br/mostraconteudos.asp?cod_conteudo=6)>.
- Bacurau, R.F. Nutrição e Suplementação Esportiva. 1ª ed. São Paulo. Phorte. 2001
- BISCAIA. Drogas Anabolizantes. Rio de Janeiro. Grupo de Estudos avançados em Saúde e Exercício (GEASE), 2004. 2 p.
- BRAGGION, G.F. Suplementação alimentar na atividade física e no esporte – aspectos legais na conduta do nutricionista. Rev Nutrição em foco. Jan. 2008. Disponível em: <<http://www.nutricaoemfoco.com.br/NetManager/documentos/suplementacao-alimentar-na-atividade-fisica-e-no-esporte.pdf>>.
- BRASIL. Portaria n. 32 de 13 de janeiro de 1998. Aprova o regulamento técnico para suplementos vitamínicos e ou de minerais. ANVISA – Agencia Nacional de Vigilância Sanitária. Diário Oficial da União. Disponível em:<[http://www.anvisa.gov.br/legis/portarias/32\\_98](http://www.anvisa.gov.br/legis/portarias/32_98)>.
- BRASIL. Dicas em saúde – exercício físico. Biblioteca virtual em saúde. 2004. Disponível em: <http://bvsms.saude.gov.br/bvs/dicas/38exercicios.html>.
- BRASIL. Guia alimentar para a população brasileira. 2ª edição. Brasília: editora do ministério da saúde, 2015.
- BRASIL. Promoção da saúde e da alimentação adequada e saudável. Portal da saúde. 2012. Disponível em: <[http://dab.saude.gov.br/portaldab/ape\\_promocao\\_da\\_saude.php](http://dab.saude.gov.br/portaldab/ape_promocao_da_saude.php)>.
- BRASIL. Portaria nº 32, de 13 de janeiro de 1998 ementa não oficial. ANVISA. Agência Nacional de Vigilância Sanitária. D.O.U. - Diário Oficial da União; Poder Executivo, de 15 de janeiro de 1998. SVS/MS - Ministério da Saúde. Secretaria de Vigilância Sanitária. Disponível em : <[http://portal.anvisa.gov.br/wps/wcm/connect/b491f18047458fb98d3dc3fb4c6735/PORTARIA\\_32\\_1998.pdf?MOD=AJPER\\_ES](http://portal.anvisa.gov.br/wps/wcm/connect/b491f18047458fb98d3dc3fb4c6735/PORTARIA_32_1998.pdf?MOD=AJPER_ES)>.
- BRASIL. Resolução CFN nº 380/2005. CFN. Conselho Federal de Nutricionistas. D.O.U. Diário Oficial da União: Poder Executivo, de 09 de dezembro de 2005. Disponível em: <<http://www.cfn.org.br/novosite/pdf/res/2005/res380.pdf>>.
- COUTO, Edvaldo Souza e GOELLNER, Silvana Vilodre (Orgs). Corpos Mutantes: ensaios sobre novas (d)eficiências corporais. Porto Alegre: UFRGS, 2007. GOSTON, Dra. Janaina Lavallii; CORREIA, Maria Isabel Toulson Davisson. Histórico, Classificação, Legislação e Uso em Ambiente Esportivo. Disponível em : <[http://www.janainagoston.com.br/arquivos/artigos/09\\_ESPORTE\\_2a\\_via.pdf.Pub](http://www.janainagoston.com.br/arquivos/artigos/09_ESPORTE_2a_via.pdf.Pub)>. Set/Out 2009. In: HATHCOCK, J. Dietary supplements: how they are used and regulated. The Journal of Nutrition. Washington.v.131, n.3.p.1114S-1117S.Mar. 2001.
- LINHARES, Tatiana C.; LIMA, Rodrigo M. Prevalência do uso de suplementos alimentares por praticantes de musculação nas academias de Campos dos Goytacazes/RJ, Brasil.
- McARDLE, W.D., KATCH, F.I., KATCH, V.L. Fisiologia do exercício: energia, nutrição e desempenho humano. 3.ed. Rio de Janeiro : Guanabara Koogan, 1992.
- MARCONI, M. D.A.; LAKATOS, E. M. Técnicas de pesquisa: planejamento e execução de pesquisas, amostragens e técnicas de pesquisas, elaboração, análise e interpretação de dados. 3.ed. São Paulo: Atlas, 1996.
- MARQUES, Fernando. O que é hipertrofia muscular? Disponível em : <<http://www.alexandrebento.com.br/wushu/index.php/atividades-fisicas/506-o-que-e-hipertrofia-muscular#sthash.5VqOKXUf.dpuf>>. Acesso em: 10/02/2014>.
- MATTA, I.E.A. A importância da alimentação saudável. Portal aeel. 2011. Disponível em: <[http://www.aeel.org.br/data/files/01\\_15.07.11\\_a\\_importancia\\_da\\_alimentacao\\_saudavel.pdf](http://www.aeel.org.br/data/files/01_15.07.11_a_importancia_da_alimentacao_saudavel.pdf)>.
- MATTAR, F. N. Pesquisa de marketing: edição compacta. São Paulo: Atlas, 1996.
- MOREIRA, F.P.; RODRIGUES, K.L. Conhecimento nutricional e suplementação alimentar por praticantes de exercícios físicos. Rev Bras Med Esporte. v20. n 5. p 370 – 373. 2014.
- NATIONAL RESEARCH COUNCIL. Recommended dietary allowances. Washington:NationalAcademy Press, 1989.
- OLIVEIRA, S. L. Tratado de metodologia científica: Projetos de Pesquisas, TGI, TCC, monografias, dissertações e teses. São Paulo: Pioneira, 1997. Prestes, J; Foschini, D; Marchetti, P; Charro, M. Prescrição e Periodização em Treinamento de Força em Academias. Barueri – São Paulo. Manole 2010
- POLISSENI, M.L.C.; RIBEIRO, L.C. Exercício físico como fator de proteção para a saúde em servidores públicos. Rev Bras Med Esporte. v 20. n 5. p 340 – 344. 2014.
- Rocha LP, Pereira MVL. Consumo de suplementos nutricionais por praticantes de exercícios físicos em academias. Rev Nutr 1998.
- SANTOS, M. A. A. Uso de suplementos alimentares como forma de melhorar a performance nos programas de atividade física em academias de ginástica. Rev. paul. Educ. Fís., São Paulo, jul./dez. 2002, p. 174-85.
- Tarnopolsky MA, Atkinson SA, MacDougall JD, Chesley A, Phillips S, Schwarcz HP. Evaluation of protein requirements for trained strength athletes. J Appl Physiol 1992;73:1986-95.
- Wolinsky, I.; Hickson Junior, J.F. (Eds.). Nutrition in exercise and sport. 2nd ed. Boca Raton: CRC Press, 1994.

Address: Rua Antonio Mangabeira, 221, Itarare, Campina Grande-PB, CEP: 58411-1000, fone: (83)9 8886-7448, E-mail: [prof\\_torquato@hotmail.com](mailto:prof_torquato@hotmail.com)

**STRENGTH TRAINING AND USE OF SUPPLEMENTS**

With the increase in the number of academies in Campina Grande - PB, the increase in the number of dietary supplements available on the market and looking for a perfect body on behalf of users of the academies, aroused the interest of the study on the consumption of supplements by their customers. With the emergence of new dietary supplements on the market today, the use by customers has increased greatly, as proof of his lack of results from manufacturers, that even before the launch would have to be done research proving its effectiveness, with lack of adequate information by end users - so called by the manufacturers - the client often does the intake of certain supplements without even knowing what they are taking or what they are taking, since most do not have accompanying a sports nutritionist and go for the head of one or the other. Most customers do not have the proper nutritional information and make the intake higher than indicated supplements for your body, it ends up causing inefficiency in the product or even problems in your health. Thus, the aim of this study is to test the use of supplements by clients academies in Campina Grande - PB and pass information so that they can have a little more knowledge not doing the indiscriminate use of supplements, going looking for a professional in the area for a job can be done safely. The study objective was successfully achieved since completed their goals, but they need more studies to affirm on this subject

**Keywords:** Dietary supplements; Academies; Customers of Gym

**FORMATION DE LA FORCE ET UTILISATION SUPPLÉMENTAIRE**

Avec l'augmentation du nombre de gymnases à Campina Grande - PB, l'augmentation de la quantité de suppléments diététiques disponibles sur le marché et la recherche d'un corps parfait par les utilisateurs du gymnase ont suscité l'intérêt de l'étude sur la consommation de suppléments vos clients. Avec l'émergence de nouveaux compléments alimentaires sur le marché actuel, l'utilisation par les clients a considérablement augmenté, de même que le manque de preuves de leurs résultats par les fabricants, ce qui même avant le lancement devrait faire l'objet de recherches démontrant leur efficacité. Manque d'informations adéquates de la part des consommateurs finaux - comme l'appellent les fabricants - le client ingère souvent certains suppléments sans même savoir ce qu'il prend ou ce qu'il prend, car la plupart ne sont pas accompagnés par un nutritionniste du sport et passer par la tête de l'un ou l'autre. La plupart des clients ne disposent pas des informations nutritionnelles appropriées et leur consommation de suppléments est supérieure à celle recommandée pour leur organisme, ce qui se traduit par un produit inefficace, voire des problèmes de santé. Ainsi, l'objectif de ce travail est de vérifier l'utilisation des suppléments par les clients des gymnases de Campina Grande - PB et de leur transmettre des informations afin qu'ils puissent avoir un peu plus de connaissances en évitant l'utilisation aveugle des suppléments, en recherchant un professionnel de la région afin qu'un travail puisse être effectué en toute sécurité. L'objectif de l'étude a été atteint avec succès, car il a atteint ses objectifs, mais des études supplémentaires sont nécessaires à ce sujet.

**Mots-clés:** Compléments alimentaires; Gymnases; clients du gymnase;

**FORTALECIMIENTO DE FORMACIÓN Y SUPLEMENTACIÓN**

Con el aumento en el número de gimnasios en Campina Grande - PB, el aumento en la cantidad de suplementos dietéticos disponibles en el mercado y la búsqueda de un cuerpo perfecto por parte de los usuarios del gimnasio, despertó el interés del estudio sobre el consumo de suplementos por sus clientes. Con la aparición de nuevos suplementos dietéticos en el mercado actual, el uso por parte de los clientes ha aumentado considerablemente, así como su falta de pruebas de resultados por parte de los fabricantes, que incluso antes del lanzamiento tendrían que realizarse investigaciones que demuestren su eficacia, con el La falta de información adecuada de los consumidores finales, los llamados fabricantes, a menudo ingieren ciertos suplementos sin siquiera saber lo que están tomando o lo que están tomando, ya que la mayoría no están acompañados por un nutricionista deportivo y pasar por la cabeza de uno u otro. La mayoría de los clientes no tienen la información nutricional adecuada y hacen que la ingesta de suplementos sea mayor que la recomendada para su cuerpo, lo que termina siendo un producto ineficiente o incluso problemas de salud. Por lo tanto, el objetivo de este trabajo es verificar el uso de suplementos a través de clientes de gimnasios en Campina Grande - PB y pasar información para que puedan tener un poco más de conocimiento al no hacer un uso indiscriminado de suplementos, buscando un profesional del área para que un trabajo se pueda hacer de manera segura. El objetivo del estudio se logró con éxito, ya que ha completado sus objetivos, pero necesita más estudios para establecer sobre este tema.

**Palabras clave:** Complementos alimenticios; Gimnasios; clientes de gimnasio;

**TREINAMENTO DE FORÇA E USO DE SUPLEMENTAÇÃO**

Com o aumento no número de academias em Campina Grande – PB, o aumento na quantidade de suplementos alimentares disponíveis no mercado e a busca de um corpo perfeito por conta dos usuários das academias, despertou o interesse do estudo sobre o consumo de suplementos por parte dos seus clientes. Com o surgimento de novos suplementos alimentares no mercado atual, o uso por parte dos clientes tem aumentado bastante, assim como sua falta de comprovação de resultados por parte dos fabricantes, que antes mesmo do lançamento teria que ser feito pesquisas provando sua eficiência, com a falta de informação adequada por parte dos consumidores finais - assim chamados pelos fabricantes - o cliente muitas das vezes faz a ingestão de determinados suplementos sem saber mesmo o quê estão tomando ou para quê estão tomando, pois grande parte não tem acompanhamento de um nutricionista desportivo e vão pela cabeça de um ou de outro. Grande parte dos clientes não tem a informação nutricional adequada e fazem a ingestão de suplementos maior que a indicada para seu corpo, isso termina acarretando na ineficiência do produto ou até mesmo problemas na sua saúde. Sendo assim, o objetivo desse trabalho é verificar a utilização de suplementos por meio de clientes de academias em Campina Grande – PB e passar informações para que os mesmos possam ter um pouco mais de conhecimento não fazendo o uso indiscriminado de suplementos, indo à procura de um profissional da área para que possa ser feito um trabalho com segurança. O objetivo do estudo foi alcançado com êxito, já que concluiu suas metas, porém necessitam de mais estudos para afirmar sobre tal assunto.

**Palavras-chave:** Suplementos alimentares; Academias; clientes de academia;