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Original Article

DIETARY SUPPLEMENTS IN FITNESS CENTERS: BODY MANAGEMENT AND HEALTH RISKS

SUPLEMENTOS ALIMENTARES EM ACADEMIAS DE GINÁSTICA: GERENCIAMENTOS DO CORPO E RISCOS À SAÚDE

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RESUMO

O objetivo deste estudo foi explorar os significados do uso de suplementos entre aqueles que praticam atividade física em academias de ginástica. Um estudo qualitativo foi realizado com base em 67 questionários respondidos na internet por praticantes de atividade física. Houve também uma observação dos grupos na Facebook, a dinâmica e outros aspectos como discussões, mensagens, perfis e imagens. Foi detectado que os praticantes de atividade física se importam mais com a quantidade de substâncias ingeridas do que com qualquer outro fator que possa levá-los a sofrer certos riscos à saúde. Eles acreditam que os chamados "excessos" podem causar doenças aos órgãos internos. Embora os participantes acreditem que seu próprio consumo de suplementos não compromete a saúde, a autoridade biomédica é crucial para que eles reconheçam se estão ou não em risco. O consumo de suplementos pode variar dependendo do que se entende ser excessivo e quais os riscos que podem comprometer o corpo. Existem muitas motivações para gerenciar essas substâncias. Os riscos para a saúde não devem ser analisados apenas a partir de uma perspectiva biomédica, mas também abordados pela lógica sociocultural das percepções e significados atribuídos pelos sujeitos ao corpo e ao seu gerenciamento.

Palavras-chave: Suplementos alimentares. Risco sanitário. Educação física e treinamento. Pesquisa qualitativa.

ABSTRACT

The purpose of this study was to explore the meanings of supplement use among those who engage in physical activity in fitness centers. A qualitative study was carried out based on 67 questionnaires answered on the internet by practitioners of physical training. There was also an observation of the groups in the Facebook, the dynamic and other aspects such as discussions, messages, profiles and images. It was detected that physical activity practitioners care more about the quantity of substances ingested than any other factor that may lead them to suffer certain health risks. They believe that so-called "excesses" may cause diseases to the internal organs. Although the participants believe that their own consumption of supplements does not compromise their health, a biomedical authority is crucial for them to recognize whether or not they are at risk. The consumption of supplements can vary depending on what is understood to be excessive and which risks may compromise the body. There are many motivations for managing these substances. Health risks should not be analyzed solely from a biomedical perspective, but also addressed by the socio-cultural logic of the perceptions and meanings attributed by the subjects to the body and the management thereof.

Keywords: Nutritional supplements. Health Risk. Physical education and training. Qualitative research.

Introduction

Where in the past there was a certain confidence in scientific-technological development due to the industrial and capitalist expansion in several areas of knowledge, in the 21st century there is now a continuous sense of unpredictability and lack of scientific-technological control over risks and social life[1]. The neoliberal context of globalization, the technological advancement of communication and the critical movements of the 1960s and 1970s made it possible to produce a society of risk which at any moment may question the feeling of security and make it vulnerable[1].

In the field of health, of which the areas of physical education and sports are a part, health risks are primarily measured by prescriptive biomedical rationality and with an attempt to foresee them by means of universal epidemiological references, seeking changes to behaviors which are regarded as "unhealthy"[2]. Currently, in the case of dietary supplements, the more knowledge one has, the more one realizes the potential risks or uncertainties

regarding the consumption of these substances which shape the engagement of people in physical activities, as already reported by some works[3-5].

However, behavior which is considered healthy may also be understood based on various systems of symbolic logic that are intertwined with a certain social group in a given socio-economic, political, and cultural context[2]. Based on the idea of Foucault[6] that subjects are surrounded by rationalities that dictate or attempt to govern the knowledge and practices with/for the body, here we question the relationship between the use of dietary supplements and forms of body management. Forms of body management are related to ways of governance, i.e., the conduct of social actors. The notion of governance refers to the techniques and ways to lead human beings which vary in accordance with social-historical periods[6,7].

Today, the daily life of subjects who consume dietary supplements and are part of the context of fitness centers is pervaded by a set of moralizing ideals which are responsible, in the words of Foucault[8], for certain types of surveillance of the body.

The use of dietary supplements in fitness centers, therefore, may be a pluralistic conduct of body management to the extent that physical activity practitioners respond in multiple therapeutic ways upon encountering various health risks. This occurs because they are inserted into certain socio-economic and cultural conditions. Increasingly the construction of the self is established in a relationship of self-regulation of the body considering biomedical assumptions[1] and, depending on contexts and social groups, the body becomes a vast universe of interventions which, in a way, build, multiply, or govern the identities of the subjects[9].

Much of the research on the use of dietary supplements in fitness centers uses a quantitative biomedical-statistical framework to understand the physiological effects of the products, the prevalence of consumption of certain substances by social groups, information on users' intake, or the potential health risks caused by dietary supplements. From the perspective of socio-cultural, it was possible to identify a few studies: Atkinson[10] found that the purchase and sale of dietary supplements are governed by androcentric ideals; Sabino, Luz and Carvalho[11] showed the symbolic uses and social logic involved in dietary supplementation among a group of regular visitors to fitness centers.

Thus, if qualitative research on physical activity, guided by the references of Humanities and Social Sciences, are still scarce, it appears that this empirical scenario worsens when the intention is to identify the relationship with dietary supplements. Therefore, as far as could be determined, there is a gap in knowledge regarding socio-cultural investigations which investigate the meanings of supplement use among those who engage in physical activity. The present study based on the sociocultural perspective can elucidate how certain social groups in given circumstances understand the consumption of dietary supplements and their potential risks, which can contribute greatly to those who work with these practitioners of physical activities.

In order to contribute to studies of this nature, certain questions guided this research: How are dietary supplements considered, by physical activity practitioners in fitness centers, as forms of body management? What are the *modi operandi* regarding the management of these substances in relation to health risks? In short, what do these forms of body management represent symbolically in their social lives?

Studies specifically on the use of dietary supplements in fitness centers would help the understanding of how certain subjects engage provisions to manage one's body or one's own life. These investigations contribute substantially to physical education and sports professionals by illuminating the practice of those dealing with users of such products. The empirical products of this type of investigation may direct, orchestrate, or supply indications to specialists and scholars of other areas of health, such as nutrition, regarding dealing with

some forms of body management, such as the use of dietary supplements. In addition, there is also the possibility of relativizing the biomedical perspective on what is most proper for the body or health, as the ideas about what is consumed are pluralized depending on the society/group to be analyzed at a particular historical time[12].

Therefore, the purpose of this study was to understand the potential relationship between the consumption of dietary supplements and health risks from the perspective of individuals who engage in physical training in fitness centers, as well as the extent to which said substances are considered as strategies for managing one's own body.

Methodological Procedures

This study is characterized as qualitative research as it seeks to understand the behaviors and beliefs of subjects in their daily lives and environment[13]. In this case, the focus is on users of dietary supplements in Brazilian fitness centers.

The selection criteria of participants were as follows: he/she must, a) be eighteen years or over as, in Brazil, this is the minimum age at which a person may be judged for his/her actions as an adult; b) be enrolled in or have been a frequent visitor to a fitness center, which makes it possible to understand the practitioners in this place of study; c) have consumed at least one product that is considered a dietary supplement, which expands the diversity of the types and quantity of products to be analyzed; d) be or have been a practitioner of weight training, at least; this criterion is due to the visibility of the body, which in this context is judged by its form, and due to the fact that weight training is one of the principal parts of physical activity which aims at modifying or transforming the physique.

The construction of the empirical material was generated from the application of questionnaires, with open questions, on the internet. This research technique was used to reach a greater number of respondents inserted in different social contexts, so they may feel comfortable about response time and the content of their answers. Specifically, regarding the choice of this research technique on the internet, it was made because the use of dietary supplements is often seen as an awkward act, or one which may create resistance from users when the subject is addressed in depth. This is justified to the extent that many of the users of these products are also consumers of illicit anabolic substances. Some factors may accentuate the aforementioned reality: such products may be considered illegal substances; the use of these products may be secretive due to revealing the artifice of the participants in obtaining certain body forms. Depending on the case, the presence or absence of a dietary prescription interferes with whether the user considers him/herself as "deviating" from his/her social group. The application of questionnaires on the internet may provide a rich research space regarding the integrity of the responses, as it provides greater confidentiality, privacy, anonymity and autonomy to the respondent[14].

The questionnaire URL was posted on 120 Brazilian Facebook groups about physical activity, nutrition, and dietary supplements in the year 2016 (May to August), by the researcher. All the participants signed in a digital way an informed consent that ensured anonymity and confidentiality before having access to the questionnaire. It was also stated that they were free to give up participating on the research at any time.

The survey contained three parts. The first part had questions about the participant's profile (gender, age, place of residence, marital status, profession, income, physical activity that practiced besides bodybuilding). The second part consisted of questions about details concerning the use of supplements (goals, frequency, how they used the products, how they were ingested, how to determine dosage and financial cost). The third part was linked to the reasons, reasons and effects related to the use of supplements, as well as the relationships with physical activity.

The questions were elaborated considering the objectives of the study and submitted to the evaluation of three specialists in the area. Before the official application of the questionnaires, a pilot study was carried out in two groups of Facebook, in order to verify the adequacy of the questions and the conditions of application of the questionnaire, as Flick[13] suggests. From the positive result and some adjustments made, the questionnaires were disclosed as explained above. During data collection, it was possible to identify other advantages of conducting research on the internet, such as: a) a more accurate selection in relation to the group to be studied; b) expansion of social groups and contexts due to geographical diversity and reaching participants which would otherwise be difficult to access; c) convenience and time to reflect on the questions; d) reduced time in the transcription process[14]. For Lunnay *et al*.[15], the internet is becoming an increasingly viable possibility for data collection in scientific research.

Following the guidance of Kozinets[16], with the purpose of understanding the field of cyberculture, the profiles of the people who frequented the group were analyzed and interpreted, as well as the content of the posts made by the members and administrators of these communities and all images that could help reveal the logic of those who use dietary supplements.

Of the 174 questionnaires answered, 67 participants were selected, comprising 38 men and 29 women, all of whom complied with the aforementioned criteria. The respondents were aged between 18 and 40 and earned between $467.05 and $4,670.51. The empirical universe of this research included a variety of social groups inserted in different socio-economic and cultural contexts around Brazil, thus providing one of the objectives of the qualitative research to comprehend the various particularities contained in multiple realities[13].

The number of respondents was established because of the assumption of "theoretical sampling" – i.e., there was an interruption or saturation of the number of participants to be studied to the extent that the data showed some consistency of presentation and/or did not add anything to the survey[17].

Content analysis of the questionnaires, conducted based on Bauer[18], followed the process of organization, summary, integration and synthesis of the data. By using an induction process, we sought to build categories for thematic axes to provide a balance between the richness of the description and the interpretations considering the theoretical framework used[13].

This study was approved in the Research Ethical Committee of the Universitary Hospital Clementino Fraga Filho of the Federal University of Rio de Janeiro (CAAE: 52465115.7.0000.5257 / Number: 1.426.698). All the participants provided informed consent to access the questionnaire as stated by Brazilian Council of Ethics in research with human subject (CONEP/BR).

Results

Results will be presented in four thematic axes as they emerged from the content analysis of the questionnaires.

Table 1. Thematic Axes and examples of answers

Thematic Axes	Examples of answers
"Excess" impairs health	I think that taking supplements can turn out to be successful, but if you take too much you might throw up. (Male, 19, prep school student)
	Excessive use above that which is recommended. (Male, 28, journalist)
	For some supplements, I would say that excessive use can bring about health risks, primarily stimulants (pre-workout). (Male, 27, physical education professional)
	If misused in dosages higher than what is necessary. (Male, 37, university professor)
	Excessive consumption can cause risks. (Male, 37, public servant)
The viscera under threat	Overloading the liver. (Male, 37, product development technician)
	I think that low water consumption could cause me kidney problems. (Female, 30, elementary school teacher)
	Impact on the kidneys, although I've never had any problems. (Male, 31, judicial analyst)
	From the information I've received so far: (1) overloading of protein intake (kidneys), (2) insomnia and restlessness, (3) water retention and kidney stones. (Male, 24, medical student)
	Risk of overloading the digestive and urinary systems, as whey protein greatly increases the quantity of daily protein consumption. (Male, 25, physical education professional)
	Excess of protein has the risk of overloading the kidneys, liver, etc. That's why I don't take much, and I pause it too. (Male, 35, systems analyst)
Professionals and biomedical knowledge as "saviors"	I have regular consultations with doctors and they know everything that I use and in accordance with my test results, there are no contraindications or risks to my health. (Female, 31, elementary school teacher)
	As I regularly consult with a nutritionist and follow their instructions to the letter, I believe there are no risks. (Male, 33, architect and urbanist)
	None. I always do routine tests to see how my health is. (Male, 29, systems analyst)
	I'm confident in the professionals I consult with. (Male, 25, elementary school teacher)
	I don't see any risk to my health, as I always use [the products] due to a recommendation from a nutritionist. (Female, age undeclared, bank clerk)
	It could be an allergy to a certain ingredient in the supplement. (Female, 34, elementary school teacher)
	Depending on the supplement and the physical condition of the person who consumes it, this relationship is 100%. If the person already has a predisposition to suffer heart attacks, arrhythmia, if they have high blood fat levels and take supplements without medical guidance, the risk to this person really could be high. [...] What is certain is that most people who have gotten sick or died due to the use of supplements have been because of some allergy or having a predisposition to certain cardiac and respiratory diseases. The use of a thermogenic was the main "bad guy" in this story. But this is the fault of people who consumed it without proper medical and nutritional care and advice. (Male, 32, federal policeman)
	Excessive use of caffeine. Tendency toward heart problems. (Female, 29, no stated profession)

Continuing Table 1...

Building relationships of trust with products	I don't believe those that I take do me any harm. (Female, 28, engineer) From what I consume, there are no expected risks. (Male, 34, elementary school teacher) With these products I use, no. (Female, 51, physical education teacher) I found the research interesting and I'm happy to participate. I hope that important reflections arise about physical activities and the use of supplements. (Male, 33, architect and urbanist) I've used albumen in conjunction with the others for some time, under a nutritionist's guidance, and afterward I suspected that something was wrong with my urine ("foaming a lot"). I did a test and it confirmed an increased excretion of protein and hypercalciuria. Since then I stopped using it. [...] I went from weight training to CrossFit about a year ago. I found the focus on nutritional issues very interesting and since then I've been eating much better; this approach promoted by their community is much stronger than in weight training, in my opinion. (Male, 24, medical student) The use of "pre-workout" supplements can cause a serious health risk. My hypothesis is that I went into depression due, in part, to the continued use of pre-workout supplements. (Male, 25, physical education professional) Researching how to learn if a product is authorized by Anvisa [the Brazilian Sanitary Surveillance Agency]. The side effects on the body. (Female, 30, elementary school teacher) It would be interesting to make this and other studies available to the general consumer. The majority are laypeople on the matter and they lack serious information on consumption. (Male, 38, administrator)

Source: Authors

The discussion begins with the notion of "excess" that practitioners attribute as being a factor in dietary supplements causing health risks. Afterward, we will address how the viscera take a central role in the perspective of physical activity practitioners when relating the consumption of the products to potential physical damage. Then, we will show the ways in which biomedicine professionals and knowledge are conceived by physical activity practitioners when it comes to ingesting such substances. Finally, we will discuss how the familiarity or social distance with some dietary supplements influences the ways in which the health risks related to dietary supplements are understood.

Discussion

"Excess" impairs health

For the physical activity practitioners surveyed, the use of dietary supplements does not cause health risks, except for cases in which the products are used in "excess". The respondents indicate that if one does not comply with what was recommended by someone or by any information written on the label or on the internet, for example, "excessive" consumption of these substances can impair health. Thus, in some way, physical activity practitioners construct a fine line between what it means to consume "a little" or "a lot" and what is ideal to be consumed.

In this sense, calculating the health risks in the context of physical activity leads to blaming or holding the subject responsible for the ways in which he/she manages his/her own body. That is, consuming or not that which is called "excessive", classifies those who consume dietary supplements "correctly" or "incorrectly." In an increasingly hedonist

society[9], the physical activity practitioner becomes the owner or is empowered by his/her own body identity in that he/she manipulates substances or doses physical activities depending on what is understood as "excessive consumption." In other words, the human body becomes the target of self-governance and self-monitoring, processes typical of an increasingly individualistic, consumerist and medicalized society[19]. Body management in this case is built based on self-governance, by means of biomedical dictates, which is influenced by modern forms of governance[7].

A technical and scientific aegis becomes the main factor responsible for this scenario, to the extent that it predicts why, how, what and when to consume something potentially healthy or risky, i.e., a kind of medicalization of the daily diet[12]. Meanwhile, the subject remains constantly anticipating fabricated or constructed uncertainties regarding the consumption of dietary supplements considering biomedical rationality. Thus, physical activity practitioners do not only live or experience human movement, but they also consume and are ruled and governed in terms of the management of their own lives in a constant state of "caution" or "alert" in relation to the potential health risks that they could incur.

Behaviors, attitudes, or the alleged lifestyle choices which are morally judged as being excessive or not regarding the intake of dietary supplements should be understood based on the plurality, hybridity or transition of the actions taken by the subjects according to their social insertions and markers as well as their experience with physical activity. This, in a way, is implicated in the notion of *habitus* and constituent capital concerning each social group's world view and body uses[20]. As is highlighted by Sassatelli[12], it is possible to detect the identities of each social group from the centrality of its taste, practice and political thinking about the act of intaking.

Thus, in an increasingly globalized, communicative, industrial/commercial/capitalist and media-based contemporary society, focused on spreading the production of tangible and intangible goods[21], physical activity practitioners are faced with a wealth of information that impact on their representations of how much of these substances to consume. In other words, today, it is not enough to seek the normalization of health, but we also must anticipate risks at all costs, in a medicalization of everyday life[1], representing a complex context of body management which obfuscates the degree of authority between laypeople/users (physical activity practitioners) and experts/specialists (physical education, sports, or health professionals). This impacts on the forms of negotiation and resignification of various social groups about what is acceptable or a risk to one's health regarding consuming dietary supplements, which was seen in many fervent debates and enthusiastic comments among the participants of the Facebook groups concerning who was right about the issue.

The viscera under threat

Upon relating dietary supplements to potential health risks, physical activity practitioners showed a certain fear of suffering some type of problem in the viscera. One of the major worries of physical activity practitioners who consume dietary supplements concerns the insides of the body. Concern with the viscera is associated with the intake of products that may be in excess in the body, as many of the substances consumed can be obtained from food or produced by the body itself. In this case, the notion constructed by the respondents refers to the idea that dietary supplements can overwhelm certain organs and damage them in some way. Because of this, there is a growing number of studies concerning the prevalence of consumption of these products in physical activity practitioners.

Due to this supposed risk, physical activity practitioners adopt compensatory or minimizing behaviors against this potential harm that makes the viscera vulnerable. This is to say that they recognize or prioritize potential health risks, as the respondents continue to consume the dietary supplements while cautiously avoiding potential undesirable side effects.

The insides of the human body as a field of biomedical research and technological intervention have always been the main challenging aspect for the field of health[22]. With the establishment of modern medicine, its rationalization process enabled new forms of knowledge and new institutional practices from an anatomical and clinical viewpoint, making the disease visible[22]. The issue of the visibility of the body remains a challenge for many areas of knowledge today. Thus, attempting to make the invisible visible, in the sense of speculating upon potential impacts of dietary supplements on the body, produces a process of subjectivity on behalf of physical activity practitioners, in which they end up adopting certain behaviors which are symbolically built and shared within their social groups.

Bourdieu[21] points out that sometimes different social groups do not agree about the expected effects of physical exercise, whether in relation to the external (strength, visible musculature, beauty, etc.) or to the internal (health, mental balance, etc.) body. Featherstone[23] states that this conception of the external body is based on appearance and movement, while the internal body refers to its functioning. This can be seen when physical activity practitioners build comparative representations between what they present externally and how they feel internally.

Professionals and biomedical knowledge as "saviors"

Upon pointing out the potential health risks of the use of dietary supplements, physical activity practitioners referred to biomedical professionals and knowledge. The respondents state that as they consult with health professionals and conduct periodic clinical examinations, health risks derived from the consumption of dietary supplements are dismissed. Control, regulation, or prescription from the field of biomedicine offers encouragement to continue consuming these substances, which in a way is coupled with the economic capital of the respondents, which in turn provides an investment in a given body capital[21]. For the physical activity practitioners surveyed, it is risky to manage one's own body with dietary supplements without expert supervision and the technologies available in the field of health, as, for example, they may be vulnerable to certain damage to the body, as some studies have pointed out[24-26].

In this case, professionals and biomedical knowledge become the "saviors" of the behaviors of users of dietary supplements, i.e., physical activity practitioners' body management is governed fundamentally by the scientific aegis of what, how much, and when they may consume said substances. According to Le Breton[27], biomedical science is a hypothetical projection of the future, and the "clumsy outline of the body" is a field to be straightened out by researchers in this field. Thus, studies on the physiological effects of dietary supplements have increased in recent years[28-30].

This influence of biomedical knowledge on the management of human life today is the result of the ideals of modern medicine. As Foucault[22] highlights, modern medicine is no longer just knowledge based on healing techniques and has become the knowledge of a model of a healthy human being driven by regulatory postures.

On the other hand, also in this context of the credibility of biomedical knowledge and practices in laying down a script for what is healthy or harmful when using dietary supplements, some physical activity practitioners recognized that health problems may appear, but this would only occur when the user has a "tendency" to suffer said problems.

In these cases, health risks are not caused by the product itself, as the main cause of any given harm to the body lies in the body of the consumer of dietary supplements. That is, purely ingesting such substances does not cause problems to the consumer, but if the physical activity practitioner has some sort of prior "tendency" to any negative organic reaction with a given substance or has pre-existing health conditions, such products could cause health risks. This presents the body as a predetermined genetic artifact or one that is flexible to the

environment, which turns it into a continuous draft of the natural sciences[27]. Or, moreover, that the interpretations and representations regarding health risks may vary considerably depending on the social group[2].

Thus, this representation blames the user and excuses the dietary supplement. This can be observed in some studies that concern young people who adopt potentially indiscriminate consumption of dietary supplements[31,32]. Therefore, heredity or genetic components and certain environmental conditions throughout one's life are the main factors responsible for exposing the physical activity practitioner to risk when ingesting dietary supplements. This reality, therefore, indicates that professionals and biomedical knowledge as "saviors" against certain health risks would not be able to protect the subject from some sort of hostile biological marker that is congenital or developed over time.

Building relationships of trust with products

Familiarity or social distance with certain dietary supplements led physical activity practitioners to establish whether they were in danger of incurring health risks, i.e., diseases may occur if they use other products that they do not know or with other people. This means that proximity with a given substance may influence the physical activity practitioner to consume certain dietary supplements, or to stop the use of a product they have been using. If the respondent consumes a given product and has never suffered any health problems in the short or medium term, it is understood that the dietary supplements do not generate risks to the subject and they begin to build relationships of trust. This representation ascribes to the idea that consuming other supplements, which they do not have experience with or do not have information on, can pose health risks.

In order to think about the use of dietary supplements in this context, one can make use of what is pointed out by Fainzang[33], who defended that the use of pharmacological drugs is related to the insertion and social markers that characterize certain subjects. Thus, in a way, this familiarity or social distance with these products is part of the meanings attributed by certain participants to "eating" and which characterize a social group[12]. Vega and Jackson[34] also identified peculiar food habits or standards in weight training practitioners.

In this context, we can add that it was possible to identify a comparison or pseudo-protection of physical activity practitioners who use dietary supplements as being exempt from the possibility of being at risk. Dozens of respondents answered "no" or "don't know" when asked whether dietary supplements can cause health risks.

In a way, the respondents themselves requested a wider debate about the use of dietary supplements to get to know this type of body management better. With regard to answering "no", it is possible to highlight that, in addition to believing that there truly are no risks due to it being a legitimate product and marketed or authorized by the competent agencies in Brazil, a certain kind of "protection" is shown by the respondents to the extent that they are consumers and do not expect to be at risk, therefore, adopting a conduct which is immoral from a biomedical perspective. Meanwhile, responding "don't know" seems to indicate that the use of dietary supplements is, in part, indiscriminate, as no advice or information of any kind is sought out. Thus, according to the perspective of Dorfman and Yancey[35], there is a need for a relationship between the industrial/commercial/market sectors and the field of (public) health to clarify the possibilities for the promotion of "healthy" physical activity and diet.

Some emblematic accounts provoke thought about the extent to which dietary supplements are currently considered a health risk in the field of public policy or academic and professional interventions. Even though it is a legalized nutritional trade, the control and monitoring of the consumption of dietary supplements, the potential effects of some substances on the body and/or the process of purchase and sale of these products still seem to

cause certain concerns or doubts to those involved in this market. Petroczi, Taylor and Naughton[4] warn precisely about the challenges of regulation and public awareness regarding the use of dietary supplements.

It should be noted that although online questionnaires provided interesting material for analysis, there are limitations on the use of this research tool. One of these refers to the explanations given about the use of supplements, which could be more detailed if interviews were applied. Another limitation refers to the loss of some questionnaires because participants did not answer all the questions. Perhaps, in future investigations, the use of interviews associated to the questionnaires makes it possible to deepen the understanding regarding the conceptions of the practitioners of physical activities on the use of dietary supplements.

Conclusions

The relationship was understood between the consumption of dietary supplements and health risks from the perspective of individuals who engage in physical training in fitness centers, as well as the extent to which said substances are considered as strategies for managing one's own body.

It was observed that physical activity practitioners care more about the quantity of substances ingested than any other factor that may lead them to suffer certain health risks. From the respondents' perspective, so-called "excesses" may cause diseases to the insides of the body, in particular to the organs, specifically the kidneys.

It was identified that a biomedical authority, whether in terms of professional practice or medical and physical knowledge that circulates among physical activity practitioners, is crucial for them to recognize whether or not they are at risk; regarding those who suffer some type of disease, according to the participant’s perspective, they already have some sort of tendency to these diseases, be it genetic or developed throughout life.

A large part of physical activity practitioners believe that their own consumption of dietary supplements does not compromise their health, but other products may cause risks, or that other people are more vulnerable when it comes to the use of certain substances. This perspective, regarding the substances used, incited the respondents to express the importance of knowing the best way to consume dietary supplements.

Finally, it is noteworthy that at no point were there any claims to assign value judgments in relation to the various uses of dietary supplements or even to question their possible physiological effects.

However, the recent visibility and mass use of dietary supplements in contemporary society impact upon new or revised ways to perceive the body in various social groups of different socio-economic and cultural contexts, which should be increasingly explored. Indeed, we question, therefore, the social profit or symbolic benefits of consuming said substances to the extent that, in a way, they span the healthcare field and are present in the areas of physical education and sports.

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