

Digital pathways to Doping:
an innovative netnographic approach on the use of
untested supplements

Final Report

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Introduction

Over the past decade, there has been a dramatic increase in the number of Novel Psychoactive Substances (NPS) discovered and synthesized, including a wide range of illicit supplements across the world to improve performance. This poses unprecedented challenges to the anti-doping community and its values as most of the athletes make use of supplements to boost their performances. It has been estimated that at least two new NPS enter the drug market every week. So far, 560 new substances were officially identified by the EU and UN early warning systems, with over 70% of these being identified in the last five years. These are twice as many as those controlled under the international drug control conventions.

Often advertised with misleading marketing strategies as ‘natural’ and ‘safe’ compounds, a wide range of products, such as sports foods (e.g. gels, bars, drinks, protein powders), ergogenic, herbal and botanical supplements, vitamins, minerals, amino acids, and substances to lose weight among others, are being sold online without any previous control on their safety and efficacy, making this a highly profitable and unregulated business (Corazza and Roman-Urrestarazu, 2017). As a result of our EC-funded Psychonaut and ReDnet projects (Corazza et al 2013), we were able to identify over 800 NPS being sold on the Internet, including various illicit supplements and to share original data with WADA and other organizations. Some of these have been included in the WADA List of Prohibited substances as they pose serious threats to the health of athletes as they don’t comply with the WADA anti-doping code.

Across a variety of sports, athletes have been reportedly tested positive for doping due to the intake of dietary supplements, which had either poor labelling or product contamination (Martinez-Sanz et al., 2017; Van Thuyne et al., 2006). In many cases, it is suspected that this mislabelling or contamination is intentional on the part of the producers, who are aware that consumers will seek to avoid such banned additions if declared. Anabolic steroids such as testosterone and nandrolone and their prohormones and stimulants such as ephedrine were among the most frequent contaminants detected in most cases (Geyer et al., 2004; Martello et al., 2007; Ayotte et al., 2001). Although unintentional on the part of the consumer, doping is considered the responsibility of the athlete, therefore if a doping control proves positive due to the use of contaminated supplements, it is the athlete, not the manufacturer or the seller, on whom the established sanction would fall. When the goal is to succeed in such a high-performance culture, evidence suggests that athletes may still be inclined to use them, regardless of risks to their health and career. In addition, they may follow a “more is better” philosophy, consuming increasing doses of multiple supplements encouraged by the

belief that rivals are taking even higher doses (Garthe et al., 2018). The market of supplement reached an estimated recorded global sale of \$US 96 billion in 2012 (Knapik et al., 2016) and places itself at the second place in the sales ranking in the North America market (CNR, 2016).

Furthermore, user communities have found social media a valuable and “safe” virtual place to exchange information on such products, increasing transparency on their uses and discussions on related ‘cheating techniques’ (Marrinan et al., 2017). Athletes who in the past typically obtained dietary advice from coaches, medical professionals, fellow athletes, and other more trusted and accountable persons (Denham, 2017; Heikkinen et al., 2011; Garthe et al., 2017), have now replaced these sources with the Internet, which represents a new pathway to doping.

In a globalised society, such risks are no longer confined to competing athletes. The use of untested supplement now permeates to lower level athletes as well as amateur sportsperson of all ages, making this a major public health issues (Mazzoni, Barroso and Rabin, 2017). Supporting evidence also emerge from the results of our recent *Keep Fit* study on a cross-sectional sample engaged in a variety of physical activities in different countries (N=1711). A large percentage (39.8%) of interviewees claimed not only the use of different supplements (e.g. proteins; vitamins; amino acids; caffeine; mineral salts), but also unprescribed medical products (e.g. anabolic steroids; diuretics; Growth Hormone) and illicit drugs (e.g. amphetamine), mainly bought online (Corazza et al., 2019). We also found a previously unexplored association between the use of supplements and various psychopathologies such as Exercise Addiction (EA) and Body Dysmorphic Disorder (BDD), including Muscle Dysmorphia (MD). Such a drastic evolution in the doping scenario clearly shows how the concerns of the anti-doping authorities are almost identical to public health authorities and law enforcements dedicated to curve the use of illicit drugs (Mazzoni, Barroso and Rabin 2017) and emphasize the need for more studies in the field.

Aim and objectives

The aim of the project was to gain an understanding of patterns of consumption of supplements sold online, including (a) perceived risks, (b) motivations, (c) their connection with doping and (d) “cheating among other risky behaviours”.

The key objectives were articulated into three subsequent and interrelated phases:

Phase 1: Quantitative Analysis

- to identify the most popular fitness supplements sold on the Internet (top five products)
- to carry out quantitative analysis on the various media platforms (e.g commercial media, social media, fora, blogs) mentioning supplement use
- to identify the most popular fitness fora and websites discussing supplement use for further analysis (phase 2).

Phase 2: Qualitative Analysis

- to carry out qualitative analysis on personal and contextual motivations for the use of fitness supplements
- to assess any side effects derived from the consumption of potentially contaminated supplements as well as (where possible) the perceived safety and legality of such products
- to identify potential links between supplement use and doping or cheating techniques.

Phase 3: Case reports

- to collect a series of case studies of patients with problematic use of fitness supplements and related physical or psychiatric comorbidities.

NOTE: Details of this phase are withheld from publication due to data protection/privacy.

Ethics Approval

The study was approved by the Human Sciences Ethics Committee at the University of Hertfordshire (HSK/SF/UH/00104).

The study started in March 2019 and ended in December 2019.

Methods and data analysis

From a methodological point of view, the analysis was articulated into three phases according to the objectives above:

Phase 1: Quantitative Analysis

An initial systematic monitoring of the Internet (i.e., websites, online shops, blogs, forums, eBay, Amazon, YouTube, Facebook, Twitter) was carried out. Generic keywords such as “most used sport supplement”, “most sold sport supplement”, “most popular sport supplement” were entered in the Google search engine. The search was carried out manually for 30 consecutive days (July 15th- August 14th, 2019).

In order to reduce the large amount of collected data, an automatized online monitoring tool (Brand24®) (brand24.com) was used. This helped us to identify the most discussed fitness products according to the following criteria:

- number of interactions between users (i.e. communications among audience members);
- number of shares (i.e. broadcasts of the content on social networks to their connections, groups, or specific individuals)
- number and category of web sites (e.g. social media, fora, news etc.)
- social media reach (i.e. the number of users who have come across a particular content on a social platform)
- most popular hashtags associated to the keyword (excluded those related to specific brands or distributors)

The Brand24 is a reliable tool, which provides real time analysis of the web across multiple channels (news sites, social media, blogs, fora), analyzing references and allowing to collect mentions, discussion volumes and other features. Additional keywords such as “adulterated”, “counterfeit”, “untested”, “contaminated”, “tainted”, “cheating”, “doping”, separated by the Boolean operator OR, were added in order to make our search more objective-specific.

This search was performed for another 30 consecutive days (between August 20th and September 19th 2019).

The results were then manually filtered to avoid duplication and unrelated mentions. The following criteria were used for the fora selection:

- Relevance of research objective: only websites discussing fitness, sport or wellbeing related subjects were considered for analysis
- Activity of the forum: only thread generated within the past 10 years were included in the study.
- Number of posts every month; the frequency of posts was noted and only those with more than (7) posts per week were included to ensure that members were actively posting on the forum

This search helped us to identify the most relevant fora for further qualitative analysis (September 20th – October 20th 2019). A manual analysis on the results was carried out to identify which fora met our inclusion criteria. Two search engines (e.g. Google.com, Feedspot.com) were used to complete the search. The fora that have been selected according to our criteria are:

- Elitefitness.com
- Uk-muscle.co.uk
- Gymkaki.com
- Training.fitness.com

Other websites that have been investigated without finding any related thread for the selected keywords are fitnessgearing.com, Realmuscleforum.com, bodybuildingforum.com, jefit.co.uk and johnstonesfitness.com.

All searches were performed in English language.

Phase 2: Qualitative Analysis

A qualitative analysis of all the comments relating to the products identified during Phase 1 was undertaken using Brand24 “deep learning” approach. This enables a systematic use of natural language processing, text analysis, computational linguistics and biometrics to identify, extract, quantify, and study affective states and subjective information from users. The tool automatically

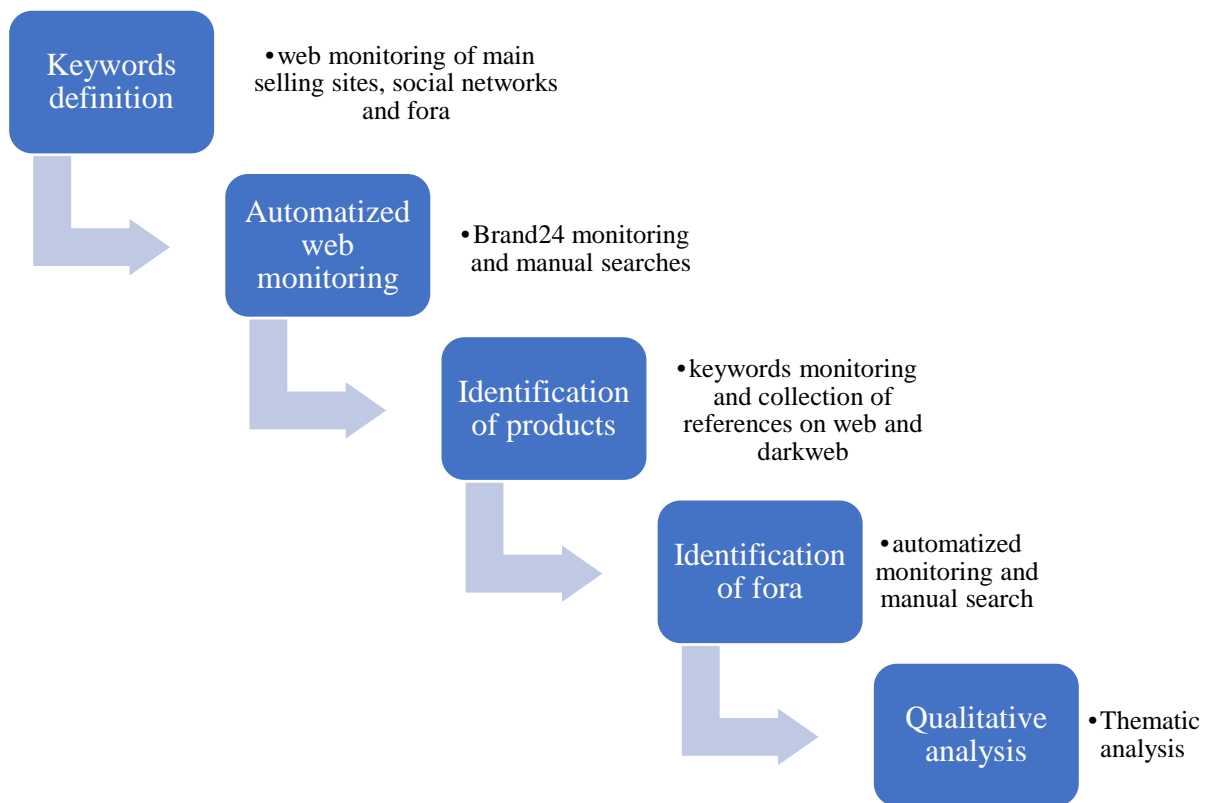
recognizes the positive, negative and neutral meaning of the phrases in texts, providing a polarity index that represents the value of the positive and negative opinion about the given keyword.

Research were manually classified according to their type and source (e.g. supplement commercials, supplement reviews, supplement discussion threads, supplement news comments, supplement-related possible adverse events reports, other) and further screened using thematic analysis according to the following five themes:

- (a) motivations of uptake
- (b) availability of information
- (c) experienced side effects
- (d) perceived risks of health
- (e) perceptions of contamination, doping and other ethical issues.

The latter theme was developed in order to assess a number of factors deemed related to a variety of concerns, such as doping, product contamination, sporting cheating, dark web references, closed fora as well as any other themes relating to interesting additional concerns that did not fit within any of the previously covered topics.

Table 1: Methodological approach (Phase 1 and Phase 2)



Results

Phase 1: Quantitative Analysis

The most popular supplement types discussed on the Web are:

- Creatine
- Branched Chain Amino Acid OR BCAA
- Carnitine
- Casein
- Glucosamine
- Glutamine
- Multimineral
- Multivitamin
- Nitric oxide OR Nitric oxide booster
- Whey protein
- Antioxidant OR antioxidant complex
- Caffeine
- Fish oil OR omega 3 OR fatty acid
- Guarana
- Turmeric OR curcuma
- Keto OR ketogenic
- Taurine
- Pyruvate
- Green tea extract
- Beta alanine

The overall number of related mentions has been highlighted in Table 2.

Table 2: The most discussed fitness supplements on the web

Keyword	Number of mentions (30 days)
Creatine	9375
Carnitine	6620
Fish oil / omega 3 / fatty acid	1222
Branded Chain Amino Acid / BCAA	8290
Casein	5224
Whey protein	17438
Nitric oxide / Nitric oxide booster	10392
Glutamine	6714
Multivitamin	9063
Glucosamine	3935
Antioxidant / antioxidant complex	1902
Multimineral	5022
Turmeric / Curcuma	1590
Keto / ketogenic	3438
Green tea extract	1440
Caffeine	1375
Guarana	1302
Taurine	2517
Pyruvate	2390
Beta-alanine	2589

Among these, the products reporting the highest number of mentions/interest by users across various platforms are (Table 3):

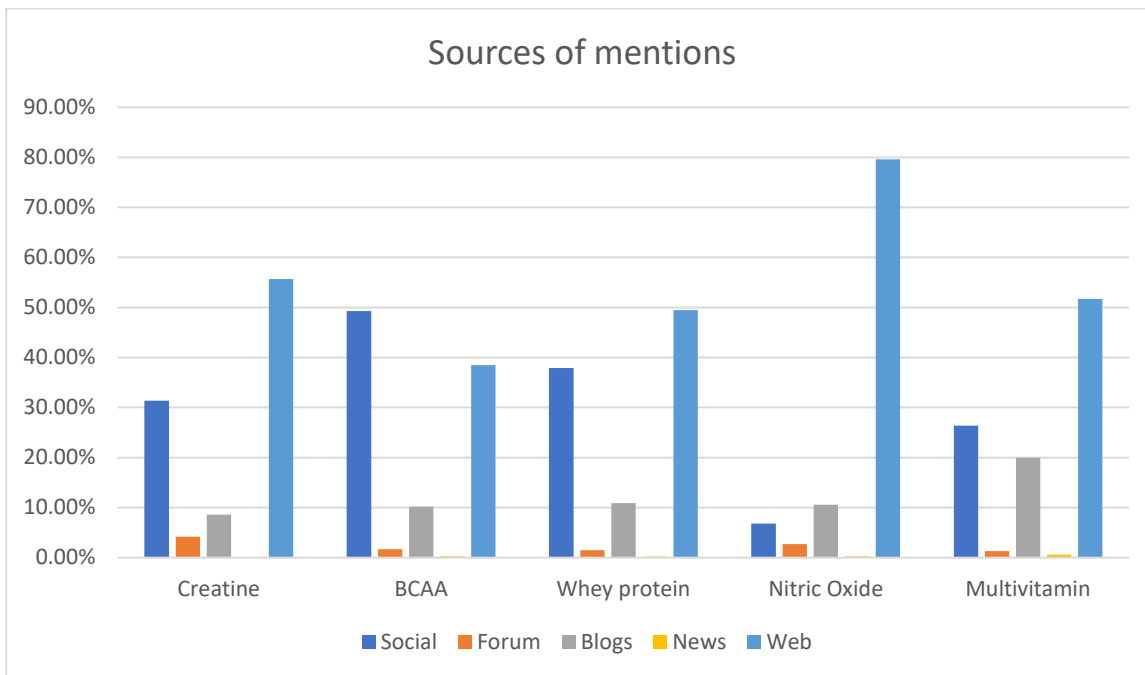
- Whey protein
- Nitric Oxide OR Nitric Oxide Booster
- Creatine
- Multivitamin
- BCAA OR branched chain amino acid

These were considered for further analysis.

Table 3: Mentions for the most discussed fitness products online

Keyword	Number of mentions	Mentions per category
Creatine	9,375	Social: 2,944 (31,4%) Forum: 394 (4,2%) Blogs: 804 (8,6%) News: 11 (0,1%) Web: 5,222 (55,7%)
Branded Chain Amino Acid / BCAA	8,290	Social: 4,076 (49,3%) Forum: 141 (1,7%) Blogs: 850 (10,2%) News: 28 (0,3%) Web: 3,195 (38,5%)
Whey protein	17,438	Social: 6,616 (37,9%) Forum: 245 (1,5%) Blogs: 1,907 (10,9%) News: 33 (0,2%) Web: 8,637 (49,5%)
Nitric Oxide / Nitric Oxide Booster	10,392	Social: 712 (6,8%) Forum: 282 (2,7%) Blogs: 1,100 (10,6%) News: 28 (0,3%) Web: 8,270 (79,6%)
Multivitamin	9,063	Social: 2,396 (26,4%) Forum: 114 (1,3%) Blogs: 1,815 (20,0%) News: 54 (0,6%) Web: 4,684 (51,7%)

Figure 1: Mentions per category



When searching the generic term “supplement”, 19,835 references were identified. 1,240 of these were manually removed from the results as found of no relevance for this study (Table 4). Among the remaining 18,595, only 218 (1,17%) referred to issues related to “adulteration” “contamination” and similar (Table 5). They were later manually filtered to identify potential connection with doping or cheating techniques (see the qualitative parts for results).

Table 4: Mentions of the term “supplement”

Keyword	Number of mentions	Mentions per category
Supplement	18,595	Social: 3,564 (19,2%) Blogs: 6,568 (35,3%) Forum: 723 (3,9%) News: 158 (0,8%) Web: 7,452 (40,1%) Other: 130 (0,7%)

Table 5: Contamination: number of mentions for the term “supplement”

Keyword	Number of mentions	Social Media Reach	% of total results	Mentions per category
Supplement	218	2,831	1,17%	Social: 6 (2,7%) Blogs: 176 (80,7%) Fora: 19 (8,8%) News: 4 (1,8%) Web: 13 (6,0%)

Similarly, only a limited number of references for each of the five most popular products was collected when filtered to select doping related mentions: 30 (0,32%) for Creatine, 14 (0,16%) for BCAA, 35 (0,20%) for Whey protein, 15 (0,14%) for Nitric Oxide supplements, 24 (0,26%) for multivitamin supplements. The Social Media Reach estimated was null for all the keywords. The majority of mentions was collected among discussion blogs for all the keywords, while only a low percentage of references was retrieved in social networks (Table 6).

Table 6: Contamination in fitness products: number of mentions

Keyword	Number of mentions	% of total results	Mentions per category
Creatine	30	0,32%	Social: 2 (6,7%) Fora: 9 (30,0%) Blogs: 16 (53,3%) News: 0 (0%) Web: 3 (10%)
BCAA	14	0,16%	Social: 2 (14,3%) Blogs: 8 (57,2%) Fora: 1 (7,1%) News: 3 (21,4%) Web: 0 (0%)
Whey protein	35	0,20%	Social: 4 (11,4%)

			Blogs: 15 (42,9%) Fora: 1 (2,9%) News: 0 (0,0%) Web: 15 (42,8%)
Nitric Oxide / Nitric Oxide booster	15	0,14%	Social: 3 (20,0%) Blogs: 10 (66,7%) Fora: 0 (0%) News: 0 (0%) Web: 2 (13,3%)
Multivitamin	24	0,26%	Social: 1 (4,1%) Blogs: 16 (66,7%) Fora: 1 (4,2%) News: 0 (0%) Web: 6 (25,0%)

The number of a) interactions between users, b) posts shared on social media platform and c) individual reached by the content were collected (Table 7). “Whey protein” was the most discussed fitness supplement on the web with 44,954 interactions and 1,206 shares. 7,1 million people were potentially reached by such contents. This was followed by Multivitamin (27,912 interactions, 3,302 shares, 2,7 Social Media Reach), BCAA (10,598 interactions, 638 shares, 3,2 Social Media Reach).

Table 7: Interactions between users on the most discussed supplements

Keyword	Number of mentions	Number of Interactions	Number of Shares	Social Media Reach
Creatine	9,375	6,108	779	3,5 M
BCAA	8,290	10,598	638	3,2 M
Whey protein	17,438	44,954	1,206	7,1 M
Nitric Oxide / Nitric Oxide Booster	10,392	1,502	316	472,000
Multivitamin	9,063	27,912	3,302	2,7 M

The web monitoring for the keyword “supplement” provided the results shown in Table 8. The total Social Media Reach was 4,0 million individuals, with a total of 12,978 interactions among users and 1,553 shares of contents.

Table 8: Interactions between users for the term “supplements”

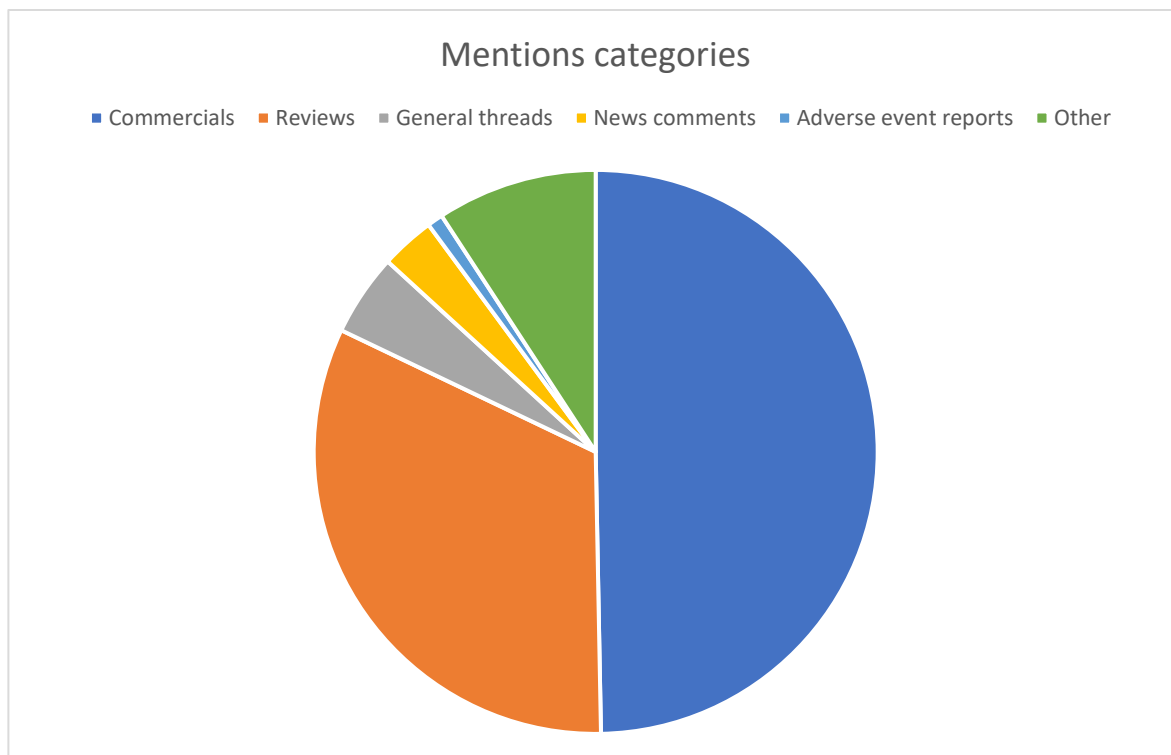
Keyword	Number of mentions	Number of Interactions	Number of Shares	Social Media Reach
Supplement	18,595	12,978	1,553	4,0 M

An analysis of the mentions collected on social networks and opinion blogs (N=23,220) in our automatized web monitoring was manually performed for the five most discussed products. These included commercial or advertisements (11546, 50,6%), sponsored reviews by influencers and other users (7513, 32,4%). Results are reported in Table 9.

Table 9: Cluster analysis for references on social media and blogs

Total Blogs and Social media mentions	Clusters of references
Creatine, whey protein, multivitamin, nitric oxide booster, BCAA: N=23,220	Commercials: 11,546 (49,7%) Reviews: 7,513 (32,4%) General discussion threads: 1,095 (4,7%) News comments: 726 (3,1%) Adverse events reports: 211 (0,9%) Other: 2,129 (9,2%)

Figure 2: Mentions categories



Phase 2: Qualitative Analysis

A qualitative analysis of the data emerged from Phase 1 was carried out.

Results for automatized Sentiment Analysis

Among the collected mentions, supplements were mainly discussed online in positive terms and the most popular hashtags associated with these were “#fitness”, “#workout” and “#gym”, “#health” and “#protein” (Table 10). The most positively rated products were “Branded Chain Amino Acids” (87%) and “Whey protein” (81%) and the three most popular related hashtags were wellness, healthy nutrition and lifestyle. The full results are reported in Table 10 and 11.

Table 10: Sentiment analysis for the term “supplement”

Keyword	Total mentions	Positive	Negative	Trending hashtags
Supplement	18,595	7,771 (86%)	1,261 (14%)	#fitness #workout #gym

				#health #protein #weightloss #mybodyfirst #nutrition
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Table 11: Sentiment analysis for the most discussed supplements

Keyword	Total mentions	Positive	Negative	Trending hashtags
Creatine	9,375	2,335 (75%)	789 (25%)	#fitness #workout #bodybuilding
BCAA	8,290	3,377 (87%)	485 (13%)	#fitness #protein #workout
Whey protein	17,438	5,532 (82%)	1255 (18%)	#fitness #supplements #protein
Nitric Oxide OR Nitric Oxide Booster	10,392	580 (69%)	259 (31%)	#health #nutrition #healthylifestyle
Multivitamin	9,063	2,750 (81%)	649 (19%)	#health #vegansupplements #wellness

Here are some of examples of positive comments found online:

“Practically all workout people and customary gym-goers use supplements to support their exhibition in the workout zone. Pre-workout supplements are taken at some point before you go to the gym and are intended to set up your body for the strenuous exercise ahead. These supplements accompany bunches of advantages.”

Post on a sponsored Blog

“For starters, you probably didn’t realize what these BCAAs are: they are your “essential amino acids consisting of leucine, isoleucine, and valine — basically to sum it up these 3 words comprise close to 35% of your body’s muscle protein. [...] Why are these essential? because your body doesn’t make them on its own!”

Post on a health-related Blog

*The Glucosamine supplement has allowed me to practice sport and lift weights, heavily, for the last 20 years without risk of joint injury. At age 44 I have ZERO aches and pains and I’ve never felt stronger or more healthy! I attribute at least *SOME* of this to the Glucosamine. I drink a lot of milk... but it can’t be just that. As for the Omega-3 supplements... nothing balances brain chemistry better... and nothing keeps the veins and arteries more open, clear, and vasodilated in my opinion. I eat a lot of salmon and get a lot of Omega-3 from other sources as well (such as the milk)... but the supplements are there to give me more in the morning and before bed at night. My level of health speaks for itself regarding whether or not these supplements are the right choice... and so I recommend them to *ANYONE* that asks me about joint health, brain chemistry, or overall nutritional balance.*

Post on sport forum

“For his title role in American Sniper, Bradley Cooper gained 37 pounds of lean mass. Here's the exact workout and supplement plan he used to do it.”

Post on sponsored web page

“Athletes require fuel to function! Supplement your #workout with whole food #nutrition”

Post on social media

“I’ve been taking a multivitamin everyday so I can basically beat anyone in an endurance run”

Post on social media

“No matter how healthy you are and how healthy you eat, it’s very difficult get all daily requirements of all the vitamins and minerals. This is where supplements come into play. By taking the missing nutrients you can make sure that your body is functioning at its peak. Supplements are for everybody because it’s practically impossible to meet all the daily requirements especially in this modern world where the soil is devoid of proper nutrients.”

Post on a forum

However, a minority of users also expressed a concern about their supplement use. On this regard, this must be observed that:

1. Forum moderators might have deleted any negative comments about their products as they might turn against their commercial interests
2. Users might be experiencing side-effects, but not relating these to their supplement use
3. Manufactures are often those replying (or moderating) the fora. Typically, we noticed that they tend to attribute any side-effects to subjective intolerances by the users, rather than the products they are selling.
4. Our analysis was based on information, which is openly available on the Internet and we did not access closed groups (e.g. Facebook).

Here are some examples of negative comments on supplement use:

“I did not knowingly take these compounds they found in my system. GW1516 and Ostarine are two of the most common substances found in contaminated supplements. If you don’t know anything about the supplement industry, it’s very loosely regulated, and 1/3 to 1/2 of all supplements have something in them that isn’t listed on the label.”

Comment on a doping case news on a blog (quote)

“One major issue are the regulations and guidelines for nutritional information on products that are directly correlated with the fitness industry, such as protein, Branched Chain Amino Acids, creatine and fat loss products are too relaxed and often go untested”

Post on a blog discussing the use of supplements

“So I think I’ve figured one thing going on with me right now. I’ve been taking a workout supplement for about a month that increases blood flow and vascularity now that I’m back to heavy lifts. This explains my night times now and my daily... heaviness”

Post on a sport forum

“Some supplement companies even deliberately spike their products with high doses of ostarine while other dietary supplements are contaminated — probably accidentally — with low levels of it”

Post on social media commenting a case of doping

“He has denied knowingly using a banned substance and said this week he will sue the supplement company for selling a product that was contaminated with an ingredient that wasn’t listed on the label”

News site reporting a case of doping suspension

Results from the thematic qualitative analysis of fitness fora

Results from the qualitative analysis on fitness for a post are presented according to five pre-selected themes:

- Motivation
- Sources of information
- Side-effects
- Perceived risks
- Contamination, doping and other ethical issues

1. Motivations

According to our assessment, 123 threads (62%) referred to a wide range of motivations. These were classified and ranked as follow:

- a) **Muscle gain.** Muscle gain was by far the highest mentioned reason for supplement usage, with 39 out of 123 (23%) fora threads referring to this as at least a significant

reason for the use of supplements. This mention of muscle gain is in the context of body image (as opposed to strength, which was mentioned only 8 times, making up 4% of mentions in fora threads). As such, this connection to body image has significant links to mental health and problematic health routines particularly in men, whom made up 76% of posts on the assessed fora threads.

- b) Increasing energy.** The second most common self-reported motivation for use of all supplements was to aid in increasing energy, with 23 (17%) fora threads mentioning the positive effects on energy levels that supplements can have. This was particularly relevant with regards to BCAA's, Creatine and Multivitamins. This aspiration for increased energy was directly linked to the individual wanting to continue their sporting activities, as opposed to the want for energy in other elements of life.
- c) Other motivations.** Other motivations were cited as: weight loss, weight gain, strength, muscle gain, the contribution to the effect of other substances or to reduce their side effects, fat loss, injury recovery, muscle maintenance, blood flow, general health (unspecified), overcome fitness plateau, vascularity, endurance, reversing memory loss, sleep, reduce cortisol, stress reduction, appetite, recovery, hair growth, PCT, therapeutic effects, eyesight, water retention, low blood sugar, maintain youthful appearance, overcome stress, masculinity, organ health, high blood flow, encourage recovery, cardiovascular health, bone health, PCT, skin, blood sugar, endurance, weight loss, confidence, blood flow, testosterone production, physiotherapy after neurological disorder, general health and nitrogen retention (table 12).

Table 12: Most common motivations behind supplement use

Types	Frequencies	Percentages
Muscle gain	39	23%
Energy	23	17%
Weight loss	13	8%
Weight gain	11	7%
Strength	8	5%
Contribute to effect of other substances/reduce side effects	7	4%

Fat loss	5	3%
Injury recovery	7	4%
Muscle maintenance	5	3%
Blood flow	4	2%
General health	4	2%
Overcome plateau	2	1%
Endurance	2	1%
Memory loss	1	1%
Sleep	1	1%
Reduce cortisol	1	1%
Stress reduction	1	1%
Appetite	1	1%
Hair	1	1%
Post Cycle Therapy (PCT)	1	1%
Therapeutic effects	1	1%
Eyesight	1	1%
Water retention	1	1%
Low blood sugar	1	1%
Stay youthful	1	1%
Masculinity	1	1%
Organ health	1	1%
Cardiovascular health	1	1%
Bone health	1	1%
Skin	1	1%
Confidence	1	1%
Testosterone production	1	1%
Physiotherapy after neurological disorder	1	1%

2. Sources of information

Supplement users consulted a number of sources in order to gain more information about the supplement use. These were:

- a) **Academic studies.** As such, the highest referenced point of information collection was academic studies/papers, with 30% of posts referring to academic literature as a citation for their information. However, very few comments were made on this as the language was often difficult to be understood by non-academic readers and only a few key fora users would then act as interpreters and disseminators of the information. This validate the importance of continued academic development and research in the field in order to ensure the maintenance of relevant literature available for the fora users. It also shows the interest of users in evidence base information to mitigate any potential concerns. This is problematic for several reasons, namely that it means that key harm-reducing information is being missed by individuals to whom it would be beneficial, but also that it requires the interpreter to be construing the information correctly. As such, there is a recommendation that academic findings ought to be disseminated in a number of alternative formats to the traditional papers, such as posters, presentations and leaflets as well as posts on fora to ensure a wider reach.
- b) **Online.** The second most cited reference for finding information was generically termed ‘online’, which included supplement-dedicated websites and social media, with 21% of fora users referring to these sources.
- c) **Fitness influencers.** Thirdly was the role of ‘fitness influencers’, with 17% of assessed posts referring to these sources. Fitness influencers refers in this context to individuals with high social media presence, be they professional athletes or otherwise, who post about their gym activity and supplement use. This is particularly worthy of note due to the lack of current regulation of these types of posts, either legally or site-specifically, meaning that the information is uncertified and potentially inaccurate.
- d) **Other sources of information.** Other sources were cited as supplement product manufacturers (13%), worth noting due to the potential bias of these information outlets. Magazines (8%), blogs (2%), nutritionist (2%), doctors (2%) and brand ambassadors (2%). These findings display the wide variety of sources that this information is obtained from and is positive in that in evidences that a number of users

are actively seeking information regarding their use of supplements, with 17% of all assessed posts referring to external sources of information. (Table 13).

It is worth noting that fora were excluded from this analysis, as the act of an individual posting on the fora would constitute their procurement of information from this source and therefore it was deemed an unnecessary distinction.

Table 13: Sources of Information

Types	Frequencies	Percentages
Academic studies	16	30%
Online	11	21%
Fitness influencer	9	17%
Supplement product manufacturers	7	13%
Magazines	4	8%
Blog	1	2%
Nutritionist	1	2%
Long term fora users	1	2%
Doctor	1	2%
Amazon	1	2%
Brand ambassadors	1	2%

3. Side Effects

A wide range of side effects was mentioned in fora posts, with 16% of all posts discussing this particular topic. The most common side effects forming the basis of entire discussion threads were acne (9%) and water retention (9%). The former was predominantly linked to discussions of Whey Protein, though did also come up in relation to the use of multivitamins. Specifically, Nitric Oxide Supplements were mentioned with one fora user stating *“Since I started using my new supplements from NO I have been having some rather bad acne. This is the first time it is happening to me – never thought that just supplements can cause these problems”*. With regards to water retention, this was predominantly mentioned solely in relation to the use of creatine. Though the water retention was not

explicitly stated to be causing harm to anyone in the assessed posts, it was an undesirable side effect noted by many. Following these in most-mentioned side effects were rashes, erectile inconsistencies and stomach pain, all with 7% of posts referring to these side effects. The rashes discussed varied in bodily location but was mentioned only in relation to whey protein. Erectile inconsistencies refer to either additional erections or difficulties in obtaining erection and were predominantly discussed in relation to Nitric Oxide and it's perceived positive impact on this. Stomach pain was mentioned in posts discussing BCAA's, Whey Protein and Multivitamins and was actively linked by fora contributors as a direct causal effect from the supplements, with one post entitled "I think my new protein is giving me bad stomach pains".

Other side effects, listed in Table 14, were: intestinal gas, diarrhoea, sweating, fat gain, cramps, kidney stones, makes unwell (unspecified), sleep, worsened OCD symptoms, counteracting side effects of AAS, burning sensation, weight gain, bloating, increased heartrate, headache, urine colour change, nausea, discoloured urine, headache, stomach cramps, swelling, temperature, weight gain, dehydration and constipation.

Table 14: Most common side effects reported by users

Types	Frequencies	Percentages
Acne	4	9%
Water retention	4	9%
Rash	3	7%
Erectile disfunctions	3	7%
Stomach pain	4	9%
Gas	2	5%
Diarrhoea	2	5%
Sweating	1	2%
Fat gain	1	2%
Cramps	1	2%
Kidney stones	1	2%
Makes unwell (unspecified)	1	2%
Sleep	1	2%
Worsened OCD symptoms	1	2%

Counteract Side effects of AAS	1	2%
Burning sensation	1	2%
Weight gain	2	4%
Bloating	1	2%
Increased heartrate	1	2%
Headache	2	4%
Urine colour change	2	4%
Feeling sick	1	2%
Swelling	1	2%
Temperature	1	2%
Dehydration	1	2%
Constipation	1	2%

4. Perceived risks to health

A number of perceived health risks associated with supplement intake emerged from our analysis. These are:

- a) **Kidney damage.** The biggest concern for fora users was damage to the kidneys, with 15% of all posts discussing risks to health considering this as a significant risk. This was predominantly discussed in relation to creatine, though was also mentioned in a thread regarding multivitamins and their impact on the potential development of kidney stones according to one fora user. The use of creatine was regularly mentioned in the context of its use to alleviate some of the issues associated with the use of Anabolic Androgenic Steroids (AAS) and one poster stated confusion regarding the negative association of Creatine and these health issues, stating *“I can't see any reason for why everybody says Creatine is a waste of time during Steroids and will hurt the kidney”*.
- b) **Weight gain.** Another issue regularly discussed (in 10% of relevant posts) was weight (fat) gain. Though not often in the posts directly linked to immediate health issues, this was perceived as a significant concern to the population of fora users who, as mentioned earlier, often have a collective goal of weight loss and/or muscle gain. This

was mentioned as a perceived risk from BCAA's, Creatine and Whey Protein, with the latter being cited as a concern regarding the development of one's breasts if dosage was not properly regulated. This closely relates to the concerns regarding water retention, which has a frequency of 8% in this sub-section. The predominant concern about water retention was its impact on physical appearance, as opposed to any perceived direct risks to health, but was still considered an important theme to be noted.

- c) **Other health concern.** Finally, a prominent theme was generic "health concerns" (10%), which were posts predominantly asking advice for any and all perceived health risks from other forum users who had previously used a supplement type. Showing that users are indeed worried about the use of their supplements and the potential side-effects.

Other discussed topics in this theme were: overuse of supplements, combining supplements, cramping, dehydration, hidden ingredients, quality concerns, use of supplements to aid in fasting (not intended usage), lung damage, product quality, liver damage, acne, nausea, loss of appetite, hormone levels, insulin levels, psychological dependency, stomach pain and intestinal bleeding. (Table 15).

Table 15: Perceived risks to health

Types	Frequencies	Percentages
Kidney damage	7	15%
Weight gain	5	10%
Health concerns	5	10%
Water retention	4	8%
Overuse of supplement	3	6%
Combining supplements	3	6%
Cramping	3	6%
Dehydration	2	4%
Hidden ingredients	1	2%
Quality concerns	2	4%
Use of supplements to aid in fasting (not intended usage)	1	2%

Post Cycle Therapy (PCT)	1	2%
Lung damage	1	2%
Liver damage	1	2%
Acne	1	2%
Nausea	1	2%
Loss of appetite	1	2%
Man boobs	1	2%
Hormone levels	1	2%
Insulin levels	1	2%
Psychological dependency	1	2%
Stomach pain	1	2%
Intestinal bleeding	1	2%

5. Contamination, doping and other ethical issues

A total of 30 posts were identified as containing relevant information to this sub-category. The most frequent of these (26%) was the concern for “product contamination”. For instance, a consumer stated: *“Oxandrolone isn't supposed to cause water retention so I doubt it's that. And no they aren't D-bol, the pills match the description”* insinuating that supplements with different effects are being labelled and sold incorrectly.

Concerns about a specific brand/website selling products was also often shared with other users. One of these was N2BM, with a fora user stating that *“most supplements out there have tons of fillers and a pathetic amount of ingredients/dosages. they are worthless. n2bm actually puts in tons of ingredients in their stuff”*. Another suspicious brand was “Matrix 86% Whey” due to a controversy regarding the company “spiking” their products.

Additional concerns included counterfeit products (10%) and the presence of illicit substances (10%), the latter encompassing the contamination of products specifically with illicit drugs (AAS), the use of illicit substances alongside supplements and a post discussing links between the use of supplements and illegal drug dealing. Interestingly though, despite the concerns of contamination with legal and illegal products, along with concerns about the legitimacy of purchased products.

6% of the screened posts mentioned concerns around ‘cheating’/ ethical/ moral aspects around the intake of supplements in either a professional sporting or personal achievement sense. One fora poster stated “*Do you feel that creatine is cheating? I want to earn my muscles the hard way and don't want to cheat to get them*”, evidencing the latter interpretation of cheating.

On a thread discussing a specific product (Mag10) a profile posted to say, “*I don't know if you guys remember or ever used this product, I was a faithful user until it was banned by FDA, I'm wondering if is there is out there a product similar to it?*”. The abstinence from a product due to its status as a banned product evidences conscientiousness regarding not appearing to be cheating. However, the post shows no concerns regarding why this supplement was banned in their search for a similar product. This insinuates that it is not fear for the potential dangers of the product that may have led to its ban that stop individuals from obtaining it, it is merely the fact that it has ‘banned’ status. Additionally, 6% of assessed posts suggested a causal link between the use of supplements and the use of illicit substances, insinuating a ‘gateway’ principle. One fora user outright stated that “*Creatine and Bulgarian tribulus are also gateway drugs*”, with another post referencing an academic article that discussed the link between teenagers who use supplements going on to take AAS.

A variety of other issues were covered by this subtopic, including fora posts regarding: hidden ingredients, banned supplements, obtaining (via doctor), content scepticism, legal questions, quality concern, obtaining (in prison), false advertisement, sporting fairness, misuse of supplements and misinformation as better summarised in Table 16.

Table 16: Contamination, doping and other ethical issues

Types	Frequencies	Percentages
Contamination	8	26%
Counterfeit products	3	10%
Illicit substances	3	10%
Hidden ingredients	2	6%
Banned supplements	2	6%
Gateway substance use	2	6%
Cheating	2	6%
Obtaining (doctor)	1	3%
Content scepticism	1	3%

Legal concern	1	3%
Quality concern	1	3%
Obtaining (prison)	1	3%
False advertisement	1	3%
Sporting fairness	1	3%
Misuse of supplements	1	3%
Misinformation	1	3%

Table 17: Screenshot examples of assessed fora entries

Reference	Screenshot
EliteFitness A	

better for maintaining an anabolic state.

The solution is to introduce high-quality, slower-absorbing casein. A whey-and-casein combination allows you to stay within the less constraining confines of the six-meals-a-day regimen (and still maintain an anabolic/anti-catabolic state). Compared to three normal meals, which bring in at most 150-180 grams of **protein** a day, six meals can help you easily take in 250+ grams. Advanced drug-using bodybuilders can build up to ten meals a day to reach the 400-500 gram mark. Steroids increase the need for **protein** because they accelerate muscle-protein turnover. What's more, many steroid users have to reduce their carb intake, or they blow up because of the excessive water-retention that the drugs can induce. That means that they must the **protein** to re-coup the calorie deficit created by lower-carb diets.

WHY LOSE DURING THE NIGHT WHAT WAS SO PAINFULLY GAINED DURING THE DAY?

A common misconception among weightlifters is that your body builds muscle mass while you sleep. During your nocturnal fast, your muscles become net exporters of amino acids, which means you're in a catabolic phase. More eIF4E, 4EBP1 complexes are formed, slowing the anabolic drive. So, while a minimal anabolic response repairs some of the muscle damage inflicted by training, the overall balance is usually negative due to nocturnal catabolism. You can recover faster and grow more if you tame it.

The first way of taming nocturnal catabolism is to have a casein or casein-and-whey **protein** shake right before bed. The timed release of amino acids will protect your muscles. Of course, eating carbs along with the casein would accentuate the anti-catabolic effect, but the problem is it's fattening to eat carbs at night. It's a trade-off, and you must decide if you want to run the risk of adding a little bit of fat in exchange for more muscle or sacrifice a little bit of muscle for hardness. Unless you're exceptionally lean, I'd advise against eating carbs at night.

The second technique is to eat in the middle of the night. In that case you face a new factor on top of the hardness-vs.-extra-muscle issue, and that's the quality of sleep. If waking up in the middle of the night makes you irritable the following day, don't do it. If you tend to wake up in the middle of the night anyway, say to go to the bathroom, have another whey-and-casein drink. In either case, remember the first thing you want to do in the morning is free your eIF4E with a huge **whey protein** drink. That will jump start your anabolism and partly make up for the night time slow down.

THE LESSON OF MOTHER'S MILK

You might wonder if the advantages of **whey** and casein **protein** counteract each other. Nature provides a particularly bright answer. Everyone knows that mother's milk contains **protein** that has an exceptional ability to support very fast growth, but did you know that it's a combination of both **whey** and casein? With the anabolic properties of **whey** and the anti-catabolic action of casein, mother's milk is an example of a nutrient optimized to support growth.

For bodybuilders, the whey-and-casein combination provides the anabolic effect of **whey** while counteracting its short-lasting action and its lack of anti-catabolic properties. Using the combination between real-food meals allows you to be a bit less strict with your meal timing, and that can certainly be advantageous to those who work a nine-to-five job or go to school, where it isn't practical to follow a rigid 6+ meals-a-day frequency....

Well, as you can see fella's, a whey/casein **protein** combination offers benefits towards maintaining a state of positive nitrogen retention that standard whey-only powders do not address. I personally always use a whey/casein combination for this very reason, as it provides you with a true, time-released absorption of amino acids to promote growth, and more importantly, KEEP it. High quality whey/casein products on the market right now are as follows (but not limited to)---

- "Protein-plus" by Met-rx
- "Pro-fusion" by Muscle-lic
- "Grow" by Biotest

Okay, now my fingers are fatigued from typing my friends, lol. I hope you all enjoyed, and learned some new things along the way.... Huck

25-Dec-2000, 04:41 AM #2

badkins21 ◊ ALWAYS A PLEASURE, HUCK...MEEERY CHRISTMAS, AND TO ALL, GOOD CYCLES!

EliteFitness B

Good video Trevor!

Join Date: Aug 2015
Posts: 1,521
Rep Power: 0

30-Sep-2016, 08:30 PM #3

MasonicBodybuilder ◊
Moderator
★★★★★
★★★★★

Join Date: Nov 2015
Posts: 7,422
Rep Power: 57

Re: Protein Supplements Explained

Really good explanations of the **protein** types. The fact is with all supplements we should be doing the research and checking ingredients before buying. We should not be looking at who is pictured on the products or trying to find the cheapest product. Those are sure ways to get crap products.

01-Oct-2016, 08:48 AM #4

Lev Butlerov ◊
Moderator

Re: Protein Supplements Explained

elitefitness.com/forum/bodybuilding-supplements/protein-supplements-explained-1487321.html?highlight=Whey+Protein

Moderator
 Join Date: Feb 2015
 Posts: 3,206
 Rep Power: 0

Re: Protein Supplements Explained
 This is one good video, which will be useful to many people out there, since the **protein** is the most popular supplement, and there are still a lot of misconceptions about it. Thanks for posting it here - it is very well laid out.

03-Oct-2016, 01:41 AM #5

musclefreak101
 Join Date: Oct 2016
 Posts: 7
 Rep Power: 0

Re: Protein Supplements Explained
 Hi to all bro i am 19 year old just start going to gym my wieght is 64 what protien i should take and brand
 Sent from my Micromax Q380 using Tapatak

Quick Navigation **Bodybuilding Supplements** | **Top**

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Similar Threads

Protein/Supplements By yankees5677 in forum Bodybuilding Supplements	Replies: 10 Last Post: 18-Aug-2007, 01:20 AM
Top 10 Protein Supplements By super_guy332 in forum Bodybuilding Supplements	Replies: 1 Last Post: 01-Jul-2007, 08:52 PM
Article: Protein Supplements Vs. Protein Foods	Replies: 3

Type here to search

EliteFitness C

elitefitness.com/forum/diet-amp-bodybuilding/skim-milk-w-protein-56750.html?highlight=Whey+Protein

20-Sep-2001, 11:02 PM #7

venust
 Good Broly
 Join Date: Apr 2001
 Posts: 193
 Rep Power: 0

I tend to mix my protien powder with lactose free skim milk and water here is the reason why it was from a supplement companies website

Why mixing **whey protein** with milk does not provide optimal results

At first, it may seem strange to learn that **whey protein** should not be mixed in milk or milk products like yogurt and ice cream. First of all, most **whey protein** supplements taste better in milk than in water; and secondly, **whey protein** is obtained by collecting the clear fluid (called **whey**) produced during the processing of cheese.

Let's consider some of the following facts:

The enzymes necessary to break down and digest milk are renin and lactase. They are all but gone by the age of three in most humans. There is an element in all milk known as casein and there is three hundred times more casein in cow's milk than in human's milk. Casein coagulates in the stomach and forms large, tough, dense, difficult-to-digest curds that are adapted to the four-stomach digestive apparatus of a cow. Once inside the human system, this thick mass of goo puts a tremendous burden on the body to somehow get rid of it. Unfortunately some of this gooey substance hardens and adheres to the lining of the intestines and prevents the absorption of nutrients into the body. The most serious difficulty with milk consumption is the formation of mucus in the system. This mucus coats the mucous membranes and also seriously affects absorption.

To fully understand why **whey protein** supplements should not be mixed with milk, this knowledge should be combined with a review of the technology that goes into high quality **whey protein** supplements. **Whey protein** isolate, a highly separated fraction found only in top quality products, is very expensive and has an extremely high bioavailability (meaning it is very easily utilized by the body) because its particle sizes are so small. **Whey protein** concentrate has also gone through a huge amount of separation from the original starting material and the major waste product in this procedure is casein. This casein is then sold to other companies which produce low grade products. If you were to check out the ingredients on your favourite pudding desert, for example, you will likely see sodium caseinate because it is a cheap product that provides substance.

The idea behind a high quality **whey protein** is particle size. Digestion is most effective when particles are small enough to be taken up by the cells of the intestine. If food is not broken down into small enough pieces the body will simply NOT be able to use it. All research on the absorption of food reaches the same conclusion: the bigger the molecule, the more difficulty it has penetrating the mucus barrier lining the intestines.

So, why not mix milk and **whey protein**? Milk contains a lot of casein which adheres to the intestinal wall and blocks the absorption of the smaller **whey protein** molecules. Also, it generates a barrier of mucus internally which not only drives down the absorption of **protein**, but also the absorption of other vital nutrients.

20-Sep-2001, 11:08 PM #8

Type here to search

EliteFitness D

Screenshot of a forum thread on EliteFitness.com. The browser address bar shows the URL: elitefitness.com/forum/bodybuilding-supplements/acne-supplements-1489970.html?highlight=Whey+Protein. The forum breadcrumb is: Forum > Anabolic Steroids & Bodybuilding > Bodybuilding Supplements > Acne with ON supplements. A yellow banner at the top reads: "If this is your first visit, be sure to check out the FAQ by clicking the link above. You may have to register before you can post: click the register link above to proceed. To start viewing messages, select the forum that you want to visit from the selection below." The thread title is "Acne with ON supplements". A welcome message states: "Welcome to the EliteFitness.com Bodybuilding Site! Please join this discussion about Acne with ON supplements within the Bodybuilding Supplements category. Excerpt: Since I started using my new supplements from On I have been having some rather bad acne. This is the first time it is happening to me - never thought that just supplements can cause these problems. Apart from changing the brand, when can be done? Bought so many of their supplements, that I just cant afford to throw them all away. Read more or register here to join the discussion below..." The thread shows two posts. Post #1 is by user 'vusol123' (All Natural, 26 posts, 0 rep power) dated 17-Jun-2017, 03:22 PM, with the title "Acne with ON supplements". Post #2 is by user 'stevesmi' (HEAD MODERATOR, 26 posts, 0 rep power) dated 19-Jun-2017, 09:24 AM, with the title "Re: Acne with ON supplements" and the text "you should look at the ingredients and see what is in it.. could be the dairy or another allergen". The Windows taskbar at the bottom shows the search bar and various application icons.

EliteFitness E

Screenshot of a forum thread on EliteFitness.com. The browser address bar shows the URL: elitefitness.com/forum/diet-amp-bodybuilding/too-much-protein-rash-1488009.html?highlight=Whey+Protein. The forum breadcrumb is: forum > diet-amp-bodybuilding > too-much-protein-rash-1488009.html?highlight=Whey+Protein. The thread title is "too much protein rash". A post by user 'muskate' (Muscle Pimp, 1,224 posts, 119 rep power) dated 04-Dec-2016, 01:33 AM, with the title "Re: too much protein rash". The text of the post reads: "This is actually a pretty common problem. A lot of adult humans have a lactose allergy. Lactose is the milk sugar naturally found in dairy products. Everyone has different responds to allergic reactions. Some people will experience GI issues, some people with get acne, some people will get a skin rash. It's all very individual. There are two main types of whey protein available: a whey protein isolate and a whey protein concentrate. The problem with a whey protein concentrate is that it will contain a few grams of lactose (the milk sugar naturally occurring in dairy products) per serving. The majority of adult humans have a lactose sensitivity which can cause GI issues, acne, skin rashes etc. A whey protein isolate on the other hand is essentially pure protein and will have no lactose. When purchasing a whey protein isolate you want to see nothing in the ingredients list besides whey protein isolate, natural flavours, a natural calorie free sweetener like stevia and maybe some salt, cocoa powder and soy lecithin. I personally use the whey protein powder isolation from n2bm.com. A 30g scoop has 26g protein, 1g carbs and 0g fat. Switch to a pure whey isolate protein and I suspect your skin rash will go away." Post #4 is by user 'stevesmi' (HEAD MODERATOR, 9,408 posts, 522 rep power) dated 04-Dec-2016, 11:10 AM, with the title "Re: too much protein rash" and the text "elimination diet. do it, figure out what is causing your problems and eliminate it too many people have food allergies and instead of putting in the effort to eliminating it, they run to the doctor who promptly put them on drugs which have nasty side effects. i hope you do not end up on a cortico for life". The Windows taskbar at the bottom shows the search bar and various application icons.

[Adv](#) [x](#) [Sav](#) [Cyc](#) [DNF](#) [Nat](#) [vpx](#) [Too](#) [Fat](#) [Diet](#) [Wh](#) [war](#) [Crit](#) [eat](#) [My](#) [Wa](#) [Ho](#) [Wh](#) [G.E](#)

[←](#) [→](#) [↻](#) [elitefitness.com/forum/anabolic-steroids/what-am-i-doing-wrong-18995.html?highlight=Whey+Protein](#)


Welcome to the EliteFitness.com Bodybuilding Site! Please join this discussion about **What am I doing wrong?** within the **Anabolic Steroids** category.
Excerpt: 2 weeks sus(500mg weekly), 2 weeks eq(400mg weekly), 1 week T-400(switched from sus), and 7 days Reforvit-b at 25 mg a day. I am almost at the end of the third week and all I have gained is 2 pounds. There is a post on here where a guy gained 21 pounds in 3 weeks. Here is my typical daily food intake. Breakfast: Couple of eggs, sausage, bread Snack: Peanut butter sandwich Lunch: 2 chicken breasts, baked potatoe w/ bacon and butter Snack:peanut butter sandwich, can of tuna dinner:16 oz
 Read more or register here to join the discussion below...

Results 1 to 10 of 30 Page 1 of 3 1 2 3 Last

Thread: What am I doing wrong?

Thread Tools Search Thread

07-Jun-2001, 11:55 PM #1

bobber 
 Mutant
 Join Date: May 2001
 Posts: 4,000
 Rep Power: 85


2 weeks sus(500mg weekly), 2 weeks eq(400mg weekly), 1 week T-400(switched from sus), and 7 days Reforvit-b at 25 mg a day. I am almost at the end of the third week and all I have gained is 2 pounds. There is a post on here where a guy gained 21 pounds in 3 weeks. Here is my typical daily food intake.

Breakfast: Couple of eggs, sausage, bread
 Snack: Peanut butter sandwich
 Lunch: 2 chicken breasts, baked potatoe w/ bacon and butter
 Snack:eanut butter sandwich, can of tuna
 dinner:16 oz T-bone and some veggies
 Snack: peanut butter sandwich

What am I doing wrong?

Reply With Quote

07-Jun-2001, 11:59 PM #2

harmonic 
 Registered User
 Join Date: Sep 2000

Dude, you diet is less than 150g of protein (depending on the size of steak of course) Damn dude, you should be eating about 50g of proein every 2-3 hours. You for sure not eating enough! Your cycle looks good, but your diet is about 1/2 what is should be.. Get on the ball. Add about 4 protein shakes to that diet, and then you be getting on the right track. (all assuming your gear isn't bunk)


Type here to search

16:52 20/11/2019

[Adv](#) [x](#) [Savi](#) [Cyc](#) [DNF](#) [Nat](#) [vpx](#) [Too](#) [Fat](#) [Diet](#) [Wh](#) [war](#) [Crit](#) [eat](#) [My](#) [Wa](#) [Ho](#) [Wh](#)


[←](#) [→](#) [↻](#) [elitefitness.com/forum/anabolic-steroids/what-am-i-doing-wrong-18995.html?highlight=Whey+Protein](#)

Damn bro I have no clue... I am seriously thinking that maybe a couple of your items are fake... never happens here in spain cause we dont have any fakes... well we as in my friends and I...

vexed 
 Amateur Bodybuilder
 Join Date: Sep 2000
 Location: Primoland, Spain
 Posts: 353
 Rep Power: 0

Reply With Quote


08-Jun-2001, 12:13 AM #7

bobber 
 Mutant
 Join Date: May 2001
 Posts: 4,000
 Rep Power: 85

I know the shit is not fake. I am 100% sure of that. Is there anything else I could do, maybe stop fucking 3 times a day? Would that help keep my test up or does that not matter?

Reply With Quote

08-Jun-2001, 12:18 AM #8


el jefe 
 Good Broly

Well, first of all give the test and eq at least another week to kick in. As far as the ref goes, it sounds like it might be fake. I will usually start gaining water within the first week at your dosage. Also, your diet might be a little off. Bump up your calories/protein and see if this makes an improvement on your gains.

Type here to search

16:56 20/11/2019

29-May-2001, 10:12 PM #1

MUSTANG_18
Da Pope

Join Date: Sep 2000
Location: Canada
Posts: 11,453
Rep Power: 92

Hey Guys, Once I get my Liver ultrasound done I plan to start my next cycle if the results are good. This is going to be a cut cycle

Week***Omna***Eq***Fina***
1*****1250*****400*****
2*****1000*****400*****
3*****750*****400*****
4*****750*****400*****
5*****750*****400*75mg/eod***
6*****750*****400*75mg/eod***
7*****750*****400*75mg/eod***
8*****750*****400*75mg/eod***
9*****750*****400*75mg/eod***
10*****750*****400*75mg/eod***

I am going to use Cytomel at 25-75mcg/Day tapering up fast and down slow starting week 4 and will use Adipokinex 5 days on and 2 days off through out the cycle. I will start my Clomid 3 weeks after my last shots of Eq and Omna. The Omna will be injected mon, wed, fri and the first 2 weeks are a little front load, the reason for the higher doses at the start. I am also going to be taking ALA and My liver protectors while on the cycle as well as Cranberry extract and plenty of water.

My diet will look like this

7:00am
3 scoops **Whey Protein**
Oatmeal
Cals=530 Fat=8.5 **Protein**=74 Carbs=43.5

9:30am
Designer **Protein** bar
Cals=260 Fat=4.5 **Protein**=30 Carbs=6


11:30am
Myoplex
2chicken breasts
Cals= 600 Fat= 10 **Protein**=98.2 Carbs= 24

2:30pm
Apple
Cals=81 Fat=.5 **Protein**=0 Carbs=20

4:00pm
Workout


Post workout
Carb Fuel Drink

29-May-2001, 10:23 PM #3

MUSTANG_18
Da Pope

Join Date: Sep 2000
Location: Canada
Posts: 11,453
Rep Power: 92

I wish I could hold a diet that perfect. will you be doing any AM cardio before you meal? that is the only question I can see I like the cycle but I might add arimidex 1/4mg EOD or ED but you are lot more knowledgeable than myself

M18

<http://www.ag-guys.com>  border=0> /a>
MY ONLY E-MAIL!
mustang_18@elitefitness.com
MODERATOR

29-May-2001, 10:29 PM #4

rich197
Amateur Bodybuilder

right on

Advanc DN x Natur vpx ze Too he Fat Diet w What want t Critiqu eating My his Want How t What +


elitefitness.com/forum/anabolic-steroids/dnp-day-8-update-8417.html?highlight=Whey+Protein

Results 1 to 5 of 5

Thread: DNP day 8: update

Thread Tools Search Thread

07-May-2001, 05:14 PM #1

enock  Pro Bodybuilder
 Join Date: Mar 2001
 Posts: 1,304
 Rep Power: 0

Went off DNP on day 6 (well day 7 3am was last 400mg dose)

Been on a heavy dose for most of the cycle
 600mg for 3days
 800mg for 3 days
 at a BW of 170

Day 7 was just as bad as it should be considering the effects shouldn't even have begun to wane. Funny thing was it was the first time my family members noticed that I was sweating on the brow during supper, possibly because another one was complaining how he was cold and here I was sweating.

Day8, woke up was a bit hot, and didn't sweat too much, thing is I had a headache and felt as if I was in a daze and something was squeezing my head a bit. Was slow to react to things didn't want to turn my head since moving it made the headache hurt worse like my brain was asloshin around (I can't even remember the last time I got a headache so, mabe it wasn't even bad but too me I felt like shit w/ it). Been keeping up drinking, noticing that I'm finally getting back to pissing more often and also having more bowel movements.

Yesterday I actually ate alot I couldn't help it, I was so fed up with the heat and the only thing to cheer me up was some food (even though I knew that only made it worse) I had a huge amount of chilli and 4 chocolate covered bananas as a 10pm snack.

Eating fine today, its now 5pm and my headache is only felt if I shake my head vigorously. I took 1 aspirin (325mg I think[recommend does was 1-2] and an hour later my headache was still there, I took a dose of ripped fuel, now it seems to be getting better, and my activity level is picking up. Possibly the headache was from caffine withdrawal. I'm only going to take 1 serving of ripped before workout now, then taper to 1/2. My bottle will be out soon and I won't buy more for a while.

I wanted to hit the gym today (too late now, I sneak in certain at certain times there are no employees and the 2:30-6 employee I know so he doesn't bother me), right now as I type I feel really good, I'm no longer hot even though I should have hit the half life of the DNP only 2hrs ago, I feel much much better. The rashes in my arm pits that I believed were from abrasion and constant sweating along w/ deoderant are already gone.

Tommorrow I will hit the gym probably 2x (one hr cardio in morning) and again for weight training, I'll finally beable to see what all this suffering has done. Damn just 2 hours ago my mood sucked now its really good, No heat + no headache = one happy mofo. AHH pain is good especially when its gone.

Reply With Quote

07-May-2001, 05:30 PM #2

Type here to search

17:18 20/11/2019

Adv x vpx x Too x Fat x Diet x Whi x wan x Criti x esti x My x War x How x Whi x +

elitefitness.com/forum/women-s-fitness-(female-bodybuilding-training)/vpx-zero-impact-review-1488354.html?highlight=Whey+Protein

Excerpt: how many of this protein bars would replace a protein shake? My other questions if this bars contain any type of hidden ingredients or extra calories that make you gain weight or turn into fat, thank you.


Read more or register here to join the discussion below...

Results 1 to 4 of 4

Thread: vpx zero impact review

Thread Tools Search Thread

10-Jan-2017, 03:37 PM #1


samantha1thomas  Muscle Pimp
 Join Date: Oct 2016
 Posts: 3
 Rep Power: 0

vpx zero impact review

how many of this **protein** bars would replace a **protein** shake? My other questions if this bars contain any type of hidden ingredients or extra calories that make you gain weight or turn into fat, thank you.

Reply With Quote

11-Jan-2017, 05:59 PM #2

muskate  Muscle Pimp
 Join Date: Apr 2016
 Posts: 9,408
 Rep Power: 522

Re: vpx zero impact review

The problem with **protein** bars is that they have a lot of carbs and fat in them. To make the product in a bar form, they need to add carbohydrate and fat binders. Even a low calorie **protein** bar is going to have at least 5-6g of fat and 20-25g of carbs.

Not only that, most **protein** bars only have 20g of **protein** so you would need to eat 2-3 of them to get enough **protein** for the meal.

A **protein** shake on the other hand will be virtually carbohydrate and fat free. You get the high quality **whey protein** without any of the additional calories.

For a **whey protein** - you want to see nothing but that in the ingredients list. **Whey protein** isolate, natural flavours, a natural calorie free sweetener like stevia and then maybe some salt, soy lechitin and cocoa powder. There are a lot of good products on the market. I personally use isolation from n2bm.com. A good **whey** isolate should be pretty much fat and carb free. Isolation has 26g **protein**, 1g carb, 0g fat per 30g scoop.

Reply With Quote

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13:03 21/11/2019

EliteFitness J

Advanced Search - EliteFitness.com | How to guarantee you are getting... | What was your diet like today? | +


elitefitness.com/forum/bodybuilding-supplements/how-guarantee-you-getting-best-whey-43029.html?highlight=Whey+Protein

Results 1 to 3 of 3

Thread: How to guarantee you are getting the best whey?

Thread Tools | Search Thread

13-Aug-2001, 12:28 PM #1

blood_drinker ◊
Registered User
4.5/5

Join Date: Dec 2000
Location: Brazil
Posts: 1,455
Rep Power: 0

How to guarantee you are getting the best whey?

Many times in life you pay for quality. But in supplements, that does not always seem to hold true, especially when buying **whey protein**. How do you guys assure you are getting quality? From reliable sources, which next week you'll find out that they are not reliable? Buying raw **whey** by the pound is rather cheap, as Stew Meat has shown with his **protein**. Some companies like Optimum offer 5lb jugs for 28\$. While cheap, you still think it HAS to be lower quality than something like designers 2lb jug for 40\$.

BUT

- Many times it is obvious that you are paying for advertisement budgets (Designer, EAS) bc you can get half the price online and it is evident in muscle mags.

How do you guys guarantee your **whey** is top shelf?
By reading the label and see if it says Micro filtered ion exchange **whey protein** versus just **Whey**? While that is a plus, it wouldn't convince me. Is this a trial and error game? What tricks do you guys have to ensure top shelf **protein**?

Reply With Quote

13-Aug-2001, 04:33 PM #2

murman ◊
Amateur Bodybuilder
4.0/5
Join Date: Jul 2001
Location: Halifax, Nova Scotia, Canada
Posts: 357
Rep Power: 0

Will my trick is to read all the post and wait for 2 or 3 members to agree an that's the best for me 🤔

Type here to search | 14:50 21/11/2019

EliteFitness K

elitefitness.com/forum/diet-amp-bodybuilding/school-diet-please-critique-49312.html?highlight=Whey+Protein


Personally I like to separate the fats for the meals where I don't have any carbs in to give me energy and make up for the missing calcs. SO instead of bread and olive oil, I will have fried in olive oil chicken breast for example, or some chicken and a tbsp or 2 of peanut butter.

Make sure you are eating AMR-500 and keep in mind that on non training days your caloric intake should be different - so adjust accordingly. It's probably not an issue of simply taking out your post workout meal - that's not always how it is.

Post your stats so I can get more info.

Reply With Quote

29-Aug-2001, 08:51 PM #5

blood_drinker ◊
Registered User
4.5/5

Join Date: Dec 2000
Location: Brazil
Posts: 1,455
Rep Power: 0

I know the kid lives in 5th ave or something. how can you afford so much? I am now convinced you drug deal. Look at the fancy EAS supps....

Reply With Quote

29-Aug-2001, 09:29 PM #6

15yroidinny ◊
Good Broly
4.0/5
Join Date: Jun 2001
Posts: 164
Rep Power: 0

I know blood, right, its called working..The carbs will be upped, because I will drink more powerade, and I am gonna throw in a PB sandwich in somewhere.

Type here to search | 15:24 21/11/2019


Search Res: x | Weird New: x | Questions: x | nitric oxide: x | citruline m: x | L-citrulline: x | AAS to incr: x | agmatine S: x | vitamins fo: x

elitefitness.com/forum/weight-training-amp-weight-lifting/questions-concerns-when-buying-supplements-1488702.html?highlight=Nitric+Oxide+Nitric+...

Rep Power: 0

I am a marketing student and am completing an assignment. If there was a new stack hitting the market consisting of a **nitric oxide booster** and a testosterone **booster**. What questions or concerns would you guys have before trying it?

20-Feb-2017, 09:26 AM #2

stevesmi
HEAD MODERATOR
★★★★★

Join Date: Dec 2009
Posts: 35,616
Rep Power: 122770

Re: Questions and concerns when buying supplements?

I would want to see the ingredients label to see what is actually in it + the dosages

most supplements out there have tons of fillers and a pathetic amount of ingredients/dosages. they are worthless

n2bm actually puts in tons of ingredients in their stuff

Now taking clients for 1 on 1 consults via skype, contact me I can help you
Looking for a steroid source? drop me a visitor message or click> <https://www.evolutionary.org/forums/...iii-59858.html>
<http://goo.gl/kDk0z5> <save 10% on bloodwork
<http://goo.gl/bvQ44F> <authorized supp store deals
<https://goo.gl/Vy5WA7> <12 week bulker, cutting, fasting Ebooks 4sale
ask me for coupons to N2bm, juvepharma, sarms1 etc.
<http://goo.gl/F9Ygqp> < click for Rx drugs


20-Feb-2017, 11:18 PM #3

Type here to search

Search Res: x | Weird New: x | Questions: x | nitric oxide: x | citruline m: x | L-citrulline: x | AAS to incr: x | agmatine S: x | vitamins fo: x

elitefitness.com/forum/weight-training-amp-weight-lifting/questions-concerns-when-buying-supplements-1488702.html?highlight=Nitric+Oxide+Nitric+...

20-Feb-2017, 11:18 PM #3

muskate
Muscle Pimp
★★★★★

Join Date: Apr 2016
Posts: 9,408
Rep Power: 522

Re: Questions and concerns when buying supplements?


The brand isn't particularly important when buying supplements. What matters is the ingredient list and supplement facts panel.

You really need to be a smart consumer in today's market and do your research. Look at the ingredient list and supplements fact panel on every supplement before buying it.

A good quality supplement will clearly list what is in the product with NO proprietary blends or formulas. They will list exactly what is in the product and in what dosages.

Take a wheyprotein for example- you want to see nothing but that in the ingredients list. Wheyprotein, natural flavours, a natural calorie free sweetener like stevia and then maybe some salt, soy lechitin and cocoa powder. There are a lot of good products on the market. I personally use isolation from n2bm.com. A good whey isolate should be pretty much fat and carb free. Isolation has 26g protein, 1g carb, 0g fat per 30g scoop.

20-Feb-2017, 11:36 PM #4

MasonicBodybuilder
Moderator
★★★★★

Join Date: Nov 2015
Posts: 7,427

Re: Questions and concerns when buying supplements?

For a test **booster** there is no comparison to HCGenerate from N2BM. Just compare the ingredients with any other natural test **booster** out there. Not even close.

I am not a huge fan of NO boosters. I would rather just eat a good pre workout meal, stay hydrated, and maybe add some DSpark.

Type here to search

Search results - UI x one last blast ... - F x Human enhance... x Special Section: D... x Call for papers for x Masculinities | Bar x Facebook x

uk-muscle.co.uk/topic/337517-one-last-blast/?page=2&tab=comments#comment-6358619

under hand grip pull ups to failure. x 2.

whey 1/1

anna1 and Endomorph84 reacted to this

Mayzini
Advanced Member
Gold
GOLD MEMBER
2162
2998 posts

Posted November 21

just want to say to anyone following the log, I am afraid due to recent developments I am taking it underground... for those that know, you know...

PREV 1 2 Page 2 of 2

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You need to be a member in order to leave a comment

Create an account Sign in

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14:33 28/11/2019

Conclusions

In summary, the key highlights emerging from our project are:

1. Positive perception of supplement use

The sentiment analysis performed on the collected references showed a large prevalence of positive opinions regarding supplement use. This was confirmed by the analysis of trending hashtags related to our keywords (e.g. fitness, health, wellness related topics). The online context overall contributes to building a positive narrative and encouraging such intake. This is done by linking supplement use to improved health; natural remedies; general and sporting success' and superior performances. Such motivations are a common among both professional athletes and the general population. Risks associated with the consumption and the potential side-effects also emerged from our searchers, but to a lesser extent (more on this below).

Recommendations: More balanced information should be available on the Internet on advertised products in order to avoid high-risk supplement use and the possible adverse effects associated. Although some supplements, when used appropriately, may be beneficial to users' health and help them to meet sport nutrition goals, it takes considerable knowledge and effort to determine which products are effective, appropriate for the individual consumer, and how to integrate them into an athlete's nutrition routine.

2. Unsolicited online posts as a major source of (mis)information on supplement use

The large number of references emerged from our study confirms the popularity of sports supplements and their diffusion on the web. This poses not only a potential threat to the health of athletes, but also concerns about their ability to comply with the anti-doping code imposed by WADA. While dietary/fitness advice, including supplement use, have typically been provided by coaches, medical professionals, and other more trusted and accountable persons (Denham, 2017; Heikkinen et al., 2011; Garthe et al., 2017), the results of our work clearly highlight how this has been replaced by online and social media interactions. Over 80% of the identified sources contained fitness supplements' advertisements or reviews (which may be, in some cases, sponsored by a supplement manufacturer). Although academic studies were frequently mentioned (30%), users often found such scientific evidence too difficult to be understood, thus relying on different interpreters

(e.g. fitness influencers or supplement manufacturers). Advertisements were often supported by captivating marketing strategies and unsolicited claims about their benefits. The lack of control over such claims makes their consumption even more risky. In the absence of strict regulations and mandatory toxicology tests; online distributors, as well as physical retailers, can easily sell counterfeit supplements to unaware customers. This scenario is further complicated by the availability of licit and illicit supplements on darkweb cybermarkets, whose anonymity and intractability may lead to furthering the lack of trustworthy information available online.

Recommendations: Of paramount importance is the need to combine netnographic approaches with laboratory analysis to verify the presence of adulterants in supplements sold online, including substances incorporated in the WADA List of Prohibited Substances. In collaboration with WADA, we are currently establishing a dedicated lab, TRACE, for the detection of contaminants found in food supplements sold online. Once operational (Spring 2020), TRACE will be able to screen for 90% of the prohibited substances included in the WADA List. The data collected will also be a noteworthy supporting tool for drawing a clearer line between accidental or voluntary contamination, which is currently unclear. Evidence will also be used to anticipate future threats and to ensure that supplements sold online (and over the counter) comply to regulations and do not include undisclosed and potentially harmful contaminants.

3. Emergence of a new cohort of supplement users

Although the use of supplements has predominantly been associated with elite sports, results from our analysis indicate their widespread use at all levels of physical activity, from pro athletes to amateurs to casual gym-goers. Among the web pages retrieved in our sample were health blogs reviewing supplements' brands, sports fora discussing specific workout programs, social media threads seeking counselling for beginners.

Recommendation: Doping and wider supplementation is no longer limited to elite sport, but it reaches a population of exercisers in the wider society, including future elite champions. Prevention and education activities should also target this new cohort, which include teenagers and young people who often do not receive any medical advice or supervision of their use.

4. Lack of risk awareness

The online narrative regarding supplements is predominantly positive. Generally, sports and dietary supplements are linked to improved general health, natural remedies, success and superior performances in both professional athletes and the general sporting population. However, 10% of all assessed posts contained reference to contamination and products being labelled and sold incorrectly. While, 47% of these posts expressed a concern about the intake of a contaminated products, 18% addressed issues around counterfeit products, 12% mentioned hidden ingredient and 6% referred to the presence of illegal substances in supplements (16%). A peak in the number of mentions was recorded during periods in which news sites reported news of pro-athletes suspended due to supplement contamination; nevertheless, sentiment analysis of mentions did not report any variation of narrative attitudes during these periods. Furthermore, when concerns were raised about a specific product, manufactures were attributing these to intolerance or other subjective factors specifically related to the individual user rather than the products themselves. It is also possible that negative comments by users may have been concealed/deleted by moderators as this information is against their commercial interests.

Recommendation:

Contamination of the supplements must be more thoroughly assessed to better understand the frequency and likelihood of this potential danger. There is also the need for more targeted educational and prevention activities using social media platforms. WADA Vlogs, Blogs, Podcasts could be implemented at low costs and disseminated on Facebook, Twitter, YouTube, etc. This study also identified a wide range of useful keywords, websites and fora which could be used for WADA future prevention and monitoring activities.

5. Use of supplements as a potential new gateway to doping

Themes emerged from the qualitative analysis, including motivations for their intake of supplements, suggest a positive reinforcement towards doping, which violate the values found in and throughout sport. Although more studies will be required to confirm such a correlation, initial evidence shows that doping is indeed more prevalent in athletes that take supplements than in those who does not (Backhouse et al. 2013; Lazuras et al. 2017). For instance, Hurst et al. (2019) found a link between ergonutritional aids and both doping attitudes and doping likelihood, suggesting that “if athletes perceive sport supplements as beneficial for performance, they may subsequently be more likely to

consider doping” (Hurst et al. 2019). Accordingly, this may lead both professional and amateur athletes to use supplements in order to achieve better performances and the potential for future use prohibited substances for the same reasons. The fact that illicit performance enhancers are widely available online makes such a behaviour even more likely. If non-athletes perceive sport supplements as beneficial for their performance, they may subsequently be more likely to consider doping if involved in a competitive activity.

Recommendation: Doping is a public health issue that is no longer confined to elite athletes. A wider WADA focus on the sporting community, where future athletes grow, might be beneficial.

6. Clinical and psychopathological impact of using supplements

The health aspects related to the intake of supplements without adequate supervision was another point of investigation. Quite a wide range of side-effects and perceived risks, such as overuse of supplements, combining supplements, cramping, dehydration, hidden ingredients, quality concerns, use of supplements to aid in fasting (when not the products intended usage), lung damage, product quality, liver damage, acne, nausea, loss of appetite, hormone levels, insulin levels, psychological dependency, stomach pain and intestinal bleeding, were reported online by supplement users. In addition to this, we previously highlighted for the first time a positive correlation between the use of supplements and some psychopathological features, such as anxiety, low self-esteem, exercise addiction and low body satisfaction that can emerge, sustain or worsen psychiatric symptoms (Mooney et al. 2017; Corazza et al 2018).

7. Develop innovative research methods and promote information sharing

In a globalised and rapidly changing society, it is crucial to be able to develop more sophisticated tools and methods for the rapid identification of new illicit compounds on the web and dark web, but also for the anticipation of future trends. The large amount of collected data suggests a wide scope for potential research, which could be invaluable to the health and safety of athletes and other supplement users. The advent of new technologies such as “big data” and Artificial Intelligence (AI), which are currently specifically developed for and incorporated in general pharmacovigilance and toxicovigilance programs, may facilitate and expand the research process. As the European Medicines Agency (EMA) recently stated, digital innovation may allow to collect an unprecedented amount of

real-world data on drugs and supplement use and related adverse events, which would be enormously beneficial to health professional and users for a safer and more informed intake (Arnett et al., 2019).

Recommendation: An even stronger collaboration between WADA and academic institutions would be needed. The development and implementation of new technologies would also facilitate the collection of data and the anticipation of future anti-doping trends.

Disclaimer

Our analysis is based on triangulation between diverse, partial, and sometimes contradictory online information sources. Although this report provides a more complete picture about patterns of consumption of supplements sold online, including perceived risks, motivations, their connection with doping and “ethical/moral behaviours”, uncertainty still exists, and critical knowledge gaps remain. Given the large number of information available on the net, we gave attention only to the most popular website and fora, but we must be aware that there is more available out there and this is just a preliminary snapshot of the situation. Nevertheless, we are confident that this report provides a valuable state of art review of data on fitness supplements sold online, which will inform future studies in the field.

Acknowledgements

We would like to thank WADA for the support received for this study.

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