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Gym Members' Perceptions of Supplement Use: Insights and Trends

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ABSTRACTS

Purpose: This research was undertaken with the aim of determining gym members' perceptions of supplements, identifying the frequency of supplement use, and pinpointing the sources of information about supplements. These objectives were crucial in understanding the current landscape of supplement usage among gym members.

Materials and Methods: This research, uniquely conducted at various gyms in Pontianak, namely Roxy GYM, KGYM Ilham, and Bali GYM, involved 156 respondents. The study used a quantitative descriptive research method, a robust approach to data collection. Data were collected using a questionnaire containing statements and answers, which was distributed via a Google Form accessed through a QR/barcode, a modern and efficient data collection method.

Result: The findings of this study are significant. They indicate that gym members have an average 'positive' perception of supplements. The highest frequency of supplement use was for 'Protein Milk,' primarily consumed according to the time of need. Most respondents obtained information about supplements from the Internet and social media platforms like Facebook, Instagram, and YouTube, highlighting the influence of online sources on supplement consumption decisions.

Conclusion: nformation from online sources significantly influences gym members' decisions to consume supplements. However, it's clear from this research that there's a pressing need for more accurate and reliable information about supplements to be disseminated to the broader community. This is crucial to ensure that gym members, and indeed all supplement users, can make informed decisions about their health and performance.

Keywords: Perception; Gym member; Supplements; Information sources.

INTRODUCTION

The use of supplements is every day in the world of sports; sports practitioners believe that food and medical supplements are effective for sports (Hurst et al., 2019). Supplements have several categories, as stated (Edenfield, 2020). Supplements are divided into three categories, namely food/drink supplements containing macronutrients (nutrients needed in large quantities), medical supplements such as vitamins/minerals that function to provide building elements in internal organs), and ergogenic supplements (drugs in sports), which are used to improve performance. Supplements influence sports activities by choosing supplements according to the body's needs, having lab-tested certificates, and the quality as stated on the label to avoid prohibited substances and diseases.

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Based on research by Maughan et al. (2018) on several types of supplements, there are negative and positive impacts of supplement use with several influencing factors, one of which is the positive impact of consuming food supplements. When combined with resistance training, the protein content in food supplements can increase strength in healthy adults (O'Bryan et al., 2019). The negative impacts caused by ergogenic supplements (drugs in sports) are less effective and have health risks (Maughan, Shirreffs, et al., 2018), such as Hydroxycut supplements (fat-burning supplements), which can cause jaundice and damage liver function (de ASSIS et al., 2022). According to Pillai et al. (2019) ex, cess branched-chain amino acids (BCAA) can interfere with kidney function. In this case Hurst et al. (2021), said that sports practitioners who provide ergogenic and medical supplements should be educated about the benefits and side effects.

The selection of supplements must be according to the body's needs and understand the effects caused in terms of health. The supplements must have a laboratory-tested certificate that matches the quality listed on the label. Losses can occur if there is a lack of understanding of the use of sports supplements that users often misuse. Information is beneficial for professionals or non-professionals to avoid accidental doping for athletes and choose product quality that must be listed on the label (Rodriguez-Lopez et al., 2022). Athletes and health workers deserve more attention and take a critical approach regarding information on the use of sports supplements and illegal drugs to reduce the increasing misuse (Savino et al., 2019). The general public who are actively involved in fitness activities must understand the benefits and effects of using supplements, as has happened in several studies in several cities in Indonesia, namely Medan, Solok, and Padang. The fitness members, on average, have a level of knowledge about the use of supplements that is said to be good (Kurnia et al., 2019; Afrina & Tohidin, 2019; Saragih, 2017).

Considerations regarding whether to consume supplements influence each individual's perception. Perception itself has many definitions. According to Wade C. Savage (1978), perception is collecting relevant information about an object. From the information collected, a decision is made on whether to consume supplements or not. A person can perceive through experience to become knowledge that forms beliefs and becomes a decision. Perception has various types, one of which is self-perception. According to James D. Laird (2007), self-perception is an expression of feelings divided into behavioral patterns and situations being experienced.

Based on previous studies, supplements have various benefits. Among gym members, supplements are only consumed a few times, and each member often does not pay attention to the benefits of supplements. With this, a study on public perception of supplement consumption is needed by collecting complete and in-depth data to obtain perceptions of supplement use.

METHODS

***Study Participants*:** The study involved 156 respondents who were gym members at RoxyGym, KGYM Ilham, and BaliGym. Participants were selected using the Accidental Sampling method, where samples were determined based on chance. Respondents voluntarily filled out the questionnaire distributed via QR/barcodes.

***Study Organization*:** This research employed a quantitative descriptive approach. Data was collected using a questionnaire containing 21 items categorized into three variables: Self-Perception Using Supplements, Experience in Using Supplements, and Information Sources. The questionnaire was distributed as a Google Form, which participants accessed by scanning a QR/barcode.

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***Statistical Analysis*:** The data collected from the questionnaire were processed and analyzed using SPSS version 22. Descriptive statistical methods were applied to summarize and interpret the findings, including frequency distribution and percentage analysis to determine gym members' overall perception of supplements. Mean and standard deviation were used to measure central tendency and response variability.

RESULT

Based on the results of data processing in Table 1, the Self-Perception Variable using Supplements with 4 statement items as follows:

Table 1. Self-perception using supplements

No	Question	N	Amount and Percentage		
			YES	NO	Not Taking Supplements
1	**Knowledge of Supplements:**				
	Supplements are additional food intakes containing minerals, vitamins, and amino acids, which supplement the nutrients the body needs to improve health.		150 (96%)	6 (4%)	~
2	**Feelings of Taking Supplements:**				
	Feel more muscular after taking the supplement.	156 (100%)	79 (51%)	12 (8%)	65 (41%)
3	**Supplement Assessment:**				
	Supplements help provide sufficient nutrition to the body.		145 (93%)	11 (7%)	
	Good supplement for the general public who are active in sports (GYM)		141 (90%)	15 (10%)	~

In the indicator "Knowledge of Supplements" statement no. 1, as many as 150 (96.2%) people stated YES/Agree that "Supplements are additional food intake containing minerals, vitamins, amino acids, which function to complete the nutrients needed by the body to improve health." Indicator "Feelings of Consuming Supplements" As many as 79 (50.6%) people "Feel more muscular after consuming supplements." Indicator 3, namely "assessment of supplements," as many as 145 (92.9%) people stated, "Supplements are useful for meeting the body's nutritional needs," and 141 (90.4%) stated, "Supplements are good for the general public who are actively exercising (GYM)".

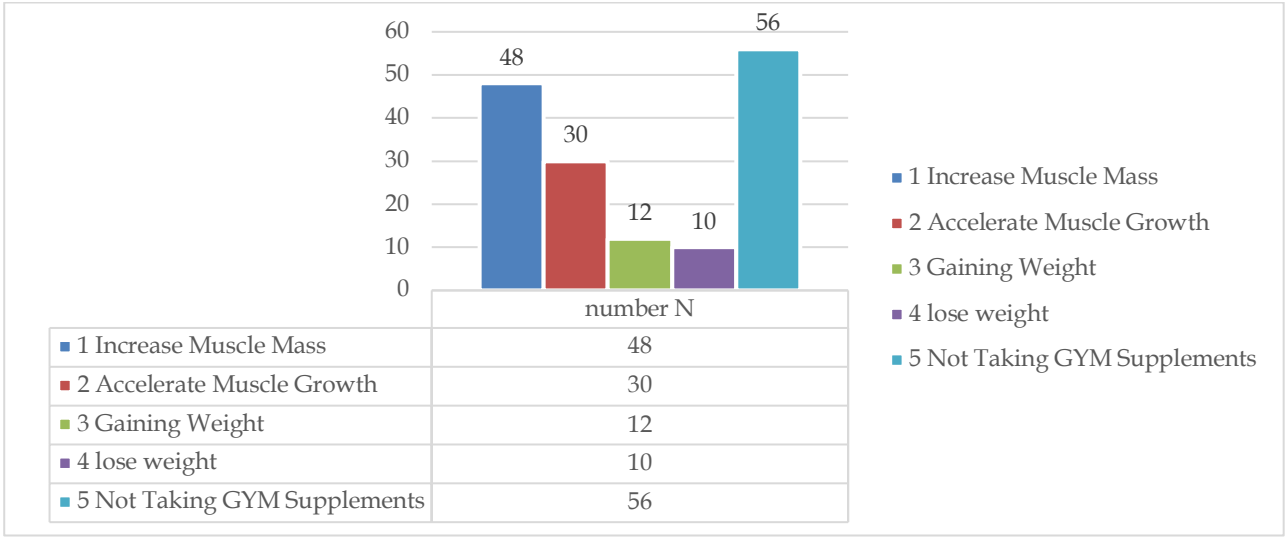

Figure 1. Reasons for using supplements

For "Increasing Muscle Mass," there were 48 people; for "Accelerating Muscle Growth," there were 30 people; "Increase Weight," there were 12 people; for "Losing Weight," there were 10 people, and those who chose "Not Using GYM Supplements" were 56 people.

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Table 2. Reasons to use supplements.

No	Reasons for using supplements	Number N and Persentase	
		Yes	No
6	Consuming supplements just following friends	9	147
		6%	94%

In Table 2. Stating that they were "Consuming supplements only following friends," as many as 147 (94%) people answered NO. The results of data processing can be seen in Table 3. Variables of Use in Consuming Supplements with 12 statement items:

Table 3. Frequency and time of supplement use.

Types of Supplements	Frequency of Supplement Use	Time to Use Supplements			
	number N	Persentase	Yes	No	Not consuming
Protein Milk	3x a day: 17	11%	99 (64%)	9 (6%)	48 (31%)
	2x a day: 36	23%			
	1x a day: 59	38%			
	not consuming: 44	28%			
	Total: 156	100%			
caffeine (coffee & tea)	3x a day: 14	9%			
	2x a day: 41	26%			
	1x a day: 60	39%			
	not consuming: 41	26%			
	Total:156	100%			
Pre-workout	3x a day : 0	0%	69 (44%)	10 (6%)	77 (49%)
	2x a day: 8	5%			
	1x a day: 56	36%			
	not consuming: 92	59%			
	Total: 156	100%			
Amino acids	3x a day: 2	1%	40 (26%)	6 (4%)	110 (71%)
	2x a day: 14	9%			
	1x a day:39	25%			
	not consuming: 101	65%			
	Total 156	100%	40 (26%)	7 (5%)	109 (70%)
BCCA (Amino acids)	3x a day : 0	0%			
	2x a day: 15	10%			
	1x a day: 40	26%			
	not consuming: 101	65%			
	Total: 156	100%			
Creatine	3x a day : 0	0%	73 (47%)	4 (3%)	79 (51%)
	2x a day: 6	4%			
	1x a day: 69	44%			
	not consuming: 81	52%			
	Total: 156	100%			
vitamin	3x a day: 2	1%	73 (47%)	4 (3%)	79 (51%)
	2x a day: 29	19%			
	1x a day: 70	45%			
	not consuming: 55	36%			
	Total: 156	100%			

The indicator of the use of supplements that are most consumed three times a day is the type of "Protein Milk" (11%), followed by caffeine types (coffee and tea) (9%), compared to other supplements such as amino acids (1%), Vitamins (1%), Pre-workout (0%), BCAA (0%), and creatine (0%). Indicator of 'Supplement Use Time': The supplement type "Protein Milk" is widely consumed by respondents according to their needs. As many as 99 (64%) respondents stated YES, followed by Creatine supplements 73 (47%), Pre-workout 69 (44%), Amino acids 40 (26%), and BCAA (Amino Acids) 40 (26%).

Table 4. Supplement information sources

From which sources was information about supplements obtained?	**total**
TV Commercials	5
internet/social media (Facebook, Instagram, YouTube)	88

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From which sources was information about supplements obtained?	total
Posters (brochures, pamphlets, billboards)	2
Friends/relatives	33
Personal trainer	28

In the information source variable, the question item with the statement "I get information about supplements from?" the number of people who chose TV Advertisements = five people (3%), Internet/Social Media (Facebook, Instagram, YouTube) = 88 people (57%), Posters (brochures, pamphlets, billboards) = 2 people (1%), Friends/Siblings = 33 people (21%), GYM Trainers (personal trainers) = 28 people (18%).

Table 5. Dissemination of information about supplements

No	statement	N	Total N		Persentase	
			Yes	No	Yes	No
21	The information received influenced the decision to take supplements.	156	114	42	73%	27%
22	I think it is necessary to disseminate information about supplements to the public.		145	11	93%	8%

In Table 5, the statement "The information I get influences me to consume supplements" from 156 respondents, 73% stated "YES" and 27% "NO". While in the statement "I think it is necessary to disseminate information about supplements to the public," as many as 93% stated "YES," it is necessary to disseminate information about supplements to the broader community, and 8% stated "NO."

DISCUSSION

Self-perception of using supplements

The percentage of answers to the sub-variable statement "Self-perception of using supplements" on the indicator "knowledge of supplements" is 96.2%, "Feelings of supplements" 50.6%, and "assessment of supplements" 92%. The findings align with research by Tacca (2011), which states that perception influences decisions and actions by forming beliefs based on knowledge, ultimately shaping how individuals view objects. The collection of information is the basis for the formation of knowledge. It will influence perception or point of view, according to Wade C. Savage (1978), which states that perception is collecting relevant information about an object.

The reason indicator "consuming supplements just because of following friends" has a low percentage of 6%, indicating that knowledge about supplements among gym members is categorized as "good." this is consistent with the research by Kurnia et al. (2019), which found that the level of knowledge regarding supplements among gym members at the D'max Fitness Center in Padang City falls into the good category. Consume supplements not because they follow someone but because they suit each individual's needs. The reason for using supplements is to increase muscle mass, which has the highest percentage, namely 31%. This result is reinforced by the opinion by Morton et al. (2018), that adding protein supplements can increase changes in muscle strength and size while the training process is still active. With this research, we can encourage people to use supplements wisely so that there is no misuse beyond their benefits.

Use in consuming supplements.

In the sub-variable Use in Consuming Supplements, the use of supplements that are frequently consumed 3 times a day is "Protein Milk" (11%), followed by caffeine (coffee and tea) as much as (9%), compared to other supplements such as amino acids (1%), Vitamins (1%), Pre-workout (0%), BCAA (0%), and creatine (0%), This is in line with the indicators for gym members' reasons, namely increasing muscle mass and is reinforced by research (Siska et al., 2019) which states that consuming high protein milk is effective for increasing muscle mass and is combined with pyramid set weight training. According to Morton et al. (2018), adequate protein intake can

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increase muscle strength and size while the training process is still active. Not only that, according to Dzulfia et al. (2016), whey protein and cow's milk can remineralize (the process of increasing the mineral content in teeth to prevent tooth decay) the surface of tooth enamel but cannot restore the original hardness of the enamel surface.

Source of information

The percentage in the sub-variable of sources of information about supplements is primarily derived from the Internet and social media platforms such as Facebook, Instagram, and YouTube, with 88 respondents (57%) reporting these as their primary sources. The high reliance on social media for information can be attributed to its fast and easy dissemination. Putra Perssela et al. (2022) state that the large number of social media users in Indonesia presents opportunities to optimize these platforms as effective communication media. With social media, it will be easy to market supplement products and information about them; in line with research by Neneng and Masitoh (2020), social media as a marketing tool in the world of education in the era of the Industrial Revolution 4.0 which is the right choice because it is easy to access by all groups.

The information obtained influenced gym members' decisions to use supplements, as indicated by the 73% of respondents who answered "YES." The widespread influence of social media as an efficient tool for disseminating information supports this finding, as reinforced by research (Kustiawan et al., 2022). Social media contains a lot of information, such as information on education, entertainment, and news; this can be enlightening if used wisely. According to respondents, it is necessary to disseminate information about supplements to the broader community, as proven by the percentage who said YES, as much as 93%. According to Savino et al. (2019), sports practitioners and health workers should take a critical approach regarding the information on sports supplements and illegal drugs to avoid misuse.

CONCLUSION

The results of research conducted at Roxy GYM, KGYM Ilham, and Bali GYM with a total of 156 respondents using a questionnaire instrument in the form of a Google form, which was scanned using a barcode/QR showed that, on average, gym members had a "positive" perception of supplements and the most used supplement was "Protein Milk" and the least consumed was "Amino Acids and BCAAs." Respondents primarily consume "Protein Milk" supplements based on their individual needs, the most common reason being the desire to increase muscle mass. Most of the information about supplements is obtained from the Internet and social media platforms such as Facebook, Instagram, and YouTube; this is because distribution via social media is speedy, easy, and efficient. The information obtained also influences gym members to consume supplements, and gym members state the need to disseminate information about supplements to the community to avoid misuse. Therefore, the wise use of social media will provide good information to the public, especially regarding supplements. Starting from the distribution on social media will positively impact the use of supplements in the future.

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest in this matter.

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