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RESEARCH ARTICLE

MJM BIOLABS

Prevalence, Attitudes, and Practices of Sports Nutritional Supplementation among Ghanaian University Athletes: A Descriptive Analysis

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ABSTRACT

Nutritional supplementation has become increasingly prevalent among athletes worldwide, with growing interest in its potential to enhance performance, recovery, and overall health. This study investigated the prevalence, attitudes, and practices surrounding sports nutritional supplementation among Ghanaian university athletes. Using a quantitative cross-sectional design, data was collected via structured questionnaires from 446 student-athletes (52.5% male, 47.5% female) across multiple universities during the 2025 Ghana University Sports Association (GUSA) Games. Descriptive statistics were employed to analyse supplement usage patterns, motivations, information sources, and safety perceptions. The results revealed that 62.3% of athletes used supplements, primarily multivitamins (48.9%) and protein powders (34.9%), though 73% consumed them only occasionally. While 49.3% read supplement labels, only 27.7% consistently consulted healthcare professionals, with many relying on friends/family (38.1%) for information. Coach recommendations (55.4%) were the primary motivator, yet 86.8% expressed limited confidence in supplement safety, and 56.5% reported uncertainty about efficacy. Supplement use among university athletes was prevalent, with most favouring multivitamins and protein products. While many athletes practice caution by checking labels and consulting professionals, a concerning number rely on non-expert advice, reflecting significant uncertainty about supplement safety and effectiveness. These findings underscore the urgent need for comprehensive nutrition education and professional guidance to promote informed supplement use and protect athlete health. Future research should explore demographic variations in supplement practices and evaluate the effectiveness of educational interventions.

Keywords: Ergogenic aids, GUSA athletes, supplementation behaviour, athletic performance, sports supplement safety.

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INTRODUCTION

Nutritional supplements have become a key part of athletes' regimens, especially for those aiming to improve performance, accelerate recovery, and maintain overall health. Athletes often turn to dietary strategies to enhance their performances, with nutritional supplements playing a central role in this pursuit (Roy et al., 2020). These supplements include vitamins, minerals, amino acids, and herbal remedies, marketed with claims of improving athletic performance. According to Maughan et al. (2018), supplements are food components or non-food compounds ingested purposefully to supplement a regular diet for health or performance benefits.

Globally, 40% to 60% of athletes use nutritional supplements, driven by the goals of enhancing performance, maintaining health, and preventing injuries (Daher et al., 2022). However, the widespread use of supplements comes with challenges. Many athletes, lacking proper knowledge, often rely on unreliable sources such as peer recommendations and anecdotal evidence, which can lead to harmful practices (Petroczi & Naughton, 2007). Access to credible information significantly influences athletes' supplement choices, with sources ranging from healthcare professionals and coaches to family, friends, and online platforms (Muwonge et al., 2017; Vento & Wardenaar, 2020). The reliance on coaches for nutritional advice is most prevalent, but improper guidance can have negative consequences, especially when misinformation spreads.

Despite the widespread use of dietary supplements, only a fraction of them are backed by scientific evidence regarding their safety and effectiveness (Peeling et al., 2018; Guallar et al., 2013). In particular, some supplements marketed for bodybuilding, weight loss, or energy may contain harmful substances like anabolic steroids or amphetamines, raising concerns about their safety (Johnston et al., 2016). Studies have shown that 14% to 18% of dietary supplements contain illegal contaminants, and muscle-building supplements are particularly susceptible to such contamination (Eichner & Tygart, 2016). These safety concerns underscore the importance of informed decision-making when it comes to supplement use.

In Ghana, dietary supplement consumption is on the rise. A study in the Greater Accra Region of Ghana found that 84% of female adults reported using dietary supplements, with 91% of them aged 21 to 40, predominantly consuming vitamins. Younger individuals were more likely to use supplements (Miller, 2025). Another study found that 42% of elderly Ghanaians had used dietary or herbal supplements in the past month, with multivitamins or mineral supplements being the most commonly used (Aryeetey & Tamakloe, 2015). Among university athletes, Buxton and Hagan (2012) reported that 62.2% of university athletes in Ghana consumed at least one energy drink per week. While much research on supplementation has been conducted in other countries (Roy et al., 2020; Sadek et al., 2022; Daher et al., 2022), limited studies focus on attitudes and practices in African contexts, particularly in Ghana. The awareness, perceptions, and practices related to nutritional supplements may vary across different sports communities. University athletes, who juggle academics and intense training schedules, may have unique perspectives on supplementation, especially regarding their practices, motivations, and concerns about safety and efficacy. Understanding how these athletes perceive and use nutritional supplements is essential for promoting safe, informed, and effective supplementation practices within university sports programs. This study therefore seeks to explore the types of nutritional supplements used by Ghanaian university athletes, their motivations for use, the sources of information influencing their choices, and their perceptions of supplement safety and efficacy.

METHODS

Research Approach & Design

The research adopted a quantitative approach making use of a cross-sectional research design to investigate the prevalence, attitudes, and practices surrounding sports nutritional supplementation among Ghanaian university athletes. The cross-sectional design was appropriate because it allows a researcher to collect data at a single point in time from a sample of athletes, enabling a snapshot of the current attitudes, practices, and prevalence of sports nutritional supplementation in the target population. This also provides insights into how widespread supplementation is among athletes, what types of supplements they use, and their perceptions of such practices.

Study Location

The study was conducted across multiple universities in Ghana, with participants drawn from various institutions. The highest representation came from the University of Ghana (22.6%), followed by the University of Cape Coast (18.8%) and the University of Education, Winneba (14.6%).

Study Population

The study focused on student-athletes affiliated with the Ghana University Sports Association (GUSA). The participants represented a diverse

range of sports disciplines, including athletics, badminton, netball, basketball, handball, football, and others, ensuring broad coverage of the university sporting community.

Sampling Framework

Sampling Technique

A convenience sampling approach was adopted for this study. This method was chosen due to its practicality, allowing researchers to collect data from readily available and willing participants within the GUSA network.

Sample Size Determination

A total of 446 student-athletes were included in the study. The sample comprised 52.5% males and 47.5% females, with the majority (61.4%) falling within the 18–24 age range, followed by those aged 25–30 (28.9%). The sample provided a representative cross-section of university athletes in Ghana.

Data Collection Tool(s)

The data collection instrument was a structured questionnaire specifically developed by the researchers grounded in a comprehensive review of existing literature. The questionnaire aimed to capture information on the prevalence of sports nutritional supplementation among university athletes, their attitudes towards these supplements, and their supplementation practices. The questionnaire comprised five sections. The first section gathered demographic information, including age, gender, sport type, years of experience, and institution, along with items assessing the prevalence of sports nutritional supplement use. Section two focused on sports nutrition practices among student athletes, with responses measured on a four-point Likert scale ranging from "Always" to "Never." Sections three to five assessed reasons for using sports nutrition supplements, perceptions of safety and efficacy, and sources of information, respectively, all rated using the same four-point scale.

Validity was ensured by developing the questionnaire based on an extensive literature review to comprehensively cover key aspects of sports nutritional supplementation prevalence, attitudes, and practices. Additionally, experts in sports nutrition reviewed the instrument to assess its relevance, clarity, and comprehensiveness. Their feedback was incorporated to refine and improve the questionnaire. The reliability of the questionnaire was evaluated through internal consistency analysis. Cronbach's alpha coefficient was calculated at 0.874, demonstrating strong internal consistency across the questionnaire items.

Data Collection Procedures

The data collection process began with the researchers obtaining the necessary permissions to conduct the study. Initially, approval was sought from the executives of the Ghana Universities Sports Association (GUSA), the governing body overseeing university sports in Ghana. Upon receiving their consent, the researchers approached coaches from various participating institutions to secure permission for engaging their athletes in the study.

Following approval from the coaches, interested student-athletes were invited to participate. Each participant was thoroughly briefed on the study's purpose, objectives, and confidentiality measures to ensure they fully understood their involvement. Subsequently, informed consent was obtained from all participants before proceeding.

Data were collected using structured questionnaires, which were made available in both physical (hard copy) and online formats. This dual approach was implemented to maximize participation and accommodate athletes' preferences and availability, thereby enhancing accessibility and convenience. Hard copy questionnaires were distributed directly to athletes during training or competition sessions and were collected immediately upon completion to ensure data integrity.

The online questionnaires were disseminated via popular social media and communication platforms commonly used by the athletes, including WhatsApp, Snapchat, and Telegram. This approach helped reach participants who were not physically present or preferred digital engagement.

Data collection spanned over a two-week period, during the 28th GUSA Games held at the University of Cape Coast, Ghana, from January 3rd to 18th, 2025. Collecting data during this event allowed researchers to access a large, diverse sample of university athletes from multiple institutions simultaneously, enhancing the representativeness of the study population.

To maintain data quality and participant anonymity, unique identifiers were assigned to questionnaires rather than personal information. Additionally, all data collected were securely stored and handled in accordance with ethical research standards to protect participant confidentiality.

Data Analysis

The collected data was analyzed using descriptive including frequencies, percentages, means, and standard deviations to depict the prevalence of supplementation, the attitudes of athletes, and their supplementation practices. The statistical analysis was conducted using software including SPSS version 27 and DataTAB, and the results are presented in tables, charts, and graphs for clarity.

Ethical Considerations

Permission was sought from appropriate authorities such as GUSA executives, and coaches of various institutions before commencing data collection. Informed consent was obtained from all participants after they were informed about the purpose of the study, the voluntary nature of participation, and their right to withdraw at any time. Participants were also assured that the findings would be used solely for academic purposes.

RESULTS

The study sought to explore the prevalence of sports nutritional supplements, looking at the frequency of use, types of nutritional supplements used by university athletes in Ghana, practices, motivations for use, the sources of information influencing their choices, and their perceptions of supplement safety and efficacy. Responses from participants were analysed using percentages and frequency and results are presented in tables and bar graphs.

Prevalence of Supplement Use Among GUSA Athletes

A total of 446 student-athletes were surveyed, representing a diverse sample across various sports disciplines. The respondents were asked to indicate whether they regularly use sports nutritional supplements to enhance their performance, recovery, or overall athletic health. Among the participants, 278 individuals, making up 62.3% of the total sample, reported that they use sports nutritional supplements. This group includes athletes who include various supplements into their training regimen and probably view these supplements as vital tools for improving their performance, increasing muscle mass, enhancing endurance, and speeding up recovery post-exercise. On the other hand, 168 student-athletes (37.7%) indicated that they do not use any sports nutritional supplements. Participant's response is presented in table 1

Table 1:

Supplement Use Among GUSA Athletes [n = 446]

	Yes [n (%)]	No [n (%)]
Supplement use	278 (62.3%)	168 (37.7)

In table 2 presents data on the frequency of the use of sports nutritional supplement among GUSA athletes. The findings further suggested that the intake of sports nutritional supplements among student-athletes is not as frequent as one might expect. Despite the increasing popularity of sports nutrition, a significant 73% of student-athletes reported using supplements only occasionally. This indicates that, for the majority of athletes, supplement consumption is not a regular or daily practice. Instead, they tend to use supplements sporadically, perhaps on an as-needed basis or during specific training periods.

Table 2:

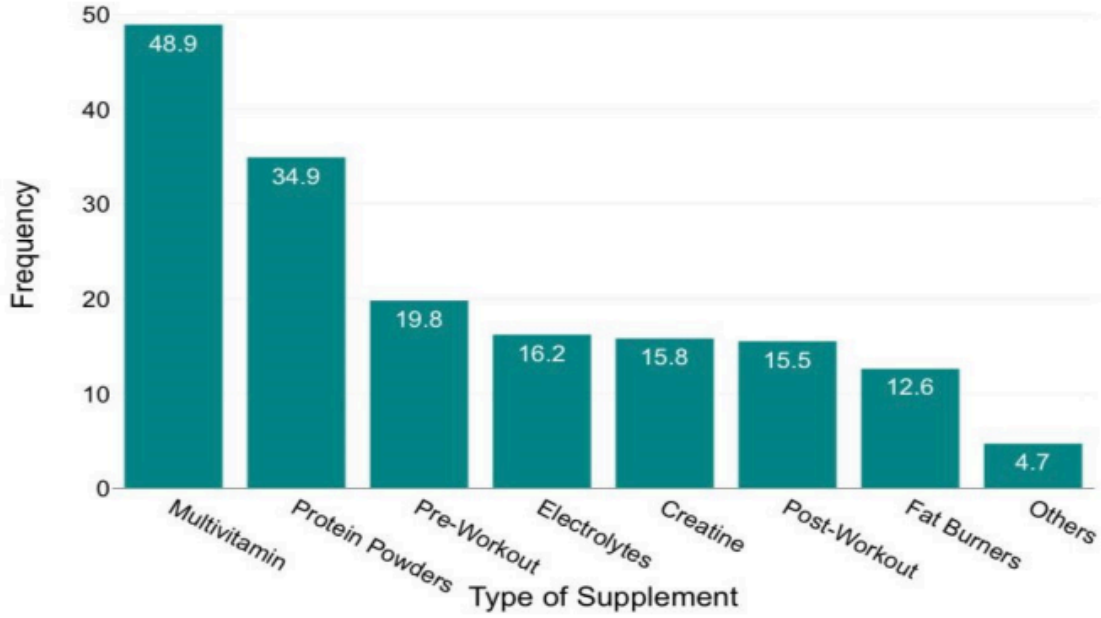
Frequency of the Use of Sports Nutritional Supplements Among GUSA Athletes [n = 446]

	Daily [n (%)]	Weekly [n (%)]	Occasionally [n (%)]
Frequency of the use of supplement	35 (12.6%)	40 (14.4%)	203 (73%)

Figure 1 presents data on the type of supplements used by GUSA athletes. Findings suggests that, Multivitamins were the most commonly used supplements, with nearly half (48.9%) of the athletes reporting their use. Protein powders were used by about one-third (34.9%) of the athletes. Pre-workout and electrolyte supplements were used by 19.8% and 16.2% of the athletes, respectively. Creatine and post-workout supplements were used by a smaller proportion of athletes, at 15.8% and 15.5%, respectively. Fat burners were used by athletes, at 12.6%. 4.7% of the athletes selected reported the use of other supplements which were not stated in the study. These sports nutritional supplements included herbs, sports drinks, and energy drinks.

Figure 1:

Type of Sports Nutritional Supplement Used by GUSA Athletes



Sport Nutritional Supplement Practices

The practices regarding sports nutritional supplements among GUSA athletes were assessed across three key items: daily usage, consultation with healthcare professionals, and label reading. While 18% of athletes take sports nutritional supplements infrequently, the majority (55.4%) reported taking them occasionally. 17.6% of athletes do not take supplements daily, compared to a lesser percentage (9%) who do so every day. A sizable percentage of athletes (27.7%) always seek medical advice before taking sports nutrition supplements. Furthermore, 47.1% occasionally seek expert counsel. However, 9.7% of people rarely consult a healthcare practitioner, and 15.5% never do. Athletes typically thoroughly examine the labelling before buying any sports nutrition supplements (49.3%). Another 33.1% read the labels occasionally, and 8.6% do so infrequently. Merely 9% of consumers never read the labels before buying something. While a large proportion of athletes take supplements on an occasional basis and are cautious about consulting healthcare professionals and reading labels, there remains a notable percentage who either do not engage in these practices or do so less frequently. Table 3 shows the response of participants on the supplement practices.

Table 3:

Sports Nutritional Supplements Practices Among GUSA Athletes [n = 278]

Items	Always [n (%)]	Sometimes [n (%)]	Rarely [n (%)]	Never [n (%)]
I take sports nutritional supplements daily	25 (9.0%)	**154 (55.4%)**	50 (18%)	49 (17.6%)
I consult with a healthcare professional before taking any sports nutrition supplement.	77 (27.7%)	**131 (47.1%)**	27 (9.7%)	43 (15.5%)
I read the labels carefully before purchasing any sports nutrition supplement	**137 (49.3%)**	92 (33.1%)	24 (8.6%)	25 (9.0%)

Table 4 shows data on the Sources of information on sports nutrition supplement. The results indicate that participants rely on a variety of sources for information about sports nutrition supplements, with healthcare providers, online research, and friends or family all playing a role. While some individuals do consult healthcare providers about nutritional supplements, the majority of respondents either rarely or never rely on this source of information. The data also shows that the majority of respondents do not frequently use online research for gathering information on supplements, with only 23% indicating that they either always or sometimes rely on this source.

These results also suggest that a notable proportion of respondents (38.1%) occasionally or always turn to friends or family for advice on supplements. However, for the majority, this is not the primary source of information, as nearly half (48.2%) of respondents only rarely seek advice from their social circles. Considering the most used source of information, healthcare providers are not a dominant source of information, as over 70% of respondents either rarely or never consult them. Online research is considered the second most used source of information and advice from friends or family is considered the most frequent source for many participants.

Table 4:

Sources of Information on Sports Nutrition Supplement [n = 278]

Items	Always	Sometimes	Rarely	Never
I get information about nutritional supplements from my healthcare provider	27 (9.7%)	55 (19.8%)	**121 (43.5%)**	75 (27%)
I rely on online research to inform my decision about nutritional supplement	25 (9%)	39 (14%)	**174 (62.6%)**	40 (14.4%)
I get advice from friends or family members about which supplement to take	40 (14.4%)	66 (23.7%)	**134 (48.2%)**	38 (13.7%)

Attitude of GUSA Student Athletes Towards Sports Nutritional Supplements

This section examined the reasons behind the intake of sports nutritional supplements among Ghana university athletes and their perceptions on the safety and efficacy of these supplements. The data was analysed using percentages and frequencies to understand motivations that influence supplement use. Table 5 addresses the reasons for using sports nutritional supplements.

The findings suggests that while some athletes use supplements for health and performance reasons, coach recommendations play a significant role in supplement use among Ghana university athletes with more than half of the athletes either strongly agreeing (20.1%) or agreeing (35.3%) that they use supplements based on such advice. However, a substantial portion of athletes do not strongly believe in the benefits of supplements for recovery or performance enhancement.

Table 5:

Reasons for the Use of Sports Nutritional Supplements [n = 278]

Reasons for Supplement intake	Strongly agree	Agree	Disagree	Strongly disagree
I take sports nutrition supplements to improve my overall health and well-being	9(3.2%)	33 (11.9%)	**125 (45%)**	111 (39.9%)
I use sports nutrition supplements to enhance my athletic performance	14(5%)	43 (15.5%)	**155 (55.8%)**	66 (23.7%)
I take sports nutrition supplements to address a specific nutritional deficiency	20 (7.2%)	67 (24.1)	**146 (52.5%)**	45 (16.2%)
I take sports nutrition supplements because my coach recommended it	56 (20.1%)	98 (35.3%)	**105 (37.8%)**	19 (6.8%)
I take sports nutrition supplements to boost my recovery in training and competition	15 (5.4%)	37 (13.3%)	**158 (56.8%)**	68 (24.5%)

Safety and Efficacy of Nutrition Supplements

The results highlight significant concerns among individuals regarding the safety and efficacy of sports nutrition supplements. Most respondents either rarely (46.8%) or never feel confident (39.9%) in the safety and effectiveness of the supplements they take. In addition, nearly half of the participants occasionally (40.3%) or less frequently (38.5%) experience adverse effects from supplements. Furthermore, a large proportion of respondent express uncertainty (56.5%) about the safety and efficacy of these products. Data is presented in Table 6 below.

Table 6:

Safety and Efficacy of sports nutrition supplement [n = 278]

Items	Always	Sometimes	Rarely	Never
I am confident that the supplement I take are safe and effective	12 (4.3%)	25 (9%)	**130 (46.8%)**	111 (39.9%)
I have experienced adverse effects from taking nutritional supplements.	21 (7.6%)	38 (13.7%)	**112 (40.35%)**	107 (38.5%)
I am unsure about the safety and efficacy of some nutritional supplements	61 (21.9%)	60 (21.6%)	**126 (45.3%)**	31 (11.2%)

DISCUSSION

The study examined the sports nutritional supplements consumed by Ghanaian university athletes, their reasons for adoption, the influences shaping their decisions, and their understanding of these products' safety and effectiveness. Although the concept of sport nutritional supplement has been studied among diverse populations in Ghana, research on the current population (University athlete) has not been directly explored.

Prevalence of Sports Nutrition Supplement Among GUSA Student Athletes

The study revealed that a significant number (62.3%) of student athlete in Ghanaian university make us of sports nutritional supplements. This finding agrees with a number of studies conducted among student athletes in different countries reporting high prevalence of sports nutritional supplement. Elsahoryi et al. (2021), reported more than half of Jordanian university athletes used sports dietary supplement. A high prevalence rate (82%) among young athlete was reported by Jovanov et al. (2019). Roy et al. (2019) reported lower prevalence (58%) of sports nutritional supplements among Canadian university athletes. In other studies, Muwonge et al. (2017) reported low prevalence in sports nutritional supplement among athletes in Uganda with only 13.4% of athletes consuming sports nutritional supplements. The difference in finding was attributed to the disparities between the assessment tools used for that particular study in relation to the current study and other existing literatures (Muwonge et al., 2017). Similarly, among Brazilian athlete, Nabuco et al. (2017) concluded that 47.3% of athletes use sport supplements. Although participants in the various studies share similar characteristics, the difference in prevalence could be associated to factors such as the availability of the sport nutritional supplements and the knowledge and beliefs of athletes towards the supplements.

Study findings also suggest that 73% of student-athletes use sports supplements occasionally meaning that most athletes do not adopt supplements as a routine or daily practice. This finding challenges assumptions about widespread, habitual consumption among this demographic (Roy et al., 2020). Despite growing awareness of sports nutrition, the data indicate a cautious or situational approach to supplementation. Several factors such as concerns about safety or adverse effects could deter usage (Peeling et al., 2018; Guallar et al., 2013; Johnston et al., 2016), avoidance of supplements due to cost (Coopoo et al., 2020), accessibility, or scepticism about efficacy. Other factors could include reserving supplementation for specific training phases (e.g., pre-competition, recovery) rather than daily intake, aligning with strategic performance goals.

Considering this study, the most commonly used sports nutritional supplements, was Multivitamins with nearly half (48.9%) of the athletes reporting their use. This was followed by Protein powders (34.9%) pre-workout, electrolytes, creatine and post workout supplements of the athletes. This finding is similar to a number of studies aimed at exploring the types of supplements used by student athlete for instance, Barrack et al. (2021) reported multivitamin use as prevalent among collegiate

endurance athletes in the US, Among Canadian university athlete Protein, Vitamins and Mineral supplements are the most consumed supplement (Roy et al., 2020). Similarly, Muwonge et al. (2017) also reported significant use of vitamin supplement and the relatively low use of herbal supplement similar to the findings of the current study. Although the use of herbal supplements has little to no adverse effect on an individual, it is not considered as the number one choice for student athlete. This maybe because these supplements may not provide a performance advantage for athletes (Kluboito et al., 2024).

Sports Nutritional Supplement Practice Among GUSA Athletes

Study finding suggests that University athletes in Ghana often take in supports nutritional supplements. This finding aligns with the findings of other research that suggest prevalence in sport supplement intake among student athletes in universities for instance Roy et al. (2020). In Ghana, Buxton et al. (2010) found that the university athlete consumes at least one can of energy drink every week. Also, the findings suggest that GUSA athletes often consult a health professional before taking any sports nutrition supplement. This finding aligns with other studies. Athletes have access to a wide variety of sports nutrition supplements marketed for enhancing performance, recovery, and overall health. However, these products can carry risks such as contamination with banned substances or adverse health effects. Consulting health professionals, such as sports dietitians or physicians, ensures that athletes receive evidence-based advice tailored to their specific needs, sport, and training goals. Studies show that athletes who work with sports dietitians make better-informed decisions and demonstrate improved dietary habits compared to those relying on non-expert advice (Wardenaar & Hoogervorst, 2022; Cadwallader, 2022). It was also found that most of the student athletes read labels on sports nutrition supplements before purchasing or consuming them, similar to the findings of other studies. For instance, Roy et al. (2020) found that 76.5% of university athletes read labels on sports supplements.

Considering the most used source of information, healthcare providers are not a dominant source of information, as over 70% of respondents either rarely or never consult them. Online research is considered the second most used source of information, and advice from friends or family is considered the most frequent source for many participants in this study. Studies, have mostly reported healthcare providers and dieticians are rated as the most reliable sources of information in regard to supplement use (Denham, 2017; Muwonge et al., 2017) contrary to the findings of this study. Other studies have also reported that athletes rely on information from coach about sports nutritional supplements (Sadek et al., 2022). Although some athlete in the current study reported making use of the information from healthcare providers and coaches, information from friends and family was predominant in the current study. This finding is inconsistent with the results of other studies looking into the sources of information on supplement use. The outcome could be explained by athletes' lack of prior experience dealing with dieticians and nutritionists. Furthermore, the findings could be attributed to the fact that these individuals reported trusting friends and relatives to provide credible information that was not harmful to their health (Roy et al., 2020).

Attitudes of GUSA Student Athletes Towards Sports Nutrition Supplement

The use of sport nutritional supplements, has been studied to be motivated by a number of factors such as performance enhancement, aiding recovery, improving health and even addressing some nutritional deficiency.

The majority of respondents in this study disagreed with statements suggesting that supplements improve overall health and well-being or enhance athletic performance. This contrasts with studies reporting higher prevalence rates of supplement use for these purposes. For instance, a global scoping review found that athletes frequently use supplements to optimize performance, recovery, and health, with prevalence rates exceeding 80% in some populations (Jovanov et al., 2019; Daher et al., 2022). Similarly, research conducted in Kashan gyms revealed that 41.8% of fitness athletes believed supplements improved performance, and 69.5% used them to speed up recovery after exercise (Moradi et al., 2024). The discrepancy may reflect differences in sample demographics, cultural attitudes, or levels of education about supplementation.

Despite the well-documented benefits of supplements in addressing nutritional deficiencies and aiding recovery (Amawi et al., 2024), respondents did not widely endorse these reasons. Less than one-third agreed or strongly agreed with using supplements for these purposes. This aligns with findings from Roman gyms, where athletes exhibited low knowledge about proper supplement use (Finamore et al., 2022). The underutilization may stem from limited awareness or misconceptions about supplements' roles in

supporting specific physiological needs. Coach recommendations emerged as the most significant driver for supplement intake in this study, with over 55% of participants agreeing or strongly agreeing. This finding is consistent with previous research emphasising the influential role of coaches in shaping athletes' nutritional choices. A study among young athletes identified coaches as the primary source of information regarding supplements (Jovanov et al., 2019). However, reliance on coaches may pose risks if their advice lacks scientific grounding. The IOC consensus statement highlights the need for evidence-based education for coaches to ensure accurate guidance (Maughan et al., 2018).

The findings of this study underscore significant concerns among individuals regarding the safety and efficacy of sports nutrition supplements. A substantial portion of respondents rarely or never feel confident in the safety and effectiveness of the supplements they consume, with 46.8% rarely confident and 39.9% never confident. This lack of trust aligns with broader research indicating that many sports supplements lack robust evidence to support their safety or efficacy, often due to insufficient regulatory oversight and inadequate long-term studies (Kerksick et al., 2018; Petróczi & Naughton, 2007). Furthermore, nearly half of the participants reported experiencing adverse effects from supplements occasionally (40.3%) or less frequently (38.5%). This aligns with previous studies documenting adverse events associated with sports nutrition supplements, including hepatotoxicity, acute renal injury, and cardiovascular complications (Zeijlon et al., 2022). The prevalence of adverse effects may be exacerbated by issues such as contamination, undisclosed ingredients, or inappropriate dosages in multi-ingredient products (Burke, 2017; Petróczi & Naughton, 2007).

Another critical finding is the high level of uncertainty expressed by respondents (56.5%) regarding the safety and efficacy of these products. This uncertainty reflects broader challenges in sports nutrition research, where many supplements lack rigorous evidence to substantiate their claims (Maughan et al., 2018). For example, while some supplements like creatine and caffeine are supported by strong evidence for efficacy, others remain experimental or unsupported by scientific data (Kerksick et al., 2018). Additionally, cultural norms and marketing practices may influence supplement use despite limited evidence (Maughan et al., 2018).

Conclusions

This study examined the prevalence, practices, motivations, and perceptions surrounding sports nutritional supplement use among Ghana University Sports Association (GUSA) athletes. The findings reveal that a majority of student-athletes (62.3%) incorporate supplements into their regimen, though most consume them only occasionally (73%) which is mostly during competitions. Multivitamins (48.9%) and protein powders (34.9%) were the most commonly used supplements, while post-workout supplements (15.5%) and fat burners (12.6%) were less prevalent. While many athletes demonstrate cautious practices such as reading labels (49.3%) and seeking professional advice (27.7%), a concerning number rely on non-expert sources for supplement information. Significant uncertainty exists regarding supplement safety and efficacy, underscoring the need for improved education and guidance. These findings suggest that athletic programs should implement structured nutrition education to promote informed supplement use and safeguard athlete health.

Recommendations

It is recommended that Ghana University Sports Association (GUSA) implement structured educational programs to enhance athletes' knowledge of sports nutritional supplements. These programs should emphasize evidence-based information on supplement safety, efficacy, and potential risks, while discouraging reliance on non-expert sources such as peers and family. Collaboration with sports nutritionists and healthcare professionals is essential to provide accurate guidance and ensure athletes make informed decisions. Additionally, integrating mandatory consultations with qualified professionals before supplement use could mitigate adverse effects and reduce the risk of inadvertent doping violations.

Further research could explore demographic and sport-specific variations in supplement use to identify high-risk groups and tailor interventions accordingly. Future studies could also investigate the long-term health implications of supplement consumption among university athletes. By combining targeted education, professional oversight, and ongoing research, GUSA can promote safer supplement practices while optimizing athletic performance. Such measures would not only safeguard athlete health but also align with global best practices in sports nutrition and anti-doping regulations.

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Conflict of Interest

The authors declare no conflict of interest.

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