



Comparative Analysis of Knowledge Regarding Dietary Supplements and Alcohol among University Athletes and Non-Athletes

Mr. Kunal Kumar¹, Dr. Varendra Singh Patial²

¹Research Scholar, Department of Physical Education, IIMT University, Meerut, Uttar Pradesh, India

² Professor, Department of Physical Education, IIMT University, Meerut, Uttar Pradesh, India

Abstract

Background: Dietary supplements and alcohol are both important for the athlete to know about to optimize their performance, recovery and prevent health risks. It is expected that athletes will have more awareness because they have access to planned training and nutrition education. But there is a lack of comparative evidence in Indian university students. To compare knowledge of university athletes and non-athletes about dietary supplements and alcohol.

Methods: Descriptive-comparative survey was used on 400 university students (200 athletes and 200 non-athletes) aged between 17 and 27 years. The participants were selected by purposive sample by taking 6 universities of Rajasthan. Nutrition Sport Knowledge Questionnaire was used to check Nutritional knowledge. Data analysis was done by IBM SPSS Version 26. Descriptive statistics, Cohen's d and Welch's independent-samples t-test was used for the findings.

Results: Knowledge about dietary supplements was significantly higher for athletes (10.40 ± 2.26) than for non-athletes (7.33 ± 2.53), $t = 12.78$, $p < 0.001$, Cohen's $d = 1.28$. Similarly, athletes obtained significantly higher alcohol-related knowledge scores (11.16 ± 2.12) than non-athletes (8.68 ± 2.22), $t = 11.42$, $p < 0.001$, Cohen's $d = 1.14$.

Conclusion: University athletes knowledge of dietary supplements and alcohol was higher than non-athletes. The results found justify the implementation of organized nutrition education programmes in universities.

Keywords: Dietary Supplements, Alcohol, Sports Nutrition, Athletes, Non-Athletes, Nutrition Knowledge.

1. INTRODUCTION

The worldwide supplement industry has grown by the use of protein powders, creatine, vitamins, and performance enhancing drugs to improve human performance, recovery, and body composition among university athletes. At the same time, alcohol consumption is common at college campuses, not only in the form of drinking, which has been proven record to negatively affect athletic performance, delayed muscle recovery and, overall well-being (Bonilla et al., 2025). Still there is a gap between the actual supplement use and knowledge about the safety and effectiveness of the supplements, interactions and regulatory status, and understanding of the physiological effects of alcohol on training adaptations. Examining differences in athletes and non-athletes gives us insight that whether involvement in any sport and coaching supports better health education.

Nutritional Education and evidence-based support are essential, given that both athletes and non-athletes are vulnerable with lot's of information about supplement efficacy, safety, and rapport alcohol, and gaps in this knowledge have been linked with contaminated supplement use and poor decision makign (Yan et al., 2016). Addressing both supplements and alcohol is appropriate, since frequent use of suppliments with alcohol-related risky behaviors, and misconceptions in one area can compound risks in the other domain (Gao et al., 2025).

The literature reveals large differences in knowledge levels among university students and athletes. Many holds partial or outdated information about supplement safety, dosing, and acceptable use within sport settings among many students and athletes, and while alcohol literacy shows similarly mixed results; misconceptions about alcohol safety, appropriate dosing, and the risks of combining alcohol with regular exercise or supplement use are common among both students and athletes (Yao & Zhu, 2026). Systematic reviews indicates that despite of the abundance of availabl information sources, meaningful knowledge gaps still exits, and that focused educational interventions can modifies knowledge and though these gains do not always translate into long term behaviour change without ongoing motivation and guidance from competent professionals (McCabe et al., 2021). Given variation over existing measurement tools in currency, cultural applicability and scope (Lanfang, 2026).

Recent research in this field underscores the importance of integrated education strategies that addresses supplements and alcohol together within a broader health-literacy, tailored to sport- and student-specific contexts, and conveyed through multiple formats like in-person briefings, digital

modules, and peer-led initiatives for better engagement and retain university students (Folasire & Mkumbuzi, 2024). Recent cross-sectional and intervention studies suggest that the credibility and accessibility of information sources such as campus health services, official guidelines and sport dietitians are key factors in encouraging safer practices. Limited access to nutrition education, together with the need for ongoing motivation, appears to modified whether behavioural change is sustained over time (Vicente et al., 2025).

1.2 Objectives

- a) To determine whether there is a difference in dietary supplement knowledge among athletes and non-athletes.
- b) To compare alcohol-related knowledge of athletes to that of non-athletes.
- c) To see if athletes' knowledge of dietary supplements and alcohol is significantly higher.

2. METHODS

2.1. Sample: Descriptive-comparative survey was used on 400 university students (200 athletes and 200 non-athletes) aged between 17 and 27 years. The participants were selected by purposive sample by taking 6 universities of Rajasthan.

2.2. Questionnaire: Nutrition Sport Knowledge Questionnaire was used to check Nutritional knowledge.

2.3. Statistics: Data analysis was done by IBM SPSS Version 26. Descriptive statistics, Cohen's d and Welch's independent-samples t-test was used for the findings.

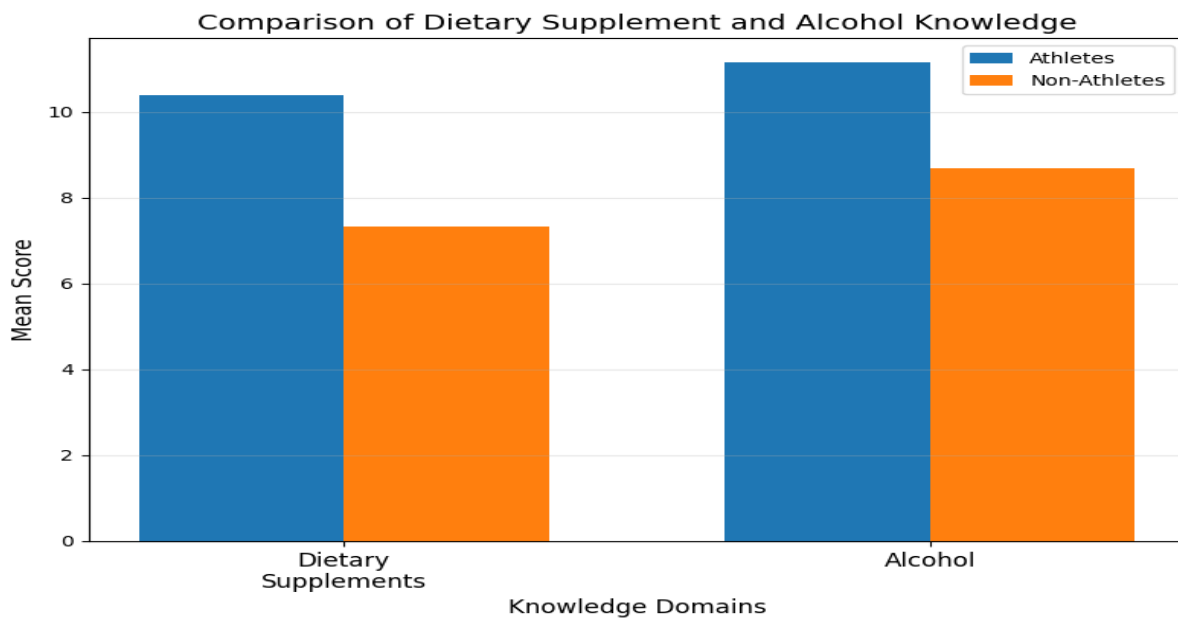
3. RESULT

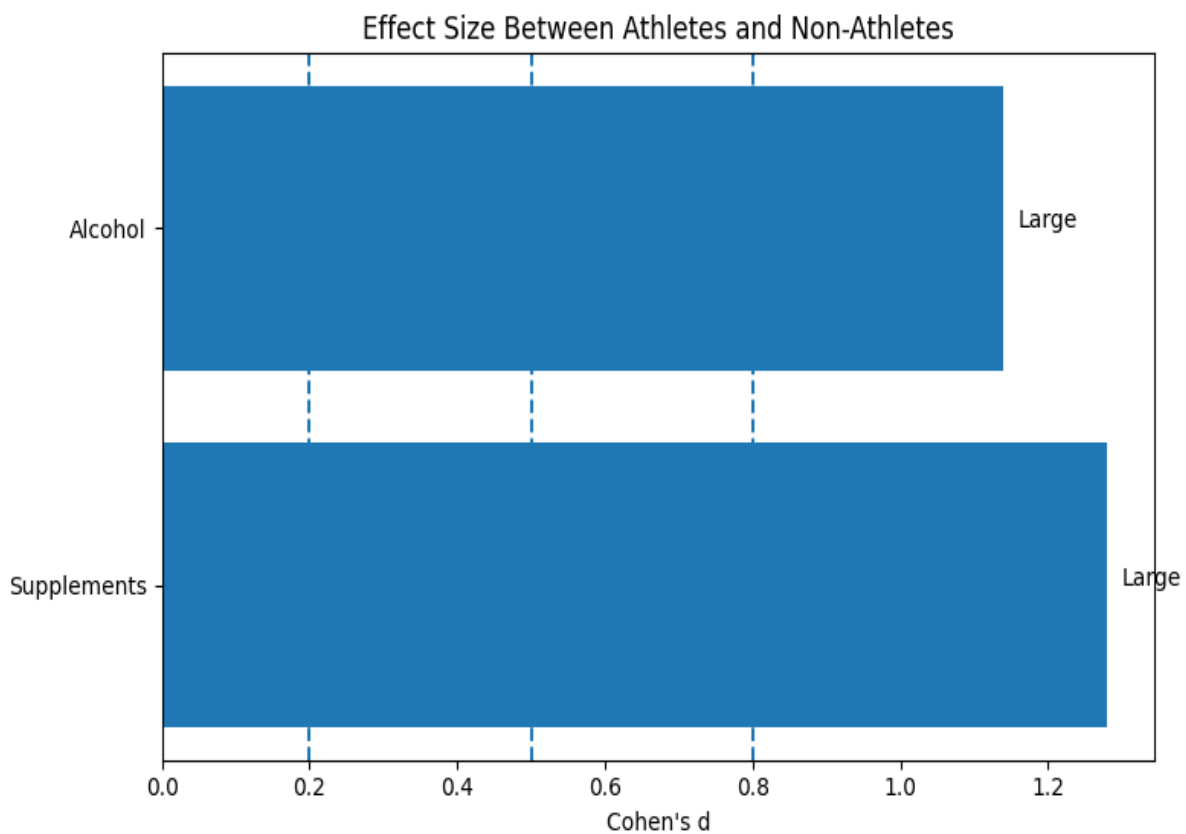
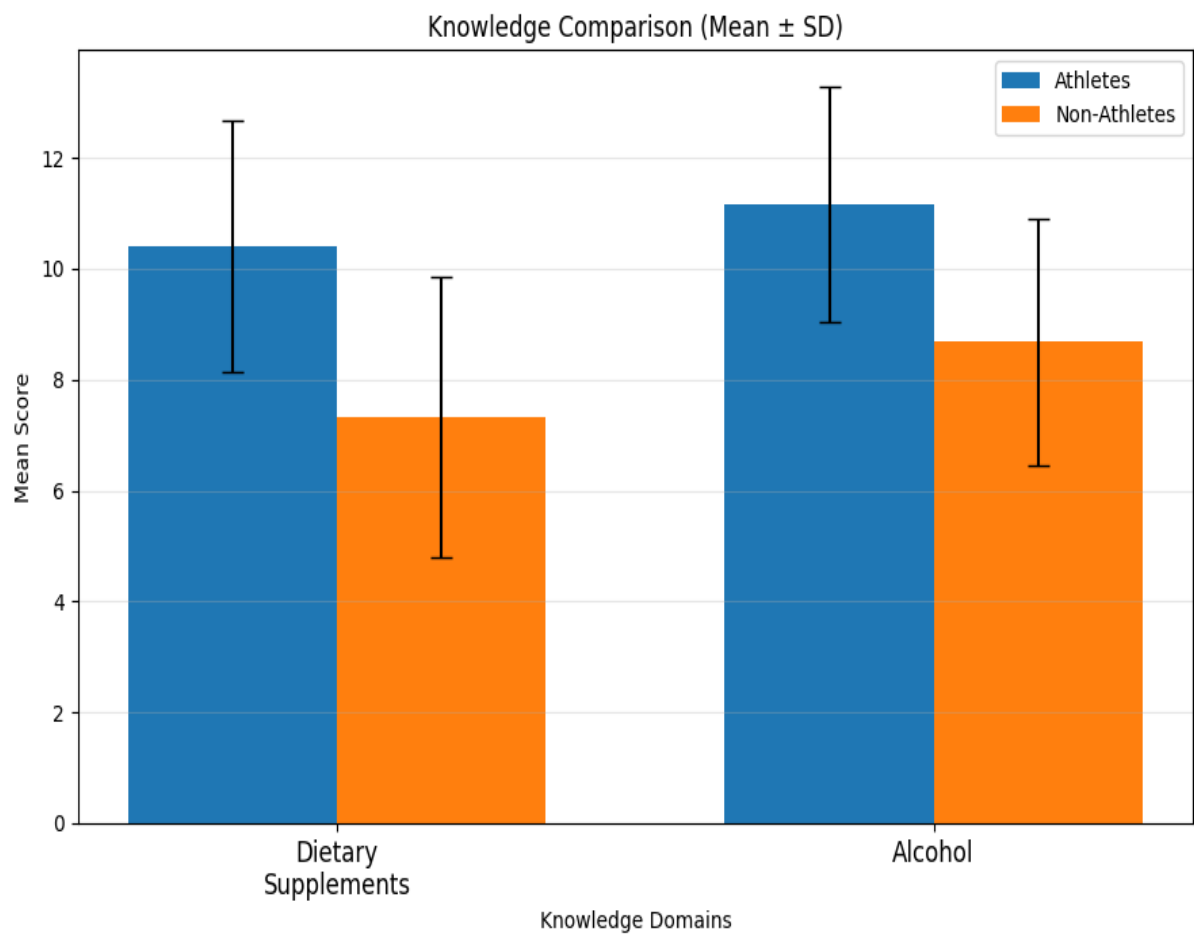
Table 1. Comparison of Dietary Supplement and Alcohol Knowledge

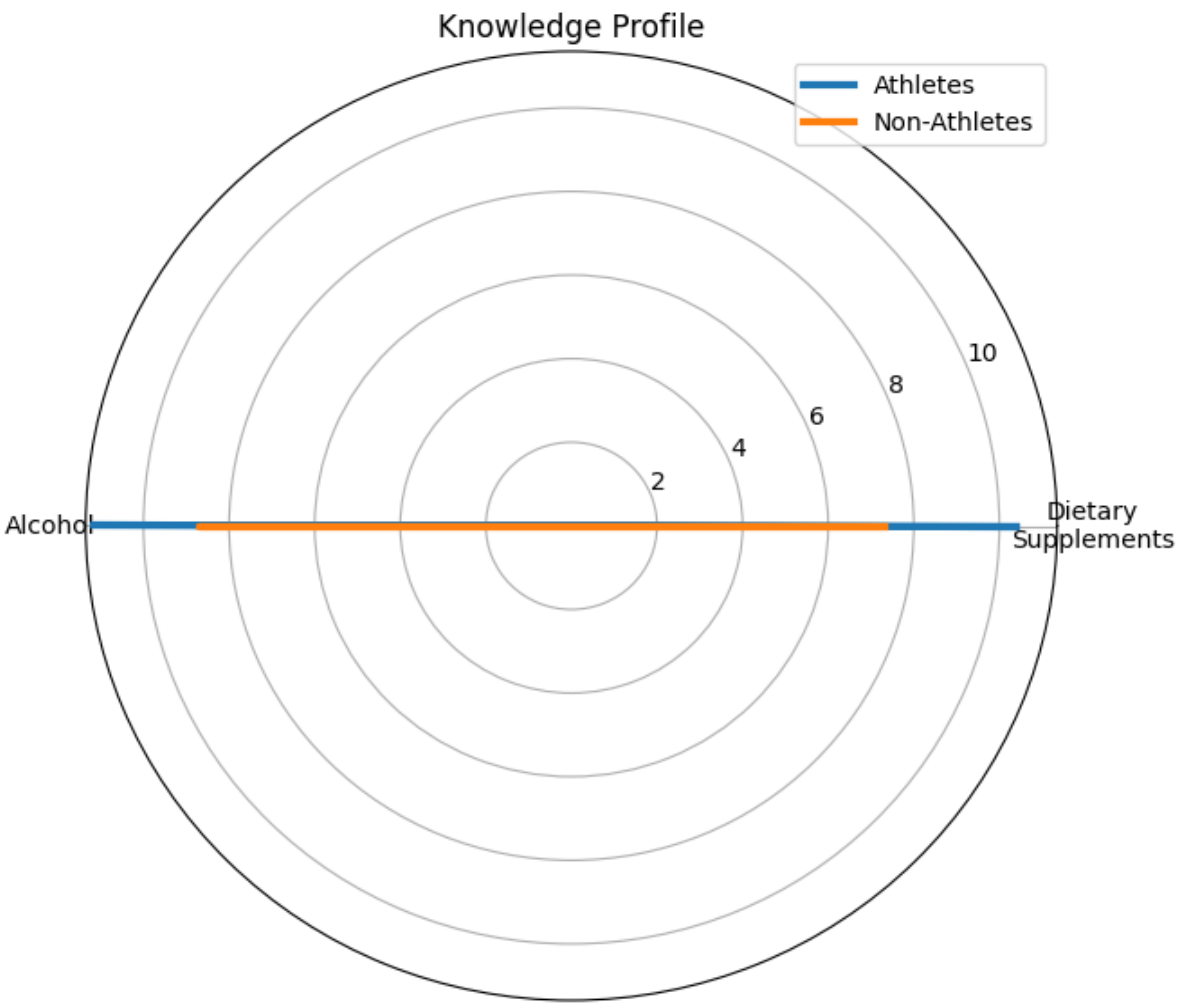
Variable	Athletes (Mean $\pm$ SD)	Non-Athletes (Mean $\pm$ SD)	t-value	p-value	Cohen's d
Dietary Supplements	10.40 $\pm$ 2.26	7.33 $\pm$ 2.53	12.78	<0.001	1.28
Alcohol	11.16 $\pm$ 2.12	8.68 $\pm$ 2.22	11.42	<0.001	1.14

The average score on the Dietary Supplement Knowledge measure was 10.40 (SD = 2.26) for athletes and 7.33 (SD = 2.53) for the non-athletes, respectively. This difference was statistically significant (t

= 12.78, $p < 0.001$) and the effect size (Cohen's $d = 1.28$) indicated that this difference was not only statistically significant but also practically important. The same pattern was seen with knowledge of alcohol related problems, with athletes' mean scores being 11.16 (SD = 2.12) and non-athletes 8.68 (SD = 2.22). Again, the difference was highly statistically significant ($t = 11.42$, $p < 0.001$) and the effect size was large (Cohen's $d = 1.14$) for the difference to be practically significant.







4. DISCUSSION

Athletes who routinely meet their coaches, sports nutritionists, and sports science professionals to take guidance on the safe and effective use of supplements, bodily recovery strategies, and the harmful effects of alcohol on performance. The effect size emerged for dietary supplement knowledge ($d = 1.28$), shows that athletes possess to a great extent understanding of supplement selection, suggested use, and associated risks than non-athletes. A similar gap was observed for alcohol knowledge ($d = 1.14$), with athletes demonstrating more awareness of alcohol's negative effects on hydration, muscle recovery, sleep, and performance.

Conclusion

The current study found that university athletes had significantly greater nutritional and alcohol of the university athletes was significantly higher than that of the non-athletes. Large effect sizes are those that suggest that the difference is significant and educationally important. While there was a higher level of knowledge among athletes, the need for ongoing nutrition education is warranted to foster evidence-based supplement use and healthy alcohol related decision-making. It should be included in the student development programs within universities, to enhance health and promote optimal athletic performance, with extensive nutrition education.

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