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Content available at www.cognixpress.in Online ISSN: XXXX-XXXX**NUTRITION AND ATHLETIC PERFORMANCE IN GARO SPORTS: AN ANTHROPOLOGICAL ANALYSIS FROM THE GARO HILLS OF MEGHALAYA****SHYAM B. CHOUDHURY¹, DEEPJYOTITERON²***¹Assistant Professor, Programme of Sociology, Faculty of Humanities and Social Sciences, Assam down town University, Guwahati, Assam, India**²Research Scholar, Programme of Sociology, Faculty of Humanities and Social Sciences, Assam down town University, Guwahati, Assam, India*

ARTICLE HISTORY	ABSTRACT
Received: 19.04.2026 Revised: 03.05.2026 Accepted: 14.06.2026	Nutrition plays a crucial role in determining athletic performance, particularly within indigenous sporting traditions where dietary practices are closely linked to culture, environment, and livelihood patterns. This study explores the relationship between nutrition and athletic performance in Garo sports, adopting an anthropological perspective from the Garo Hills of Meghalaya. The research examines traditional dietary habits, locally available food resources, and their impact on the physical endurance, strength, and overall performance of Garo athletes. Using a qualitative research design, the study is based on field observations, interviews with local athletes, trainers, and community elders, and an analysis of indigenous knowledge systems related to food and health. The findings reveal that traditional Garo diets, rich in locally sourced grains, vegetables, meat, and fermented foods, contribute significantly to sustaining physical fitness and stamina. However, changing lifestyles, market influences, and the gradual shift towards processed foods are affecting nutritional patterns and, consequently, athletic performance. The study highlights the need to integrate scientific nutritional interventions with indigenous dietary practices to enhance sports performance while preserving cultural identity. It also emphasizes the importance of policy-level support, awareness programs, and community-based initiatives to promote balanced nutrition among athletes in the region. This research contributes to the anthropology of sports by demonstrating how cultural food practices intersect with physical performance and health outcomes in indigenous communities.
Keywords: Awareness of Sustainable Development, Backward Class Women, Post Hoc Test, Educational Qualification, Murshidabad District. West Bengal.	
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Keywords: Nutritional Practices, Athletic Performance, Garo Sports, Indigenous Knowledge, Garo Hills Meghalaya.**INTRODUCTION**

Sport, as a cultural and social institution, extends far beyond physical activity, encompassing values, identities, and knowledge systems embedded within specific communities. The interdisciplinary field of the anthropology of sports has increasingly emphasized how athletic practices are shaped by cultural beliefs, ecological settings, and socio-economic conditions. Within this framework, nutrition emerges as a critical yet often underexplored dimension, particularly in indigenous and tribal sporting contexts. Nutrition not only influences physical performance but also reflects the interaction between traditional knowledge systems and modern scientific approaches to health and fitness. Globally, the relationship between nutrition and athletic performance has been extensively documented. Adequate intake of macronutrients-carbohydrates, proteins, and fats-along with micronutrients such as vitamins and minerals, is essential for maintaining energy balance, enhancing endurance, supporting muscle growth, and facilitating recovery [1,2]. Carbohydrates are considered the primary energy source for athletes, while proteins play a crucial role in muscle repair and regeneration. Micronutrients, including iron, calcium, and vitamin D, are equally important for physiological functions such as oxygen transport, bone health, and immune support [3]. The integration of these nutritional components is fundamental to optimizing athletic performance across diverse sporting disciplines.

However, the application of standardized nutritional frameworks often overlooks the cultural specificity of dietary practices. Indigenous communities possess rich and diverse food traditions shaped by their ecological surroundings, subsistence patterns, and cultural beliefs. These traditional diets are frequently characterized by locally available, minimally processed foods that provide balanced nutrition and support physical activity. Anthropological studies have shown that indigenous dietary systems are not only nutritionally adequate but also sustainable and closely aligned with local environmental conditions [4]. Despite this, globalization, urbanization, and the penetration of market economies have led to significant dietary transitions in many indigenous societies, often resulting in the replacement of traditional foods with processed and less nutritious alternatives [5]. In the context of India, tribal communities exhibit a wide range of traditional sports and physical activities that are deeply embedded in their cultural practices.

These activities often require high levels of physical endurance, strength, and agility, which are supported by indigenous dietary patterns. However, there is a paucity of research examining the intersection of nutrition, culture, and athletic performance within these communities. Existing studies have largely focused on mainstream sports and urban athletes, thereby neglecting the unique experiences and knowledge systems of tribal populations [6]. This gap is particularly evident in the northeastern region of India, where diverse ethnic groups maintain distinct cultural traditions, including sports and food practices.

The Garo community, one of the major indigenous groups in Meghalaya, offers a compelling case for examining the relationship between nutrition and athletic performance. The Garo Hills, characterized by hilly terrain, dense forests, and rich biodiversity, provide a unique ecological setting that shapes the community's subsistence patterns and dietary habits. Traditional Garo diets typically include rice as a staple, complemented by a variety of vegetables, leafy greens, fish, meat, and fermented foods. These dietary practices are not only nutritionally rich but also culturally significant, reflecting the community's close relationship with nature and its resources [7].

Garo sports and physical activities, which include indigenous games, hunting practices, and community-based competitions, demand considerable physical exertion. These activities are often integrated into social and cultural events, reinforcing community cohesion and identity. The physical demands of such sports necessitate adequate nutritional intake to sustain energy levels and enhance performance. However, like many other indigenous communities, the Garo population is experiencing rapid socio-economic changes that are influencing their traditional ways of life. The increasing availability of processed foods, changes in agricultural practices, and shifts in lifestyle are contributing to alterations in dietary patterns, which may have implications for both health and athletic performance [8].

From an anthropological perspective, the study of nutrition in Garo sports requires an understanding of how cultural beliefs, traditional knowledge, and environmental factors interact to shape dietary practices. Food in the Garo context is not merely a source of sustenance but also a medium of cultural expression and social organization. For instance, certain foods are associated with specific rituals, festivals, and life-cycle events, while others are valued for their perceived health benefits and ability to enhance physical strength. Indigenous knowledge systems often include detailed understandings of food properties, preparation methods, and their effects on the body, which are transmitted across generations through oral traditions [9]. At the same time, the integration of modern nutritional science into indigenous contexts presents both opportunities and challenges. While scientific interventions can help address nutritional deficiencies and improve athletic performance, they must be carefully adapted to local cultural and ecological conditions.

A purely top-down approach that disregards traditional knowledge may lead to resistance and unintended consequences. Therefore, there is a need for culturally sensitive strategies that combine the strengths of indigenous dietary practices with evidence-based nutritional guidelines. Such an approach can contribute to sustainable health outcomes and the preservation of cultural heritage.

The present study seeks to address these issues by examining the role of nutrition in shaping athletic performance in Garo sports, using an anthropological lens. It aims to document traditional dietary practices, analyze their nutritional composition, and assess their impact on physical performance. Additionally, the study explores the effects of socio-economic changes on dietary patterns and identifies potential areas for intervention. By situating nutrition within the broader socio-cultural and ecological context of the Garo Hills, the research contributes to a more holistic understanding of sports performance in indigenous settings. This study aligns with broader academic and policy discourses on indigenous health, sustainable development, and cultural preservation.

The recognition of indigenous knowledge systems has gained increasing attention in recent years, particularly in the context of achieving sustainable development goals related to health, nutrition, and well-being [10]. By highlighting the value of traditional dietary practices, this research underscores the importance of integrating local knowledge into development initiatives. It also provides insights for policymakers, sports practitioners, and health professionals working in tribal regions, emphasizing the need for context-specific and culturally appropriate interventions.

The relationship between nutrition and athletic performance in Garo sports represents a complex interplay of biological, cultural, and environmental factors. An anthropological approach allows for a nuanced understanding of this relationship,

moving beyond purely physiological explanations to consider the broader socio-cultural context. As indigenous communities navigate the challenges of modernization and globalization, it becomes increasingly important to document and preserve their traditional knowledge systems while exploring ways to enhance their well-being. This study contributes to this endeavor by offering an in-depth analysis of nutritional practices and their impact on athletic performance in the Garo Hills of Meghalaya.

METHODOLOGY

The research methodology for the exploration of the *“Nutrition and Athletic Performance in Garo Sports: An Anthropological Analysis from the Garo Hills of Meghalaya”* is carefully designed to provide a nuanced understanding of the complex relationships between culture, nutrition, and athletic performance. The study begins with an extensive ethnographic phase, involving prolonged participant observation and in-depth interviews within the Garo sports community. This qualitative approach aims to capture the cultural nuances, traditions, and social dynamics that shape the athletic experiences of Garo athletes in the Garo Hills region of Meghalaya. Simultaneously, a detailed analysis of dietary patterns among Garo athletes is conducted. Surveys and semi-structured interviews are employed to collect qualitative data on food consumption patterns, meal frequency, dietary diversity, and the cultural significance attached to specific foods. This phase not only examines the nutritional aspects of diet but also explores the embedded cultural meanings and traditional beliefs associated with food practices within the Garo community. Complementing the qualitative methods, the study incorporates quantitative assessments, including anthropometric measurements such as height, weight, Body Mass Index (BMI), and body composition. In addition, basic biochemical tests (where feasible) are undertaken to evaluate nutritional status indicators such as hemoglobin levels.

These quantitative tools provide objective insights into the physiological implications of dietary practices and help identify nutritional deficiencies that may influence athletic performance.

Cultural sensitivity forms an integral component of the research methodology. Special attention is given to ensuring that any proposed nutritional interventions align with and respect Garo cultural values and traditional practices. Surveys and interviews are conducted to understand athletes' perceptions of modern nutritional advice and their willingness to adopt new dietary practices. This approach emphasizes the importance of designing interventions that are both scientifically valid and culturally acceptable. An important dimension of the study involves an in-depth analysis of indigenous foods prevalent in the Garo Hills. Collaboration with local knowledge holders, including community elders and traditional healers, facilitates the documentation of traditional food systems, preparation methods, and their perceived health benefits. This component not only enriches the scientific understanding of local nutrition but also integrates indigenous knowledge into contemporary nutritional strategies.

The research incorporates a longitudinal component, tracking changes in dietary habits, nutritional status, and athletic performance over a defined period. Regular follow-ups, reassessments, and feedback sessions with participating athletes ensure the adaptability, effectiveness, and sustainability of the proposed nutritional interventions. This multidisciplinary and holistic research methodology seeks to uncover the intricate linkages between culture, nutrition, and sports performance in the Garo Hills of Meghalaya. By integrating qualitative ethnographic insights with quantitative nutritional assessments, the study aims to generate actionable recommendations for enhancing athletic performance while preserving the cultural integrity of the Garo community.

RESULTS AND DISCUSSION

The exploration into the *“Nutrition and Athletic Performance in Garo Sports: An Anthropological Analysis from the Garo Hills of Meghalaya”* has yielded a range of significant insights into the complex relationship between culture, nutrition, and athletic performance within the Garo community. The findings, derived from both qualitative and quantitative approaches, reveal that sports in the Garo Hills are deeply embedded in cultural traditions and social life. Sporting activities are not merely competitive events but function as important cultural practices that strengthen community bonds, reinforce identity, and preserve indigenous heritage. Ethnographic observations indicate that participation in traditional sports is closely associated with festivals, rituals, and community gatherings. These activities demand high levels of physical endurance and strength, which are largely supported by locally available food systems. However, the study also reveals that the nutritional intake of many Garo athletes is influenced by cultural preferences and seasonal availability of food, leading to variations in dietary adequacy.

The analysis of dietary patterns highlights that traditional Garo diets-comprising rice, locally grown vegetables, fish, meat, and fermented foods-are generally rich in essential nutrients and support sustained physical activity. At the same time, the gradual shift towards market-based and processed foods has begun to alter traditional consumption patterns. This dietary transition is associated with imbalanced nutrient intake, which may negatively affect athletic performance over time. Quantitative findings from anthropometric and basic health assessments indicate noticeable variations in the nutritional

status of athletes. In some cases, deficiencies related to iron intake, protein consumption, and overall caloric balance were observed, which have direct implications for stamina, muscle strength, and recovery capacity. These findings suggest that while traditional diets have strong nutritional potential, certain gaps remain that need to be addressed through targeted interventions. A key dimension of the study is the emphasis on cultural sensitivity in designing nutritional interventions. The research clearly demonstrates that any externally introduced dietary recommendations must align with local food habits, beliefs, and practices to ensure acceptance and sustainability. Athletes expressed a preference for nutritional guidance that incorporates familiar foods rather than completely replacing traditional diets. This underscores the importance of culturally grounded approaches in sports nutrition.

The examination of indigenous food systems in the Garo Hills further reveals the rich nutritional value of local ingredients. Traditional foods, including fermented products and forest-based resources, were found to possess high nutritional and medicinal properties. The integration of this indigenous knowledge with modern nutritional science presents a promising pathway for enhancing athletic performance in a culturally relevant manner. Overall, the results highlight that the relationship between nutrition and athletic performance in Garo sports is shaped by a dynamic interaction of cultural traditions, ecological factors, and emerging socio-economic changes. A balanced approach that combines traditional dietary wisdom with scientifically informed nutritional strategies can significantly improve athletic outcomes while preserving cultural identity.

CONCLUSION

The present study concludes that nutrition and athletic performance among the Garo community are intrinsically linked to the cultural, ecological, and socio-economic context of the Garo Hills of Meghalaya. Traditional sports serve not only as physical activities but also as vital expressions of cultural identity, social cohesion, and indigenous heritage. The findings demonstrate that the traditional Garo diet, characterized by locally available cereals, vegetables, fish, meat, and fermented foods, provides a strong nutritional foundation that supports the physical demands of indigenous sporting activities. However, the study also identifies emerging nutritional challenges resulting from changing dietary patterns, seasonal food availability, and the increasing consumption of processed and market-based foods. Variations in nutritional status, including deficiencies in protein, iron, and overall energy intake among some athletes, may adversely affect endurance, strength, recovery, and overall athletic performance.

These findings highlight the need for targeted nutritional interventions that address existing dietary gaps while respecting the cultural values and food practices of the Garo community. The research further emphasizes that effective sports nutrition programs should be culturally sensitive and community-based. Rather than replacing indigenous food practices, interventions should promote the nutritional value of traditional foods and integrate indigenous knowledge with evidence-based nutritional science. Such an approach is more likely to be accepted by athletes and contribute to sustainable improvements in health and performance. In conclusion, enhancing athletic performance in the Garo Hills requires a holistic strategy that recognizes the interconnected roles of culture, nutrition, and the environment. Preserving traditional food systems while incorporating modern nutritional guidance can improve the health, endurance, and competitive potential of Garo athletes without compromising their cultural identity. The study therefore advocates for collaborative efforts among nutritionists, sports professionals, policymakers, and local communities to develop culturally appropriate nutrition education and support programs that strengthen both athletic excellence and the preservation of indigenous heritage.

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