

4th Edition

Exercise, Biomechanics and Nutrition

**BOOK OF ABSTRACTS
2025**

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Preface

Polytechnic Institute of Setúbal is emerging as a reference in the supporting and diffusion of scientific advances in Sports Sciences across the International Congress: Exercise, Biomechanics and Nutrition in a commitment with the academic excellence of their students and the scientific community.

The fourth edition of the International Congress: Exercise, Biomechanics and Nutrition reflexes the success of this scientific-technical-informative initiative that makes to this event as one of the most important from Portugal and the Iberian Peninsula. This event selected an hybrid format that interspersed conferences of contrasted speakers with oral communications of Degree student and consolidated research groups. Assistants to this events that exceeded 240 participants attended to the last advances in 3 well differentiated areas as Biomechanics, Exercise and Sport Nutrition divided in 11 conferences.

Conferences were presented by prestigious researchers from 6 different universities of 5 different countries as Polytechnic Institute of Setúbal (Portugal), University of Salamanca, University of Sevilla (Spain), Federal Institute of Minas Gerais (Brazil), University of Jyväskylä (Finland) and University of Suffolk (UK).

However, the most important area of this Congress was the number and quality of the oral communication presented, 94 in total. In this sense, the International Congress: Exercise, Biomechanics and Nutrition is one of the Congress with a higher number of works presented by Graduate students that it is in combination with the results of contrasted research groups, some of the references at international level that include researchers from eight different countries as England, Brazil, Spain, Portugal, Colombia, Italy, Iran and Turkey. Readers have the opportunity of supervising all these oral communication from the abstract presented in this Book of Abstracts.

Since the Organizing and Scientific Committees want to congratulate to all the researchers and attendees who participated in this third edition of the International Congress: Exercise, Biomechanics and Nutrition. In addition, to the external readers we invite to participate in the fifth edition that will be organized by Polytechnic Institute of Setúbal in 2026.

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Congress Committees

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Congress Program

May 29, Thursday

10:00 – Opening Session – ESE Auditorium

Angela Lemos | President of the Polytechnic Institute of Setúbal

João Pires | Dean of ESE-IP Setúbal

Luis Leitao | Professor at the Science and Technology Department of ESE-IP Setúbal

10:30 – *Physical Activity, Exercise and Nutrition* – ESE Auditorium
Sedentary behaviors and prevention of musculoskeletal disorders in the working population. – **PhD Miguel Madruga, University of Salamanca, Spain**

11:20 – Sedentary behaviors and prevention of musculoskeletal disorders in the working population – **PhD Josué Prieto, University of Salamanca, Spain**

12:00 - Warming up: evidence and applications in sports training – **PhD João Ferreira-Junior, Federal Institute of Minas Gerais, Brazil**

13:30 – Lunch Break

14:00 – *Exercise and Biomechanics in sport* – ESE Auditorium
WORKSHOP: Biomechanics and Nutrition in Endurance Sports in the Natural Environment – **PhD Miguel Madruga and Josue Prieto, University of Salamanca, Spain**

16:00 – Recents Advances in Sports Injury Rehabilitation: The Role of Blood Flow Restriction – **MsT Christian Castilla, Rehab fitness coach/ S&C coach, Spain**

16:30 – Considerations for criteria and exercise selection following a hamstring injury in football – **MsT Paolo Perna, Sports Medicine and Physioterapist, University of Suffolk, UK**

17:30 – Sports Injury Rehabilitation Round Table with Paolo Perna and Christian Castilla moderated by Javier Pecci, University of Seville, Spain

18:00- 19:30 Abstract/Video Oral Presentations I

May 30, Friday

8:00 – Abstract/Video Oral Presentations II

13:00 – Lunch Break

14:00 – Resistance Training in the female athlete: Physiological considerations – **PhD
Std Vera Salmi, University of Jyväskylä, Finland**

15:00 – *Congress Closing Session*

Luis Leitão | Professor of Science and Technology Department at ESE-IP Setúbal

Raúl Dominguez | Professor in Sports at University of Seville

Abstracts

Exploring Nutritional Supplement Use by Turkish Handball Players: A Pilot Study

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Introduction

Handball is popular with high physical, physiological, and psychological demands. In addition to high-intensity movements, handball players must have performance components such as strength, agility, and speed and a suitable aerobic form to cope with high-intensity efforts. An optimal nutrition strategy helps maintain physical and cognitive performance, supports injury prevention, return to play, training adaptations, accelerates, and optimizes recovery processes. It has been stated in the literature that handball players tend to use nutritional supplements (NS) to facilitate the achievement of their nutritional goals. Therefore, studying how handball athletes use NS can offer an important understanding of the factors influencing their success. This study investigates supplement use among Turkish handball players and assessing the factors that shape their supplementation practices.

Methods

This cross-sectional study was completed with the participation of female (n=12) and male (n=44) licensed handball players (n=56) playing handball in different leagues of Turkish teams using convenience sampling. The data collection form addressed anthropometric values of participants, sports training properties, consumed NS types, and supplementation regarding factors. All data were analyzed using the Jamovi (version 2.6.44) statistics program.

Results and Conclusions

The participants' average age was 23.7 ± 8.5 years, with an average height of 184.0 ± 8.7 cm and a body weight of 84.1 ± 15.0 kg. 82.1% of the participants were professional handball players, and 39.2% competed in international competitions. The most preferred NS among handball players were magnesium (57.1%), vitamin C (32.1%), sports drinks (30.4%), whey protein (30.4%), vitamin D (28.6%), sports bars (28.6%), creatine (23.2%), omega-3 (23.2%), caffeine (17.9%), pre-workout supplements (16.1%), vitamin E (12.5%), carbohydrate powder (12.5%), iron (10.7%), vitamin complex (10.7%), essential amino acids (8.9%), and glutamin (8.9%). The main reasons for buying dietary NS were to improve sports performance (78.6%), to maintain health (57.1%), and to support physical appearance (26.8%). The most common places to purchase supplements were the internet (62.5%), sports market (30.4%), and trainers (28.6%) thanks to mainly

trainer recommendations (51.8%), self-motivation (41.1%) and dietitian suggestions (17.9%). These findings indicate that handball players primarily use NS to enhance performance and maintain health, highlighting the critical role of informed choices and professional guidance in shaping their supplementation practices.

Keywords: handball, nutrition, sports, supplements