

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

Physical Activity and Intuitive Eating in Older Adults with Type 2 Diabetes: A Behavioral Health Perspective

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Introduction

As the global population continues to age, older adults face a higher burden of disease and multiple health conditions compared to younger people. Type 2 diabetes mellitus (T2DM) is among the most common chronic illnesses for this age group. With aging, reduced insulin sensitivity and less control over eating habits can lead to problems in blood sugar regulation and increase the risk of developing T2DM. Intuitive eating, which involves responding to internal cues of hunger and fullness rather than following external dietary rules, has emerged as a relevant concept in diabetes care. Likewise, physical activity remains a key factor in managing the disease. This study explores the physical activity and intuitive eating in individuals aged 65 and older with T2DM.

Methods

This study utilized a sociodemographic form, the Intuitive Eating Scale 2 (IES-2), the Mini-Mental State Examination (MMSE), and the International Physical Activity Questionnaire-Short Version (IPAQ-SV) for geriatric individuals diagnosed with type 2 diabetes mellitus (T2DM). Data analysis was conducted using the Jamovi statistics program.

Results and Conclusions

The study was completed with the participation of 165 geriatric individuals diagnosed with T2DM, 63.2% female and 36.8% male. Subjects' age, height, and weight were 69.8 ± 4.5 , 163 ± 8.4 cm, and 77.4 ± 13.8 kg, respectively. According to MMSE outcomes, 67.9% of the participants were healthy, and 32.1% showed mild mental symptoms. IPAQ-SV data showed that 65.9% of participants were inactive, 29.9% were minimally active, and 4.3% were adequately active. While the IES-2 total-score average of the participants was 3.22 ± 0.3 , 78.8% had a higher tendency towards intuitive eating behavior. The findings indicate that although most older adults with T2DM have low physical activity levels, they show a high tendency toward intuitive eating behavior. This suggests that, alongside promoting physical activity, eating behaviors should also be considered a key focus for supporting the health of older adults with diabetes. The study is funded by the TUBITAK 2209A program.

Keywords: aging, eating, diabetes, physical activity