



Report on the 54th Ten-Day International Teaching Seminar on Cardiovascular Disease Epidemiology and Prevention, Lisbon, Portugal, July 13-24 2025.

Lisbon, the westernmost capital city of mainland Europe and the only one gracing the Atlantic coast, played host to the 54th Ten-Day Teaching Seminar. This marked the second time the seminar was held in Portugal, the first being in 1998 on the scenic island of Madeira.

Professor Fausto J Pinto, former President, World Heart Federation & former Dean of the Faculty of Medicine at the University of Lisboa, set the tone welcoming the participants for the 54th Ten Day seminar. Participants from 22 nationalities attended the seminar, continuing the effort to capacitate emerging leaders on cardiovascular epidemiology and the prevention of disease. The seminar venue was in the Santa Maria hospital in Lisboa.

The daily programme of the seminar was structured around four one-hour lectures. The initial sessions focused on the fundamental principles of epidemiology, including core concepts, methods of investigation, and approaches to causal inference. Subsequent lectures addressed major findings in cardiovascular epidemiology, emphasizing their implications for disease prevention and population health. Attention was also directed toward the application of this evidence in formulating goals, strategies, and evaluation frameworks for cardiovascular disease prevention programmes. A range of study designs—cross-sectional, case-control, longitudinal, and randomized controlled trials—were systematically discussed, highlighting their methodological strengths and limitations. Complementing these sessions was a concurrent series of biostatistics lectures, which introduced essential analytical methods used in epidemiologic research. Topics included sample size determination, power calculations, multiple regression techniques, and survival analysis, thereby providing participants with a rigorous methodological foundation to support future research endeavours.

Fellows were divided into four groups that met daily with faculty members, creating space for deeper participation and meaningful interaction. Each day began with classroom sessions on key concepts of epidemiology, followed by practical exercises designed to translate theory into application. These sessions were further enriched by critical reviews of published studies, where different research designs were examined, considering the concepts taught. For instance, a cross-sectional study on obesity measures as predictors of type 2 diabetes and cardiovascular disease in the Jordanian population highlighted the potential and limitations of snapshot data; a case-control study on serum uric acid and ischemic stroke in Bangladesh illustrated the challenges of defining cases and controls in hospital settings; a cohort study on spontaneous coronary artery dissection (SCAD) in Australia and New Zealand revealed the complexities of retrospective and prospective data collection for predicting major adverse cardiovascular events (MACE); and a randomized controlled trial on semaglutide and cardiovascular outcomes in obesity without diabetes underscored why RCTs are regarded as the gold standard in clinical research. Together, this blend of conceptual learning, practical exercises, and critical appraisal of real-world studies provided a comprehensive training experience, strengthening both methodological skills and insights into cardiovascular disease research inquiry. Additionally, a guest lecture by Prof. Ann Abreu, President of the European Society of Preventive Cardiology on “Planetary Health: a new paradigm in medical sciences” and Sara Soares

(ISCEP Alumnus) speaking on “ From Seminar participation to research: Local voices in global conversations,” provided an interesting interlude to the regular seminar.

In the second week, the groups were assigned to prepare study protocols using different study designs: cross-sectional, case-control, cohort and randomised controlled trials. The aim of this exercise is to ensure that the participants are able to apply in practice the strengths and limitations of various study designs taught during the seminar and work cohesively in a team to develop a methodologically rigorous study protocol. The group activities and discussions provided ample opportunity for critical exchange of views and challenged each of the participants to justify their stand in adopting a particular approach over the other. The research question for this year was “Is intermittent fasting associated with risk of coronary heart disease?”. The fellows took the challenge of arriving at the appropriate way of exploring the research question through the lens of the research design provided to them. Care was exercised in the choice of population, the settings in which the research is proposed, potential confounders that occur along the causal pathway, etc. The fellows spent quality time that went into late nights, discussing the potential challenges involved in a particular study design. On the final day of the seminar, the fellows presented their research design illustrating the possibility of examining the proposed research question on intermittent fasting and its association with cardiovascular diseases risk.

The academic programme was complemented by thoughtfully curated social activities that enriched the overall seminar experience. One such highlight was the visit to the Portuguese Society of Cardiology, where its President, Prof. Christina Gavina, provided an insightful overview of the Society’s ongoing initiatives. Her remarks underscored the importance of community engagement and public health strategies aimed at enhancing awareness and prevention of cardiovascular disease at the population level. This was followed by a visit to the Museu do Tesouro Real, where the fellows were accorded the rare honour of a private audience. The museum’s extraordinary collection of royal gems and jewellery, once belonging to Portuguese monarchs, offered a glimpse into the nation’s rich cultural and historical legacy. The day concluded with a dinner hosted by the Director of the Museum, an evening marked by collegiality and cultural exchange, which was thoroughly enjoyed by all participants. Prof. Fausto Pinto also took the fellows on a fascinating tour of the Santa Maria hospital and its facilities including the cardiology research labs.

Our hosts also ensured that the fellows experienced the rich cultural and historical heritage of Lisbon by arranging visits to some of the city’s and region’s most iconic landmarks, including the Monument to the Discoveries (Padrão dos Descobrimentos), Cabo da Roca, and the historic Sintra Palace. The Monument to the Discoveries stands as a striking tribute to Portugal’s Age of Discovery, commemorating the nation’s pivotal role in maritime exploration. Designed in the form of a ship’s prow and rising dramatically on the banks of the Tagus River, the monument symbolizes the spirit of adventure and innovation that shaped Portugal’s history. The visit to Cabo da Roca, the westernmost point of mainland Portugal and continental Europe, offered a breathtaking view where the rugged cliffs of the Sintra Mountain range meet the vast expanse of the Atlantic Ocean, a reminder of the geographical and symbolic edge of the continent. Equally captivating was the visit to Sintra Palace, a UNESCO World Heritage site renowned for its distinctive blend of various architectural styles. Together, these visits provided a profound appreciation of Lisbon’s unique position at the intersection of history, culture and geography, complementing the academic intensity of the seminar.

Lastly, the successful conduct of this seminar would not have been possible without the contributions of many individuals and organizations. Our deepest gratitude is extended first and foremost to our host, Professor Fausto Pinto of the University of Lisboa, for his generous support and hospitality in facilitating the seminar. We also acknowledge with appreciation the sponsoring

organizations whose commitment and support made possible the participation of both fellows and faculty, thereby ensuring the continuation of this important academic tradition.

Report prepared by Poornima Prabhakaran on behalf of the Faculty, 54th Seminar, with support from Bharat Kumar, India.

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