



## **Advanced pharmacy practice research methods**

**PhD Advanced Course**

**22 October -20 November, 2021**

**ECTS: 6; Classes: 22.5 hours**

**Course Coordinators: Afonso Miguel Cavaco and Filipa Alves da Costa**

### **Introduction**

Pharmacy practice is an area of study that focuses on the role of pharmacists in promoting the safe and effective use of medicines and medical devices. Even though medicines are the most regulated health technology and one of the most effective health interventions in routine clinical practice, a minority of people uses them appropriately. Therefore, it is essential first to understand the determinants of inappropriate use of medicines and people's experiences using medication. As a result, interventions that focus on optimising the responsible use of medicines are likely to be developed as a core function of pharmacists' role. Therefore, pharmacy practice research studies come to play and can adopt varied formats, resorting to methodologies used initially in epidemiology, including observational and experimental studies, whilst combining these with methods primarily used in the social sciences. These methodologies enable taking a more person-centred approach to understanding the experience of people living with illness and relying on medication and medical devices for maintaining their health and well-being.

### **Goals and Learning Outcomes**

This advanced doctoral course aims to equip the enrolled students with the most recent methodological options in pharmacy practice research.

At completion, it is expected that the participants are able to:

- identify a conceptual framework for a research study, showing the hypothesised causal variables and the expected outcomes;
- identify the most suitable study designs in pharmacy practice interventions, including those focused on medicine use;
- be able to recognise the state-of-the-art by undertaking a literature review and critically appraising it;
- efficiently resort to primary and secondary data sources, analyse extracted data and be able to recognise the possibilities and limitations of each data source;
- understand patient-reported outcomes and recognise the existing questionnaires to assess varied outcomes, including the need to engage in validation work and cross-cultural adaptation;
- communicate and disseminate research findings through different platforms

and targeting varied audiences.

Main teaching methodologies will be based on introductory topics presentations of no more than 40m conducted by experts, comprising real case studies, problem-based learning, simulation, hands-on databases, and briefing-debriefing activities, where appropriate.

### Assessment

Students will be assessed both at individual and group levels. Students will share their ideas regarding their research topic and potential ways to respond to a research question in the first week. In the end, each student will present their research project demonstrating the application of the gained knowledge. This component weighs 40% of the final grade. Students working in groups at home will choose a methodological paper and deliver a critical review during the course, contributing 20% of the final grade. A final written assessment (20 multiple-choice questions and five open-ended questions) contributes 40% to the final grade. The final grade can increase up to 10% for students sustaining active participation.

### Programme

This course will cover critical issues in pharmacy practice research, comprising methodological options to assess the effect of pharmacists' interventions to optimise medication use. The content will cover from exploratory studies and observational studies to experimental and quasi-experimental designs. Sources of data, including observation, surveys and clinical records, will be explored. Data analysis, including statistical and qualitative approaches, will be detailed. Literature search principles and methods, including critical appraisal techniques and meta-analysis, will also be covered. All presentations will be made available to students with a minimum of two weeks' notice to allow time for preparation, maximising time in class for in-depth discussions.

### Registration and Fees

This course is free for 1<sup>st</sup> year PhD students of FFUL Doctoral Program. For other attendees, the [registration](#) is through the FenixEdu Platform until October 15, 2021.

- Registration with assessment: 125€
- Registration without assessment: 100€

### Programme

#### Preliminary timetable

Three weekends: Fridays 18-22h, Saturdays 9-13h.

Themes	Content	Speakers	Date & time
Course opening seminar and Inaugural	Course introduction and initial sharing of doctoral project ideas.	Afonso Cavaco (FFUL), Helder	WEEK 1 22 Oct 2021

lecture	(1h)	Mota Filipe (FFUL), Filipa Costa (FFUL)	Friday, 18-22h
	Pharmacy practice research methods. (1h)	Zaheer Babar (Huddersfield University UK)	
Workshop: Designing a research project. Clinical studies and ethical aspects	Addressing health and practice issues in population-based research. Developing research questions. Study designs, including mixed methods. (2h)	Filipa Costa, (FFUL), Helder Mota Filipe (FFUL)	
Workshop: Literature search and data collection methods.	Narrative/scoping reviews, systematic reviews and meta-analysis. Critical appraisal of the literature. (2h)	Fernando Fernandez-Llimós (FFUP)	WEEK 1 23 Oct 2021 Saturday, 9-13h
	Developing and validating surveys. Overt and covert observation. Open and structured interviews, including focus groups. Documentary analysis and netnography. (2h)	Filipa Costa (FFUL), Afonso Cavaco (FFUL)	
Workshop: Statistical analysis and validation methods.	Descriptive and inferential statistics, including survival analysis and time series (IBM SPSS). (2h)	Andreia Leite (ENSP – UNL)	WEEK 2 29 Oct 2021 Friday, 18-22h
Workshop: Valuing pharmacy practice.	Economic evaluation of pharmacy practice interventions. (2h)	Dalia Dawoud (NICE, UK & Cairo University)	
Workshop: The landscape of qualitative research in pharmacy practice.	Main paradigms in quali studies. Qualitative data analysis (QSR NVivo). Presenting qualitative research. (2h)	Afonso Cavaco (FFUL), Lotte Stig Nørgaard (University of Copenhagen)	WEEK 2 30 Oct 2021 Saturday, 9-13h

	Action Research core features and planning. Grounded Theory, including storyline development. (2h)	Célia Oliveira (ESEL) Helga Henriques (ESEL)	
Workshop: Consensus methods and Scientific writing.	Delphi panels and nominal group technique: from design to data analysis. (2h)	Mara Guerreiro (ESEL)	WEEK 3 5 Nov 2021 Friday, 18-22h
	Communicating preliminary findings. Writing a scientific manuscript. Publishing in high impact journals. (2h)	Shane Desselle (Touro University USA) and Derek Stewart (Qatar University)	
Closing lecture and project presentation seminar.	Pharmacy practice research: evidence, impact and future perspectives. (1h)	Martin Henman (Trinity College, Ireland)	WEEK 3 6 Nov 2021 Saturday, 9-12h.
	Brief project presentation (10 min per participant). (1.5h)	Afonso Cavaco (FFUL), Helder Mota Filipe (FFUL), Filipa Costa (FFUL)	
Final evaluation	Written assessment.	Afonso Cavaco, Filipa Costa	Date to be defined