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## Opinion Article

# Why does teaching research skills to family medicine trainees make sense?

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### KEY MESSAGE:

- Family physicians can also produce research like other disciplines do.
- Performing research opens new horizons to family practice trainees and provides support to build their self-esteem and hence foster future family medicine development.
- More studies are needed on education in family medicine.

### ABSTRACT

There are only a few countries in Europe that have incorporated research skills training in specialty training programmes. In the eyes of most practising family physicians, research traditionally is a field reserved for colleagues with academic ambitions; an activity that often is not associated with the clinical practice of family medicine. However, residents became aware that research is essential to improving healthcare provision. Research in family medicine has a long tradition. Performing or taking part in research projects opens new horizons to present and future family physicians and provides support to increase their self-esteem. Consequently, this could foster future family medicine development. The authors urge the whole family physician community to raise the awareness every single family physician towards teaching and learning research skills in specialty training and basic medical education as a generic subject.

**Keywords:** General practice/family medicine, medical education

### INTRODUCTION

Any medical discipline has three pillars that support the practice of the profession: education, research, and quality improvement. Wonca Europe incorporated these three elements from its start, in 1995. Consequently, three independent networks dealing with quality (European Society for Quality and Safety in Family Practice—EQuiP), education (European Academy of Teachers in General Practice/Family Medicine—EURACT) and research (European General Practice Research Network—EGPRN) became constituent parts of the organization (1). This is also stated in Article 3 of the Wonca Europe Bylaws, saying that the membership of the organization shall, besides National Colleges, Academies, or Academic Associations of General Practice/Family Medicine within Wonca region Europe, also consist of EURACT,

EGPRN and EQuiP (2). To lay the foundations of the aforementioned pillars of family medicine, Wonca Europe produced the European definition of general practice, and educational, research and performance agendas, respectively (3–6). In many countries, the recommendations from these documents were implemented in practice, e.g. by developing their national curricula for specialty training and in many cases for basic medical education (7,8).

However, there are still many areas that need development, i.e. teaching quality improvement, educational research, quality of teaching and last, but not least, teaching research to non-researching trainees (9). Within this article, the need and rationale for teaching research in family medicine training are presented and discussed.

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## TEACHING RESEARCH IN EUROPEAN COUNTRIES

In most of the European countries, research is taught at the undergraduate level. The topics included in the research curriculum are the literature review, research methodology, statistical analysis, etc. (10). However, as stated in the research agenda for general practice/family medicine, family medicine is a unique discipline with several special features in research (i.e. focusing on patients, not on diseases, 80% of patients is managed at the primary care level, patients with vague symptoms, healthcare services, epidemiologic distribution of diseases, specific communication, etc.), which are usually not taught at the undergraduate level (5,11). Therefore, they need to be taught elsewhere, i.e. at the international and national level.

The international courses for colleagues interested in research in family medicine/general practice/primary care, organized by EGPRN, are examples of international teaching of research in family medicine. These courses last one week and they are designed to promote knowledge about research methods amongst family physicians or trainees. Since 1984, such courses have been organized in England, Denmark, Italy, Spain, Ireland, Portugal, Sweden, Malta, France and the most recent in Poland 2011. Additionally, there are some national research institutions, which also provide courses on research skills and methods and support researchers in family medicine in different ways (12).

At the national level, there are big variations in teaching research skills during family medicine training among European countries. In some countries, research topics are a part of family medicine training while in others they are not included in family medicine specialty training programmes (8,12,13). This is not in line with the aims of Wonca Europe and, therefore, needs further attention both nationally and internationally (1,14).

## WHY IS TEACHING RESEARCH TO EACH FAMILY MEDICINE TRAINEE NECESSARY?

In the eyes of most practising family physicians, research has been traditionally seen as a field reserved for those with academic ambitions (11). They believe that strong research skills are not important for practising physicians (15). In the experience of the authors, family physicians working every day in their practice fail to see the direct association between research and clinical reality. However, some of the family medicine trainees did become aware that research is essential and improves healthcare provision (16). However, most trainees still regard research as something too abstract to be understood and to be performed by regular family physicians devoted to their everyday interactions with patients. Usually, they do not find importance in performing research as

they do not believe that it would make any difference to their management of patients (15).

On the one hand, practicing physicians and trainees need and expect to be given evidence-based practice guidelines. On the other hand, there is some evidence that they neither like reading research papers nor performing research (15,17). This may imply that they fail to see the causal relationship between performing research and developing practice guidelines.

The authors recognize some claims that evidence-based medicine (EBM) may be adequate to provide enough evidence to lead practitioners safely through their professional life. Of course, EBM offers sound answers to some dilemmas in a busy everyday practice. However, we still lack information how EBM is used among family physicians. The authors' experiences indicate that family physicians face quite intensive pressure from businesses associated with healthcare (i.e. pharmaceutical industry), which feed family physicians with 'research evidence' that is usually scientifically not sound enough to be valid and reliable. Hence, as practising family physicians lack basic knowledge on reading, collecting and judging evidence from original research, they can easily be misled.

There are three levels of teaching EBM and research:

1. teaching clinical knowledge and clinical skills, based on best available evidence (e.g. guidelines);
2. teaching the principles and skills of EBM (asking questions and answering them by searching and using the scientific literature appropriately; being able to critically read the literature, being able to critically appraise pharmacological studies, etc.); and
3. teaching research skills (e.g. being able to set a research question and aims of the research; being able to choose the appropriate methodology; being able to interpret research results; etc.).

The authors believe that all three levels should be taught to family medicine trainees.

The first level is essential for working in clinical practice. However, following the guidelines completely is not always applicable in practice and in these cases the family physicians should be able to justify why they decided to deviate from them. Therefore, family physicians should be able to find appropriate evidence on their own, which brings us to the second level of education—EBM. Obviously, family physicians need it to find evidence-based information that they could use in practice.

It is the opinion of the authors that research skills, i.e. the third level of expertise, are also needed. Similar opinions have been expressed by some other authors (15,17–19). Each practising family physician should be able to assess critically the quality of their professional work, to recognize weak points, to ask proper research

questions, conduct or take part in a research project and translate it to their practice through EBM (9,11,18). Direct involvement in research enables the trainees to understand the process of research and its outcomes better than the trainees whose scholarly education is centred only on reading and critiquing articles in journals (18,19). Tilyard (20) expressed the above-described opinion as 'We do research because we need practical answers to practical questions.' Family medicine research addresses the need for knowledge by family physicians so they may better manage their patients, their families and their practices. Family medicine research investigates issues from the family physicians' and their patients' perspective (21). Therefore, clinicians-researchers are needed who will be able to recognize a problem within their practice, to study it scientifically and to translate the results of the study into their practices. Therefore, research skills in family medicine should be a compulsory part of family medicine specialty training (14,22–24).

The authors also believe that teaching research will enable family medicine trainees to understand how guidelines are developed, why they manage their patients in the way they do and to be able to answer the questions emerging from their daily work in a scientific way. In this context, mandatory 'hands-on' speciality training in family medicine makes a difference because once it contains research training it involves trainees directly in family medicine research at an early stage of their professional development.

## CONCLUSION

Research should be taught at all levels of medical education (11). Specialty training, however, might be the best time to include some teaching on research methods specifically for family medicine as this is usually not taught at undergraduate level. However, published data on this subject are scarce and the authors encourage the scientific and educational community to survey the state of the art of speciality training, attitudes of trainees and tutors on these topics and to promote translational research. Based on the results, a framework for teaching modules in research for trainees in family medicine should be developed.

Representing the three Wonca Europe networks, we urge the family physician community to raise its awareness towards teaching and learning research skills in specialty training and basic medical education as a generic subject. Networks, collaborative organizations, WESIGs and academic institutions should commit to this task and develop a core curriculum for teaching research in family medicine.

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