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Young Scientists - from Master of Science to Associate Professor

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Developing family practice research: recommendations for young researchers from a resource limited country

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Outline

- ❑ Learning objectives
- ❑ Background
- ❑ Capacity building in low-resource settings
- ❑ Recommendations
- ❑ Common pitfalls in reporting research findings

Learning objectives

- ❑ To understand the **importance of family practice research** in improving global health.
- ❑ To familiarize with existing initiatives regarding **capacity building in low-resource settings**.
- ❑ To learn from the **experience gained** in a resource-limited country.
- ❑ To be provided with guidance for enhancing personal research **competencies, capacity** and **academic competitiveness**.

Background

The importance of **family practice research in improving health globally** has been acknowledged → WONCA, Kingston 2003¹



However:

- **Barriers** to family practice research²
- Significance of family practice research remains **unrecognized** in low-resource countries³

¹van Weel and Rosser, Ann Fam Med 2004

²Hummers-Pradier, et al, Fam Pract 2008

³Lionis, et al, Fam Pract 2004

Barriers to high quality research in low-resource settings

- Lack of funds
- Poor / outdated infrastructure
- Limited access to technology and information
- Insufficient training
- Lack of scientific networking

Sumathipala, et al, BMC Medical Ethics 2004

Under-representation of developing countries in the research literature: ethical issues arising from a survey of five leading medical journals

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Abstract

Background: It is widely acknowledged that there is a global divide on health care and health research known as the 10/90 divide.

Methods: A retrospective survey of articles published in the BMJ, Lancet, NEJM, Annals of Internal Medicine & JAMA in a calendar year to examine the contribution of the developing world to medical literature. We categorized countries into four regions: UK, USA, Other Euro-American countries (OEAC) and (RoW). OEAC were European countries other than the UK but including Australia, New Zealand and Canada. RoW comprised all other countries.

Results: The average contribution of the RoW to the research literature in the five journals was 6.5%. In the two British journals 7.6% of the articles were from the RoW; in the three American journals 4.8% of articles were from RoW. The highest proportion of papers from the RoW was in the Lancet (12%). An analysis of the authorship of 151 articles from RoW showed that 104 (68.9%) involved authorship with developed countries in Europe or North America. There were 15 original papers in these journals with data from RoW but without any authors from RoW.

Conclusions: There is a marked under-representation of countries in high-impact general medical journals. The ethical implications of this inequality and ways of reducing it are discussed.

Capacity building in low-resource settings–I

The “Three General Objectives for Capacity Building”¹

1. Creating **solid links** between clinical practice and research.
2. Reinforcing family practitioners’ **networking** and multi-disciplinary **collaborations**.
3. Improving **training and career opportunities** of family practice researchers.

¹van Weel and Rosser, Ann Fam Med 2004

Capacity building in low-resource settings—II

WONCA Kingston 2003 conference recommendations¹:

- Developing national organizations focused on family practice research.
- Promoting **expertise and dissemination** of research findings internationally.
- Facilitating funding** of research collaborations.
- Establishing **practice-based research networks (PBRNs)** worldwide.

Capacity building in low-resource settings—III

- **Idea:** Enhancing European rural family practice by establishing a PBRN (EURIPA, EGPRN).
- **Analysis:** SWOT analysis to explore the situation in Europe regarding rural family research in rural family practice.
- **Conclusion:** A PBRN throughout Europe → **feasible** and **necessary** for health promotion in areas with limited resources

European Journal of General Practice, 2015; 21: 203–209



Background Paper

Is a practice-based rural research network feasible in Europe?

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KEY MESSAGE:

- Family medicine research has evolved to become a continuously developing global entity. The impact of research in rural family medicine is currently not fully exploited.
- The cooperation between EURIPA and EGPRN creates a fertile ground to discuss further the prospect of a European practice based rural family medicine research network.

ABSTRACT

Research in family medicine is a well-established entity rationally and internationally, covering all aspects of primary care including remote and isolated practices. However, due to limited capacity and resources in rural family medicine, its potential is not fully exploited yet. An idea to foster European rural primary care research by establishing a practice-based research network has been recently put forward by several members of the European Rural and Isolated Practitioners Association (EURIPA) and the European General Practice Research Network (EGPRN). Two workshops on why, and how to design a practice-based research network among rural family practices in Europe were conducted at two international meetings. This paper revises the definition of practice-based research in family medicine, reflects on the current situation in Europe regarding the research in rural family practice, and discusses a rationale for practice-based research in rural family medicine. A SWOT analysis was used as the main tool to analyse the current situation in Europe regarding the research in rural family practice at both meetings. The key messages gained from these meetings may be employed by the Winca Working Party on research, the International Federation of Primary Care Research Network and the EGPRN that seek to introduce a practice-based research approach. The cooperation and collaboration between EURIPA and EGPRN creates a fertile ground to discuss further the prospect of a European practice-based rural family medicine research network, and so draw on the joint experience.

Keywords: Research, rural population, community network, primary healthcare, quality improvement

INTRODUCTION

Background

Research, an essential part of family medicine, provides the evidence for the management of chronic diseases, as well as away to identify high-risk groups and individuals (1,2). It also helps to answer relevant questions, recruit representative populations and acknowledge the diversity

of contexts in which primary care practitioners serve (3). It enables the evidence-based management of patients in family medicine, facilitates the development of guidelines as well as the rational use of diagnostic tests. It contributes to quality improvement, strengthens the role of family medicine in health care systems, optimises the effectiveness of healthcare systems, improves the

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Klemenc-Ketiš, et al, Eur J Gen Pract 2015

KEY MESSAGE:

- Family medicine research has evolved to become a continuously developing global entity. The impact of research in rural family medicine is currently not fully exploited.
- The cooperation between EURIPA and EGPRN creates a fertile ground to discuss further the prospect of a European practice based rural family medicine research network.

Capacity building in low-resource settings–IV

THE CRETAN PBRN

- ✓ A group of **collaborating rural family practitioners** established in 2006¹
- ✓ Facilitates research²⁻⁴, peer interaction and mutual support
- ✓ Created based on a **stepwise model** involving⁵:
 - scientific networking
 - knowledge of local circumstances
 - recording of patients' data
- ✓ PBRN's **sustainability** → evidence of research implementation in a low capacity country that may be replicated elsewhere
- ✓ **Website:** <http://www.fammed.uoc.gr/Joomla/index.php/clinic/services/research-network>



¹Lionis, et al, Practice-Based Research Network in Primary Care: a lacking story and learning points from an empirical model on Crete. (<http://www.fammed.uoc.gr/Joomla/index.php/clinic/services/research-network>)

²Lionis, et al, BMC Fam Pract 2011

³Lionis, et al, Asia Pac Fam Med 2012

⁴Tsiligianni, et al. Rural Remote Health 2013

⁵Lionis, et al. Fam Pract 2010

Capacity building in low-resource settings–V

- ❑ **EURIPA consensus meeting:** enhancing capacity - promoting research in rural European settings.
- ❑ **Recommendations:**
 1. Identify the **local population health needs**.
 2. Prioritize and **plan research** based on local needs.
 3. Identify the **existing research capacity**.
 4. **Create linkages** with existing networks, institutions and universities.
 5. **Plan research** considering realistic and achievable outcomes.
 6. Ensure **adequate resources** are in place prior to implementation.
 7. **Report to local community**.

Building research capacity in rural health settings: barriers, priorities and recommendations for practitioners

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Steps for building a research strategy

1. Think about **research questions** and raise ideas.
2. **Develop links** and networking.
3. Formulate study **hypotheses** and discuss study **design**.
4. **Engage communities**, raise their awareness about study purposes and **invite them** to support research.
5. **Implement** and **evaluate** research.
6. **Report** research findings.

Recommendations-I



Thinking research questions and raising ideas

Potential barriers:¹

- Lack of **local data** and registries.
- Insufficient technological **infrastructure** → limited access to online versions of journals and databases (e.g. **PubMed, Scopus, Embase**).

Recommendations:

- Formulate an **overall view of local circumstances** and prioritize population **health needs**².
- Search all the **available data** and explore regional registries as well as national and international **literature**.
- **Affiliate with a research organization** to maximize access to technology and information.

¹Sumathipala , et al, BMC Med Ethics 2004

²Lionis and Trell, Eur J of Gen Pract 1999

Recommendations-II

Develop links and networking



Potential barrier:

- Lack of **official networks**, interested in providing support for research activities.

Recommendations:

- Initiate **collaborations** and **become part of local PBRNs** (if they exist).
- Enhance **links** and **networking** by actively participating in any existing European or **international scientific groups**.

Recommendations-III



Formulate study hypotheses and discuss study design

Potential barrier¹:

- Insufficient **training** in research design, techniques and theoretical reasoning.

Recommendations:

- Utilize available programs for **continuous education** and professional development and **international exchange** programs (e.g. **Erasmus**) for funded training and working experience in different settings.
- Familiarize with **social and behavioral theories** (e.g. **Theory of Planned Behavior, Health Belief Model**).
- Engage people from scientific networks to **develop a research plan**, taking into account all available resources and population needs².

¹Lionis, et al, Fam Pract 2004

²Van Royen P, et al, Eur J Gen Pract 2010

Recommendations-IV

Engage local communities



Potential barrier:

- **Cultural issues** related to data collection procedures and negative attitudes which may hamper the research progress.

Recommendations:

- Inform **local community** about study purposes (e.g. face-to-face meetings with representatives and community members).
- Ensure results will **benefit the community**.
- Invite the **community to actively participate** and support research.
- Utilize well-established approaches including **Participatory Learning Action** and **Normalization Process Theory** to **engage local stakeholders**.

Recommendations-V



Implement and evaluate research

Potential barrier:

- Lack of **funding** and **experience** on funding applications.

Recommendations:

- Participate in national or international **collaborative research grants** → experience in writing process and preparation of successful applications.
- Use external sources → **European funding calls** (e.g. **HORIZON 2020**, **CHAFEA** etc.) following published recommendations.¹
- Participate in **competitive international consortia** to increase scientific visibility.
- Utilize **available research capacity**, especially PBRNs to join collaborative research proposals in response to European funding calls.

¹Lionis and Petelos, Puls Uczel. Państwowa Medyczna Wyższa Szkoła Zawodowa w Opolu; 2016

Recommendations-VI



Report research findings

Potential barrier:

- Poor **writing skills preventing publications** in high impact journals, limiting the **wider spread** of research results and subsequent **translation to clinical practice or policy**.

Recommendations:

- **Report back to the community** and utilize provided feedback to maximize the **utility** and **adoption** of research.
- Ensure the **sufficient description of results** when preparing a paper, using available **guidelines** (e.g. **EQUATOR** network).
- Visit previously published **writing recommendations**.¹



Enhancing the **QUALity** and
Transparency Of health Research

Common pitfalls in reporting research findings–I

A. Manuscript presentation

- ❖ Poor language
- ❖ Lack of structure
- ❖ Low resolution and lack of self-explanatory graphical presentations

B. Manuscript context

- ❖ Insufficient background information
- ❖ Unclear aims
- ❖ Lack of theoretical framework
- ❖ Missing information on eligibility criteria and setting
- ❖ Lack of non-response data
- ❖ Unexplained recruitment process
- ❖ Lack of description of tools' development
- ❖ Unclear sample selection and sample size calculation
- ❖ Inappropriate analysis



Common pitfalls in reporting research findings–II

C. Interpretation of results

- ❖ Insufficiently explained results
- ❖ Issues of generalizability
- ❖ Limited clinical relevance/significance
- ❖ Low quality discussion
- ❖ Unreported impact / added value
- ❖ Inadequately supported conclusions
- ❖ Lack of ground for future research

D. General

- ❖ Not enough scientific significance
- ❖ Unexplained terminology
- ❖ Unreported ethics approval and informed consent acquisition
- ❖ Missing references



Key points in reporting research results

- **Abstract** summarizes paper adequately and **concisely**.
- **Overall aim and objectives** are **explicitly** explained in introduction.
- **Methods** are described in **detail** and are in accordance with the aims.
- Main **findings** are presented sufficiently.
- **Results** are explained **logically** and **honestly**.
- **Discussion** flows from the results, acknowledging potential **limitations** and providing **ground** for future research.

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Prace poglądowe | Reviews

PUBLISHING WITH IMPACT FACTOR – A BLESSING OR A CURSE?

Publikowanie ze współczynnikiem impact factor –
błogosławieństwo czy przekleństwo?

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A = przygotowanie projektu badania | study design, B = zbieranie danych | data collection, C = analiza statystyczna |
statistical analysis, D = interpretacja danych | data interpretation, E = przygotowanie manuskryptu | manuscript preparation,
F = opracowanie piśmiennictwa | literature search, G = pozyskiwanie funduszy | funds collection

SUMMARY

Reporting and publishing research from a country with limited research capacity experiences from an editor Christos Lionis as chief and associate editor that serves certain European and International biomedical journals presents key issues that researchers need to be aware when they prepare, present and submit their work to maximise their chances of publication. Sufficient reporting and all the steps: (a) Planning ahead or thinking about the type or research, (b) Choosing a suitable journal, (c) Considering what before submission = are discussed in the article. However, a successful publication with an impact factor in a well-recognized journal is not only achieved by the fundamental steps that the author needs to undertake but also by certain "secrets" which are presented within the paper. Common pitfalls when research is reported will be highlighted by the author, while recommendations for a successful reporting of the research findings. To what extent publishing with impact factor is a blessing or a curse would be also approached within the paper. The information that this article provides is based on personal experiences of an editor in certain biomedical journals but it is important not to forget that in clinical practice it is critical to be passionate about discoveries to make an effect in regards to the patients' benefits.

Keywords: publishing, impact factor, research capacity

Conclusive remarks

- ❑ Early-career family practice researchers in low-resource countries are often hampered by **lack of training, resources** and **infrastructure**.
- ❑ However, they can build **research capacity** and contribute to **improving healthcare** by:
 - ✓ expanding their professional and community **links**,
 - ✓ participating in **PBRNs**,
 - ✓ making use of international **funding** sources,
 - ✓ ensuring the strong **presentation** of research findings.



**KEEP
CALM
AND
DO
RESEARCH**



**THANK YOU
FOR YOUR
ATTENTION!**