How to teach patient-oriented pharmacy

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Quality in Pharmacy Education

- Protection of public safety
- Social accountability
- Mutual recognition for mobility of professionals

Fungal meningitis outbreak in September 2012 in the US among patients who received preservative-free methylprednisolone injections prepared from a compounding centre.
Outline

- Evolvement of clinical pharmacy
- Patient-centred curriculum
- Education leading professional developments
**Concept of Clinical Pharmacy**

Gloria N Francke

One of the most dramatic changes in

- pharmacy education
- pharmacy practice

Gloria N. Francke, 1969

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**Enabling factors for Clinical Pharmacy**

Developments in pharmaceutical sciences

- Pharmacokinetics
- Biopharmaceutics

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Clinical Pharmacy and Education

Pharmaceutical education

Pharmaceutical Care

Pharmaceutical practice

Changes in Pharmacy Education

Curricular changes
- Addition of courses in pharmacokinetics and pharmacodynamics, biopharmaceutics
- Pharmacotherapy-related courses
- Experientials in community pharmacies, hospital pharmacy ward-based
- Problem-based learning

“The advancement of the function of pharmacists in the quality and efficiency of medicines use will require schools of pharmacy to respond with appropriate shifts in the education of the pharmacist as a clinical practitioner.”

Pharmacy Education in Malta

**Bachelor of Science in Pharmaceutical Science**

**Master of Pharmacy**

Total 5.5 years → Pharmacist

**Master of Science in Pharmacy**

**Doctorate in Pharmacy**

**Doctor of Philosophy**

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**Patient-focus**

- **Patient first**
- **Proactive**
- **Partnership**

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Pharmacy Education: Target

Provide pharmacy education that prepares graduates who can function within a diverse and complex pharmaceutical setting.

Pharmacy Education: Outcome

Mobilize knowledge
Merge science and practice

think
communicate
apply
**Pharmacy Education: Outcome**

- Emphasise active engagement of students in the learning models
- Foster scientific inquiry and innovation
- Immerse students in practice early

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**RESEARCH**

A Comparison of Patient-Centered Care in Pharmacy Curricula in the United States and Europe

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Objective. To compare United States and European Higher Education Area (EHEA) undergraduate pharmacy curricula in terms of patient-centered care courses.

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The curriculum with the highest mean percentage of clinical sciences was that of the United States at 16.7% followed by Malta at 12.3%
Patient-focused curriculum

Pharmacy Practice

Academic-led placements

Experientials: Community Pharmacy services

- 1 community pharmacy/ 2300 population (N=213)
- Pharmacy Practice sessions within the curriculum
  (3 hour/week in first year to 6 months in fifth year)
- Teacher-practitioner sessions to lead academic development
- Continuous method of assessment
Objectives of Experiential Learning

- Utilise the principles of experiential education and engagement of students in “real-life” activities.
- Describe the importance of workplace skills
- Instill the importance of competence through lifelong learning habits
- Provide basic understanding and utility of continuous professional development
- Provide appropriate leadership skills through example

Active learning during experientials

- Reflecting on your strengths and what you want to learn and improve
- Identify 3 SMART learning objectives: specific, measurable, achievable, relevant, timed

Student Portfolio

Complete reflection form at the start and midpoint

Daily record sheet

Evaluation sheet at the start (t0), midpoint (t7) and the end
Pharmacy Education: Outcome

- Development of critical thinking and problem-solving skills
- Transition from dependent to active, self-directed lifelong learners

Pharmacy Practice Projects

- Inter-disciplinary learning
- Research skills: writing a proposal, literature review, fieldwork, analysis of data, report writing, dissemination
- Longitudinal experience (second year – fifth year)
Pharmacy Practice Projects Examples

- Pharmacist intervention in pain management in heart surgery
  - EAHP Best student paper award 2014

- Proposing a framework for INR testing and anticoagulation management in community pharmacies
  - Oral presentation at the ESCP Annual Conference 2013

- Dissemination of treatment protocols in gastrointestinal disorders
  - Runner up Best Poster Award Community Pharmacy Section, FIP 2012

EDUCATION LEADING PROFESSIONAL DEVELOPMENTS
Postgraduate doctorate

- A post-graduate degree in clinical pharmacy that is at the same qualification level of a PhD
- Collaboration with College of Pharmacy, University of Illinois, Chicago

Postgraduate doctorate

- Interprofessional learning at the professional sites with consultant physicians, nurses and other healthcare professionals
- International dimension to support interactive learning group dynamics

Journal clubs, case presentations, scenario analysis, reflective portfolios, presentations and discussions
Patient-Centred Monitoring in Chronic Disease Management in the Community Pharmacy

Martina Muscat

Phase 2 – Implementation of Service

• Action plan
• Follow-up after 4 months
Results
Blood Glucose (n=28)

Fasting Glucose

8.0 mmol/L  
T = 0

6.3 mmol/L  
T = 4 months

HbA1c

7.5 %  
P < 0.001

7.0 %  
P < 0.001

PHARMACOTHERAPY IN THE TREATMENT OF *Clostridium difficile*: IMPACT ON CLINICAL PRACTICE

Noelia Holgado Sánchez
IMPACT OF THE STUDY

- Innovative study: risk factors for active and carrier patient status
- Chronic kidney disease identified as a predictor to acquire the active infection
- Higher prevalence in female population: signal for further investigation
- Adherence to management algorithm needs to be improved: delivery of educational programs

Glucagon Use in Paediatric Type 1 Diabetic Patients: An innovative approach to improve outcomes

DANIKA AGIUS DECELIS
Methodology: Phase 1

Visits to paediatric outpatients clinic → Identified gaps → Development of Glucagon Tool Kit and questionnaires

Discussion

- Developed the Glucagon Tool Kit which is now implemented for service provision - used by nurses in this area of practice, patients and by community pharmacist

- Contributes to increased patient safety in managing hypoglycaemia in paediatric T1DM
Outcome

Empower pharmacists

- Advanced clinical pharmacy skills
- Perspective on patient safety in developing and use of innovative drugs
- Leadership and advocacy
- Drive policies and developments

Celebrating success! The first PharmD course comes to a successful end. MDHPharmacy working with Department of Pharmacy, University of Malta to take the pharmacy profession in Malta to a higher level for the benefit of the patients. #SpizjaraMDH

Postgraduate Doctorate in Pharmacy, University of Malta, July 2017
THANK YOU

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