AN URGENT NEED FOR PHARMACEUTICAL EDUCATION REFORM IN LIBYA

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According to the available evidence from quality research

- **Pharmacists have shown to:**
  - Positively influence morbidity and mortality,
  - Reduce medication errors,
  - Enhance quality use of medicines, and
  - Increase access of the general public to medicines
In addition:

- **Medicines are:**
  - Costly,
  - Internationally abundant (hard to select from)
  - Dangerous commodities that can inflict harm.
Therefore:

- Pharmacists need to acquire the appropriate basic knowledge and skills from tertiary education institutions on all aspects of development, selection and use of medicines.
Medicines Management Cycle
The Libyan Pharmaceutical Sector

• According to the WHO the Libyan pharmaceutical sector is highly flawed and requires urgent reform.
Medicines Management Cycle
The Libyan problem

• The WHO has identified inadequate tertiary education systems as one of the main challenges that face the development of the Libyan healthcare system (particularly outdated curricula).
The Libyan problem

• Pharmaceutical education curricula are:
  – Outdated,
  – Oversized with unnecessary extra information.
The Libyan problem

- No national Libyan standards for pharmaceutical education (including curricular standards) exist despite the availability of a general national accreditation body for higher education.
The Libyan Problem

• However, the national accreditation body lacks independence and is governed by the same ministry that governs higher education.
The Libyan problem

• In addition, no quality regional curricular standards for pharmaceutical education exist.
Our benchmark

• WHO recommendations for curricular standards of the tertiary pharmaceutical education.

• Available international curricular standards for tertiary pharmaceutical education.
The WHO has identified the recommended quality of a pharmacy graduate:

- **The 7 star pharmacist**

  1. * Caregiver
  2. * Communicator
  3. * Manager
  4. * Life-long-learner
  5. * Teacher
  6. * Leader
  7. * Researcher
International standards for pharmaceutical education

• Are in line with the WHO recommendations.
• Cover all aspects of knowledge and skills required for a pharmacist:
  – General (professional) knowledge and skills.
  – Practice oriented knowledge and skills
Medicines Management Cycle
International Streams of Pharmaceutical Education

Streams of Pharmaceutical Education

Pharmaceutical Sciences Faculty

Pharmacy Faculty
Pharmaceutical Sciences Faculty
(Laboratory and Pharmaceutical industry based education)

Traditional sciences

Enabling sciences
- Chemistry
- Mathematics
- Biological sciences:
  - Anatomy
  - Physiology
  - Pharmacology

Pharmaceutical sciences
- Pharmaceutics.
- Pharmaceutical chemistry.
- Pharmacognosy.
- Pharmacology and toxicology
Faculty of Pharmaceutical sciences

- Graduates are **pharmaceutical scientists** *(not pharmacists)* with knowledge and skills directed at laboratory-based pharmaceutical research and development.
International Streams of Pharmaceutical Education

- Streams of Pharmaceutical Education
  - Pharmaceutical Sciences Faculty
  - Pharmacy Faculty
Pharmacy practice Faculty

Pharmacy curriculum

- Traditional sciences
- Social sciences
- Professional sciences
- Clinical sciences
Social sciences

Professional sciences:
- Evidence-based practice
- Epidemiology
- Critical appraisal of medical literature

Clinical sciences:
- Pharmacotherapy
- Practice-based Placements
Pharmacy practice Faculty

• graduates are **Pharmacists** with knowledge and skills directed at rational selection and use of medicines (an essential need for any contemporary healthcare provision).
Pharmacy practice Faculty

• Graduates of this type of faculty are qualified to practice pharmacy in all settings where medicines are selected, prescribed or used (in community, hospital or government settings).
The Libyan Problem

• Type of faculty available is: 
  
  \textbf{Pharmaceutical science.}
The Libyan Problem

• Graduates practice pharmacy as **pharmacists** despite they are **missing** an essential curricular aspect of faculty education.
Pharmaceutical Sciences Faculty
(Laboratory and Pharmaceutical industry based education)

Traditional sciences

Enabling sciences
Chemistry
Mathematics
Biological sciences:
  Anatomy
  Physiology
  Pharmacology

Pharmaceutical sciences
Pharmaceutics.
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Pharmacy practice Faculty

Pharmacy curriculum

- Traditional sciences
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Social sciences

Professional sciences:
- Evidence-based practice
- Epidemiology
- Critical appraisal of medical literature

Clinical sciences:
- Pharmacotherapy
- Practice-based Placements
Interestingly, no Pharmaceutical Industry exists in Libya for the Pharmaceutical Sciences faculty graduates to practice the knowledge they acquired.

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Moreover, graduates of the Pharmaceutical Sciences faculty practice pharmacy in the Libyan healthcare system without any previous educational exposure to an appropriate pharmacy curriculum

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Pharmacy Faculty

Traditional sciences + Social sciences = Appropriate Pharmacy practice curriculum
The Libyan Problem

Traditional sciences + Nil/Social sciences = Inappropriate Pharmacy practice curriculum
Ramifications of the Libyan Problem

• Undertraining of pharmacists resulted in poor quality of pharmaceutical services despite the high expenditure on the pharmaceutical sector and on public tertiary pharmaceutical education.
The solution

- Transformation of pharmaceutical education curricula in line with WHO recommendations and quality international standards.
However
Observed problems

• Resistance of curricular change by old faculty members.

• Extreme shortage of Libyan national (and regional) faculty members who are specialized in pharmacy.
Conclusion

• In the Libyan case, curricular flaws are well identified, therefore, an urgent pharmaceutical education curricular reform is needed.
Conclusion

• We recommend formulation of a collaborative taskforce (national + international members) in order to establish sound and quality foundation for curricular change.
Conclusion

• Quality curricular standards are cornerstones in teaching and learning process.
What about teaching and learning methodologies?

- Well constructed curricula will facilitate a meaningful application of contemporary teaching and learning methodologies.
THANK YOU!