Medication safety – structured development of a University-based postgrad education program

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BACKGROUND

Medication safety is extremely relevant for patient safety. People responsible for medication safety should be experts in the safe use of drugs.
Advanced training in medication safety is essential in order to ensure that the necessary skills are acquired to carry out this role accordingly.

OBJECTIVES

The aim of this thesis was to develop a concept for a university-based Certificate of Advanced Studies (CAS) in Medication Safety.

- Important topics and interventions regarding the improvement of medication safety were determined and
- a program for the CAS developed by prioritizing relevant topics.
- The learning objectives and the conditions of participation for the CAS were devised.

METHODS

1. **Internet search**
   We identified medication safety training courses from around the world.
2. **Scoping review** in Pubmed & Embase: In order to ensure coverage of all relevant topics and interventions of the last 5 years used to improve medication safety and involving a pharmacist, we carried out a scoping review.

- Based on the existing training courses and publications, we designed a **program for the CAS in Medication Safety**, that was subjected to

3. **Expert consultations**
   - a written expert survey (SurveyMonkey®)
   - a focus group discussion
   - individual feedback.

- Based on these inputs, we optimized

4. the **program for the CAS in Medication Safety.**

Results

1. Internet search

- 9 medication safety training courses: 7 from the US, 2 from Saudi Arabia
- Duration of the training courses: between 2 and 40 hours
- Format of the training courses: distance learning, presence learning, mixed

2. Scoping literature review

- 24 publications identified
- Origin: US (6), Australia (5), Canada, England and Finland (2 respectively), Jordan, Brasil, Katar, India, Italy, Germany and Ireland (1 respectively)
- Type of publication: narrative review (7), systematic review (7)
- Most important topics: technology (17), risk management (9), education (14), systems and processes (11), interprofessional collaboration (10)

3. Expert consultations

Online survey and focus group discussion: 7 experts from hospital pharmacy

- Important topics not (yet) covered sufficiently:
  transition of care, safety/error culture, law and regulations, clinical pharmacy

- Clinical pharmacy was excluded on purpose due to another CAS available.

Bilateral exchanges with nursing and physician representatives – important topics: duration, admission criteria, course language

4. The final 18 months-program

Einführung Medikationssicherheit:

Weiterbildungen:
- Umfang und Hintergrund
- Definitionen
- Medikationsfehler in verschiedenen Prozessen
- Verborgene Fehler

Literatur:
- Umfang und Hintergrund
- Definitionen
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Expert*innenbefragung:
- Eiführung in den CAS

Risikomanagement:

Weiterbildungen:
- Risikoidentifizierung (RCA, FMEA)
- Datenerhebungs-methoden
- Berichterstattung
- Untersuchung und Analyse von ME

Literatur:
- Berichterstattung (Critical Incidents, Pharmakovigilanz)
- Risikoanalyse (FMEA, REMS, Selbstbewertung)

Expert*innenbefragung:
- Prozessanalyse
- SWOT
- PDCA
- Trigger Tools
- Self assessment
- Projektmanagement
- Qualitative und Quantitative Analyse Methoden, Datenerhebung

System & Prozesse:

Weiterbildungen:
- Leistungs- und Prozessverbesserung
- Sicherheitskultur (Just Culture)
- Risikoreduktions-strategien
- Medikamenten-management

Literatur:
- Arbeitsumgebung
- Sicherheitskultur
- Kennzeichnung/ Dokumentation
- Versorgung
- Einbezug des*der Patient*in

Expert*innenbefragung:
- Austrittsmanagement
- Medikations-kompetenz
- Pharmakoviglilanz und CIRS

Schulung:

Weiterbildungen:
- Aus- und Weiterbildung des Personals

Literatur:
- Schulungen geführt von Apotheker*innen für Ärzt*innen und Pflegefachpersonen
- Schulungen im Bereich: Verschreibung, Lagerung, Abgabe, Verabreichung und Monitoring

Expert*innenbefragung:
- E-learnings

Interprofessionelle Zusammenarbeit:

Weiterbildungen:
- Rolle des Ausschusses für Pharmazie und Therapie
- Mitarbeiter*innen-kommunikation

Literatur:
- Teams und Kommunikation
- Apotheker*innen, Pflegefachpersonen, Ärzt*innen

Expert*innenbefragung:
- Expert*innen aus einzelnen Berufsgruppen einladen

Technologie:

Weiterbildungen:
- medication-use technology

Literatur:
- Technologie hat Einfluss auf jeden Bereich des Medikations-prozesses
- Barcode, EHR, CDS, CPOE, smart pump, Unit Dose
- Braucht Schulung, sonst neue Fehler

Expert*innenbefragung:
- Elektronische Verordnung

Medication Safety Officer/ Leadership:

Weiterbildungen:
- Rollen und Verantwortlichkeiten des MSO
- Festlegung der Agenda für die Medikationssicherheit
- Führung und Management von Veränderungen

Literatur:
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Expert*innenbefragung:
- Kommissionen
- Ökonomie und Sicherheit
- Risikoaudits
- RQS/MAIEA
- Gesetze und regulatorische Einflüsse

3 days	3 days	2 days	1 day	2 days	1 day	3 days

Practice project

DISCUSSION & CONCLUSIONS

The envisioned CAS in Medication Safety will be **taught in English** and includes

- **15 days** of face-to-face tuition for the seven developed modules as well as
- 200 hours of self-study time including preparation and follow-up as well as
- the **development of a practice project** relevant to improve the medication safety of an institution (in English, German or French).
- Admission criteria: a master's or equivalent degree in medicine, pharmacy or nursing; 2 years of on-the-job experience.

The start is envisioned in September 2023.

Recommended literature

American Society of Health-System Pharmacists, Medication Safety Officer's Handbook, Larson and Saine 2013.
ASHP Statement on the Role of the Medication Safety Leader, American Journal of Health-System Pharmacists, ASHP 2019.