

Appendix S1: Survey

Demographical questions

Q1 In which country are you currently studying?

- O₁ Belgium (België)
- O₂ Czech Republic (Česká republika)
- O₃ Germany (Deutschland)
- O₄ Greece (Ελλάδα)
- O₅ Hungary (Magyarország)
- O₆ Italy (Italia)
- O₇ The Netherlands (Nederland)
- O₈ Norway (Norge)
- O₉ Portugal
- O₁₀ Republic of North Macedonia (Република Северна Македонија)
- O₁₁ Slovakia (Slovensko)
- O₁₂ Slovenia (Slovenija)
- O₁₃ Spain (España)
- O₁₄ United Kingdom (England)
- O₁₅ United Kingdom (Wales)

Q2 Level of education?

Q3 Do you identify as:

- O₁ Male
- O₂ Female
- O₃ Other
- O₄ Prefer not to say

Q4 What is your age? Years

Q5 Are you combining your studies with a job in healthcare? (Either paid or voluntary)

- O₀ No → question Q6 will not be showed / go to Q7
- O₁ Yes

Q6 How many hours per week are you currently working in healthcare? Hours

Q7 How many years of work experience do you have in healthcare? Years

Questions about pharmaceutical care in your nursing curriculum

When we talk about pharmaceutical care by nurses, we want you to think about nurses' contribution to the care of individuals in order to optimize medicines use and improve health outcomes.

A/ NURSING CURRICULUM – MORE GENERAL QUESTIONS

Q8 Is pharmaceutical care sufficiently present in the current nursing curriculum? Indicate your opinion on a scale from 0 to 5 (0 = not at all, 5 = sufficiently present).

0	1	2	3	4	5
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Q9 In previous research, we identified several responsibilities for nurses in interprofessional pharmaceutical care. Indicate for each of the following responsibilities whether they were absent in your nursing curriculum, present but insufficient, sufficiently present or that you don't know.

	absent	present but insufficient	sufficient	Unsure
Q9.1 Management of therapeutic and adverse effects of medicines (monitoring, assessing needs, identification of drug related problems, follow-up)	0 ₀	0 ₁	0 ₂	0 ₃
Q9.2 Management of medication adherence (monitoring, assessing needs, identification, motivational interviewing, follow-up)	0 ₀	0 ₁	0 ₂	0 ₃
Q9.3 Management of medication self-management (empowerment, self-care support, assessing needs)	0 ₀	0 ₁	0 ₂	0 ₃
Q9.4 Management of patient education and information (communication, discussion, counselling, coaching, training, advice)	0 ₀	0 ₁	0 ₂	0 ₃
Q9.5 Patient safety management (medication error reporting, follow-up)	0 ₀	0 ₁	0 ₂	0 ₃
Q9.6 Medicines management in discharge planning and transition of care	0 ₀	0 ₁	0 ₂	0 ₃

Q10 Did the current nursing curriculum sufficiently prepare you to achieve pharmaceutical care related competences in clinical practice? Indicate your opinion on a scale from 0 to 5 (0 = not at all, 5 = sufficiently prepared).

0	1	2	3	4	5
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Q11 The following items question your perceptions about opportunities to undertake pharmaceutical care within your previous clinical placements. Please indicate for each of the following statements whether you strongly disagree, disagree, agree or strongly agree.

Statement	Strongly disagree	Disagree	Agree	Strongly agree
Q11.1 I have been introduced to responsibilities and tasks relating pharmaceutical care in clinical practice	0 ₀	0 ₁	0 ₂	0 ₃
Q11.2 I have had sufficient opportunity to undertake pharmaceutical care in clinical practice	0 ₀	0 ₁	0 ₂	0 ₃
Q11.3 I am satisfied with the supervision I have received when undertaking pharmaceutical care in clinical practice	0 ₀	0 ₁	0 ₂	0 ₃
Q11.4 Nurse mentors have had an important role in how I have learned pharmaceutical care in practice	0 ₀	0 ₁	0 ₂	0 ₃

Q11.5 I have received feedback from mentors on my development in pharmaceutical care	0 ₀	0 ₁	0 ₂	0 ₃
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B/ NURSING CURRICULUM – KNOWLEDGE

Indicate for each of the following items to what extent knowledge related to these topics was present in your nursing curriculum.

Knowledge about:	Absent	Present but insufficient	Sufficient	Unsure
Q12.1 Pharmacokinetics and pharmacodynamics	0 ₀	0 ₁	0 ₂	0 ₃
Q12.2 National legislation	0 ₀	0 ₁	0 ₂	0 ₃
Q12.3 Potential causes of drug related problems	0 ₀	0 ₁	0 ₂	0 ₃
Q12.4 Interventions that aim to prevent drug related problems and self-care	0 ₀	0 ₁	0 ₂	0 ₃
Q12.5 Which healthcare professional should be contacted to discuss treatment choices/changes	0 ₀	0 ₁	0 ₂	0 ₃
Q12.6 Patient education about medication	0 ₀	0 ₁	0 ₂	0 ₃
Q12.7 How to obtain the best possible medication history and information on current medication regimen	0 ₀	0 ₁	0 ₂	0 ₃
Q12.8 The nurse independent/dependent prescribers' formulary	0 ₀	0 ₁	0 ₂	0 ₃
Q12.9 How to access medication-related information effectively to address drug related problems	0 ₀	0 ₁	0 ₂	0 ₃
Q12.10 The importance of sharing knowledge and medication-related information with patients and colleagues	0 ₀	0 ₁	0 ₂	0 ₃

C/ NURSING CURRICULUM – SKILLS

For the following items indicate to what extent the relevant skills were present in your nursing curriculum.

Skills about:	Absent	Present but insufficient	Sufficient	Unsure
Q13.1 Observing and recognizing therapeutic effects, adverse effects and drug-related problems	0 ₀	0 ₁	0 ₂	0 ₃
Q13.2 Proposing and implementing interventions aiming to prevent drug-related problems	0 ₀	0 ₁	0 ₂	0 ₃
Q13.3 Applying interventions to optimise self-care	0 ₀	0 ₁	0 ₂	0 ₃
Q13.4 Obtaining timely, accurate, and thorough medication histories	0 ₀	0 ₁	0 ₂	0 ₃
Q13.5 Proposing appropriate changes in medication therapy, including PRN	0 ₀	0 ₁	0 ₂	0 ₃
Q13.6 Recognising the needs and preferences of the patient and/or family in self-management.	0 ₀	0 ₁	0 ₂	0 ₃
Q13.7 Empowering and involving the patient and/or family in pharmaceutical care	0 ₀	0 ₁	0 ₂	0 ₃
Q13.8 Undertaking safe storage, transportation and disposal of medicines for/with patients and/or patient advocates	0 ₀	0 ₁	0 ₂	0 ₃

Q13.9 Prescribing and discontinuing medication listed in the nurse prescribers' formulary or the independent prescribers' formulary	0 ₀	0 ₁	0 ₂	0 ₃
Q13.10 Accessing medication-related information to address drug related problems	0 ₀	0 ₁	0 ₂	0 ₃

D/ NURSING CURRICULUM – ATTITUDES

Indicate for each item to what extent education of attitudes about these topics was present in your nursing curriculum.

Attitude about:	Absent	Present but insufficient	Sufficient	Unsure
Q14.1 Having self-confidence to perform a task	0 ₀	0 ₁	0 ₂	0 ₃
Q14.2 Taking responsibility and a proactive attitude towards work needed to improve patients' medication therapy	0 ₀	0 ₁	0 ₂	0 ₃
Q14.3 Being able to respond to and respect patients' preferences	0 ₀	0 ₁	0 ₂	0 ₃
Q14.4 Being able to verify patients' understanding of education / information	0 ₀	0 ₁	0 ₂	0 ₃