RESEARCH

Nordic Pharmacy Schools' Experience in Communication Skills Training

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Objective. To assess communication skills training at Nordic pharmacy schools and explore ways for improvement.
Methods. E-mail questionnaires were developed and distributed with the aim to explore current practice and course leaders' opinions regarding teaching of patient communication skills at all the 11 master level Nordic(Denmark, Finland, Iceland, Norway and Sweden) pharmacy schools. The questionnaires contained both closed and open-ended questions.
Results. There was a variation of patient communication skills training among schools. In general, communication skills training was included in one to five courses (mode 1); varied in quantity (6-92 hours); had low use of experiential training methods; and had challenges regarding assessments and acquiring sufficient resources. However, some schools had more focus on such training.
Conclusion. The results show room for improvement in patient communication skills training in most Nordic pharmacy schools and give insights into how to enhance communication skill building in pharmacy curricula. Suggestions for improving the training include: early training start, evidence-based frameworks, experiential training, and scaffolding.
Keywords: patient communication skills training, pharmacy students, Nordic countries

INTRODUCTION

Efficient pharmacist-patient communication about medicines improves patient's adherence to medicines, increases patient's quality of life and drug knowledge, and clarifies misunderstandings around medicine use.[1-4] However, studies from community pharmacies worldwide found patients receiving limited counseling with many not receiving any counseling at all, pharmacists using inappropriate questioning techniques, and a less patient centered-care approach is used.[5,6] In the Nordic setting, studies report of a similar pattern. Swedish researchers found that 50% of the dispensing encounters between pharmacists and patients lasted for only 10 seconds or less when it came to medical issues.[7] In Denmark, 26% of the pharmacist-patient encounters had no communication about the medicines at all.[8] Norwegian patients reported only being informed about the use of medicines in 50% of the cases.[9,10] In Iceland, pharmacists seldom gave patients evidence-based information .[11] Finnish studies on counseling found communication rates between 18% and 80%, depending on the kind of medicine dispensed, and patients reported being counseled in 46% of their visits.[12-14] Thus, the society (general public and regulators/policymakers) and Nordic pharmacy educators have strong reasons to develop and strengthen pharmacy students' patient communication skills.

Examples of communication skills are asking questions, actively listening, empathizing and -explaining .[15,16] Patient communication skills training, ie, types of training to develop necessary skills for

communication, influence the quality and outcomes of health care professionals' patient encounters.[17] A health care professional's communication skills are not only a matter of common sense or personality traits, rather, they are skills that can be taught and learned.[17-19] The pharmacy education is an important factor influencing pharmacists-patient communication .[20] According to the World Health Organization, the International Pharmaceutical Federation and the Accreditation Council for Pharmacy Education, pharmacy schools should prepare student pharmacists for their future professional life as counselors.[21,22] The European Union (EU) lists two counseling requirements in their directive of professional qualifications. The EU requires a pharmacist trained and working in the EU to be able to "provide information and advice on medicinal products as such, including on their appropriate use" (Article 45); "give personalized support for patients who administer their medication" (Article 45); and requires pharmacists to complete six months of training (pharmacy practice experience (PPE)) in a hospital or community pharmacy (Article 44).[23] Personalized support for medicine use is in line with a global trend in pharmacy practice with an increased focus toward new and intensified ways of using pharmacists' clinical and pharmacotherapeutic knowledge in the delivery of cognitive health care services; also, in such services, good communication skills are vital.

Traditionally, and still in many parts of the world, pharmacy education curricula have a strong focus on natural science[24,25] and are designed to support the role of developing, manufacturing and distributing medicines, rather than on social science and on the anticipated future role of pharmacists as clinical counselors. Nevertheless, pharmacy schools worldwide have implemented patient communication courses in their curriculum to increase students' competence in this field.[26-31] Studies, in North America, United Kingdom and Ireland , have attempted to describe the overall curriculum content.[27-31] In 1986, the varying levels of involvement from schools in communication skills training and an unstructured approach toward teaching those skills were shown in the United Kingdom and Ireland.[27] Similar results were found in the United States in 1990 with large variations of content, teaching methods and time devoted to patient communication skills training.[28] In 2000, a survey distributed to pharmacy schools in the US found that more formalized assessment methods were needed.[29] This was still a problem in 2006, when the necessity for standardizing the assessment methods was further prompted.[30] In 2013, Schwartzman and colleagues found that didactic training with lectures dominated communication skills training in Canadian and American pharmacy schools, and that student communication skills were assessed by written examinations.[31]

Understanding the state of patient communication education is one factor in improving pharmacists' counseling practice. The state of patient communication skills training in Nordic countries is not well-documented, yet there are few studies that have identified struggles in counseling practice. Community pharmacists in Nordic countries share a common culture where newer cognitive health care services are beginning to be offered in pharmacies and hospitals. The objectives of this study were to assess communication skill-building in pharmacy curricula in Nordic pharmacy schools and to find ways for improvement. This study's authors explored current practice and course leaders' opinions regarding teaching of patient communication skills.

METHODS

Two email questionnaires were developed and distributed to all the 11 Nordic pharmacy schools responsible for educating master degree pharmacy students (five years of study in the Nordic countries) of Denmark, Finland, Iceland, Norway and Sweden). Questionnaire 1 was sent to department heads and/or program coordinators, and questionnaire 2 was sent to course leaders identified by questionnaire 1. In a cover letter, respondents were asked to only include mandatory courses with an explicit focus on communication with patients and/or other health care professionals, including theoretical and/or practical verbal or non-verbal communication skills, and competence, including self-reflection. The above excluded teaching about academic writing or presentation skills. The respondents were told that they will receive the questionnaire results. Each pharmacy school's curriculum was reviewed to ensure that all relevant courses were reported, including course descriptions available online. Up to five repeat emails were sent to non-responders. Data were collected between March and November 2015. Ethical approval was not

needed according to Nordic regulations. However, the study was registered at the Norwegian Centre for Research Data (data protection office for research for Norwegian universities), and informed consent were collected and data were stored confidentially.

The two questionnaires contained both closed and open-ended questions. They were developed based on two existing questionnaires from medical and physiotherapy communication skills education[32-34] and adapted to the pharmacy education. The questionnaire design was developed by the authors (including pharmacy school associate professor from three of the Nordic countries) after reviewing prior studies of pharmacy schools.[27-30] Questionnaire 1 contained six questions. Questionnaire 2 contained five sections with a total of 21 questions that were both closed and open-ended (Table 1). The two questionnaires were pretested on a pharmacy professor (involved in communication training) and reviewed by a professor from a medical faculty in Norway (involved in similar studies and communication training from the medical education).

Summary of data and simple descriptive statistical analysis was done in SPSS software (SPSS 22.0 for Windows, SPSS Inc., Chicago, IL). Structuring of the open-ended questions was done in NVivo qualitative data analysis software (QSR International Pty Ltd. Version 10, 2012). All authors read the free-text responses. The first author summarized the free-text responses (Table 1). A descriptive approach to the analysis of the free-text responses was chosen, and responses were categorized according to the main sections from questionnaire 2 (Table 1). In, addition a review of the formal course objectives was done based on available information on the schools' homepages or provided by the respondents.

RESULTS

All 11 pharmacy schools completed questionnaire 1. In questionnaire 2, 29 relevant courses were identified and responses were received from 26 (characteristics of the study population are listed in Table 2). The results are presented on an aggregate level for all Nordic schools and course types: pharmacy practice experience course (PPE), communication as a stand-alone course (CSC), other courses (OC, ie, pharmacotherapy, interdisciplinary, social and/or clinical pharmacy courses). The courses were categorized to provide a better description of the training in addition to the PPE required by the European Union (EU).[23] Examples are given of individual schools to demonstrate varying teaching practices. Quotations exemplifying the free text answers are found in Appendix 1.

All schools taught communication skills with most offering it at the end of the program year (median in year 4) (Table 3). None of the schools taught communication skills during the entire duration of the curriculum. Within each curriculum, the range of courses was 1-5 (mode 1). Overall, the PPE is the predominant period of patient communication skills training. Four schools had patient communication skills training as CSC, also mentioned in the course name. Seven schools had communication skills training integrated in OC. Four schools used all three course types (PPE, CSC and OC). One school in Finland reported using the United States Pharmacopeia (USP) Medication Counseling and Behavior Guidelines Empowerment and Concordance theoretical framework for their communication curriculum. Patient communication laboratories were available at two schools in Finland. Table 3 shows the number of hours of teacher-led communication education.

A review of the course objectives showed many having no connection between objectives and course content with learning outcomes. OC and PPE course objectives often mention communication without further explanation or specification , eg, "Central aspects considering…communication are discussed…customer communication." In PPE courses, a common learning outcome was "to be able to give rational information/and in dialog identify medicine use related problems." Some learning outcomes were more patient focused: "guide and empower patients in order to give them the maximum benefit of their medicines." The clinical pharmacy courses often focused on "executing a medicine use review." In two CSC courses, the main focus of both objective and learning outcomes was on communication skills and how they affect the use of other pharmacy skills.

Three schools reported employing individuals who were responsible for coordinating patient communication skills training throughout the curriculum. The most common educational backgroundof faculty teaching communication training was pharmacy without formal communication education (ie an

university education in communication science and/or communication skills education/training.) (17 courses). Six schools had professors, associate and assistant professorswith formal training in patient communication skills (3 of 4 courses within a CSC, 1 of 12 PPE, and 3 of 10 OC). In general, respondents expressed that more faculty who teach "communication" would be beneficial and some felt that the PPE tutors did not have sufficient competency to assess/give feedback on communication skills. Two also mention their own lack of competency in the area, for example, that they as pharmacists lacked patient communication education. Respondents responsible for courses involving faculty with clinical experiences reported that this facilitated training.

In the free text answers related to general information about the communication training and resources needed, many respondents identified the PPE course with patients in real life as a great opportunity for student learning. Respondents having a patient communication course arranged before the first part of practical training praised this because they felt it eased the transition to practice. Further, some respondents here mentioned problems with engaging and motivating students on the topic, as well as making them realize the importance of communication skills training for their future professional life. A few reported that students did not perceive it as "science." One respondent shared how she/he had managed to engage the students and that until today, the students did not question the relevance of patient communication skills training. Many respondents mentioned a desire for a greater focus on communication skills training, for example, longer courses, more practical training, better ways of transferring communication theory into practice, and time for students to reflect on communication skills and the professional role. Further, teaching, what they perceived as too large classes made it difficult to individualize the training to ensure that all students received sufficient training and feedback. Common barriers were time and money. In the free text answers, few respondents were satisfied with the current status. Nearly all respondents said they planned to expand and/or restructure the communication teaching. Some schools planned to introduce the training earlier, restructure their course into several minor parts, increase focus on interdisciplinary training, and use better resources such as virtual pharmacies and/or training centers.

Advising, informing and listening are skills taught at all schools (Table 4). Less represented skills and topics were health literacy, communicating with children about medicines (except in CSC) and motivational interviewing technique (except in CSC). On average, each school offered 24 different skills and/or topics (range 8-31). In Finland, one school devoted 92 hours of teacher-led communication skills training and covered 31 skills; other schools devoted less time (10-15 hours) but still covered 20 skills. Topics and skills to teach were chosen by a more formalized approach, ie by a core content analysis among teachers, students and pharmacists working in practice about relevant topics and skills, or informally by the teachers themselves (topics believed in some way to improve communication skills).

Patient communication skills training was taught via lectures at all schools (Table 5). Fewer schools (range 3-7) used more experiential (interactive/practical) training methods, such as video recording, role play, and simulated patients. Two schools used computer simulations. Practical training with real patients occurred during the PPE and was used by all schools. In median, 12 teaching methods were in use at each school (range 3-14). The most commonly used textbook was "Communication Skills in Pharmacy Practice-A Practical Guide for Students and Practitioners" by Beardsley et al[35], used by 4 schools in 5 PPE courses and 1 CSC course.

The most common way of providing feedback to students was through pharmacy tutors during the PPE period and the least used methods were feedback by self-evaluation and video recording (Table 6). In median 2, different feedback methods were used at each school (range 1-6). None of the schools reported assessing students' overall development of patient communication skills during training across the courses/years.

Reflected in the free text answers some respondents found it challenging to find teaching methods that reflected practice and that also engaged students. Respondents using role play said that role play was a good learning experience for the students, especially when it was followed with group discussions.

Others, however, mentioned difficulties with this method as some students did not take it seriously. Other methods used include employing an actor to mimic real situations and combining several teaching and assessment methods. In the free text many respondents reported they would welcome using more experiential teaching methods such as role play, theater, simulation, actors, video recording, e-learning (ie, online self-directed learning modules) and focus more on patient cases in the education. In the free text, some also mentioned a desire for more individualized training in one-on-one situations and better adapted physical resources, eg, a training pharmacy.

Different assessment methods, in median 2, were used per school (range 1-5).. Assessment by a reflective essay was a common assessment method (Table 7). One school used objective structured clinical examinations (OSCE) as a summative assessment method. Some respondents mentioned assessment (summative and formative, ie, feedback) as a challenging area both regarding finding good and quality- assured assessment methods, and time, money and competence for executing the assessments. Respondents would further develop assessment methods in an ideal world by using OSCE.

DISCUSSION

This is the first study mapping current practice and course leaders' opinions on communication skills training at Nordic pharmacy schools. This study can serve as a basis for future research, development and improvement of communication skills training. The most common way of patient communication skills training was through PPE. There is considerable variation of patient communication skills training among schools, both among Nordic countries and within the pharmacy schools in each country. Some of these variations were on the number of hours of teacher-led training (6 to 92 hours), the availability of communication training as standalone courses (offered at four schools), interdisciplinary training (two schools), use of experiential teaching methods, number of courses aside from the required PPE per school (range 2-5), assessment methods, and use of patient communication laboratories. Schools that devote more teaching hours use more experiential teaching methods. The identified pattern of communication training are similar to those identified by previous studies eg less focus on experiential teaching methods, lack of standardized assessment methods and use of written examinations .[27-31]

Figure 1 is an illustration of possible strategies to enhance communication skills training, identified from previous research, and interpretation of the results how they may be connected/scaffolded and used to improve students learning communication skills

The results reflect varying prioritization of the topic at different schools and countries and could both mirror pharmacists' (current and traditional) work cultures in their respective countries and type of university (small, big, new, old, etc.). Finnish pharmacy schools devote the most number of hours to training and provide the most number of patient communication laboratories. This may be because Finland has the "strictest" legislation of communication in pharmacies as the country only allows pharmacists (and not pharmacy technicians) to counsel on medicines, and consequently, many pharmacists work there.[36] Despite this, Finland still has difficulties with varying counseling practice.[12-14] In Norway, where almost all students who have graduated from a pharmacy school work in pharmacies, some schools have invested more time in patient communication training. In Denmark and Sweden (historically), many pharmacists work in the pharmaceutical industry

None of the pharmacy schools spread the communication skills training over all five years of education. Training occurs at a relatively late stage at several schools. This results to missed opportunities in providing additional training for students for skills development by repetition and rehearsing of communication skills.[17,29,31,37,38] Early placement of the practical training, such as an early introductory PPE in the curriculum, has been shown to help students to better grasp the theoretical knowledge in Finland.[39,40]

An evidence-based framework, either consensus-skill based or outcome based, has been recommended for a health care professional's communication curriculum.[16,17,41] This framework should be

flexible to fit each patient meeting. Students need an evidence-based framework and a toolbox of communication skills to pick from.[17] There is no consensus among Nordic pharmacy schools on what skills and issues to teach. A recent statement from health care professionals (including pharmacists) calls for such a unified approach and argue that it is necessary and possible.[16] Hyvärinen reported that each profession has its own discipline specific communication skills, which should be emphasized when developing a patient communication skills curriculum.[42]

Didactic and experiential teaching methods were identified. Many of the courses include different teaching methods, and as earlier studies have shown, communication training can be performed in different ways.[26,28] Lectures are the most common form of teaching and students practice with real patients in PPE. Few schools use experiential teaching methods; only three schools use video recordings and mainly in a CSC. This is in line with earlier findings from American and Canadian pharmacy schools where lectures were the primary mode of delivery.[31] No comprehensive study regarding pharmacy education compares different learning methods or curricula concerning effectiveness.[26,31] At medical schools, models for curricula design and experiential learning such as role play, simulated patients, and video recording have been shown to be effective.[17,43,44] They could possibly be effective for pharmacy students as well, and could hence be interesting to develop, evaluate and use more in pharmacy schools. .

Observation, feedback, self-directed learning and skill assessment are essential components in helping students learn patient communication skills.[17,19,45] In this study, feedback and a summative judgement are often conducted by PPE tutors (typically pharmacy employees/community pharmacists). They often lack training in communication skills, according to a Swedish study.[46] Consequences can be variable assessment of students based on subjective judgments. To receive the full potential of the patient communication skills training package, faculty members and preceptors must have relevant skills and have completed training themselves.[17] Pharmacy preceptors play an important role in the education of pharmacy students' practical pharmacy training. Previous studies in Sweden showed that preceptor training is important for the students' outcome of the course regarding level of reflection achieved at the end of the PPE.[47] Faculty and preceptors should be trained in a wide variety of teaching methods, theories and knowledge about student attitudes toward learning such skills eg, by increasing their theoretical knowledge but also by participating in different experiential training sessions. This can be done through short programs/workshops, local networks, online training materials, in-house training.[17]

Faculty should also support students to self-directed learning. Studies suggest that scaffolding could be used to form self-directed learners, since scaffolding aligns progressive development of skills by using formative feedback and summative assessments with the goal of helping students be more independent learners toward the end of their education.[19] Blended training format, a mix of e-learning and in-class experiential teaching with feedback, could be an attractive teaching format to improve students' communication skills and as a way to streamline resources.[48] None of the schools assess the overall development and the summative assessment methods appear not focused on assessing actual communication skills with patients (or actors). There is no consensus on more formal summative assessment methods. This was further confirmed in the free-text answers as a difficult area and where improvements are needed. These finding are in line with previous studies, which found a shortage of validated instruments for assessing patient communication skills training of pharmacy students.[26,29-31]

All but one respondents identified a need to increase the patient communication skills training. They listed several organizational barriers such as lack of resources, money and time for advancing the education. This is reflected in the reported amount and type of patient communication education. For example, schools devoting 6-15 hours of communication skills training probably only manage to teach students communication skills superficially and not in a one-on-one learning situation. One explanation for these discrepancies could be that pharmacists traditionally have been taught to manufacture medicines. It seems as if many curricula are lagging behind. Schools would need to allocate another resource. It can be challenging to increase and restructure communication education in an already crowded curriculum, balancing it to mirror current and future work practice. One could argue that a strategy might be to work on the attitudes and awareness of the topic's importance in achieving rational medicine use in the society among key faculty members and other decision makers. Many students will, during their professional life,

encounter patients daily at pharmacies, municipalities (nursing homes, at the GPs) and hospitals in the Nordic countries. Therefore, pharmacists need well-developed communication skills to transfer their clinical competence to patients. Limited training in patient communication skills is one reason for the scarce communication on medicines in Nordic pharmacy practice.[7-14]

The questionnaire was not anonymous (respondents were identified), which might have resulted in socially desirable answers. Some schools also offer different voluntary courses with elements of communication training; those were excluded from the study. In general, respondents found it difficult to report the amount of teacher-led training and it was missing for some courses. In addition, different interpretations of which courses to include might have been present among the participants, as many courses contain little training or fragments. This might have led to an under- or over-reporting of courses.

Questions can be raised on how much time, resources, and type of teaching methods are needed to raise good counselors for pharmacy practice. More research is needed to measure different educational interventions and impact of curriculum designs on pharmacist practice and patient outcomes. A case study of successful patient communication curricula could give insight into best teaching practice.

CONCLUSION

Nordic pharmacy schools need to restructure their communication skills training to help students and future pharmacists improve their communication skills so they can provide effective patient care.

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Table 1. Main Sections and Examples of Topics in Each Section of Questionnaires 1 and 2

Questionnaire and Main Sections	Example of Topics
Questionnaire 1	
	Communication courses (Yes/No)
	Patient communication laboratory (Yes/No)
	Anticipated future changes to the training
Questionnaire 2	
Numerical and categorical answers. Free-text comments	
Course content (general information about the training)	
	Course name and type
	Teacher-led training in hours and/or ECTS of communication skills training
	Placement of training (year)
	Teachers' educational background
	Interdisciplinary course (Yes/No)
	Formal course objectives[a]
Topics and skills	
	Central topics and/or skills used
	Selection of central topics and/or skills
Teaching methods	
	Teaching and individual feedback method(s) used
	Training on how to give feedback
	Training on self-reflection of communication skills
	Texts, books, papers etc., used
Assessment of patient communication skills training	
	Assessment method (s)
	Further explanation of the assessment method(s) used
	Assessors' educational background
Free-text response: Teachers' views	
	Are there things you would like to see done differently or would do in an ideal world? If so, what would they be?
	Key strengths and opportunities related to communication skills teaching
	Key challenges or problems related to communication skills teaching
	Anticipated future (in a two year timeframe) developments
	Other comments

[a] A review of the formal course objectives was based on available information online or respondents' comments.

Table 2. Participant Characteristics of the Study Population Involved in Communication Skills training in Nordic Pharmacy Schools

Variable	Questionnaire 1	Questionnaire 2
Answers (N)	11	26/29[a]
Gender		
Female	8	21
Male	3	4
Job position		
Dean	2	
Program coordinator	9	
Professor		4
Associate professor or lecturer with PhD		14
Course leader without PhD (assistant professor)		8

Nordic= Denmark, Finland, Iceland, Norway and Sweden

[a] From one school, answers were received from 1 out of 4 identified courses. Some respondents completed the questionnaire for more than one course.

Table 3. Structure of the Communication Skills Training in Nordic Pharmacy Schools (Denmark, Finland, Iceland, Norway and Sweden)

	Number of Schools	Number of Courses[a]		
Variable	**Schools (n=11)**	**CSC (n=4)**	**PPE (n=14)**	**OC (n=11)**
Categorization of communication courses[a]/content				
Integrated in PPE[b]	11		14	
Integrated in a pharmacotherapy and/or clinical pharmacy course	7			7
Communication as a standalone course	4	4		
Integrated in an interdisciplinary course	2			3
Integrated in a social pharmacy course	1			1
Placement of training (year)[c]				
First	2	0	0	2
Second	2	2	0	1
Second and third	1	0	1	0
Third	3	1	2	2
Fourth	6	1	5	3
Fifth	5	0	4	2
Teacher-led training in hours		Average(SD); Median; Range[d]		
Overall		25(25); 16; 6-92		
PPE		8(6); 9; 0-18		
CSC		27(17); 22; 12-52		
OC		15(13); 13; 3-40		
Denmark (range)		7-10		
Finland (range)[e]		24-92		
Iceland (range)[f]		12		
Norway (range)		16-41		
Sweden (range)[g]		6-23		

Abbreviations: PPE=pharmacy practice experience course; CSC= communication as a stand-alone course; OC= other courses (pharmacotherapy, interdisciplinary, social and/or clinical pharmacy course).

[a] The survey identified 29 courses; 26 received an answer. All 29 courses were included in the initial categorization.

[b] Three schools have divided the pharmacy practice experience (PPE) into two courses.

[c] Missing placement for three courses from one school, excluded in the following analysis.

[d] Ten missing values (courses). Three courses from one school was excluded from the analysis.

[e] Four missing values (courses). Three courses from one school was excluded from the analysis.

[f] Four missing values (courses). Only one pharmacy school in Iceland.

[g] Two missing values (courses).

Table 4. Central Communication Skills and Topics Taught in Nordic Pharmacy Schools (Denmark, Finland, Iceland, Norway and Sweden)

	Number of Schools	Number of Courses[a]		
	Schools	CSC	PPE	OC
Variable	**(n=11)**	**(n=4)**	**(n=12)**	**(n=10)**
Listening	11	4	9	8
Advising	11	4	11	4
Informing	11	3	11	5
Use of understandable language	10	4	9	7
Risk-benefit communication about medications	10	4	9	4
Question techniques	10	4	7	4
Cultural diversity	10	4	7	2
Explaining	9	4	9	5
Empathy	9	4	6	7
Interprofessional communication	9	3	7	5
Importance of caring for patients	9	4	7	3
Non-verbal communication	9	2	6	6
Probing	9	3	6	5
Patient privacy and confidentiality	8	3	8	6
Summing-up the pharmacist-patient conversation	8	4	5	7
Interviewing	8	4	7	3
Communicating sensitive topics	8	4	7	2
Counseling technics	8	3	6	3
Counseling technics to improve adherence	8	4	5	2
Communicating with elderly patients	7	3	7	3
Communication theories	7	3	5	3
Communicating with upset patients	6	2	6	1
Communicating with immigrants[b]	6	1	7	0
Mirroring patient's behavior	5	2	5	1
Handling confrontations	5	3	4	1
Supportive communication	5	3	4	0
Building rapport	5	1	2	3
Group dynamics	5	1	3	2
Communicating with children	4	3	4	0
Motivational interviewing	4	3	4	0
Health literacy	4	1	2	1

Abbreviations: PPE = pharmacy practice experience course; CSC = communication as a stand-alone course; OC= other courses (pharmacotherapy, interdisciplinary, social and/or clinical pharmacy course).

[a] Missing values from two courses.

[b] People with language difficulties.

Table 5. Teaching Methods of Communication Skills in Nordic Pharmacy Schools (Denmark, Finland, Iceland, Norway and Sweden)

	Number of Schools	Number of Courses		
Variable	**Schools (n=11)**	**CSC (n=4)**	**PPE (n=12)**	**OC (n=10)**
Lectures	11	4	7	8
Group discussions of communication cases	11	4	6	5
Reflective writing	9	4	7	3
Practice with real patients	8	0	9	3
Books/literature reading	8	4	4	5
Practice in real settings (pharmacy, hospital)	8	0	9	5
Other[a]	8	1	4	4
Practice by role-playing with fellow students	7	4	1	5
Observing pharmacists communicating with patients	7	0	6	4
Video demonstrations of communication cases	6	2	1	5
Project work on patient communication	5	2	2	3
Practice with simulated patients (actors)	4	2	2	3
Online communication learning materials (including lectures, books, self-guides)	4	3	1	3
Modeling/demonstrating "best communication practice" by teachers (not working at a pharmacy/hospital)	4	3	0	2
Modeling/demonstrating "best communication practice" by pharmacists working at a pharmacy/hospital	3	0	2	3
Video recording of students' patient meetings	3	2	1	0

Abbreviations: PPE=pharmacy practice experience course; CSC= communication as a stand-alone course; OC= other courses (pharmacotherapy, interdisciplinary, social and/or clinical pharmacy course).

[a] Other types of teaching methods (examples: interdisciplinary teamwork exercises, video recording of the role play between students).

Table 6. Methods of Giving Feedback on of Communication Skills in Nordic Pharmacy Schools (Denmark, Finland, Iceland, Norway and Sweden)

	Number of Schools	Number of Courses		
Variable	**Schools (n=11)**	**CSC (n=4)**	**PPE (n=12)**	**OC (n=10)**
Training in self-reflection of communication skills[a]				
Yes	5	2	3	2
No	4	1	6	5
Very little	2	0	1	1
Methods for giving feedback[b]				
Feedback by pharmacy tutor	9	0	9	1[c]
Student feedback	7	4	1	4
Teacher feedback	7	4	3	5
Video recording	3	1	1	2
No feedback[d]	2	0	0	2
Other method(s)	2	0	2	1
Feedback by self-evaluation	1	0	1	0

Abbreviations: PPE=pharmacy practice experience course; CSC= communication as a stand-alone course; OC= other courses (pharmacotherapy, interdisciplinary, social and/or clinical pharmacy course).

[a] Missing values from five courses.

[b] Missing values from one course.

[c] Tutor at a hospital.

[d] Two schools had courses without feedback. However, students received feedback in other courses at those schools.

Table 7. Assessment Methods of Communication Skills in Nordic Pharmacy Schools (Denmark, Finland, Iceland, Norway and Sweden)

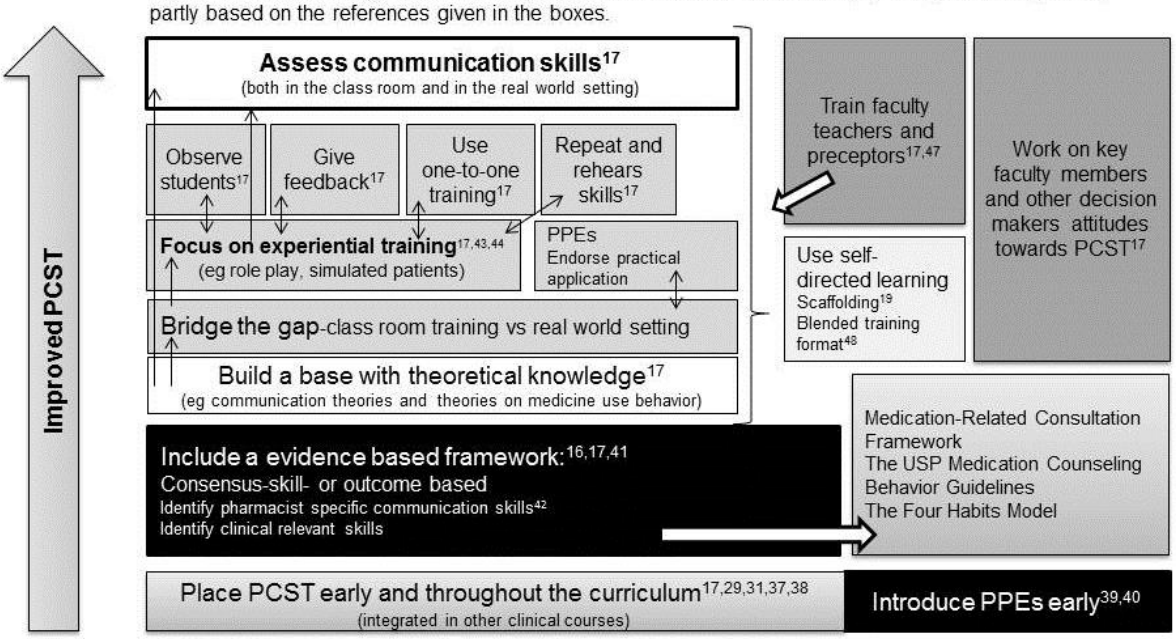
	Number of Schools	Number of Courses (n=26)		
Variable	**Schools (n=11)**	**CSC (n=4)**	**PPE (n=12)**	**OC (n=10)**
None[a]	3	0	2	4
Written Exam				
Essay: self-reflection	6	1	6	2
Written exam unspecified	3	2	1	1
Student self-assessments	3	2	1	2
Portfolio	1	0	0	1
A practical exam				
Communication skills tested as part of a "content" test (prescription dispensing test)	4	0	5	1
Oral presentation of patient cases including a discussion of communication skills	2	1	1	2
Role play	2	1	0	1
Practical exam unspecified	2	1	0	0
OSCE	1	0	0	1
Who conducts the formal assessments?[b]				
Examiner with formal communication science/communication skills education/training	5	3	1	1
Examiner without formal communication science/communication skills education/training	10	2	10	3

Abbreviations: PPE = pharmacy practice experience course; CSC = communication as a stand-alone course; OC= other courses (pharmacotherapy, interdisciplinary, social and/or clinical pharmacy course).

[a] One school had no assessment at all; two schools had courses without assessment.

[b] Two missing values, not relevant for the six courses without assessment and two courses had examiner both with and without formal communication education

Figure 1. Possible strategies to enhance patient communication skills training (PCST). Own compilation, partly based on the references given in the boxes.



PPE=pharmacy practice experience

Appendix 1. Quotations to Exemplify the Free Text Answers Arranged According to the Main Sections of Questionnaire 2.

Course Content
-General Information about the Patient Communication Skills Training and Resources

"...the students don´t consider this SCIENCE! They seem to think that science is only natural science... which is not true... of course.... whenever a good communication teacher has given a brilliant lecture the students tended to say 'well, this is just common sense.'" (Respondent 3)

"We have succeeded in motivating students: at the beginning/.../ we had to constantly explain how important the course was, nowadays this is not required, the course is widely seen as necessary." (Respondent 26)

"Students need more training, first in a safe environment, then with real patients." (Respondent 20)

"Communication skills should be focused upon to a much greater extent than they are and from an earlier point in time. The way our course is structured is not optimal. Several hours of quite passive listening crammed into two days is not enough and is counterproductive. One-on-one exercises in smaller groups spread over a few days with a summing up of the most important moments for the whole class is one option. In situ assignments after agreement with certain pharmacies is another–this would require time, energy, dedication, and trust. But it is worth it." (Respondent 4)

"Large groups vs not enough resources. New teaching methods should be implemented. The majority of the students are young, starting to find their professional identity and their own work reflection abilities. It is possible to achieve that, but requires work, time and peace and quiet. Students would benefit from personal mentoring and calm small–groups. That is not possible now (too large groups!)." (Respondent 26)
"I find it difficult to have enough knowledge to teach communication skills to students."(Respondent 25)

Teaching Methods

"Feedback and again more feedback. Find good teaching methods so that students take the subject seriously. Getting students to understand the difficulties and the need to talk and discuss communication. Many think that it is not a university subject and find it difficult to take the subject seriously. Going in with the setting 'no one to teach me how to talk to customers.'" (Respondent 7)

"In an ideal world we would have actors as customers/patients, as then we could really practice with complicated cases (angry, hostile customers, challenged customers, elderly, children, etc.). In an ideal world, we would also always have a trained communication skills teacher present (now she only meets the students once in a group meeting)." (Respondent 8)

Assessment of Patient Communication Skills Training

"Communication skills /.../ constitute many different skills. It is very difficult to assess the students for all these skills. As well, few pharmacy tutors have the competence to evaluate communication skills." (Respondent 5)

"The assessment would need to be quality assured further. Supervisors' opinion (pharmacy tutor) is today almost the only one. Which is a little vague and would have to be strengthened." (Respondent 23)