

## Original Article

# Comparison of Professional Ethics Course in Pharm. D. Curriculum of Selected Pharmacy Faculties

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## Abstract

**Introduction:** Recent developments in the practice of pharmacists and inadequate skills and knowledge of ethical concepts and values have seriously challenged the pharmacists. Promotion of professional ethics curriculum for better clinical decision-making in patient care is vital to eliminate these problems. This study was aimed to perform a comparative study of professional ethics course in Pharm. D. curriculum in ten selected pharmacy faculties.

**Methods:** This descriptive-comparative study compared professional ethics curriculum using Brady's model at ten selected pharmacy Faculties according to the rankings of Quacquarelli Symonds institute, including description, interpretation, juxtaposition and comparison. The dimensions of this course were obtained by a researcher-made checklist based on the main elements of a curriculum. The validity of the instrument was confirmed by medical education experts.

**Results:** The results showed the main objective of pharmacy curriculum was promoting the health of patients and society. Most similarities of professional ethics curriculum included presenting lecture method along with other student-centered methods in six faculties, presenting the concepts of ethics and law in the course content in nine faculties and offering the course in the first semester concurrently with apprenticeship in five faculties. Most differences were found for definition of existing grounds for production of educational content in one faculty and e-learning methods in two faculties.

**Conclusion:** The chosen pharmacy faculties were common in the main objective of the curriculum but were different in criteria for development of professional ethics course content, including social, cultural and regional contexts as well as student learning needs and use of e-learning methods. Offering the professional ethics course in the first academic year concurrently with clinical work as well as employing technology-based methods for teaching and students' assessment at selected faculties, owing to their localization in professional ethics curriculum in Iran, can be taken into consideration.

**Keywords:** Comparative study, Curriculum, Pharmacy, Ethics, University

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## Introduction

With development of sciences and emergence of new horizons in treatment, drug delivery and pharmaceutical services, novel concepts such as professional ethics have been considered in medical and pharmaceutical sciences more than ever (1). Professional ethics is a set of regulations that make the decision-making process more efficient by offering behavioral models (2). These rules are used to clarify the ethical issues and provide guiding principles for correct decision-making in clinical domains (3). Recent developments in medical sciences, including the practice of pharmacists and their changing role from prescribing drug to focusing on the patient needs have necessitated the clinical decision-making of pharmacists, which has in turn caused serious ethical challenges for them (4, 5).

Given the extensive activities of pharmacists, which include diverse domains such as research, production and supply of drugs as well as pharmaceutical services (6), and that various factors like inadequate knowledge and skills and ignorance of ethical concepts and values can impair the implementation of the ethical system (1), it is essential to pay much more attention to professional ethics in pharmacy along with its education.

Since a written and comprehensive curriculum fitted to the needs of the health system is a pivotal foundation for training the required manpower of the health system, development of an efficient curriculum in line with educational needs of professional ethics and rules can help to determine the educational objectives, to identify the educational content and to design appropriate teaching, assessment and feedback methods for learners, aiming to eliminate a part of this challenge (7). Hence, development of a set of instructions and strategies for promotion of pharmacy curriculum is necessary to offer the best pharmaceutical care and clinical decision-makings to overcome these challenges and optimize the care standards. This curriculum, however, has to be revised and modified in line with the everyday needs of society (4).

Offering the professional ethics course in the curriculum of pharmacy students is expected to lead to understanding and recognition of professional skills, ethical and legal standards as well as an opportunity for excellence in pharmacy profession. This education is not limited to a specific level of pharmacy major and is considered a basis

for acquisition of other professional skills in the future for the individuals (8).

Although comparative studies on some domains related to medical ethics and curriculum have been initiated nationally and their results are somehow used in designing ethical codes in research and patient rights charter, it is still possible to make more effort in this domain (9). These studies indicate the efficacy of factors such as personal, cultural and regional grounds, number of hours for professional ethics course, and offering the course in the first semester of student's clinical work in implementing the ethical concepts in the health team, including pharmacists.

In a qualitative study, Hundert et al. (1996) found that, except formal education of professional ethics course, students' personal grounds rooted in their beliefs and attitudes can affect their ethical decisions and considerations. What students learn from each other in their interactions can define such concepts as bad, good, correct, etc. If these concepts are delivered appropriately through environmental interactions, we will possibly believe that formal education of these concepts will also be successful (10). Although a hidden curriculum in professional ethics education is quite effective, the present study embarked on the formal aspect of ethical education in pharmacy.

Also, Khaghani & Maleki (2013) conducted a qualitative study on the content of medical ethics curriculum in Iran and reported that incongruity of the course content with career and background objectives and needs of students as well as poor content organization were serious challenges that needed to be overcome in order to promote medical ethics in the country. Content and organization were recognized as the major challenges for strengthening and promoting professional ethics (11).

In a comparative study on pharmacy students, Scharr et al. showed that the number of hours students are taught professional ethics course, offering the course in the initial semesters, more time for practice, early exposure to patient and professional ethics training affected the students' thinking and reasoning (12). Their study was a basis for analysis of the time of offering this course in the present study. Considering the necessity of investigating other elements of professional ethics curriculum, including objectives, methods and assessment methods

reported by previous studies and that no study has ever evaluated professional ethics in pharmacy curriculum, the current study was carried out to compare professional ethics curriculum in the selected pharmacy faculties. It seems that the obtained data from comparison of the elements of professional ethics course in pharmacy curriculum will help the medical education authorities to make use of the experiences and strengths of other universities in order to design an appropriate model for professional ethics course in pharmacy curriculum.

## Methods

This qualitative study was based on Brady's model to analyze how professional ethics curriculum is offered at 10 selected pharmacy faculties (13).

The study population of the current study was the documents of professional ethics course in Pharm. D. (doctor of pharmacy) curriculum at selected pharmacy faculties. The samples were selected based on Quacquarelli Symonds (QS) rankings. The compared items, which are the main ranking criteria of QS ranking system, included faculty or university credit, staff credit, citation of articles and internationality of faculty and students (14). This institute has classified 200 world universities according to their pharmacology and pharmacy programs (15).

The inclusion criterion in the present study was being included in the ranking list of QS, and the exclusion criteria consisted of lack of curriculum for Pharm. D. in the faculty and lack of access to information of at least 5 items of the checklist. In this study, 36 top pharmacy faculties according to QS rankings were studied in December 2015. Based on the exclusion criteria, 26 faculties were excluded from the study because of not having Pharm. D. program, out of which 10 pharmacy faculties remained for analysis. These faculties included San Francisco, Michigan, Purdue, Eshelman, Singapore, Twin Cities, Skaggs, Leslie Dan, Southern California and Sungkyunkwan faculties.

To collect data in each faculty using the checklist criteria, the websites of the faculties were visited, and in the case of lack of access to the required information and completing the checklist, email communications were made with education experts of these faculties to obtain the required data. In the description stage, the data of the curriculum of the selected pharmacy faculties were collected and written down. In the interpretation stage, the described data and reasoning were analyzed based on the dimensions of professional ethics course of pharmacy curriculum using the researcher-made checklist, whose

items were designed according to the domains of a curriculum.

The validity of this checklist was confirmed by 10 medical education experts. For the validity of checklist, experts responded to necessity, relevance, clarity and simplicity parameters, and no item was deleted in this stage. Data were collected from official websites and resources to ensure their reliability. In the checklist, the goal, content, method, assessment and time of offering the course were taken into account.

In the juxtaposition stage, the similarities and differences of the curriculum of the mentioned faculties were determined. In the comparison stage, these data were compared to answer the research question.

Data analysis was performed according to Brady's model. Brady's model includes four stages of description, interpretation, juxtaposition and comparison. Using this method, in addition to finding the similarities and differences, the collected data were classified, summarized and compared in comparative tables. Accordingly, the research questions on offering professional ethics course in the selected pharmacy faculties were responded. These questions included the objective of the course plan, course content, teaching methods, students' assessment and time of offering the course in the chosen faculties.

## Results

Table 1 presents the comparison and contrast of similarities and differences in professional ethics course in 10 selected pharmacy faculties.

In this study, the main purpose of offering professional ethics course was not clearly stated in the curriculum. Thus, from the analysis of the objectives of Pharm. D. curriculum as well as the focus of curriculum, it was found out that almost all faculties focused on the macro goal, i.e. promotion of society's health and accountability for the learning needs of pharmacists in defining their new role as members of the health team. However, to accomplish this goal, 8 pharmacy faculties focused on teaching patient care skills and solving the patient's medication problems, and 2 other emphasized the educational and service processes.

In 5 faculties, the course was presented as pharmacy laws, to which the top title of professional ethics course had been allocated. In 3 faculties, the course was presented as ethics and in 1 faculty as a mix of law and ethics. Titles such as law, jurisprudence and social behavior health

were presented only in 1 faculty. Since the educational content is developed based on the educational objectives, and the main focus of pharmacy curriculum is fulfilling the needs of pharmacists to empower them as members of the health team aiming to promote the health and wellbeing of the society, the content presented was similar in 9 curricula (a mixture of law and ethics) in terms of relevance to law and regulations and ethical issues of a pharmacist, irrespective of the title of the course. Attention to the cultural and regional factors as well as special regulations for each state, including the

rules for examinations and getting a license, regulations for various drugs, ethical codes and rules for different roles of pharmacists were the most important differences. In the United States, in most of the cases, except for state rules, procedures were more specific and laws of that state were taken into account, too. In Leslie Dan faculty, content had the greatest difference among all other faculties because understanding the psychological and sociological issues was more emphasized than law and ethics.

**Table 1. Comparison of professional ethics course in Pharm. D. curriculum of 10 selected pharmacy faculties**

<b>Ethics Course</b>	<b>Faculty</b>
<b>Goal:</b> Preparing clinicians to care for the therapeutics needs of patients and populations safely and effectively. <b>Content:</b> Legal and ethical aspects of pharmacy practice, application of ethical tenets and rules of professional conduct in pharmacy practice, attention is given to ethical and legal issues surrounding direct patient care in pharmacist liability, civil, criminal and disciplinary. <b>Method:</b> Case study discussion and lecture. <b>Student assessment:</b> Summative and formative points. <b>Offering time:</b> First year, at the same time as Introductory Pharmacy Practice Experiences (IPPEs).	San Francisco
<b>Goal:</b> To be a global leader in pharmacy and pharmaceutical education, research and practice with the ultimate goal of providing excellent, innovative patient care and drug law. <b>Content:</b> The application of pertinent laws, rules, and regulations to the practice of pharmacy understanding of the rules and regulations governing the practice. Find information regarding pharmacy law that they will continue to use through their professional life. <b>EBM<sup>®</sup>/Ethics clinical application content:</b> This course builds on the principles and skills taught in pharmacy regarding evidence based medicine. <b>Offering time:</b> Third year at the same time as IPPEs.	Michigan
<b>Goal:</b> Meet a growing need for pharmacists who possess highly sophisticated expertise in rational drug therapy and to prepare pharmacists for present and future clinical practice roles involving pharmaceutical patient care. <b>Content:</b> The elements that discuss the application of the law to the ethical decisions of a pharmacist. Law includes legal categories of drugs, practitioners and their scope of responsibility, basics of prescription validation, exposure to complex rules from board of pharmacy. <b>Topics include:</b> Brief history of pharmacy law, basics of dispensing laws and rules, controlled substances, prescription legality, professional standards/pharmacist. <b>Offering time:</b> First year at the same time as IPPEs. <b>Jurisprudence content:</b> An in depth study of federal and Indiana laws, regulations, and rules affecting pharmacy practice. <b>Method:</b> Lecture and distance learning. <b>Submission time:</b> Third year at the same time as IPPEs.	Purdue
<b>Goal:</b> The UNC Eshelman School of Pharmacy is an internationally recognized leader in pharmacy practice, education, and research. We develop leaders in pharmacy education, pharmacy practice, and pharmaceutical sciences who make a difference on human health worldwide. <b>Content of pharmacy ethics and law:</b> Comprehensive survey of state and federal regulations, common law principles that affect the pharmacy practice, food drug and cosmetic acts, application of ethics and valuation use of drugs in health care. <b>Method:</b> Lecture and class discussion and assignments. <b>Offering time:</b> Third year at the same time as IPPEs	Eshelman
<b>Goal:</b> Educate and train pharmacy graduates to meet the needs of a changing and increasingly complex health care system. <b>Offering time:</b> First year before IPPEs.	Singapore
<b>Goal:</b> Improves health through innovative education, pioneering research, and interdisciplinary practice development that attends to the diverse needs of the people of Minnesota and the world. <b>Content:</b> The course covers both federal and state laws that impact and regulate the practice of pharmacy. It is related to the food, medicine, cosmetic and their supplements, production, dispensing, controlled substances and marketing issues, and overview of pharmacist negligence and other liabilities concerns facing pharmacists. <b>Method:</b> Students are expected to view lectures and read the assigned reading (online course). <b>Student assessment:</b> Weekly quizzes and one final examination from the basis of the final grade. The final examination constitutes 70% of the final grade. Weekly multiple-choice quizzes each count for 6% of the final grade (except for the first week, which will serve as a practice to familiarize students with the format). Then the feedback will have given to student. Quizzes are non-cumulative, open book, multiple-choice and online. The final exam is cumulative and the same format as quizzes. <b>Offering time:</b> First year at the same time as IPPEs.	Twin Cities
<b>Goal:</b> Teaching and education, research and pharmaceutical clinical practice in patient care. <b>Content:</b> Key drug and pharmacy laws, the nature and scope of pharmacist practice, licensure requirements, potential bases for discipline or liability, licensure requirements. <b>Offering time of ethics and law course:</b> First year, at the same time as IPPEs.	Skaggs
<b>Goal:</b> Making a difference in patient care, embracing the changing scope of pharmacy, and helping the healthcare system evolve. <b>Content:</b> This course is composed of three components: 1) Introduction to sociological theories and concepts that impact health and health care; 2) Introduction to professionalism and ethics; and 3) introduction to the ways in which individual psychology shapes and affects health and health care. <b>Method:</b> Lecture (24 hours) and discussion group (6 hours). <b>Offering time:</b> First year, at the same time as IPPEs.	Leslie Dan
<b>Goal:</b> Promotion in health care through new discoveries and innovations to improve patient lives. <b>Content:</b> Understanding of the rules and regulations governing and federal related to pharmacy practice. <b>Method:</b> Lecture. <b>Offering time:</b> Second year, at the same time as IPPEs.	Southern California
<b>Goal:</b> The aims to educate students are committed to pharmaceutical care and promote scholarly activities in pharmaceutical science. <b>Content of ethics:</b> Introduction to pharmacy, traditional pharmaceutical ethics, chemotherapy of microbial disease.	Sungkyunkwan

**Content of Pharmaceutical law:** Develop knowledge of pharmaceutical affairs law, narcotics and related substances, control law, regulations governing pharmaceutical manufacture, distribution and the practice of pharmacy.

\* Evidence Based Medicine

The main teaching method was lecture (7 faculties). Considering the teacher-centeredness nature of this method and students' passivity, to make students more involved and active, other student-centered and new learning methods were used; case-based discussion in 1 , group discussion in 3 , problem solving in 2 and e-learning in 2 curricula . Therefore, combination of conventional and student-centered methods was one of the similarities in how the course was offered in selected pharmacy faculties. However, there were differences in using student-centered methods such as discussions and e-learning methods. The only program that used lecture method alone was pharmacy faculty of Southern California. No data were obtained for course presentation in Singapore, Sungkyunkwan and Skaggs faculties.

The data obtained from San Francisco, and Twin Cities faculties showed assessment of the course in these faculties was done through formative and summative assessments. However, there were differences in holding the examinations so that final examination was administered as written test in 2 faculties, but it was administered via e-learning and multiple-choice tests in 1 faculty. The data for student assessment methods in faculty of pharmacy of Twin Cities, despite allocation of smallest number of units to this course (0.7 units), were noticeable because by defining the objectives and outcomes expected from students at the end of each week through formative assessments, students were provided with more opportunities for learning and modified learning as well as better achievement of these objectives via feedbacks given to them. Summative assessment and judgment on student learning are a set of formative and summative. Yet, there was no indication of the effect of class activities and its reflection in student assessment, which needs more extensive studies to find out about.

The comparison of the obtained data indicated that 6 faculties offered professional ethics in the first year of students' admission and concurrently with beginning of Introductory Pharmacy Practice Experiences (IPPEs) program, 1 program in the second year and 3 other in the third year of admission and concurrently with beginning of IPPEs program. Only 1 faculty (Singapore) offered the course before IPPEs program. So, the most and the least frequent times for offering the course were in the first and second years, respectively. The professional ethics was offered simultaneously with IPPEs program, through which students could gain more understanding of the educational content.

## Discussion

The results of this study showed that the main objective of pharmacy curriculum was promotion of the health of individual patients and the wellbeing of the society. The most frequent similarities of professional ethics course in these faculties included presenting lecture, teacher method along with other student-centered methods, inclusion of ethics and law issues in the course content and offering the course in the first academic year together with exposure to the patient. The most frequent differences were found for defining the existing needs and parameters in production of educational content and e-learning methods.

The main purpose of professional ethics course was not stated clearly in the curriculum, but the present study showed the curriculum of accredited pharmacy faculties focused on promotion of the societies' health, which was reflected in the curriculum as well. In a study by Yazdani et al. on changes in medical curriculum in Iran, it was found that the objective of education in medical departments was learning what students need in their future career to promote the health of people and satisfy the patients' healthcare needs (16), confirming the findings of the current study. It can be argued that the purpose of pharmacy curriculum in the selected faculties was that pharmacists needed to learn in their curriculum what promoted health and wellbeing of the society.

The study of Khaghani & Maleki (2013) on the content of medical ethics course indicated that special criteria and parameters must be available in order to choose an appropriate content. These underlying criteria should be consistent with the culture and values of the society, historical, language and ethical features and students' needs (11). The current research confirmed these findings, too. It can be concluded that state and regional parameters along with other criteria can be reflected in the production of educational content. In a study on fostering students' ethical development, Goldie et al. (2004) suggested that ethical subjects be combined with medical curriculum, especially in clinical programs, and a hybrid approach be developed for teaching medical ethics (17). The findings of the present study confirmed this type of mixing in clinical courses, but combining the professional ethics subjects with the whole pharmacy curriculum requires further analysis. Also, for organization of content, Khaghani & Maleki (2013) recommended blending medical ethics in clinical and basic sciences courses

which was highly effective. This model of teaching provides clinical experiences in the first years of curriculum of medical faculties. Based on abundant evidence, this induces a correct attitude in students toward patients. A construct that combines medical ethics education in clinical programs makes students more prepared for clinical courses (11). In the current study too, organization of professional ethics course in the curriculum of Pharm. D. as a combination of this course with clinical practice, especially in the early years was confirmed. It can be understood that for students' ethical development, professional ethics should be blended with the whole clinical and basic sciences curriculum and should not be limited to only one theoretical course.

As for the teaching and learning methods, if the purpose is mainly acquisition of knowledge, the traditional and teacher-centered method (lecture), and if fostering thinking, comprehension and problem solving as well as creativity and decision-making are intended, active learning methods will be appropriate. It can be concluded from comparison of teacher-centered and student-centered methods like group discussions that no difference exists between these methods for immediate learning of information, but there is a remarkable difference in retention, higher-level thinking and inducing motivation (18). Further, for keeping the materials and applying them, solving problems, inducing motivation and changing the attitude in learning, discussion rather than lecture and student-centered discussion rather than teacher-centered discussion are more effective in small groups than in large groups (19). Chung et al. (2009) found that application of group discussion in teaching medical ethics led to improvement of performance and student involvement in learning, thereby bringing about more satisfaction. Thus, group discussion should be used in medical education as an efficient learning method (20). The most frequently used student-centered method along with lecture method was group discussion. Hence, the results of the above study were in line with those of the current research. It can be argued that in blended education, in addition to increasing knowledge through lecture method, student learning can be improved by group discussions.

Bowers & Kumar (2017) showed offering online courses compared to face to face presentation caused feeling of loneliness and lack of interaction, leading to a drop in the scores of students (21). The study of Docherty et al. (2005) indicated e-learning was used as a supportive method for teaching simulated clinical skills. Web communications, concentration and reflection on performance through the recorded film of student's performance caused self-learning and learning from others. Docherty et al. have shown learners' satisfaction

with this method, improvement of scores and increased self-efficacy (22).

Based on the perspective students, Ruiz et al. (2006) reported e-learning would never replace lecture method, but it could be as effective as lecture. Therefore, it seems that e-learning can be mixed with conventional methods, and the learning theory of adults can be applied by using cooperative and personalized learning (23). The results of the above study were not in agreement with those of the present research because the current study showed this method was not applicable to professional ethics course in pharmacy curriculum in most of the selected faculties, and conventional methods were more extensively used. Considering the existing grounds, this method can be utilized for teaching professional ethics in clinical situations.

The study of Seyf (2005) showed that assessment process can affect the quality of learning and involve the learner in the curriculum. But this is not fulfilled unless the learners are informed of the feedback on improvement or lack of improvement of learning and unless they are encouraged to cooperate and achieve more resources (18). Also, assessment methods should be matched with learning levels. Nowadays, giving feedback to students as well as using new learning methods like self-evaluation and peer evaluation in medical education is increasing, which needs to be included in formative assessments (24). In this study, feedback following assessment was not mentioned except for Twin Cities Faculty. Ferris & O'Flynn (2015) reported that capability of students could be measured in performing practical skills and in real or simulated environments, and formative and achievement assessments were worthwhile if they were carried out in the right place and in accordance with the learning levels (25). The findings of the present research showed the assessment methods of the selected programs, including open-ended and multiple-choice tests only measured the students' knowledge. Hence, students' ethical ability cannot be measured by these methods.

Galt & Markert (2002) reported that offering ethics course in the first semester for the newly-admitted students could lead to development of professional ethics in patient care (26). Moreover, Scharr et al. showed offering this course in the first years of admission to university had a direct relationship with having ethical thinking in the future career (12). In line with these findings, the present study indicated that due to vertical blending of apprenticeship courses with other courses like professional ethics in the selected programs where students get familiar with patient and ethical considerations from the very first year of acceptance to university, students are provided with more

opportunities for learning and applying the ethical and legal issues in clinical environments.

Furthermore, the study of Scharr et al. (2011) showed that increasing the time of professional ethics course can affect students' ethical thinking in their future careers (12). In line with this study, students who pass more units (more hours) of professional ethics course are more able to have ethical reasoning and professional behavior.

In sum, it can be argued that it is of great significance to institutionalize professional ethics in these faculties based on the learning needs of pharmacy students and in line with their role in promoting the societies' health.

Since this study was based on the existing documents in the website of the selected faculties, the research findings might have been affected in cases where the study objectives had not been documented in these websites.

## Conclusion

The selected faculties of pharmacy around the world were similar in terms of the main objective of pharmacy curriculum, i.e. presenting education to fulfill the needs of the pharmacists as members of the health team, whose services promote the public health. However, they differed in defining the parameters of development of professional ethics content, including social, cultural and regional domains as well as students' learning needs. Hence, it is suggested that the ethics course be presented in the first year together with clinical practice to induce more sustainable ethical thinking in students. Moreover, using the student-centered methods will promote the learners motivation and will promote more stable behaviors in them.

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## Appendix:

Ten pharmacy faculties address:

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