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ORIGINAL ARTICLE / ÖZGÜN MAKALE

ETHICAL SENSITIVITY: A COMPARATIVE ANALYSIS OF PHARMACY STUDENTS TAKING AND NOT TAKING AN ETHICS COURSE IN TERMS OF VARIOUS VARIABLES

ETİK DUYARLILIK: ÇEŞİTLİ DEĞİŞKENLER AÇISINDAN ETİK DERSİ ALAN VE ALMAYAN ECZACILIK ÖĞRENCİLERİNİN KARŞILAŞTIRMALI ANALİZİ

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ABSTRACT

Objective: *The present study aimed to assess ethical sensitivity in second, third, fourth, and fifth-year pharmacy students who have already completed the ethics course in Erzurum province, Turkey, as well as first-year pharmacy students who have not yet taken the ethics course in terms of various variables.*

Material and Method: *This study adopts a cross-sectional design to compare the ethical sensitivity of two groups of pharmacy students: those who have completed an ethics course and those who have not. This study included 476 out of 840 undergraduate pharmacy students from Erzurum province. Differences in ethical sensitivity based on demographic characteristics were analyzed using t-tests and ANOVA. The level of statistical significance was set at 0.05.*

Result and Discussion: *In the comparison between students who have taken the ethics course and those who have not, a statistically significant difference was found between female and male students who have taken the ethics course (p=0.00), indicating that gender plays a role in ethical sensitivity among students who have received ethics education. However, among students who have not taken the ethics course, no statistically significant difference was found between genders (p=0.13). No statistically significant difference was observed among students in different university classes. In the study assessing professional ethical sensitivity among pharmacy students, it was found that their level of ethical sensitivity was above average. To cultivate a heightened level of professional ethical*

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sensitivity, it is widely believed that pharmacy education should integrate more comprehensive training focused on emphasizing the significance of professional behavior and ethical values.
Keywords: *Ethical sensitivity, pharmacist, pharmacy education*

ÖZ

Amaç: *Bu çalışmanın amacı, Erzurum ilinde etik dersini tamamlamış ikinci, üçüncü, dördüncü ve beşinci sınıf eczacılık öğrencileri ile henüz etik dersini almamış birinci sınıf eczacılık öğrencilerinin çeşitli değişkenler açısından etik duyarlılıklarını değerlendirmektir.*
Gereç ve Yöntem: *Bu çalışma, etik dersi almış ve almamış iki grup eczacılık öğrencisinin etik duyarlılıklarını karşılaştırmak için kesitsel bir tasarım benimsemiştir. Bu çalışmaya Erzurum ilindeki 840 eczacılık lisans öğrencisinden 476'sı gönüllü olarak katılmıştır. Demografik özelliklere göre etik duyarlılıktaki farklılıklar t-testi ve ANOVA kullanılarak analiz edilmiştir. İstatistiksel anlamlılık düzeyi 0.05 olarak belirlenmiştir.*
Sonuç ve Tartışma: *Etik dersi alan ve almayan öğrenciler arasında yapılan karşılaştırmada, etik dersi alan kız ve erkek öğrenciler arasında istatistiksel olarak anlamlı bir fark bulunmuştur (p=0.00), bu da etik eğitimi alan öğrenciler arasında cinsiyetin etik duyarlılık üzerinde rol oynadığını göstermektedir. Ancak etik dersi almayan öğrenciler arasında cinsiyetler arasında istatistiksel olarak anlamlı bir fark bulunmamıştır (p=0,13). Farklı üniversite sınıflarındaki öğrenciler arasında da istatistiksel olarak anlamlı bir fark gözlenmemiştir. Eczacılık öğrencilerinin mesleki etik duyarlılıklarının değerlendirildiği çalışmada, öğrencilerin etik duyarlılık düzeylerinin ortalamanın üzerinde olduğu tespit edilmiştir. Mesleki etik duyarlılığı artırmak için, eczacılık eğitiminin, mesleki davranışın ve etik değerlerin önemini vurgulamaya yönelik daha kapsamlı bir eğitimi içermesi gerektiği düşünülmektedir.*
Anahtar Kelimeler: *Eczacı, eczacılık eğitimi, etik duyarlılık*

INTRODUCTION

Ethical sensitivity is a crucial component of ethical decision making, serving as an individual's disposition to guide them in making ethical choices [1]. Individuals with high ethical sensitivity demonstrate strong ethical judgment. Conversely, low ethical sensitivity can lead to unethical behavior, having negative consequences for both individuals and the workplace [2].

Pharmacists, due to their involvement in patient care, often encounter various ethical dilemmas that require different judgments. These can range from simple issues like selecting the most suitable product for a patient to complex ethical conflicts, such as balancing personal/professional values and legal requirements when faced with a patient's request for a controlled drug without a prescription but in a dire situation [3]. To address these challenges, it has been suggested that pharmacy students should receive comprehensive ethics training, including social, bio, and environmental ethics, both before and after long-term placements, especially in hospital and pharmacy settings [4]. The National Pharmacy Core Education Programme states that pharmacists should demonstrate valid professional and ethical behavior, protect the private life and privacy of patients or beneficiaries, have adequate knowledge of issues related to drugs/medical products, and practice patient-oriented, professional, and ethical practices. They should be able to apply their knowledge in these areas to solve pharmacy problems and possess a sense of professional ethics and responsibility [5]. At our faculty, ethical issues are also taught in the first semester as part of the "History and Deontology of Pharmacy" course. A recent study conducted in Jordan in 2022 provided ethics training to pharmacy students and evaluated their progress using questionnaires and focus group interviews. The findings revealed that students' self-confidence increased after the ethics training, leading to more decisive actions in ethical dilemmas [6]. Numerous studies have emphasized the potential of training programs to enhance ethical sensitivity among healthcare professionals, including pharmacists [7-9]. Very few studies evaluating sensitivity in pharmacy students have been found in the literature [10-11]. No study specifically addressing this topic has been conducted in Turkey. Consequently, to address this gap in the literature, the present study aimed to assess ethical sensitivity in second, third, fourth, and fifth-year pharmacy students who have completed the ethics course in Erzurum province, Turkey, as well as first-year pharmacy students who have not yet taken the ethics course.

MATERIAL AND METHOD

Design

The present study employed a cross-sectional descriptive questionnaire survey to assess the level of professional ethical sensitivity among pharmacy students.

Participants and Data Collection

This study adopts a cross-sectional design to compare the ethical sensitivity of two groups of pharmacy students: those who have completed an ethics course and those who have not. This study included 476 out of 840 undergraduate pharmacy students from Erzurum province. The required sample size for analysis of variance (ANOVA) and t test was determined using G*Power 3.1.9.6 [12], indicating a minimum of 474 participants for an effect size of 0.25, a significance level of 0.05, and 95% power. Thus, our sample size was considered more than adequate. Data were gathered during the middle of the second semester at Erzurum Atatürk University, Faculty of Pharmacy, between April and May 2023. The data collection process involved the distribution of questionnaires via Google Forms to a total of 840 students. Out of these, 477 students successfully completed the questionnaire. One student's questionnaire was excluded, leaving a total of 476 students' responses for data analysis.

Instruments

The questionnaire used in this study was divided into two sections: demographic characteristics and a questionnaire assessing ethical sensitivity.

Demographic Characteristics: The demographic characteristics section collected information on four academic variables: age, gender, university class, and whether the participants were taking an ethics course or not.

Professional Ethical Sensitivity: The measurement of professional ethical sensitivity was conducted using a questionnaire developed by Alaca and Aydınlı Kulak [13]. The questionnaire was designed in accordance with Turkish pharmacy legislation and deontology regulations. Prior to implementation, the questionnaire's reliability and validity were tested among pharmacy students, and approval from the developers was obtained. The questionnaire included a total of 10 items, and participants were asked to rate each item on a Likert scale ranging from 1 to 5 (1: “can be done”; 5: “should not be done”). The validity coefficient of the questionnaire was determined to be 0.868. In the development study, the internal consistency reliability of the 10 scales, measured by Cronbach's alpha coefficient, was found to be 0.87. In this current study, the Cronbach's alpha coefficient was found to be 0.72. Statistical inference in this study utilized a statistical significance level of 0.05 to minimize the likelihood of Type I error.

Data Analyses

The gathered data were subjected to analysis using the SPSS 26.0 software. Before conducting the analysis, the assumption of normality was assessed. and they were considered to meet the assumption of normality. Descriptive statistics, such as percentages, frequencies, ranges (min-max), means and standard deviations (SD) were employed to provide a comprehensive description of the demographic characteristics of the participants. To examine professional ethical sensitivity, mean and standard deviation were calculated on a scale ranging from 1 to 5. Differences in ethical sensitivity based on demographic characteristics were analyzed using t-tests and ANOVA. The level of statistical significance was determined at 0.05.

RESULT AND DISCUSSION

The age range of the participants was between 18 and 32 years, and the average age was calculated to be 22.4 years. Among the participants, 75% were female. In terms of academic classification, 27.1% were first-year students (i.e., students who had not taken an ethics course), 16.2% were second-year students, 17.0% were third-year students, 19.5% were fourth-year students, and 20.2% were fifth-year students (see Table 1).

Table 1. Demographic characteristics of participants (N = 476)

Characteristics	Taking an Ethics Course	Category	N (%) or mean±SD (range)
Age (years)			22.4 +1.7 (18-32)
Gender	Yes	Male	79 (22.8)
		Female	268 (77.2)
	No	Male	40 (41.0)
		Female	89 (69.0)
	Total	Male	119 (25.0)
		Female	357 (75.0)
University Year		First	129 (27.1)
		Second	77 (16.2)
		Third	81 (17.0)
		Fourth	93 (19.5)
		Fifth	96 (20.2)

* SD: standard deviation

The average score for professional ethical sensitivity was found to be 3.77±0.59 for students who had taken the ethics course, while it was 3.16±0.46 for students who had not yet taken it. Statistical analysis indicated that there was a statistically significant difference between the two groups for most items, excluding items 2, 8, and 9. These findings suggest that students who had taken the ethics course generally demonstrated a higher level of professional ethical sensitivity compared to those who had not taken the course (see Table 2 for detailed results).

Table 2. Variances in professional ethics awareness based on the inclusion of an ethics course (N=476)

Items	Taking an Ethic Course	N	Professional Ethics Awareness Mean (SD)	p
1. Pharmacy technicians can suggest drugs to patients.	Yes	347	3.80 (1.09)	.000*
	No	129	2.05 (0.98)	
2. In urgent cases, I can dispense prescription drugs without a prescription.	Yes	347	3.54 (1.21)	.876
	No	129	3.56 (1.15)	
3. A pharmacist's constant presence in the pharmacy is unnecessary.	Yes	347	4.04 (1.17)	.038*
	No	129	3.79 (1.18)	
4. Sharing patient information with demanding companies and individuals (except in legal cases) is frowned upon.	Yes	347	4.32 (1.23)	.000*
	No	129	2.55 (1.33)	
5. I can deliver drugs to patients without consulting a doctor, even if I suspect there is an error in the prescription.	Yes	347	4.48 (1.00)	.000*
	No	129	1.76 (1.24)	
6. It's acceptable for me to recommend more expensive alternative drugs.	Yes	347	3.67 (1.30)	.000*
	No	129	4.42 (1.02)	
7. Promotional activities in the pharmacy are possible in today's competitive work environment.	Yes	347	3.06 (1.24)	.000*
	No	129	3.95 (1.21)	

Table 2 (*continue*). Variances in professional ethics awareness based on the inclusion of an ethics course (N=476)

Items	Taking an Ethic Course	N	Professional Ethics Awareness Mean (SD)	p
8. I can recommend non-medical health products to patients in addition to drug.	Yes	347	3.24 (1.18)	.976
	No	129	3.23 (1.23)	
9. Non-medical product advertisements can be used in the pharmacy.	Yes	347	3.25 (1.35)	.099
	No	129	3.47 (1.24)	
10. Selling non-medical health products on social media is appropriate.	Yes	347	4.29 (1.10)	.000*
	No	129	2.84 (1.28)	
Total	Yes	347	3.77 (0.59)	.000*
	No	129	3.16 (0.46)	

SD: standard deviation, * p <.05

In the comparison between students who have taken the ethics course and those who have not, it was observed that female students (3.86±0.55 and 3.20±0.41, respectively) tend to have a higher level of professional ethical sensitivity compared to male students (3.46±0.61 and 3.07±0.56, respectively). A statistically significant difference was found between female and male students who have taken the ethics course (p=0.00), indicating that gender plays a role in ethical sensitivity among students who have received ethics education. However, among students who have not taken the ethics course, no statistically significant difference was found between genders (p=0.13).

Furthermore, within the group of students who have taken the ethics course, it was found that 3rd-year students exhibited a higher level of professional ethical sensitivity (3.84±0.63). However, no statistically significant difference was observed among students in different university classes, indicating that the impact of university year on ethical sensitivity may be limited (see Table 3 for detailed results).

Table 3. Difference in professional ethics awareness by gender and university year (N=476)

Characteristics	Taking an Ethic Course	Category	Professioanal Ethics Awareness Mean (SD)	p
Gender	Yes	Male	3.46 (0.61)	0.00*
		Female	3.86 (0.55)	
	No	Male	3.07 (0.56)	0.13
		Female	3.20 (0.41)	
University Year	Yes	Second	3.67 (0.54)	0.33
		Third	3.84 (0.63)	
		Fourth	3.79 (0.63)	
		Fifth	3.76 (0.54)	

SD: standard deviation, * p <.05

In a study conducted by Jagger in 2011, it was found that individuals with a low level of ethical sensitivity may experience significant challenges in the development of moral judgment. The research emphasized the negative consequences associated with insufficient ethical sensitivity and its potential impact on an individual's moral decision-making abilities. The study highlights that the primary objective of any ethics course should be to elevate students' ethical sensitivity levels [14]. Contrary to the findings of Kırılmaz et al., who reported no change in the ethical sensitivity of healthcare professionals following ethics training, our study found that ethics training during undergraduate education significantly improved ethical sensitivity levels [15]. This suggests the importance of integrating ethics education into undergraduate programs rather than relying solely on in-service training. The influence of ethics education on ethical sensitivity is emphasized in the study by

Tukamuhabwa et al. [16].

In our study, we observed a significant difference in 7 out of 10 items between students who have already taken ethics courses and those who had not yet taken them. Among the students who took the ethics course, only a small number of items scored below 4 out of 5, indicating a generally high level of professional ethical sensitivity. These items included: pharmacy technicians recommending drugs to patients, delivering prescription drug without a prescription in urgent situations, and recommending more expensive alternative drugs. A study conducted with pharmacy students in Jordan in 2022 involved ethics training and the evaluation of students through questionnaires and focus group interviews before and after the training. Thematic analysis of the data yielded three key themes: the importance of ethics education in the field of pharmacy, the perceived influence of ethics courses on pharmacy practice, and recommendations for enhancing the content of these courses. Following ethics education, students consistently emphasized the necessity and effectiveness of this education [6]. According to the findings of a study conducted by Alaca and Aydınlı Kulak, the majority of participants who received ethics/deontology training expressed positive opinions regarding the importance of ethical rules and the necessity of education. Only a small number of participants held negative opinions. The study concluded that the overall ethical sensitivity of pharmacy students is significantly high. It further supports the inclusion of the deontology course in the curriculum, highlighting its benefits for pharmacy candidates [13].

It was observed that 3rd-year students (3.84±0.63) had a higher level of professional ethical sensitivity compared to other university years. This may be attributed to the fact that they had already completed their first pharmacy internship before entering the 3rd year. However, a decrease in ethical sensitivity levels was observed in the final year (3.76±0.54). A review of ethics education in the final year may be beneficial in improving this situation.

Additionally, this study found that female students tended to have higher levels of professional ethical sensitivity compared to male students. This difference could be attributed to the higher representation of female students in the pharmacy program, as observed in this study. Their larger numbers may contribute to a decreased likelihood of engaging in misconduct.

Overall, this study investigated the professional ethical sensitivity of pharmacy students based on variables such as gender, university year, and taking an ethics course. The results provide evidence-based data supporting the need for implementing ethics education in the pharmacy curriculum.

Two major limitations of this study should be taken into account. Firstly, the study's sample was limited to pharmacy students from Erzurum province in Turkey, which may restrict the generalizability of the findings to pharmacy students in other regions. Secondly, the study relied solely on a two-part self-report questionnaire, which did not allow for a detailed analysis of students' professional ethical sensitivity. Although the questionnaire had face validity, no additional validity questionnaire was administered. Qualitative methods offer the advantage of providing a more in-depth understanding of the various contexts of professional ethical sensitivity. Therefore, future research should consider larger sample sizes and intervention studies aimed at enhancing the level of professional ethical sensitivity. However, by identifying the level of professional ethical sensitivity among pharmacy students and the factors associated with it, this study provides valuable baseline data for the development of programs aimed at improving professional ethical sensitivity.

In the study assessing professional ethical sensitivity among pharmacy students, it was found that their level of ethical sensitivity was above average. To enhance their professional ethical sensitivity, it is important to provide more education on the significance of professional behavior within the classroom and its implications for future situations. Notably, differences in professional ethical sensitivity were observed between students who had taken ethics courses and those who had not. There are studies investigating ethical sensitivity in nursing and medicine [17-19], which are other health disciplines, but there is a limited number of studies in the literature that highlight the importance of ethics education specifically for pharmacy students, particularly in undergraduate programs. In light of this study, it is essential to increase the number of studies examining ethical sensitivity among pharmacy students and evaluating the effectiveness of ethics education in this field. For future research, it is crucial to consider factors that might have been overlooked in the current study, which could influence professional ethical sensitivity. Additionally, conducting comparative research between pharmacy students and students

from other disciplines would be valuable. Additionally, it is recommended to conduct a comparative study to investigate the differences in ethical sensitivity between pharmacy students and licensed pharmacists. Such research would contribute to a deeper understanding of how ethical sensitivity develops and evolves throughout the professional journey, providing valuable insights for educational programs and professional development in the field of pharmacy.

AUTHOR CONTRIBUTIONS

Concept: E.U.D.; Design: E.U.D., R.E.; Control: E.U.D., R.E.; Sources: E.U.D., R.E.; Materials: E.U.D., R.E.; Data Collection and/or Processing: E.U.D., R.E.; Analysis and/or Interpretation: E.U.D.; Literature Review: E.U.D., R.E.; Manuscript Writing: E.U.D., R.E.; Critical Review: E.U.D.; Other: -

CONFLICT OF INTEREST

The authors declare that there is no real, potential, or perceived conflict of interest for this article.

ETHICS COMMITTEE APPROVAL

The study received ethical approval from the Clinical Research Ethics Committee of the Atatürk University Faculty of Medicine on 30 March 2023, with reference number B.30.2.ATA.0.01.00/223.

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