

## Research Article



# The Effects of a Professional Ethics Workshop on the Knowledge of Rehabilitation Students in Ahvaz Jundishapur University of Medical Sciences, Iran

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## ABSTRACT

**Introduction:** Professional ethics in Rehabilitation Sciences is necessary for achieving therapeutic goals. Considering the importance of professional ethics training for rehabilitation students, we aimed to investigate the effects of a professional ethics workshop on improving the students' ethical knowledge at Ahvaz Faculty of Rehabilitation Sciences, Ahvaz City, Iran.

**Materials and Methods:** This quasi-experimental, cross-sectional study was conducted on all third- and fourth-year students in Audiology, Physiotherapy, Occupational therapy, and Speech therapy and the postgraduate students of the faculty. The two-day workshop was held for 16 hours. The students completed an ethical knowledge assessment test designed by the faculty members before and after the workshop.

**Results:** The data of 206 students (26% male and 74% female), with a mean age of 25.68 years, were analyzed in this study. The Mean±SD scores of the ethical knowledge test before and after the workshop were 4.71±1.84 and 7.02±1.42, respectively. Based on the results, the ethical knowledge of the students increased significantly after the workshop ( $P<0.001$ ). Improvement of ethical knowledge scores was significantly different between educational levels ( $P=0.033$ ). Also, the improvement of ethical knowledge score was significantly different among various study fields ( $P=0.007$ ).

**Conclusion:** Considering the promotion of students' ethical knowledge through participation in this workshop, it is suggested that an ethical workshop be held upon the entry of all rehabilitation students into the clinical field.

### Keywords:

Workshop; Professional ethics; Rehabilitation; Students

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## 1. Introduction

**E**thics is a set of principles and values that govern a person's decisions and behaviors individually or collectively. Ethics reflect beliefs about what is right and wrong. Generally, work ethics is an essential concept in any profession [1]. In healthcare professions, ethics are more important, as the ethical behavior of the therapeutic team plays a critical role in improving the patients' health status and restoring their health; in other words, healthcare occupations are ethics-based [2].

Professional ethics refers to the management of individuals' behaviors and activities in a profession or organization when they are performing professional tasks by adhering to ethical principles [3]. Medical ethics comprise an analytical activity in which various thoughts, beliefs, commitments, behaviors, emotions, arguments, and discussions about ethical decisions in medicine are carefully and critically examined, and instructions are issued if necessary [4]. Ethical decisions in medical practice involve the study of good or bad, right or wrong, and what should and should not be done.

Today, medical ethics education is one of the essential components of medical education. In different countries, professional ethics education has been appraised from different perspectives [2]. The new form of medical ethics deals with studying new medical issues and seeks to incorporate ethics into medical sciences [5]. It has been shown that medical ethics build the staff's conscience toward the patients and the organization. In other words, the staff commits to professional activities, not to harm the patients, and care toward the patient's recovery [6].

Rehabilitation sciences, as one of the crucial areas of healthcare, play an essential role in maintaining and improving the quality of life, self-esteem, functional independence, and social participation of individuals in physical, mental, social, and spiritual domains [7]. In this regard, Hess and McKenzie performed the first major ethical study in rehabilitation sciences from 1985 to 1987 at the Hastings Center in the USA and focused on the ethical challenges of rehabilitation and chronic care [8]. Also, familiarizing the ethical issues is vital in clinical treatments due to numerous challenges in providing patient care [9]. Therapists should keep the patients' rights in mind during clinical practice, not to harm patients, and be honest with patients in planning for the therapy process [10]. Therefore, medical ethics training has important for rehabilitation students, as it can influence the optimal treatment of hospital clients in the future.

Academic curricula are of particular importance in providing learning opportunities for trainees in the face of various ethical challenges. An effective curriculum can develop the students' ethical reasoning skills to promote ethical commitment. It has been demonstrated that the timing, method, and volume of educational content devoted to ethics in rehabilitation curricula can vary significantly [11, 12]. In this regard, a review study by Laliberte et al. showed that in Canadian physiotherapy and occupational therapy programs, ethics is taught for 5-61 and 5-65 hours, respectively [12]. In some programs, ethical education is presented as a separate program or optional or compulsory course [11, 12].

To the best of our knowledge about professional ethics training in the rehabilitation sciences curriculum in Iran, the only formal and approved program was found in PhD occupational therapy curriculum.

Other educational sessions include temporary and multi-day courses and workshops, seminars, case studies, web-based discussions, and innovative approaches [13]. With this background in mind, the current study aimed to investigate the effects of an ethics workshop on the ethical knowledge of rehabilitation students. Another aim of this study was to compare the ethical knowledge of students in terms of their academic majors and degrees.

## 2. Materials and Methods

### Study sample

In this quasi-experimental study, a total of 206 students (out of 270 rehabilitation students) were voluntarily contributed (54 males and 152 females). The study population consisted of 127 students with a BS degree, 58 students with an MS degree, and 21 students with a PhD degree. They all signed an informed consent form just before study participation. The Local Ethics Committee approved the experimental protocol of this study (registration code: IR.AJUMS.REC.1398.671), which was in accordance with the ethical standards and regulations of the Declaration of Helsinki.

### Study procedure

During a two-day workshop (16 hours) held in Ahvaz Jundishapur University of Medical Sciences on June 19 and 20, 2019, the students received general and professional ethics education. The Local Ethics Committee developed the workshop material. The "general ethics" materials included autonomy, beneficence, non-maleficence, and justice. In contrast, the "professional ethics"

materials had ethical values, codes of ethics (dedicated to each field), and the status of professional ethics in developed and developing countries.

To assess ethical knowledge, a questionnaire was developed, and an expert panel approved its face validity. The qualitative method was used in face validity investigation. Qualitative face validity was determined by a panel, including specialized staff and faculty members of rehabilitation sciences school (workshop instructors). They assessed the level of difficulty, degree of disproportion, ambiguity phrases, or the existence of inadequacies in the meanings of words. Then, their opinions were applied in the questionnaire by revising a few items. The ethics questionnaire contained ten items, including five items on general topics and five items on professional topics. Each item was designed using a two-alternative forced-choice method (true or false). The total score of the questionnaire ranged from 0 to 10 for general and professional ethics. The students finally completed 206 questionnaires before and after the workshop.

### Statistical analysis

This study summarizes data by measuring mean, standard deviation (SD), median, minimum, and maximum for continuous variables and percentages for categorical variables. The collected data were examined in terms of the normal distribution using the Kolmogorov-Smirnov test. The Wilcoxon signed-rank test was used to compare ethical knowledge scores of rehabilitation students at different time points (before and after the workshop). Also, Kruskal-Wallis and Bonferroni correction (the Mann-Whitney test) were used to compare ethics scores between different educational levels and fields. Statistical analysis was performed in SPSS Version 22. The null hypothesis is rejected if  $P < 0.05$ .

### 3. Results

The demographic characteristics of the students are presented in Table 1. The majority of the participants (61.7%) were undergraduate students. The results showed that the mean score of ethical knowledge significantly improved after the workshop for all students (Table 2). The Mean±SD improvement of the ethical knowledge score was  $2.38 \pm 1.59$  in females and  $2.11 \pm 1.58$  in males. However, the difference was not significant, according to the results of the Mann-Whitney test ( $P = 0.202$ ). The Mean±SD improvement of ethical knowledge scores in BS, MS, and PhD students were  $1.50 \pm 0.88$ ,  $2.31 \pm 1.19$ , and  $3.01 \pm 1.41$ , respectively. Also, the Mean±SD improvement of ethical knowledge

scores in audiology, physical therapy, occupational therapy, speech therapy, and rehabilitation management students were  $2.13 \pm 1.86$ ,  $2.72 \pm 1.52$ ,  $2.35 \pm 1.50$ ,  $1.83 \pm 1.55$ , and  $2.31 \pm 1.20$ , respectively. Table 3 shows the results of general and professional ethical knowledge of different educational levels and fields before and after the workshop.

Among undergraduates, there was no significant difference between the students of audiology, physical therapy, occupational therapy, and speech therapy regarding the ethical knowledge score ( $P < 0.05$ ). Among master students, no significant difference was found between the students of physical therapy, speech therapy, and rehabilitation management in terms of ethical knowledge scores ( $P < 0.05$ ). Improvement of ethical knowledge scores between different educational levels based on the results of the Kruskal-Wallis test was significantly different ( $P = 0.033$ ). Also, the improvement of ethical knowledge score among different study fields was significantly different according to the Kruskal-Wallis test ( $P = 0.007$ ). The results of the improvement of ethical knowledge score are presented in Table 4. The results of the Mann-Whitney test of educational fields showed a significant difference between physical therapy and speech therapy ( $z = -3.702$ ,  $P = 0.000$ ). Also, according to this test for educational level, a significant difference was observed between PhD and MS students ( $z = -2.728$ ,  $P = 0.006$ ) and between PhD and BS students ( $z = -2.072$ ,  $P = 0.038$ ).

### 4. Discussion

This study aimed to increase the ethical knowledge of rehabilitation students. The present results showed that the ethical knowledge of the study population increased significantly after holding the professional ethics workshop. Since the students had not participated in any educational programs related to the principles of professional ethics, this workshop had a significant impact on their awareness of ethical issues in various domains of rehabilitation sciences. The present findings are also in agreement with the results reported by Hassanpour et al. [14], Khandan et al. [15], and Ebrahimi and AliNejad [16], which indicated the positive impact of implementing ethics workshops in different medical departments.

Significant differences were observed in promoting ethical knowledge between students with different educational levels ( $P = 0.033$ ). In other words, differences were significant between MS and PhD students ( $P = 0.006$ ) and between BS and PhD students ( $P = 0.038$ ). Before the workshop, the ethical knowledge of PhD students was lower than other levels, and after the workshop, their ethical knowledge improved more than other levels. This

**Table 1.** Demographic characteristics of the study population (N=206)

Educational level	Major	Gender (n)	Age(y)		
			Mean±SD	Median	Min-Max
BS	AUD	M(8), F(23)	24.13±5.82	23	21-53
	PT	M(17), F(25)	23.07±2.96	23	21-38
	OT	M(2), F(18)	22.50±0.95	22	21-25
	ST	M(9), F(25)	22.41±0.99	22	20-25
MS	RM	M(2), F(14)	28.38±5.34	26.5	24-47
	PT	M(5), F(13)	31.89±7.75	27	24-45
	ST	M(4), F(20)	26.33±2.62	26	23-35
PhD	PT	M(7), F(14)	33.47±5.43	33	26-49

**JMR**

M: Male; F: Female; AUD: Audiology; PT: Physical therapy; OT: Occupational therapy; ST: Speech therapy; RM: Rehabilitation management.

outcome can be due to distancing oneself from clinical education. In this regard, previous studies have shown that higher education reduces the attention and ethical sensitivity of medical students. Therefore, holding consecutive workshops for students at higher educational levels can help them focus on ethical issues [16, 17]. The present study reported similar results. Also, the presence of higher education students in different educational en-

vironments can influence their attention to ethical issues and direct their attention to professional ethics.

On the other hand, there was no significant difference between undergraduate (audiology, physical therapy, occupational therapy, and speech therapy) and master (physical therapy, speech therapy, and rehabilitation management) students following the ethics workshop.

**Table 2.** Comparing the ethical knowledge of rehabilitation students at different time points by Wilcoxon Signed-Rank Test (Max: 10)

Variables	Groups	N	Phase of Study						P
			Before Workshop			After Workshop			
			Mean±SD	Median	Min-Max	Mean±SD	Median	Min-Max	
Education- al level	BS	127	4.52±1.98	5	0-8	6.84±1.47	7	3-9	<0.001*
	MS	58	5.31±1.44	5	2-8	7.34±1.42	8	3-9	<0.001*
	PhD	21	4.19±1.63	4	2-8	7.19±0.98	7	6-9	<0.001*
Education- al field	AUD	31	4.48±1.43	5	2-7	6.61±1.56	7	3-9	<0.001*
	PT	81	3.94±1.73	4	0-8	6.65±1.48	7	3-9	<0.001*
	OT	20	4.45±2.09	4	0-8	6.80±1.32	7	5-9	<0.001*
	ST	58	5.78±1.66	6	0-8	7.60±1.01	8	5-9	<0.001*
	RM	16	5.50±1.15	5	4-8	7.81±1.37	8	5-9	0.001*

**JMR**

AUD: Audiology; PT: Physical Therapy; OT: Occupational therapy; ST: Speech therapy; RM: Rehabilitation management.

\*Significant difference between before and after the workshop.

**Table 3.** General and professional ethical knowledge at different time (Max: 5)

Variables	Groups	N	General					
			Before			After		
			Mean±SD	Median	Min-Max	Mean±SD	Median	Min-Max
Educational level	BS	127	1.87±1.18	2	0-4	2.88±1.09	3	0-5
	MS	58	2.05±0.99	2	0-4	2.97±1.03	3	0-4
	PhD	21	2±0.78	2	1-4	3.43±0.98	3	2-5
Educational field	AUD	31	2.06±1.31	2	0-4	2.93±1.31	3	0-5
	PT	81	1.85±0.99	2	0-4	2.96±1.16	3	0-5
	OT	20	1.75±1.25	2	0-4	3.00±0.97	3	1-5
	ST	58	1.86±1.05	2	0-4	2.83±0.90	3	1-4
	RM	16	2.56±1.03	3	0-4	3.44±0.63	3.5	2-4

  

Variables	Groups	N	Professional					
			Before			After		
			Mean±SD	Median	Min-Max	Mean±SD	Median	Min-Max
Educational Level	BS	127	2.68±1.52	3	0-5	3.98±0.84	4	1-5
	MS	58	3.24±1.39	3	0-5	4.43±0.80	5	2-5
	PhD	21	2.19±1.68	2	0-5	3.76±0.62	4	2-5
Educational field	AUD	31	2.51±1.29	3	0-4	3.74±0.73	4	2-5
	PT	81	2.09±1.41	2	0-5	3.69±0.68	4	2-5
	OT	20	2.7±1.13	3	0-4	3.8±0.95	4	1-5
	ST	58	3.91±1.25	4	0-5	4.78±0.46	5	3-5
	RM	16	2.88±0.96	3	1-5	4.56±0.89	5	2-5

**JMR**

Min: Minimum; Max: Maximum; AUD: Audiology, PT: Physical therapy; OT: Occupational therapy; ST: Speech therapy; RM: Rehabilitation management

This finding may reflect the equal attention of undergraduate students in different rehabilitation fields to ethical issues, as well as the impact of the workshop on the students' understanding of critical ethical issues. The use of a standard lesson plan in workshops can be one of the important factors influencing the uniform promotion of students' ethical knowledge in all fields. It should be noted that there was no study comparing the effects of ethics workshops in different areas of rehabilitation and medical sciences.

### Implications for future research

It is essential to continue professional ethics training during the students' academic study in different fields of rehabilitation sciences. Also, special attention must be paid to professional ethics training by establishing appropriate programs for professors and clinical supervisors.

**Table 4.** Improvement of the ethical knowledge of rehabilitation students (Max: 10)

Variables	Groups	No.	Mean±SD	Median	Min-Max
Educational Level	BS	127	1.5±0.88	2	0-7
	MS	58	2.31±1.19	2	0-5
	PhD	21	3.01±1.41	3	0-6
Educational Field	AUD	31	2.13±1.86	2	0-7
	PT	81	2.72±1.52	3	0-7
	OT	20	2.35±1.50	2	0-5
	ST	58	1.83±1.55	1	0-7
	RM	16	2.31±1.20	2	0-4

**JMR**

Min: Minimum; Max: Maximum; AUD: Audiology; PT: Physical therapy; OT: Occupational therapy; ST: Speech therapy; RM: Rehabilitation management.

## 5. Conclusions

The present study results showed that implementing a professional ethics workshop might promote ethical knowledge among rehabilitation students. Also, the rate of ethical knowledge improvement increased at higher educational levels.

## Ethical Considerations

### Compliance with ethical guidelines

The research was approved by Ahvaz Jundishapur University of Medical Sciences, Iran (grant reference number: EDC-9828). The Local Ethics Committees approved the current study protocol (Registration Code: IR.AJUMS.REC.1398.671).

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### Authors' contributions

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### Conflict of interest

None of the authors have any financial or other interests relating to the manuscript submitted for publication in the Journal of Modern Rehabilitation.

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