**The effects of a professional ethics workshop on the knowledge of rehabilitation students in Ahvaz Jundishapur University of Medical Sciences**

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**Abstract:**

Considering the importance of professional ethics training for rehabilitation students, this study aimed to investigate the effects of a professional ethics workshop on improving the students’ ethical knowledge at Ahvaz Faculty of Rehabilitation Sciences, Ahvaz, Iran. This study was conducted on all third- and fourth-year students and postgraduate students of the faculty. The two-day workshop was held.The students completed an ethical knowledge assessment test, before and after the workshop. The data of 206 students 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). Considering the promotion of students’ ethical knowledge through participation in our workshop, it is suggested that an ethics workshop be held upon the entry of all rehabilitation students into the clinical field.

**Keywords:** Workshop; Professional Ethics; Rehabilitation; Students

**Introduction:**

Ethics is a set of principles and values ​​that govern a person’s decisions and behaviors individually or collectively and reflect beliefs about what is right and wrong. Generally, work ethic is an important concept in any profession (1). In healthcare professions, ethics are of greater significance, as the ethical behavior of the therapeutic team plays an important role in improving the patients’ health status and restoring their health; in other words, healthcare occupations are ethic-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 most 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 the study of 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 commit to professional activities so that they do not harm the patients, and care leads to patient recovery (6).

Rehabilitation sciences, as one of the important areas of healthcare, play an important 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, familiarization with the ethical issues is important in clinical treatments due to numerous challenges in providing care for the patients (9). Therefore, medical ethics training is of particular importance 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 in a way that ethical commitment is promoted. It has been demonstrated that the timing, method, and volume of educational content, devoted to ethics in rehabilitation curricula can vary significantly (10, 11). 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 (11). In some programs, ethical education is presented as a separate program or as an optional or compulsory course (10, 11).

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

Other educational sessions consist of temporary and multi-day courses and workshops, seminars, case studies, web-based discussions, and innovative approaches (12). With this background in mind, in the current study, we aimed to investigate the effects of an ethics workshop on the ethical knowledge of rehabilitation students. We also aimed to compare the ethical knowledge of students in terms of their academic major and degree.

**Methods**

**Study sample**

In this semi-experimental study, a total of 206 students were recruited out of 270 rehabilitation students (54 males and 152 females). The study population consisted of 127 students with a bachelor's degree, 58 students with a master's degree, and 21 students with a Ph.D. degree. 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), 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, while the “professional ethics” materials included ethical values, codes of ethics (dedicated to each field), and status of professional ethics in developed and developing countries.

For the assessment of ethical knowledge, a questionnaire was developed, and its face validity was approved by expert panel. 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 zero to ten for general and professional ethics. A total of 206 questionnaires were finally completed by the students before and after the workshop.

**Statistical analysis**

In this study, data are summarized by measuring mean and standard deviation (SD) for continuous variables and percentages for categorical variables. The collected data were examined in terms of the normal distribution using the Kolmogorov-Smirnov test. Also, Wilcoxon signed-rank test or Kruskal-Wallis test was used to compare ethics scores between different educational levels or fields. Statistical analysis was performed in SPSS Version 22. The null hypothesis was rejected if P<0.05.

**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 improvement of the ethical knowledge score was 2.38±1.59 in females and 2.11±1.58 in males; however, the difference was not significant, according to the results of the Mann-Whitney test (P=0.202). Also, the average improvement of ethical knowledge score in undergraduate, master, and Ph.D. students was 2.32±1.68, 2.03±3.38, and 3.01±3.41, respectively, based on the results of the Wilcoxon signed-rank test (P=0.033).

The mean improvement of ethical knowledge score among audiology, physical therapy, occupational therapy, speech therapy, and rehabilitation management students was 2.13±1.86, 2.72±1.52, 2.35±1.50, 1.83±1.55, and 2.31±1.20, respectively, according to Wilcoxon signed-rank test (P=0.007). Among undergraduates, there was no significant difference in the ethical knowledge score between the students of audiology, physical therapy, occupational therapy, and speech therapy (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).

**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 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. (13), Khandan et al. (14), and Ebrahimi and AliNejad (15), which indicated the positive impact of implementing ethics workshops in different medical departments.

Significant differences were observed in the promotion of ethical knowledge between students with different educational levels (P=0.033). In other words, differences were found to be significant between master and Ph.D. students (P=0.006) and between undergraduate and Ph.D. students (P=0.038). 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 (15, 16); the present study reported similar results. Also, the presence of higher education students in different educational environments can influence their attention to ethical issues and cause changes in 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. This 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 important 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 fields 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.

**Conclusion**

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

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**Conflict of Interest**

The authors declare no conflict of interest.

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| **Table 1.** Demographic characteristics of the study population | | | |
| **Educational level** | **Major** | **Gender** | **Mean age (years)** |
| Bachelor’s degree | Audiology | 8 M, 23 F | 24.13±5.82 |
| Physical therapy | 17 M, 25 F | 23.07±2.96 |
| Occupational therapy | 2 M, 18 F | 22.50±0.95 |
| Speech therapy | 9 M, 25 F | 22.41±0.99 |
| Master’s degree | Rehabilitation management | 2 M, 14 F | 28.38±5.34 |
| Physical therapy | 5 M, 13 F | 31.89±7.75 |
| Speech therapy | 4 M, 20 F | 26.33±2.62 |
| PhD | Physical therapy | 7 M, 14 F | 33.47±5.43 |

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| **Table 2.** Comparison of the ethical knowledge of rehabilitation students at different time points | | | | | | | | |
| **Parameters** | **Students** | | **Phase of study** | | | | P-value | |
| Before workshop | | After workshop | |
| Educational level | | Bachelor’s degree | | 4.52±1.98 | | 6.84±1.47 | | <0.001 | |
| Master’s degree | | 5.31±1.44 | | 7.34±1.42 | | <0.001 | |
| PhD | | 4.19±1.63 | | 7.19±0.98 | | <0.001 | |
| Educational field | | Audiology | | 4.48±1.43 | | 6.61±1.56 | | <0.001 | |
| Physical therapy | | 3.94±1.73 | | 6.65±1.48 | | <0.001 | |
| Occupational therapy | | 4.45±2.09 | | 6.80±1.32 | | 0<0.001 | |
| Speech therapy | | 5.78±1.66 | | 7.60±1.01 | | <0.001 | |
| Rehabilitation management | | 5.50±1.15 | | 7.81±1.37 | | 0.001 | |