



KNOWLEDGE EVALUATION OF SURGICAL TECHNOLOGISTS ABOUT PROFESSIONAL LAW AND STANDARDS IN THE ACADEMIC-MEDICAL HOSPITALS OF IRAN UNIVERSITY OF MEDICAL SCIENCES IN 2016-17

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ABSTRACT

Background: Operating room technologists' knowledge of professional rules and standards causes their good judgment and proper performance, which results in meeting the needs of patients and removing the potential risks and claims. Methods: This cross-sectional descriptive study was conducted on 143 operating room technologists working in nine hospitals affiliated to Iran University of Medical Sciences based on census sampling. The research tool was a researcher-made questionnaire, and the reliability was assessed by Cronbach's alpha as well as apparent and contextual validity. Data analysis was done using SPSS software Version 19, and descriptive statistic indices, chi-square test, and Pearson's correlation were determined. Results: The results showed good awareness of 58.7% of participants in terms of safety. With respect to patient's rights, 41.3% of participants enjoyed good awareness. 37.1 and 37.8% of participants had a good and average awareness of professional job description, respectively; however, 69.9% of participants had poor awareness of legal rights. Conclusion: Considering the complexity of work system in the operation room and increasing legal proceedings involving operation room staff, training the medical staff and raising their awareness on different aspects of professional rules and standards, especially judicial laws, can maximize the efficiency and quality of healthcare services and reduce litigations and complaints from technologists.

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Introduction

Awareness of the regulations and standards of each job is one way to achieve more success in that job [1, 2]. Professional rules and standards, which are meant to promote, guide, direct, adjust, and regulate occupations and professions, are valid executive directives defining the legal and professional bases for individual performance [3]. The professional standards and regulations of the operating room provide rules of thumb for the staff and express the expectations and responsibilities of operating room nurses. All the nurses must be aware of the rules and standards and should appreciate that their accurate performance based on regulations improves the work quality and performance and that the violation of laws and standards may lead to serious errors, possible death of the client, personnel or judicial accusations, or both [4-7]. Today, due to rising treatment costs (especially in private hospitals), increased awareness of people and their familiarity with patient rights on the one hand, and

media coverage of the liabilities of medical teams, relatively lower income levels of people and economic problems in the society on the other hand, there is a high likelihood of legal proceedings involving medical teams [8]. Dunjoma et al. (2016) reported in their research that among the cases filed in the judicial authorities, there were 22 cases against nurses, and the nurses were found accountable in 77% of cases [9]. In another study in Iran, from the complaints filed in various medical and paramedical disciplines, the medical staff were found legally responsible in 50% of cases [10]. Adib Hajbagheri and Azizifini (2010) reported (quoting from Fiesta) that health workers' awareness was inversely related to their solicitation to legal and judiciary authorities [11]. The awareness and proper function of the operating room technologists in accordance with professional rules and standards ensure their proper performance in the defined tasks and leave no room for legal proceedings by patients. Therefore, due to the growing increase in the invocation of nurses to legal authorities, the present study was conducted with the aim of investigating the awareness of the operating rooms technologists from professional standards and rules in teaching hospitals of Iran University of Medical Sciences in 2016-17.

Method:

This is a cross-sectional descriptive-analytic study conducted in operating rooms of hospitals affiliated to Iran University of Medical Sciences (IUMS) in 2016-2017, in which the variable of awareness level was measured. To determine the sample size, given the estimated sample size (164 subjects) as well as the number of operating rooms and personnel of each research unit, the quota of each of the hospitals was determined using the quota sampling method. The researcher then visited all the research units, distributed the questionnaires among the units and collected the questionnaires after their completion. Finally, 143 people were recruited as samples, and sample drop was less than 20%. Inclusion criteria were employment in research hospitals, an academic degree in operating room and willingness to participate in the research. The research tools consisted of an informed consent form and a researcher-made questionnaire containing two parts: demographic information (7 items) and an awareness questionnaire including 71 questions in four areas of security items (20 questions), patient's rights (15 questions), professional job description (21 questions) and judicial laws (15 questions). Validity of the questionnaire was determined through content validity by submitting a questionnaire to ten faculty members by Lavash method. In this research, the questionnaire items were extracted based on the components agreed upon by the experts. To determine the reliability of the questionnaire, the test-retest was used, and Kolmogorov Smirnov test (kS) was used to investigate the normal distribution of research variables. The results showed that using independent t-test and chi-square, all variables except for the workplace had a normal distribution. For the workplace variable, Mann-Whitney test was used. The data from questionnaires entered into SPSS version 19 to determine the reliability of the questionnaire and Cronbach's alpha by an expert in statistics, which was equal to $R=0.74$.

The questionnaires were distributed by the researcher in three shifts of morning, evening and night, and were collected by research units after their completion. In front of each question, there are three columns that reflect the views of participants in the research, and the answers to each of the questions are recorded as correct, incorrect and I do not know. If the answer to perspective questions is favorable, there are correct (2 scores), incorrect (0 scores), and I do not know (1 score) answers, and if the perspective is unfavorable, there are correct (0 scores), incorrect (2 scores), and I do not know (1 score) answers. Respondents to questions in each item were classified in three groups of good, moderate and weak in the following order:

Safety items: a) Good score "26 and higher", B) Average score "22-26", C) Poor score "0-22".

Client's rights items: a) Good score "23 and higher", B) Average score "18-23", C) Poor score "0-18".

Professional job description items: a) Good score "28 and higher", B) Average score "24-28", C) Poor score "0-24".

Judicial laws items: a) Good score "16 and higher", B) Average score "14-16", C) Poor score "0-14".

All the ethical criteria related to research were observed in this study.

Results:

In terms of gender, the results of this study (Table 1) showed that 17.5% of participants were male and 82.5% were female (5.5%). In addition, the majority of participants were married (54.5%), 42.7% were single and 8.2% were divorced, and there was no case of a deceased spouse.

Table 1. Distribution of demographic (qualitative) variables of operating room technologists

Percent	Distribution	Variable	
17.5	25	Male	Gender
82.5	118	Female	
42.7	61	Single	Marital status
54.5	78	Married	
2.8	4	Divorced	

Also, the results (Table 2) showed that the average age of employees was 28.90 ± 5.76 years, and their average work record was 5.76 ± 5.38 years.

Table 2. Distribution of demographic (quantitative) variables of operating room technologists

Mean \pm SD	Distribution	Variable
28.90 ± 5.76	143	Age
5.76 ± 5.38	143	Work record

The results (Table 3) showed that 58.7% of the employees were well aware of the safety issues. With regard to patient's rights, 41.3% of the staff had a good level of awareness, but in terms of professional job description, the staff had approximately equal awareness levels of moderate and good (37.0%). Finally, in terms of judicial laws, 69.9% of employees had poor awareness, and only 0.7% had a good awareness of the judicial law.

Table 3. Frequency distribution of awareness level of operating room technologists

Percent	Frequency	Status	Variable
16.1	23	Poor	Security
25.2	36	Moderate	
58.7	84	Good	
19.6	28	Poor	Patient's rights
39.2	56	Moderate	
41.3	59	Good	
25.2	36	Poor	Professional job description
37.8	54	Moderate	
37.1	53	Good	
69.9	100	Poor	Judicial laws
23.1	33	Moderate	
7	10	Good	
100	143	Sum total	

Discussion:

Study of awareness level is a precondition for becoming aware because there is no observance of the principles unless there is awareness of them. The purpose of this study was to evaluate the awareness levels of operating room technologists from professional regulations and standards.

In his study of the factors affecting the quality of healthcare services, Mosaddeghrad (2014) considered the awareness of the rules and standards of professional tasks as one of the important factors, which was consistent with our study [12]. Based on the findings of this study, the majority of research units had moderate and good awareness levels (37.8 and 37.1%, respectively) in terms of professional job descriptions. Jahanpoor et al. (2010) reported a moderate and high level of awareness among 61.3% and 38.1% of participants, respectively [13]. Moreover, in the study of Moniratnama (2014), the awareness of 48.2% of nurses was in a good level and 31.8% of them had a low awareness level [14]. Meanwhile, Kuar et al. (2014) as well as Kumar et al. (2011) reported a moderate awareness level of 56 and 90%, respectively [15, 16]. Different levels of awareness in the studies show that the importance of accurate awareness of responsibilities and professional job description is not properly understood by the medical staff.

The results of this study indicated that the awareness level of the operating room technologists from the rules and standards of patient's rights was higher than average in 80% of cases, which was consistent with the findings of Utkualp and Yildize (2016) and Aka et al. (2015) who showed that 79.1% and 92.3% of nurses were aware of the patient's rights charter, respectively [17, 18]. However, the results of Bathayi (2011) and Duoty et al. (2010) studies indicated that the awareness levels of students and general practitioners from patients' rights were in a

poor level [19, 20], which can be due to the use of students in the study of Bathayi (lack of work experience and record) and general practitioners in the study of Duet and colleagues who did not receive formal education and training on patients' rights.

Another finding of this study was determining the awareness level from safety laws and standards, and 58.7% of the participants were aware of these standards, which was consistent with the results of Hasan (2017), Safarpour et al. (2017), and Blasik et al. (2014) [21-23]. However, Zakirian et al. reported moderate levels of awareness of safety principles [24]. In addition, Sabbah et al. (2013) reported the level of awareness on occupational safety at 3.37% [25]. In a semi-experimental study, Von Bieszkow et al. (2012) examined the effects of safety education programs on reducing latency errors in the operating room and found that the training of personnel was necessary, especially for technical and technological measures [26]. Regarding the results of this study, the necessity of training for the personnel of operating room on risk factors and safety optimization measures for patients should be emphasized, and necessity of the balance of other sources and materials is also recommended.

The results of this study indicated that 69.9% of the participants had a poor knowledge of legal and judicial standards, which was in agreement with the findings of Adib Hajbagheri et al. (2010) [11]. Azimi et al. (2013) in a descriptive study titled "Investigating the Awareness of Medical Science Students from Criminal Midwifery Laws in the Field of Forensic Medicine" concluded that the level of awareness was poor [27]. Meanwhile, Shafiei et al. (2013) reported a moderate level of awareness from the rules of professional offenses in 42.86% of cases [28]. Kazemzadeh et al. (2013) reported in their study that the awareness of abortion laws in basic science, physiopathology, apprenticeship and internship students was 28% (poor), 38% (moderate), 55% (moderate) and 48% (moderate), respectively [29]. The main reasons for the lack of awareness among the operating room technologists from legal and judicial issues in Iran are the absence of adequate training during formal education and lack of follow-up during service in medical centers, which requires special attention on the part of officials in this matter.

Given that the operating room technologists work in a highly sensitive environment, they must always be aware of the judicial laws and regulations of the nursing organizations as well as medical laws and professional standards related to their career. The liability of the operating room technologists versus patients undergoing surgery in case of negligence, lack of skill and carelessness in the course of treatment and care may result in a judicial conviction in addition to paying fines for financial damage.

Conclusion:

The results of this study indicated that the awareness of the operating room technologists in the items of patient's safety, patient's rights and professional job descriptions was higher than average, but it was poor in the case of judicial laws. As a basis for the job and career, regulations and standards lead to the dynamism, discipline and observance of the correct principles in that profession. It can be deduced that the greater the awareness of the operating room technologists from the professional rules and standards, the higher the degree of their observance of these regulations. Lack of awareness of the operating room technologists from these rules and standards will result in non-observance and, as a result, compromised health and security of patients and medical team as well as legal complaints and proceedings. Therefore, the authorities can raise the awareness of staff by providing practical solutions to increase knowledge through training courses, preparing pamphlets, brochures and other educational programs.

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