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Türk Hijyen ve Deneysel Biyoloji Dergisi

Evaluation of certified health training programs under the coordination of the Turkish Ministry of Health by the participants

Türkiye Sağlık Bakanlığı koordinasyonunda olan sertifikalı sağlık eğitim programlarının katılımcılar tarafından değerlendirilmesi

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ABSTRACT

Objective: In this study, it was aimed to evaluate the certified health training programs coordinated by the Ministry of Health from the perspective of the participants, with different dimensions.

Methods: This research is a descriptive cross-sectional study. The population of the research consists of those who participated in any of the certified trainings coordinated by the Ministry of Health, during the research period. Research data were collected through the online questionnaire prepared in Google Forms. Survey questions have been prepared by the researchers, considering the general objectives of certified trainings, literature research and expert opinion. The questionnaire form consists of five parts. In the first part, there are seven multiple-choice and short-answer questions to obtain the personal information of the participants. In the other four sections, there are five-point Likert-type statements that the participants can evaluate the training program, ranging from "strongly disagree" to "strongly agree". The second part is prepared for the content of the education

ÖZET

Amaç: Bu araştırmada, Sağlık Bakanlığı tarafından koordine edilen sertifikalı sağlık eğitim programlarının katılımcıların bakışı açısından farklı boyutları ile değerlendirilmesi amaçlanmıştır.

Yöntem: Bu araştırma tanımlayıcı özellikte kesitsel bir çalışmadır. Araştırmanın evrenini, araştırma süresi içinde, Sağlık Bakanlığı tarafından koordinasyonu sağlanan sertifikalı eğitimlerden herhangi birine katılanlar oluşturmaktadır. Araştırma verileri, Google Forms'ta hazırlanan çevrimiçi anket formu aracılığıyla toplanmıştır. Anket soruları; sertifikalı eğitimlerin genel amaçları göz önünde bulundurularak, literatür araştırması ve uzman görüşü alınarak araştırmacılar tarafından hazırlanmıştır. Anket formu, beş bölümden oluşmaktadır. İlk bölümde katılımcıların kişisel bilgilerinin elde edilmesine yönelik yedi adet çoktan seçmeli ve kısa cevaplı sorular yer almaktadır. Diğer dört bölüm katılımcıların eğitim programını değerlendirebilecekleri, "hiç katılmıyorum" ve "tamamen katılıyorum" aralığında değişen beşli Likert tipinde hazırlanmış ifadeler bulunmaktadır. İkinci bölüm eğitimin içeriğinin

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(11 questions), the third part is for the educational environment (four questions), the fourth part is for the material of the education (four questions), and the fifth part is for the evaluation of the education as a whole (four questions). Descriptive statistics and comparative analyzes were used in the analysis of the data.

Results: 1,013 people who received one of the certificated trainings in Operating Room Nursing, Pediatric Intensive Care Nursing, Neonatal Intensive Care Nursing and Intensive Care Nursing participated in the study. While 60.12% (609) of the participants are female, 99.01% (1003) are nurses, 56.27% (570) of them are undergraduates and 77.99% (790) work in the operating room, the mean age is 28.03 years and the mean working time is 5.84 years. Participants gave a mean of (out of 5) a minimum score of 4.50, a maximum of 4.59, and an overall score of 4.55 for the questions regarding the evaluation of education. The mean score given by the participants to the questions has been found to differ by gender, the institution where the education is given, the type of certified education, the occupation year, the education level, and the type of unit they currently work in.

Conclusion: It was concluded that the participants generally found the certified training programs successful. Compared to others, the less experienced, younger and high school- graduated participants benefit more from the certified trainings.

Key Words: Certified health training, training evaluation, postgraduate education

(11 soru), üçüncü bölüm eğitim ortamının (dört soru), dördüncü bölüm eğitimin materyalinin (dört soru) ve beşinci bölüm eğitimin bütün olarak değerlendirilmesine (dört soru) yönelik hazırlanmıştır. Verilerin analizinde tanımlayıcı istatistikler ve karşılaştırmalı analizler kullanılmıştır.

Bulgular: Araştırmaya Ameliyathane Hemşireliği, Çocuk Yoğun Bakım Hemşireliği, Yenidoğan Yoğun Bakım Hemşireliği ve Yoğun Bakım Hemşireliği sertifikalı eğitimlerinden birini alan 1.013 kişi katılmıştır. Katılımcıların %60,12'si (609) kadın, %99,01'i (1003) hemşire, %56,27'si (570) lisans mezunu ve %77,99'u (790) ameliyathanede çalışanlardan oluşurken yaş ortalaması 28.03, ortalama çalışma süresi 5.84 yıldır. Katılımcılar eğitimin değerlendirilmesine yönelik sorulara ortalama (5 üzerinden) en düşük 4,50, en yüksek 4,59 ve genel 4,55 puan vermişlerdir. Katılımcıların sorulara verdikleri puan ortalamalarının; cinsiyete, eğitimin verildiği kuruma, sertifikalı eğitim türüne, meslek yılına, kişilerin eğitim düzeyine ve mevcut durumda çalıştıkları birim türüne göre farklılık gösterdiği bulunmuştur. Görüş ve önerilere toplam 80 cevap verilmiş olup, bu yorumların 66'sında eğitimden oldukça memnun oldukları belirtilmiştir.

Sonuç: Katılımcıların genel olarak sertifikalı eğitim programlarını başarılı buldukları sonucuna varılmıştır. Diğerlerine göre daha az deneyimli, genç ve lise mezunu katılımcılar sertifikalı eğitimlerden daha fazla yararlanmaktadır.

Anahtar Kelimeler: Sertifikalı sağlık eğitimi, eğitim değerlendirme, mezuniyet sonrası eğitim

INTRODUCTION

One of the fastest growing sectors in the world is the health sector. New technologies are used in the provision of health services and new application areas are emerging day by day. Rapid developments in the health sector require expertise and new knowledge, but also lead to the emergence of new health professions. However, there is a need for sub-specializations due to the lack of all these professions in Turkey and the diversity of practices within the profession.

Nurses and nursing services have a great importance in the delivery of health services. However, in Turkey, nurses at the associate and undergraduate level graduate with general nursing skills without specialization (Can, 2010). Among the units where nurses work, there are areas that require very different knowledge and practice. Since these qualifications are not acquired during a basic vocational training, specialization training is required for intensive care nurses to acquire the necessary qualifications in terms of knowledge, skills and attitudes (Göktepe et al., 2021). Nursing specialization in Turkey can be achieved by having a postgraduate education or a certificate of authorization according to the Nursing Regulation (Can, 2010; Torun, 2015; Nursing Regulation, 2010). Nurses with a certificate of authorization are defined in the relevant regulation as "nurses who have a certificate of authorization in the units and fields related to the nursing profession and are responsible for nursing care services related to these fields" (Nursing Regulation, 2010). Authorization certificates can be obtained through trainings organized in accordance with the Ministry of Health Certified Training Regulation.

Certified training program is defined as a formal education and/or distance education program to be organized in the field of health in order to gain competence based on specific knowledge and/or skills in a certain subject after graduation (Ministry of Health Certified Education Regulation, 2014). One of the methods adopted by the Turkish Ministry of Health to train qualified human resources is certified training programs. These trainings, according to the standards determined by the scientific commissions established by the Ministry of Health; are given through recognized private and public health institutions or directly by the Ministry of Health (Ministry of Health Certified Training Regulation, 2014). Which trainings are certified training is determined by the Ministry of Health. Among the determined certified training programs, a total of 61 trainings were listed, including emergency care nursing, operating room nursing, gastrointestinal system endoscopy, hemodialysis for physicians and nurses, hypnosis application, leech application, health quality standards evaluator, and diagnosis-related groups (DRG), and clinical coder (Ministry of Health, 2022). There are certified training programs such as modern and traditional medicine practices for different health professionals, especially physicians and nurses. The most general feature of these trainings is that they require field-specific knowledge and skills. In other words, the aim of these trainings is to provide trainings that require specific knowledge and skills in health care applications and cannot be given in-depth in general medicine and nursing education.

Certified training programs are widely applied in the world due to the advantages it provides to patients, society and employees (Adams & Miller, 2001; Chetwynd et al., 2019; Coleman et al., 2009; Eck et al., 2016; Mahramus et al., 2014). Studies show that certified trainings improve the knowledge, skills and awareness levels of healthcare professionals (Adams & Miller, 2001; Chetwynd et al., 2019; Gesin et al., 2012; Göktepe et al., 2021; Komurcu et al., 2012; Mahramus et al., 2014). Trainings can also contribute to the development of colleagues they work with, by sharing information and training materials with their teammates, apart from the health workers who receive training (Komurcu et al., 2012). In addition, those who participate in a certified training program are more likely to work in an environment where the employer supports professional development through continuing education (Coleman et al., 2009).

The increase in the level of knowledge, skills and awareness of health professionals who receive certified training also makes a positive contribution to the patients and institutions that they serve. Coleman et al. reported positive results in symptom management and quality of life of the

intensive care nurses receiving certified training, patient and family satisfaction, and cost of care (Coleman et al., 2009). Göktepe et al. also state that it contributes to the quality and safe care of intensive care patients and increases the efficiency and effectiveness of institutions (Göktepe et al., 2021). Numerous studies have shown that satisfaction increase with health services and health outcomes provided by health professionals with certified training (Chetwynd et al., 2019; Gesin et al., 2012).

Although it has been proven by studies that certified trainings generally have significant contributions to the health workers, institutions and patients receiving the training, it is clear that the positive results obtained will be affected by the adequacy of the training. Therefore, it is important to evaluate every training given. Evaluation of training can be defined as the process of evaluating measurement results based on certain criteria in order to determine the effects and benefits of the education program. Evaluation is necessary to identify and correct the deficiencies and failings in the training program. The feedback obtained as a result of the evaluation can be used to improve the training program (Eviren, 2017). It is expected that the quality of training will increase as the deficiencies of the implemented programs are eliminated and the programs are developed. Making the right decisions that will make the programs more effective depends on researching these decisions with scientific studies and evaluating the applications (Baş, 2016). In this research, the trainings given under the coordination of the Training and Certification Department were evaluated from the perspective of the participants with different dimensions. With the evaluations provided by the participants, it is aimed to determine the areas where the certified trainings should be developed, to provide standardization and to use them as data for the changes planned to be made in the trainings.

MATERIAL and METHOD

This research is a descriptive cross-sectional study. The population of the research consists of a total of 1563 participants who participated in the certified training program between 01.04.2022 and 01.07.2022 under the coordination of the Turkish Ministry of Health. Within the scope of research, the whole population was tried to be reached, and a total of 1013 participants (approximately 65%) responded. It was tried to reach the whole research universe without making sampling.

Data collection tool

Research data were collected through the online questionnaire prepared in Google Forms. The survey questions were prepared by the researchers by taking the literature research and expert opinion. The questionnaire form consists of five parts. In the first part, there are seven multiple-choice and short-answer questions to obtain the personal information of the participants. In the other four sections, there are five- point Likert-type statements that the participants can evaluate the training program, ranging from “strongly disagree” to “strongly agree”. The second part is prepared for the content of the training (11 questions), the third part is the training environment (4 questions), the fourth part is the material of the training (4 questions), and the fifth part is for the evaluation of the education as a whole (4 questions).

Analysis of Data

Descriptive and comparative analyzes was used in the analysis of the research data. Independent Samples Tests were used for two independent group comparations and Kruskal Wallis test was used in analyzes comparing more than two independent groups. Tamhane test, one of the post-Hoc tests, was used to determine the difference between which groups in more than two independent groups. Data analysis was done in IBM SPSS Statistics 23 statistical package program. In the study, the confidence interval was determined as 95% and the significance value was determined as $p<0.05$.

A total of 1013 participants completed the certified training evaluation questionnaire. During the research period, operating room nursing, pediatric intensive care nursing, neonatal intensive care nursing and intensive care nursing certified training programs were organized. In the descriptive analyzes, the participants of these trainings were shown separately. However, in comparative analyzes, all intensive care units were combined as a single group as intensive care nursing. Certified trainings institutions were grouped in two groups as universities and private health institutions. Among the units where the participants currently work includes operating room, pediatric intensive care, neonatal intensive care, intensive care and other clinics and polyclinics. However, in the comparative analyzes, the units studied were included in the analyzes under three groups as operating room, intensive care units and other. The mean age and standard deviation information of the participants were given in the descriptive analysis table. In comparative analyses, it was examined in three groups as "<30" age, "≥ 30;<40" age and "≥ 40" age. The education levels of the participants were in the descriptive analysis; high school, associate degree, undergraduate, graduate and doctorate. However, in comparative analysis; four groups as high school, associate degree, undergraduate and graduate were included in the study. Likewise, the mean and standard deviation information of the participants' professional years are given in the descriptive table. However, in comparative analyses, three groups were included in the evaluation as "<5" years, "≥5<10" years and "≥10" years.

Ethical Aspect of Research

The research protocol was approved by the decision of the Non-Invasive Clinical Research Ethics Committee of Bakırçay University (Date: 30.03.2022 and No: 547). In addition, written permission was obtained from the Ministry of Health General Directorate of Health Services for the implementation of the study. Informed consent was obtained online from each of the participants.

RESULTS

Within the scope of the research, 1013 participants were reached, and the descriptive information about the participants is given in Table 1. The overall mean age of the participants is approximately 28. The mean working time of the 986 participants who shared the working time information is about 6 years. Approximately 60% of the participants are female and 99.01% are nurses. Majority of them (56.27%) are undergraduate graduates and adult intensive care workers (77.99%), and intensive care nursing training was received the most (82.43%).

In Table 2, the statements used for the evaluation of certified trainings and the descriptive statistics of the scores given by the participants to the expressions are given. The mean of the scores given to the statements regarding the evaluation of certified training was found to be 4.55. The mean of the scores given to each statement varies between 4.50 and 4.59.

Comparative analyzes were made in order to determine whether the mean scores given to the statements in the questionnaire changed according to the educational institution, the type of education and the characteristics of the participants, and the analysis results were summarized in Table 3, Table 4, Table 5, Table 6 and Table 7. In Table 3, the results of comparison of the mean scores given to the expressions by gender, the institution where the education is given, and the type of education are given. Male participants stated that the contribution of training to the statements about the evaluation of the training content, the evaluation of the training environment, the evaluation of the training material and the overall evaluation of the training was higher than that of the female, and this difference was also statistically significant. Participants who received the training in private hospitals stated that the contribution of the training was higher than the participant group who received it in university hospitals. Participants who received intensive care

Table 1. Descriptive Information about the Certified Training Program

Participant Groups	n (Mean / ±SD)
Age	1013 (28.03 ±4.954)
Years of profession	986 (5.84 ±4.352)
	n / %
Gender	
Male	404 / 39.88
Female	609 / 60.12
Profession	
Nurse	1003 / 99.01
Health officer	10 / 0.99
Educational Level	
High School	356 / 35.14
Associate Degree	60 / 5.95
Undergraduate	570 / 56.27
Master's Degree	26.02.1957
Doctorate	1 / 0.10
Occupied Unit	
Intensive Care (Adult)	790 / 77.99
Operating Room	167 / 16.48
Pediatric Intensive Care	18 / 1.78
Neonatal Intensive Care	7 / 0.69
Other	31 / 3.06
Training program	
Intensive Care Nursing (Adult)	835 / 82.43
Operating Room Nursing	170 / 16.78
Neonatal Intensive Care Nursing	7 / 0.69
Pediatric Intensive Care Nursing	1 / 0.10
Total	**1013 / 100.00**

nursing training stated that the contribution of training to them was higher than those who received training in operating room nursing.

The comparison of the answers given by the participants to the training evaluation statements by the years of occupation is presented in Table 4. They stated that the participants who worked for "<5" and "≥5&<10" years had a higher contribution to the expressions for the evaluation of the training compared to the participant group who worked for "≥10" years. It was determined that the participants with shorter working hours evaluated the training environment with higher scores than those with longer working hours. However, for the evaluation of the training environment, the difference between "<5" years and "≥5&<10" years employees were not found statistically significant only for the EEE-2 expression. It was concluded that the positive evaluation scores

Table 2. Descriptive Analysis Results Regarding Training Evaluation Statements

	Statements	Statement abbreviation	n	Mean ±SD
Statements related to the evaluation of the training content	Before the training, the purpose of the training was clearly explained	ECT-1	1013	4.52±0.591
	Training was important for my professional development	ECT-2	1013	4.55±0.596
	The content of the training was suitable for the purpose of the training	ECT-3	1013	4.54±0.583
	The topics described were in line with the objectives of the training program	ECT-4	1013	4.54±0.581
	Topics were well identified	ECT-5	1013	4.55±0.579
	Topic ranking was appropriate	ECT-6	1013	4.51±0.630
	The learning methods used were appropriate to the subject	ECT-7	1013	4.50±0.611
	The training period was appropriate	ECT-8	1013	4.50±0.641
	The day and hours of the training were suitable for me	ECT-9	1013	4.55±0.570
	The methods used in the evaluation of the training were appropriate.	ECT-10	1013	4.52±0.585
	Educators were experts in their field	ECT-11	1013	4.53±0.592
Statements regarding the evaluation of the training material	The selected environment was suitable for training	EEE-1	1013	4.51±0.636
	Access to the training environment was easy	EEE-2	1013	4.59±0.523
	Technical tools used for training (projection, board, video, etc.) were sufficient	EEE-3	1013	4.56±0.563
	The selected setting was appropriate for the number of participants	EEE-4	1013	4.59±0.534
	The material provided sufficiently covered the subject of the training	EEM-1	844	4.59±0.589
	The material provided was suitable for the language used	EEM-2	841	4.59±0.589
	The material provided was scientifically sufficient	EEM-3	841	4.57±0.606
	The time of delivery of the material was appropriate	EEM-4	841	4.58±0.601
Statements regarding the overall evaluation of the training	I am satisfied that I have received the training	EEW-1	1013	4.56±0.598
	Training contributed to my professional development	EEW-2	1013	4.59±0.570
	I can use the information I receive while doing my job	EEW-3	1013	4.59±0.568
	I recommend the same training to my colleagues	EEW-4	1013	4.57±0.583
Total				4.55±0.589

Table 3. Comparison of Training Evaluation by Gender, Institution and Type of Training, and Participant Groups

	Gender				Institution where the training is given				Training type			
Evaluation Statements		N	Mean ±SD	p		N	Mean ±SD	p		N	Mean ±SD	p
ECT-1	a	609	4.44±0.571	<0.001	a	916	4.49±0.598	<0.001	a	843	4.56±0.580	<0.001
	b	404	4.63±0.602		b	97	4.78±0.438		b	170	4.28±0.588	
ECT-2	a	609	4.46±0.595	<0.001	a	916	4.52±0.605	<0.001	a	843	4.60±0.572	<0.001
	b	404	4.68±0.573		b	97	4.80±0.424		b	170	4.28±0.634	
ECT-3	a	609	4.45±0.586	<0.001	a	916	4.52±0.590	<0.001	a	843	4.59±0.581	<0.001
	b	404	4.68±0.551		b	97	4.78±0.438		b	170	4.31±0.536	
ECT-4	a	609	4.46±0.572	<0.001	a	916	4.52±0.590	<0.001	a	843	4.59±0.572	<0.001
	b	404	4.67±0.571		b	97	4.79±0.407		b	170	4.29±0.562	
ECT-5	a	609	4.48±0.556	<0.001	a	916	4.52±0.586	<0.001	a	843	4.60±0.571	<0.001
	b	404	4.66±0.595		b	97	4.79±0.432		b	170	4.31±0.557	
ECT-6	a	609	4.41±0.640	<0.001	a	916	4.48±0.641	<0.001	a	843	4.55±0.624	<0.001
	b	404	4.66±0.583		b	97	4.79±0.407		b	170	4.28±0.606	
ECT-7	a	609	4.41±0.595	<0.001	a	916	4.48±0.621	<0.001	a	843	4.55±0.601	<0.001
	b	404	4.65±0.606		b	97	4.77±0.421		b	170	4.26±0.601	
ECT-8	a	609	4.40±0.661	<0.001	a	916	4.47±0.653	<0.001	a	843	4.55±0.645	<0.001
	b	404	4.66±0.573		b	97	4.79±0.407		b	170	4.26±0.560	
ECT-9	a	609	4.45±0.583	<0.001	a	916	4.52±0.579	<0.001	a	843	4.60±0.560	<0.001
	b	404	4.71±0.513		b	97	4.80±0.399		b	170	4.31±0.557	
ECT-10	a	609	4.42±0.577	<0.001	a	916	4.49±0.592	<0.001	a	843	4.55±0.597	<0.001
	b	404	4.67±0.568		b	97	4.77±0.445		b	170	4.35±0.490	
ECT-11	a	609	4.45±0.577	<0.001	a	916	4.50±0.601	<0.001	a	843	4.59±0.577	<0.001
	b	404	4.66±0.591		b	97	4.81±0.391		b	170	4.25±0.586	
EEE-1	a	609	4.36±0.688	<0.001	a	916	4.47±0.648	<0.001	a	843	4.55±0.640	<0.001
	b	404	4.73±0.466		b	97	4.80±0.399		b	170	4.29±0.572	
EEE-2	a	609	4.48±0.544	<0.001	a	916	4.57±0.530	<0.001	a	843	4.64±0.503	<0.001
	b	404	4.75±0.443		b	97	4.81±0.391		b	170	4.32±0.538	
EEE-3	a	609	4.45±0.586	<0.001	a	916	4.54±0.572	<0.001	a	843	4.61±0.551	<0.001
	b	404	4.74±0.480		b	97	4.80±0.399		b	170	4.32±0.559	
EEE-4	a	609	4.49±0.547	<0.001	a	916	4.57±0.542	<0.001	a	843	4.65±0.514	<0.001
	b	404	4.75±0.469		b	97	4.84±0.373		b	170	4.33±0.552	
EEM-1	a	445	4.47±0.602	<0.001	a	660	4.57±0.598	0.007	a	675	4.65±0.583	<0.001
	b	399	4.72±0.546		b	78	4.73±0.475		b	169	4.32±0.539	
EEM-2	a	443	4.48±0.595	<0.001	a	763	4.57±0.601	<0.001	a	675	4.66±0.581	<0.001
	b	398	4.71±0.558		b	78	4.77±0.424		b	166	4.30±0.531	
EEM-3	a	443	4.44±0.626	<0.001	a	763	4.55±0.618	<0.001	a	673	4.64±0.593	<0.001
	b	398	4.71±0.550		b	78	4.77±0.424		b	168	4.27±0.565	

Table 3 (cont). Laboratory tests in patients with ocular symptoms

		Gender			Institution where the training is given				Training type			
Evaluation Statements		N	Mean ±SD	p		N	Mean ±SD	p		N	Mean ±SD	p
EEM-4	a	444	4.44±0.630	<0.001	a	763	4.56±0.611	<0.001	a	674	4.65±0.592	<0.001
	b	397	4.72±0.531		b	78	4.74±0.468		b	167	4.29±0.552	
EEW-1	a	609	4.46±0.584	<0.001	a	916	4.54±0.609	<0.001	a	843	4.62±0.575	<0.001
	b	404	4.71±0.587		b	97	4.79±0.407		b	170	4.28±0.625	
EEW-2	a	609	4.49±0.568	<0.001	a	916	4.57±0.580	<0.001	a	843	4.64±0.559	<0.001
	b	404	4.75±0.538		b	97	4.80±0.399		b	170	4.35±0.559	
EEW-3	a	609	4.48±0.568	<0.001	a	916	4.57±0.577	<0.001	a	843	4.64±0.552	<0.001
	b	404	4.76±0.528		b	97	4.80±0.424		b	170	4.36±0.591	
EEW-4	a	609	4.47±0.576	<0.001	a	916	4.55±0.592	<0.001	a	843	4.63±0.565	<0.001
	b	404	4.73±0.559		b	97	4.79±0.432		b	170	4.30±0.594	

The mean difference is significant at the 0.05 level.
Gender: a= Female, b= Male
Institution of training: a= University hospital, b= Private hospital
Training type: a= Intensive care nursing, b= Operating room nursing

* ECT: Evaluation of the content of the training, EEE: Evaluation of the educational environment
EEM: Evaluation of educational material, EEW: Evaluation of education as a whole

of the employees for "<5" and "≥5&<10" years were higher than those who worked for "≥10" years for the statements of evaluation of training material and expressions of joint evaluation of training, and this was statistically significant.

Kruskal Wallis test results, in which the educational evaluation scores of the participants were compared according to their education levels, are given in Table 5. The difference between the groups was determined by Tamhane test results. However, the analysis results that were not statistically significant in the pairwise comparison were left blank.

According to these results, the high school graduate participants found ECT-1, ECT-4, ECT-5, ECT-6, ECT-7, ECT-8, ECT-10, EEE-1, EEE-2, EEE-3, EEE-4, EEW-1 and EEW-3 evaluation statements more positively than the associate degree participants, that is, they stated that the contribution of education to them is higher. In addition, the undergraduate participants evaluated ECT-1, ECT-6, ECT-7, ECT-8, ECT-10, EEM-1, EEM-2, EEM-3, EEM-4, EEW-1 and EEW-3 evaluation statements more positively than the associate degree graduates and stated that training contributed more to them. When we look at the evaluation results of high school and undergraduate education, it was determined that high school graduates evaluate training more positively than undergraduate graduates only for the expressions EEM-1, EEM-2, EEM-3 and EEM-4. According to the high school and graduate group training evaluation comparisons, it has been concluded that high school graduates evaluate training more positively only in EEM-2 and EEM-3 statements. In general, it is noteworthy that high school graduates evaluate training more positively.

The training evaluation comparison results by the departments of the participants are presented in Table 6. Participants working in the intensive care unit gave higher scores to the questionnaires than those working in the operating room and other

Table 4. Comparison of Training Evaluations of Participants according to Working Hours

	Year of Occupation	n	Mean ±SD	p			Year of Occupation	n	Mean ±SD	p	
ECT-1	a	458	4.54±0.613	<0.001	(a-c) (b-c)	EEE-1	a	458	4.62±0.577	<0.001	(a-b) (a-c) (b-c)
	b	381	4.59±0.558				b	381	4.48±0.713		
	c	147	4.27±0.541				c	147	4.23±0.511		
ECT-2	a	458	4.59±0.615	<0.001	(a-c) (b-c)	EEE-2	a	458	4.66±0.513	<0.001	(a-c) (b-c)
	b	381	4.61±0.540				b	381	4.61±0.525		
	c	147	4.28±0.617				c	147	4.33±0.471		
ECT-3	a	458	4.58±0.613	<0.001	(a-c) (b-c)	EEE-3	a	458	4.66±0.535	<0.001	(a-b) (a-c) (b-c)
	b	381	4.59±0.554				b	381	4.54±0.595		
	c	147	4.32±0.523				c	147	4.31±0.494		
ECT-4	a	458	4.58±0.598	<0.001	(a-c) (b-c)	EEE-4	a	458	4.69±0.514	<0.001	(a-b) (a-c) (b-c)
	b	381	4.59±0.558				b	381	4.59±0.543		
	c	147	4.31±0.544				c	147	4.34±0.475		
ECT-5	a	458	4.60±0.599	<0.001	(a-c) (b-c)	EEM-1	a	373	4.64±0.609	<0.001	(a-c) (b-c)
	b	381	4.59±0.548				b	300	4.67±0.555		
	c	147	4.29±0.539				c	147	4.28±0.521		
ECT-6	a	458	4.55±0.641	<0.001	(a-c) (b-c)	EEM-2	a	371	4.63±0.622	<0.001	(a-c) (b-c)
	b	381	4.55±0.629				b	300	4.69±0.536		
	c	147	4.28±0.571				c	146	4.27±0.516		
ECT-7	a	458	4.55±0.627	<0.001	(a-c) (b-c)	EEM-3	a	370	4.62±0.628	<0.001	(a-c) (b-c)
	b	381	4.54±0.617				b	301	4.66±0.588		
	c	147	4.29±0.499				c	146	4.27±0.502		
ECT-8	a	458	4.53±0.706	<0.001	(a-c) (b-c)	EEM-4	a	370	4.65±0.586	<0.001	(a-c) (b-c)
	b	381	4.55±0.586				b	301	4.66±0.593		
	c	147	4.28±0.534				c	146	4.22±0.544		
ECT-9	a	458	4.61±0.567	<0.001	(a-c) (b-c)	EEW-1	a	458	4.62±0.613	<0.001	(a-c) (b-c)
	b	381	4.59±0.563				b	381	4.60±0.583		
	c	147	4.28±0.534				c	147	4.28±0.521		
ECT-10	a	458	4.54±0.624	<0.001	(a-c) (b-c)	EEW-2	a	458	4.66±0.575	<0.001	(a-c) (b-c)
	b	381	4.58±0.550				b	381	4.62±0.543		
	c	147	4.30±0.502				c	147	4.33±0.565		
ECT-11	a	458	4.58±0.630	<0.001	(a-c) (b-c)	EEW-3	a	458	4.65±0.582	<0.001	(a-c) (b-c)
	b	381	4.58±0.535				b	381	4.62±0.546		
	c	147	4.25±0.547				c	147	4.35±0.532		
						EEW-4	a	458	4.63±0.597	<0.001	(a-c) (b-c)
							b	381	4.61±0.548		
							c	147	4.31±0.569		

The mean difference is significant at the 0.05 level.
Occupation year: a="<5", b="≥5&<10", c="≥10"

* ECT: Evaluation of the content of the training, EEE: Evaluation of the educational environment
EEM: Evaluation of educational material, EEW: Evaluation of education as a whole

Table 5. Comparison of training evaluations of the participants according to their education levels

	Education Level	n	Mean ±SD	p			Education Level	n	Mean ±SD	p	
ECT-1	a	356	4.59±0.521	<0.001	(a-b) (b-c)	EEE-1	a	356	4.56±0.609	0.024	
	b	60	4.28±0.490				b	60	4.43±0.533		
	c	570	4.49±0.617				c	570	4.50±0.636		
	d	27	4.52±0.893				d	27	4.11±0.974		
ECT-2	a	356	4.61±0.510	0.078		EEE-2	a	356	4.63±0.489	0.142	
	b	60	4.45±0.534				b	60	4.48±0.504		
	c	570	4.53±0.630				c	570	4.58±0.528		
	d	27	4.33±0.877				d	27	4.41±0.797		
ECT-3	a	356	4.59±0.542	0.040		EEE-3	a	356	4.60±0.501	0.148	
	b	60	4.42±0.497				b	60	4.53±0.503		
	c	570	4.53±0.604				c	570	4.56±0.582		
	d	27	4.37±0.742				d	27	4.22±0.892		
ECT-4	a	356	4.60±0.524	0.018	(a-b)	EEE-4	a	356	4.63±0.496	0.094	
	b	60	4.40±0.494				b	60	4.50±0.504		
	c	570	4.53±0.613				c	570	4.60±0.535		
	d	27	4.41±0.694				d	27	4.30±0.869		
ECT-5	a	356	4.61±0.510	0.025	(a-b)	EEM-1	a	261	4.72±0.458	<0.001	(a-b) (a-c) (b-c)
	b	60	4.42±0.497				b	52	4.17±0.430		
	c	570	4.53±0.619				c	504	4.57±0.626		
	d	27	4.44±0.641				d	27	4.37±0.792		
ECT-6	a	356	4.59±0.567	<0.001	(a-b) (b-c)	EEM-2	a	262	4.73±0.470	<0.001	(a-b) (a-c) (a-d) (b-c)
	b	60	4.25±0.508				b	51	4.16±0.367		
	c	570	4.50±0.650				c	502	4.57±0.627		
	d	27	4.19±0.921				d	26	4.31±0.736		
ECT-7	a	356	4.55±0.567	<0.001	(a-b) (b-c)	EEM-3	a	262	4.72±0.474	<0.001	(a-b) (a-c) (a-d) (b-c)
	b	60	4.25±0.474				b	50	4.18±0.388		
	c	570	4.52±0.622				c	502	4.55±0.635		
	d	27	4.22±0.934				d	27	4.15±0.907		
ECT-8	a	356	4.57±0.589	<0.001	(a-b) (b-c)	EEM-4	a	262	4.73±0.472	<0.001	(a-b) (a-c) (b-c)
	b	60	4.28±0.524				b	51	4.16±0.367		
	c	570	4.50±0.666				c	501	4.55±0.642		
	d	27	4.22±0.801				d	27	4.33±0.784		
ECT-9	a	356	4.60±0.524	0.136		EEW-1	a	356	4.60±0.530	<0.001	(a-b) (b-c)
	b	60	4.47±0.503				b	60	4.28±0.454		
	c	570	4.53±0.599				c	570	4.58±0.623		
	d	27	4.44±0.641				d	27	4.37±0.926		

Table 5 (cont). Comparison of training evaluations of the participants according to their education levels

	Education Level	n	Mean ±SD	p			Education Level	n	Mean ±SD	p	
ECT-10	a	356	4.57±0.550	<0.001	(a-b) (b-c)	EEW-2	a	356	4.60±0.540	<0.001	
	b	60	4.27±0.446				b	60	4.45±0.502		
	c	570	4.51±0.614				c	570	4.61±0.586		
	d	27	4.52±0.580				d	27	4.52±0.700		
ECT-11	a	356	4.59±0.531	0.110		EEW-3	a	356	4.61±0.517	<0.001	(a-b) (b-c)
	b	60	4.53±0.566				b	60	4.33±0.510		
	c	570	4.51±0.617				c	570	4.61±0.573		
	d	27	4.30±0.775				d	27	4.44±0.974		
						EEW-4	a	356	4.59±0.547	0.015	
							b	60	4.42±0.497		
							c	570	4.59±0.598		
							d	27	4.37±0.792		

The mean difference is significant at the 0.05 level.
Education level: a= "High School", b= "Associate Degree", c= "Undergraduate", d= "Postgraduate"

* ECT: Evaluation of the content of the training, EEE: Evaluation of the educational environment
EEM: Evaluation of educational material, EEW: Evaluation of education as a whole

units. However, although they gave higher scores to the statements regarding the evaluation of the training material, this difference was not found to be statistically significant. Although those working in the operating room generally gave higher scores to the education evaluation expressions than those working in other units, only the difference in the EEE-1 expression was found to be statistically significant.

The comparison of the training evaluation scores of the participants by age groups is given in Table 7. For all evaluation statements, the evaluation scores of participants aged "<30" are higher than participants aged "≥40". Likewise, participants in the "≥30 &<40" age group scored higher than the "≥40" age group of all training evaluation statements, except for the EEE-1 and EEM-4 statements. The positive training evaluation scores of the participants in the age group "<30" were found to be statistically significant only for the expressions EEE-1, EEM-1, EEM-2 and EEM-4.

DISCUSSION

In this research, it was aimed to evaluate the contribution of the certified trainings made under the coordination of the Turkish Ministry of Health to the participants. The contribution of the trainings was evaluated by the participants' own opinions. Certified trainings for healthcare professionals are one of

Table 6. Comparison of training evaluations of the participants according to the units they work

	Unit they work	n	Mean ±SD	p			Unit they work	n	Mean ±SD	p	
ECT-1	a	815	4.58±0.579	<0.001	(a-b) (a-c)	EEE-1	a	815	4.58±0.618	<0.001	(a-b) (a-c) (b-c)
	b	167	4.29±0.592				b	167	4.31±0.567		
	c	31	4.13±0.428				c	31	3.71±0.693		
ECT-2	a	815	4.62±0.570	<0.001	(a-b) (a-c)	EEE-2	a	815	4.66±0.500	<0.001	(a-b) (a-c)
	b	167	4.29±0.632				b	167	4.33±0.531		
	c	31	4.13±0.499				c	31	4.16±0.454		
ECT-3	a	815	4.60±0.577	<0.001	(a-b) (a-c)	EEE-3	a	815	4.63±0.550	<0.001	(a-b) (a-c)
	b	167	4.32±0.539				b	167	4.33±0.554		
	c	31	4.13±0.499				c	31	4.13±0.428		
ECT-4	a	815	4.61±0.570	<0.001	(a-b) (a-c)	EEE-4	a	815	4.66±0.511	<0.001	(a-b) (a-c)
	b	167	4.30±0.565				b	167	4.34±0.555		
	c	31	4.16±0.454				c	31	4.19±0.402		
ECT-5	a	815	4.61±0.572	<0.001	(a-b) (a-c)	EEM-1	a	668	4.66±0.580	<0.001	(a-b)
	b	167	4.32±0.552				b	166	4.33±0.532		
	c	31	4.19±0.477				c	10	4.10±0.738		
ECT-6	a	815	4.57±0.627	<0.001	(a-b) (a-c)	EEM-2	a	668	4.66±0.582	<0.001	(a-b)
	b	167	4.29±0.602				b	163	4.30±0.534		
	c	31	4.16±0.454				c	10	4.40±0.516		
ECT-7	a	815	4.57±0.599	<0.001	(a-b) (a-c)	EEM-3	a	666	4.65±0.591	<0.001	(a-b)
	b	167	4.28±0.598				b	165	4.28±0.569		
	c	31	4.13±0.562				c	10	4.30±0.675		
ECT-8	a	815	4.56±0.649	<0.001	(a-b) (a-c)	EEM-4	a	667	4.65±0.588	<0.001	(a-b)
	b	167	4.28±0.556				b	164	4.30±0.547		
	c	31	4.16±0.454				c	10	4.10±0.876		
ECT-9	a	815	4.61±0.560	<0.001	(a-b) (a-c)	EEW-1	a	815	4.64±0.570	<0.001	(a-b) (a-c)
	b	167	4.32±0.552				b	167	4.28±0.629		
	c	31	4.16±0.454				c	31	4.10±0.473		
ECT-10	a	815	4.57±0.595	<0.001	(a-b) (a-c)	EEW-2	a	815	4.66±0.556	<0.001	(a-b) (a-c)
	b	167	4.36±0.481				b	167	4.36±0.562		
	c	31	4.10±0.539				c	31	4.19±0.477		
ECT-11	a	815	4.60±0.578	<0.001	(a-b) (a-c)	EEW-3	a	815	4.65±0.549	<0.001	(a-b) (a-c)
	b	167	4.26±0.583				b	167	4.37±0.595		
	c	31	4.19±0.477				c	31	4.19±0.477		
						EEW-4	a	815	4.65±0.564	<0.001	(a-b) (a-c)
							b	167	4.31±0.590		
							c	31	4.13±0.428		

The mean difference is significant at the 0.05 level.

The unit they work: a= “Intensive care units”, b= “Operating room”, c= “Other”

Table 7. Comparison of Training Evaluations of the Participants by Age

	Age	n	Mean ±SD	p			Age	n	Mean ±SD	p	
ECT-1	a	774	4.53±0.598	<0.001	(a-c) (b-c)	EEE-1	a	774	4.55±0.631	<0.001	(a-b) (a-c)
	b	196	4.53±0.549				b	196	4.40±0.668		
	c	43	4.16±0.531				c	43	4.28±0.454		
ECT-2	a	774	4.56±0.593	<0.001	(a-c) (b-c)	EEE-2	a	774	4.61±0.526	<0.001	(a-c) (b-c)
	b	196	4.57±0.555				b	196	4.56±0.508		
	c	43	4.16±0.688				c	43	4.30±0.465		
ECT-3	a	774	4.55±0.595	<0.001	(a-c) (b-c)	EEE-3	a	774	4.60±0.555	<0.001	(a-c) (b-c)
	b	196	4.56±0.547				b	196	4.49±0.595		
	c	43	4.26±0.441				c	43	4.28±0.454		
ECT-4	a	774	4.56±0.585	<0.001	(a-c) (b-c)	EEE-4	a	774	4.62±0.536	<0.001	(a-c) (b-c)
	b	196	4.55±0.567				b	196	4.55±0.519		
	c	43	4.23±0.488				c	43	4.30±0.465		
ECT-5	a	774	4.57±0.579	<0.001	(a-c) (b-c)	EEM-1	a	618	4.64±0.585	<0.001	(a-b) (a-c) (b-c)
	b	196	4.53±0.586				b	183	4.50±0.592		
	c	43	4.23±0.427				c	43	4.21±0.466		
ECT-6	a	774	4.52±0.636	<0.001	(a-c) (b-c)	EEM-2	a	616	4.64±0.591	<0.001	(a-b) (a-c) (b-c)
	b	196	4.51±0.628				b	182	4.50±0.583		
	c	43	4.23±0.427				c	43	4.26±0.441		
ECT-7	a	774	4.52±0.626	0.001	(a-c) (b-c)	EEM-3	a	616	4.61±0.614	<0.001	(a-c) (b-c)
	b	196	4.51±0.568				b	182	4.50±0.583		
	c	43	4.26±0.441				c	43	4.23±0.427		
ECT-8	a	774	4.52±0.657	0.001	(a-c) (b-c)	EEM-4	a	616	4.64±0.582	<0.001	(a-b) (a-c)
	b	196	4.49±0.603				b	182	4.44±0.643		
	c	43	4.26±0.441				c	43	4.23±0.480		
ECT-9	a	774	4.57±0.575	<0.001	(a-c) (b-c)	EEW-1	a	774	4.58±0.611	<0.001	(a-c) (b-c)
	b	196	4.53±0.559				b	196	4.57±0.546		
	c	43	4.26±0.441				c	43	4.21±0.466		
ECT-10	a	774	4.53±0.594	0.001	(a-c) (b-c)	EEW-2	a	774	4.61±0.568	<0.001	(a-c) (b-c)
	b	196	4.53±0.568				b	196	4.59±0.571		
	c	43	4.26±0.441				c	43	4.26±0.492		
ECT-11	a	774	4.55±0.601	<0.001	(a-c) (b-c)	EEW-3	a	774	4.60±0.579	<0.001	(a-c) (b-c)
	b	196	4.53±0.540				b	196	4.61±0.520		
	c	43	4.19±0.546				c	43	4.26±0.492		
						EEW-4	a	774	4.59±0.585	<0.001	(a-c) (b-c)
							b	196	4.58±0.572		
							c	43	4.23±0.480		

The mean difference is significant at the 0.05 level.
Age: a = "<30", b = "≥30 &<40", c = "≥ 40"

* ECT: Evaluation of the content of the training, EEE: Evaluation of the educational environment
EEM: Evaluation of educational material, EEW: Evaluation of education as a whole

the methods that are frequently used in providing specialization in different countries of the world, and it has become widespread due to the emergence of new application areas. In terms of healthcare professionals, certified training is seen as a way to demonstrate competence and excellence (Jenkins & Smith, 2008). In the international literature, it is seen that trainings related to perinatology nursing (Komurcu et al., 2012), oncology nursing (Coleman et al., 2009), emerging infectious disease (Valentine et al., 2015), long-term care for nurse assistants (Parks et al., 2005), delirium screening program (Gesin et al., 2012), breastfeeding counseling (Chetwynd et al., 2019), community family educators (Eck et al., 2016) and heart disease care (Mahramus et al., 2014) were organized and the contribution of these trainings to the professional knowledge and skills of health workers was evaluated.

In the study, it was found that the participants evaluated the certified trainings with a mean of 4.55 points out of 5 points, and the points given to each statement were above a mean of 4.50 points. According to this scoring, it is possible to conclude that the participants are generally satisfied with the training. When the generally education is evaluated; the participants stated that they were satisfied with the training and it contributed to their professional development. It was given scores between 4.56 and 4.59 for the statements by them that they would recommend this training to their colleagues. This result shows that the education has achieved its purpose. Eck et al. found the overall satisfaction with the community family training program as 4.61 and the skills they gained as 4.36 (Eck et al., 2016). Göktepe et al. found the contribution of intensive care training to be 69.2% (Göktepe et al., 2021). Tiryaki and Kelağalar, on the other hand, found the overall satisfaction rate of the intensive care certified training program to be 92.4% (Tiryaki & Kelağalar, 2019).

It is seen that the satisfaction of the participants from the training program can differ depending on both the certified training given and the personal characteristics of the trainees. Among the evaluated features related to the certified training given, a difference was found between the type of certified training and where the training given either by the university or private institutions. Intensive care nursing training is scored higher than surgical nursing training and training organized in private institutions is found to be more beneficial than those provided by the university. It is thought that this finding may be due to the fact that intensive care nursing training is given more widely, and that a more systematic program is followed. In addition, it is possible that intensive care nursing needs a wide knowledge and the satisfaction of meeting this need may have a share. In terms of the type of institution providing the training, it is seen that the trainings organized in private health institutions were given higher points in all of the statements that evaluate the training content, training material, the environment in which the training is given and the training in general. Based on the research findings, it is possible to state that private institutions can conduct training more successfully than universities.

In terms of the characteristics of the trainees, the training evaluation scores have been found to differ based on gender, working time, education level, the unit they work in the current situation and age groups. It was found that men, those with a lower education level, those who work in intensive care units, those who are younger, and those who have shorter working hours evaluate their training with higher scores than their counterparts. Based on the findings of the research, it is thought that the higher scoring of certified education by young people with shorter working hours and low educational level can be explained by the fact that they have lower knowledge and skill levels compared to their counterparts, and therefore they feel the need for higher education. It is possible that meeting a higher need will generate higher satisfaction. It is possible that the evaluation of the training of those working in intensive care units with higher scores stemmed from the fact that they had the opportunity to directly apply what they

learned in the training to the working environment and that they could better evaluate the necessity of this information. The descriptive findings of the study also show that certified trainings are mostly taken by young people (mean 28.03 years), those in the first years of the profession (mean 5.84 years), and intensive care workers (77.99%). With this aspect, it shows that the certified trainings are taken by those who can benefit most from the trainings. Similarly, Tiryaki and Kelağalar found that the mean age of the intensive care nursing training participants was 29.33 years and 89.6% had a working time of less than five years (Tiryaki & Kelağalar, 2019). However, Göktepe et al. found that the mean age of those trained in adult intensive care certifications was 31.7 years and the mean working time was 10.4 years.

This research has some limitations. First, the evaluation of training was made with the subjective evaluations of the individuals. Secondly, a total of 61 certified trainings were carried out under the coordination of the Turkish Ministry of Health. However, since few certified trainings type were completed during the research period, it was not possible to evaluate other trainings.

In conclusion; certified trainings for healthcare professionals are a frequently preferred method for providing field-specific knowledge and skills to healthcare professionals in Turkey and around the world. Especially in countries such as Turkey, where specialization in nursing cannot be achieved in undergraduate education, certified training becomes more important.

It has been concluded that those who are young, have a low level of education, are in the first years of the profession, and those who work in fields related to education have more benefits from the certified trainings in the research. Based on the results of the research, it is recommended to give priority to these groups in order to contribute more to the health workers and the health system in certified trainings.

It is seen that the participants evaluate the certified trainings given in private institutions more successfully than those given in universities. If the difference was only due to the training environment, it could be explained by the private sector having better physical infrastructure. However, the fact that the private sector is more successful in terms of training content and educators shows that universities need some improvements.

In this study, a difference has been found in the scores indicating the benefit obtained from the trainings according to the type of training, the type of the training institution and the characteristics of the participants. In future studies, it is thought that analyzing the causes of these differences in depth and investigating whether the difference continues in practice will contribute to both the literature and the more effective conduct of certified trainings.

ETHICS COMITTEE APPROVAL

* This study was approved by the İzmir Bakırçay University Non-Invasive Clinical Research Ethics Committee (Date: 30.03.2022 and No: 547).

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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