

Original Article

Do Operating Room Nurses Participate in Scientific Programs? A Descriptive Study

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Abstract

Background: The main point in adapting to advances and changes in operating room nursing is to determine the specific education requirements of nurses and eliminate its deficiencies in the light of these requirements.

Objective: The aim of this study is to determine the operating-room nurses' involvement in the participation in scientific programs.

Methods: This is a descriptive study consisting of nurses employed in the operating rooms of three major hospitals in Istanbul; the sample included 93 operating room nurses who accepted to participate in the study and were not on leave or sick leave between June and December 2016. Written permits from the ethics committee and the institution were obtained prior to the start of the study. All data were gathered using "Data Collecting Form" developed by the researchers. The data were analyzed via the SPSS 18.0 through conducting the descriptive statistics, independent samples t test and Chi-square test were used for data analysis

Results: Most of the nurses (64.5%) attended scientific meetings such as congresses and symposiums. Moreover, 96.8% of the sample reported that they wished to participate in programs concerning operating-room and surgical nursing on a regular basis but 44.6% were unable to do so due to financial issues. The nurses' decisions and abilities to participate in scientific programs differed significantly in terms of marital status and mean age ($p < 0.05$), while weekly working hours did not cause a statistically significant difference ($p > 0.05$).

Conclusions/Implications for Practice: Based on our results, we determined that most of the nurses included in the study attended in-service training programs, kept up with scientific advances concerning operating-room procedures and wished to attend other scientific programs regularly but were unable to do so due to financial issues.

Keywords: operating room nurses, congress, participation.

Introduction

Operating rooms are areas, which requires teamwork, where high-technology devices are used and fast and accurate decision-making is essential (Gumuskeya, 2010; Karacakoylu, 2012; Ugurlu et al., 2015). The operating room (OR)

nurse, who has an important role in the team, is ethically and legally responsible for providing the necessary quality care to patients admitted for a surgical intervention in the time period between admission to the OR and transferring back to the ward. In order for the OR nurse to be successful

in fulfilling her/his roles and responsibilities, she/he needs to put the required effort to adapt to scientific and technological advances as well as having the adequate knowledge and skills in the area (Gocmen, 2006; Ebrahimi et al., 2012; DemirDikmen et al., 2014).

Advances in surgical interventions and device/tools used parallel to scientific and technological developments brings up new responsibilities in operating room nursing (Kanan and Atilla, 2002; Silen-Lipponen et al., 2005; Bull and FitzGerald, 2006; Theofanidis, 2015). It is reported that the roles of operating room nurses, who work in areas with high levels of stress, where fast implementation of accurate decisions increase the patient's chance of survival, compromising the principle of asepsis is out of question and coordination and collaboration should be maximum, change and their requirements of education increase (Kanan, 2011). The main point in fast and adequate adaptation to advances and changes in operating room nursing is to determine the specific education requirements and implementing in-service trainings, courses, congresses, conferences and certificate programs based on those needs (Alfredsdottir and Bjornsdottir, 2008; Hamzehgardeshi and Shahhosseini, 2014; Rautiainen and Vallimies-Patomäki, 2016). There is no research performed to determine the participation of nurses in scientific programs. In the light of these facts, this study was conducted to determine the operating room nurses' status of participating in scientific programs. In this context, the following research questions were asked:

What is the operating room nurses' status of participating in scientific programs?

What are the reasons why operating room nurses do not participate in scientific programs?

Methods

The study was conducted as a descriptive study in order to determine the operating room nurses' status of participating in scientific programs. The population of this descriptive study consisted of 150 nurses working in the operating rooms of three major university hospitals in Istanbul between June 2016 and December 2016. The sample of this study included 93 operating room nurses willing to participate in the study and was not on leave or sick leave during data collection during the data collection phase. Data

were gathered using "Data Collecting Form" developed by the researchers in the light of the literature (Yalcin, 2001; Gumuskaya, 2010; Karacakoylu, 2012). The form consisted of 28 questions about the nurses' age, sex, marital status, years worked in the profession, years worked in the operating room, position in the operating room, weekly working hours, type of employment, status of participation to in-service training programs about the operating room, status of participation to congresses during work life and the reasons for not participating to congresses. A small group (n= 10) representing the sample was piloted and the responses were evaluated by the researchers and the unexplained questions were reviewed. The data obtained from the pilot study were excluded from the analysis. The lack of expert opinion constitutes the limitation of the study.

Statistical analysis: The data about 93 nurses included in the study were evaluated in the computer using SPSS (Statistical Package for Social Sciences for Windows) 18.0 package program. Descriptive characteristics of the nurses were presented as number, percentage, mean and standard deviation. Chi-square test was used for determining the relation of marital status and working hours to congress participation status, while independent samples t-test was used to determine the relation between mean age and congress participation status. In the analysis of the data, statistical significance level was taken as $p < 0.05$.

Ethical Approach: Prior to the start of the study, permits were obtained from Cerrahpasa Faculty of Medicine Clinical Research Ethics Committee and hospitals (Number: 59491012-604.01.02 on 14th July 2016) where the study was conducted in. As the use of human cases in the study required the protection of individual rights, "informed consent" was considered an ethical principle. Written and verbal informed consents of the patients who fulfilled the inclusion criteria were obtained.

Results

The mean age of the nurses included in the study was 33.65 ± 7.05 . While 84.9% of the nurses were female, 15.1% (n=14) were male. In study 52.7% of the nurses were married, 60.2% had a graduate degree in nursing, 35.5% had a working experience of 16 years or more. Mean number of years worked in the operating room was 8.52 ± 5.94 . At the same time 73.4% of the nurses

worked as a scrub nurse, 83.9% worked 40-49 hours/week, 89.2% was working in the operating room willingly. Most of the nurses (64.5%) attended scientific meetings such as congresses and symposiums. Moreover 96.8% of the nurses reported that they wished to participate in programs about operating room and surgical nurses regularly but 44.6% (n=41) were unable to do so due to financial issues (Table 1). In study 72% of the nurses were found to participate in in-service training programs about operating room

nursing, 67.7% tried to keep up with new advances as much as possible and 55.9% believed that they received inadequate education about operating room nursing in their graduate education (Table 2). The nurses' status of participation to scientific programs differed significantly in terms of marital status and mean age ($p < 0.05$); while weekly working hours did not cause a statistically significant difference ($p > 0.05$) (Table 3).

Table 1. Descriptive Characteristics of Operating Room Nurses (n=93)

Descriptive Characteristics	n(%)
Sex	
Female	79(84.9)
Male	14(15.1)
Age (M±SD)	33.66±7.05
Marital status	
Married	49(52.7)
Single	44(47.3)
Education status	
High school of health	10(10.8)
Undergraduate	18(19.4)
Graduate	56(60.2)
Postgraduate	9(9.6)
Total years worked in the profession	
Less than 1 year	3(3.2)
1-5 years	18(19.4)
6-10 years	24(25.8)
11-15 years	15(16.1)
More than 16 years	33(35.5)
Mean years worked in the profession	11.80±6.81
Mean years worked in the OR	8.52±5.94
Type of employment	
Nurse manager	9(9.7)
Scrub nurse	69(74.2)
Circulating nurse	15(16.1)
Weekly working hours	
<40	3(3.2)
40-49	78(83.9)
50-59	9(9.7)
≥60	3(3.2)
Willingly working in the OR	83(89.2)
Yes	10(10.8)

No	
Participating in scientific programs	
Yes	60(64.5)
No	33(35.5)
Causes of being unable to participate in scientific programs about the OR and surgical nurses regularly*	
Financial issues	41(44.6)
Not having a sponsor	26(28.3)
High costs	26(28.3)
Other	29(31.5)

OR= Operating room $M \pm SD = \text{Mean} \pm \text{Standard Deviation}$ *More than one option can be chosen

Table 2. Distribution of Nurses' Opinions on Training Programs and Advances (n=93)

Training Programs and Advances	n(%)
Participating in in-service training programs	
Yes	67(72.0)
No	26(28.0)
Adequacy of in-service training program	
Adequate	14(15.1)
Partially adequate	37(39.8)
Inadequate	35(37.6)
Indecisive	7(7.5)
Adequacy of operating room nursing in graduate education	
Adequate	17(18.3)
Partially adequate	23(24.7)
Inadequate	52(55.9)
Indecisive	1(1.1)
Keeping up with advances (scientific publication and improvements about nursing)	
Yes	23(24.7)
No	7(7.5)
As much as possible	63(67.7)

Table3. Comparison of Nurses' Marital Status, Age, Weekly Working Hours and Participation to Scientific Programs(n=93)

Nurses' Marital Status, Age, Weekly Working Hours	Status of Participation		Total n(%)	X ² / t	p
	Yes n(%)	No n(%)			
Marital status				4.491 ^a	0.034*
Married	36(73.5)	13(26.5)	49(52.7)		
Single	23(52.3)	21(47.7)	44(47.3)		
Age (M±SD)	36.00±6.25	29.59±6.57	33.66±7.05	4.677 ^b	<0.001*
Weekly working hours				4.429 ^a	0.219
<40	3(100.0)	0(0.0)	3(3.2)		
40-49	51(65.4)	27(34.6)	78(83.9)		
50-59	4(44.4)	5(55.6)	9(9.7)		
≥60	1(33.3)	2(66.7)	3(3.2)		

M±SD= Mean ±Standart deviation a=Chi-squared test b=Independent samples t test

**=p<0.05*

Discussion

Operating rooms are the areas where high technology is used, teamwork is very important and it is necessary to take the right decisions quickly. In parallel with the scientific and technological advances, surgical interventions, developments in the tool and equipments used, and different responsibilities in the operating room nursing. In order to be successful in fulfilling the roles and responsibilities of the operating room nurse, in addition to having sufficient knowledge and skills in the field, he/she should give the necessary effort to adapt to scientific and technological changes (Gocmen, 2006; Theofanidis & Fountouki, 2006; Gumuskaya, 2010; Demir et al., 2014; Ugurlu et al., 2015). The aim of this study is to determine the attendance of operating room nurses in scientific programs.

In the current study, we found that most of the nurses were married and attended congresses. A significant difference was observed between the nurses' marital status and participation to scientific congresses. There was also a significant difference between the nurses' mean age and participation to scientific congresses. This suggests that as professional knowledge and experience increases with age, enthusiasm to

participate in scientific programs for professional self-development also increases.

It is reported in the literature that as the nurses' level of education of rises, the rate of using research also rises. This is specifically seen in participating in the process of research and congresses and using the results of researches in providing care (Veeramah, 2004; Milner, Estabrooks & Myrick, 2006). In their study, Kelleci et al.(2008) found that 60.8% of the nurses had a graduate degree and 78.2% had participated in at least one scientific meeting throughout their lives. Yava et al (2007) conducted a study with a total of 631 nurses in nine hospitals in Ankara and found that 61% of the nurses graduated from a vocational school of health services and 30% had participated in at least one scientific meeting such as a congress or symposium. In the present study, most of the nurses had a graduate degree and participated in scientific meetings, such as congresses or symposiums, at least once. These findings are consistent with the data of Kelleci et al (2008).

In-service training programs play a major role for nurses in improving mistakes and imperfections in professional practice and updating knowledge and skills. In this study, it is observed that majority of the nurses participated in in-service

training programs. Gumuskaya (2010) also revealed that most of the nurses attended in-service training programs and similarly, Kaymakçı et al (2009) found that more than half of the nurses received in-service training. Our study findings are consistent with the data of Gumuskaya (2010) and Kaymakçı (2009).

Learning is defined as behavior changes that arise as a result of the interaction between the individual and environment and cause permanent impressions in the individual. Learning results in acquisition of knowledge, skills, attitudes and values (Simsek, 2011). In our study, more than half of the nurses were found not to have received adequate training about operating room nursing in their basic nursing education. Different studies have shown that education about operating room nursing most of the nurses receive during their basic nursing education is inadequate (Yalcın, 2001; Gumuskaya, 2010). These results confirm the findings of the current study.

Conclusions

In conclusion, we determined that most of the operating room nurses attended in-service training programs, keep up with advances about the operating room and wish to attend other scientific programs regularly but are unable to do so due to financial issues. Age and marital status of nurses affect the status of participation to programs. In the light of these findings, we suggest that operating room nurses should participate in congresses, symposiums and courses; required permits and financial support should be provided and nurses should be encouraged to play an active role in scientific activities.

Limitations of the Study: The limitation of this study is the inability to reach the whole population, the validity of the data collection form is evaluated only by pilot study and the expert opinions are not consulted, the study is done in a single center and only one region in Turkey, the sample size is low/ insufficient. Future studies should be planned and implemented with larger sample groups by considering these limitations. In addition, it may be possible to observe the differences between countries by comparing the data obtained from multicenter countries.

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