Original Article

The relationship between work-related variables, job satisfaction, and perceived professional autonomy of radiation oncology nurses in Turkey

 Şahika Mert,[1] Emine Türkmen[2]

[1]Department of Digestive Service Line Nurse Manager, American Hospital, İstanbul, Turkey
[2]Department of Semahat Arsel Nursing Education and Research Center (SANERC), Koç University, İstanbul, Turkey

Abstract

Objectives: This study analyzed the relationship between work-related variables, job satisfaction, and perceived professional autonomy in Turkish radiation oncology nurses.

Methods: This descriptive cross-sectional study was conducted with 138 radiation oncology nurses employed at university, public, and private hospitals. Data were collected using a data collection form that included demographic variables and the 30-item Nursing Activity Scale. Multiple logistic regression analysis was used to evaluate the impact of independent variables on the perceived professional autonomy and job satisfaction of nurses.

Results: The nurses' perceptions of professional autonomy and job satisfaction were moderate. Experience, being a ward head/outpatient clinic nurse, and training affected the level of professional autonomy of nurses (OR: 2.90, 2.62, and 2.56, respectively). Additionally, the type of hospital, perceived level of professional autonomy, and position affected the level of job satisfaction (OR: 4.05, 3.23, and 2.35, respectively).

Conclusion: Radiation oncology nurses with a moderate level of professional autonomy and job satisfaction and those completing undergraduate and graduate education perceived lower levels of autonomy than other nurses did, indicating a significant clinical problem. It is recommended that healthcare and nursing directors increase radiation oncology nurses' professional autonomy based on job requirements and responsibilities because low autonomy may cause job stress and burnout.

Keywords: Nurse; job satisfaction; professional autonomy; radiation oncology.

Having professional autonomy is an important component of nurses providing high-quality care and increasing satisfaction in health institutions.[1–3] If nurses have professional autonomy, in other words, their involvement in decision-making processes in patient care enables them to have a sense of control and responsibility in their professional practice, it positively affects the way they do their jobs and work with others.[2] This increases patient care quality and effectiveness,[4] decreases the mortality rate,[5] increases job satisfaction, performance, and commitment, prevents burnout,[6] and reduces job stress and intention to quit.[7]

Cancer is a top cause of mortality in both Turkey and across the world, and the burden of care for oncological patients in hospitals increases daily.[8–10] In the radiotherapy department, which is an important component in the treatment of oncology patients, there is a need for nurses who have extensive knowledge and skills on the subject, are specialized in this field, and can work autonomously within the framework of their roles.[8,9,11]

Professional autonomy is an important component of professionalism[12] and is defined as "the freedom to make independent decisions and act within the framework of profes-

What is known on this subject?

• Autonomy is an important component of professionalism and is an essential factor for nurses to provide quality care, have job satisfaction, and prevent job stress and burnout. In Turkey, there is no study on the autonomy of radiation oncology nurses involved in the care coordination and education of oncology patients, which is a patient population that continually increases.

What is the contribution of this paper?

• According to the results of this study, radiation oncology nurses in Turkey have moderate levels of professional autonomy and job satisfaction. According to their perceptions, professional autonomy increases as work experience and work responsibility increase, whereas it decreases as the level of vocational education increases.

What is its contribution to the practice?

• The results obtained in this study will increase awareness of both radiation oncology nurses and their managers about the factors influencing professional autonomy and job satisfaction and all them to implement necessary measures both at institutional and professional levels.

sional practice standards and related legal regulations."[13] Schutzenhofer (1987)[14] defines professional autonomy as "the practice of one's occupation in accordance with one's education, with members of that occupation governing, defining, and controlling their own activities in the absence of external controls." Varjus et al. (2011)[13] defines autonomy as independence, rights, and responsibility/liability based on knowledge (decision-making), behavior (moving), and values. These definitions regarding autonomy include the concepts of being independent, having control, taking responsibility, and accountability.

The literature shows that the level of autonomy in nurses differs by country, work unit, and work environment, but is moderate in general.[6,7,15–17] Various demographic and work-related factors such as age, experience, education, and position affect autonomy in nurses.[7,16–18] Studies suggest a relationship between professional autonomy and job satisfaction in nursing.[6,7,16,19–21] Saber (2014)[21] examined the determinants of job satisfaction in nurses and reported that professional autonomy ranks seventh among the 27 factors examined as predictors of job satisfaction following job requirements, empowerment, control, organizational commitment, and physician-nurse relations.

Similar to many other countries, Turkey has several nursing work environment issues that can affect nurse autonomy and job satisfaction.[3,4] Nurses with different educational levels (health vocational high school, associate, undergraduate, and graduate) work with similar authority and responsibility. Hospitals or other health institutions have a structure in which physician decisions are implemented and thereby nurses cannot fully use their autonomy.[22–24] A limited number of programs enable nurses to continue their education after graduation. Radiation oncology is not included among the 13 nursing specialization programs defined by the Turkish Ministry of Health such as intensive care, emergency care, and stoma-wound care.[25] Because there is no country-level well-accepted continuing education program for radiation oncology nurses, they specialize by developing themselves in the field. However, education, instruction, multidisciplinary teams, and coordination of practices are very important in the care of on-

cology patients. If radiation oncology nurses in Turkey fulfill this important task by having autonomy, as in the case of developed countries,[8,11,26] it can significantly contribute to both patient and nurse outcomes. This study was conducted to determine the relationship between work-related variables, job satisfaction, and perceived professional autonomy in Turkish radiation oncology nurses.

Materials and Method

This descriptive and cross-sectional study was conducted in 34 hospitals with radiation oncology outpatient clinics and/or inpatient services in Turkey. Data were collected between April and June 2016.

Sample

The population of the study consisted of all nurses working in 88 hospitals with radiation oncology outpatient clinics and/or inpatient services in Turkey. Due to the lack of actively used clinics or assigned nurses, 31 hospitals were excluded from the scope of the study, whereby the sample of the study consisted of 216 nurses working in the remaining 57 hospitals. Accordingly, the sample size was calculated as 138 at a 95% confidence interval. No sampling method was used in the study and all nurses were invited to participate. The invitation was terminated when the number of nurses who responded to the questionnaire reached 138. The representation rate for the population was 63.8%.

Data Collection Tools

Data were collected using a questionnaire with two parts. The first part consisted of seven questions to determine the participants' socio-demographic and professional characteristics (age, gender, education, professional experience, radiation oncology experience, position, and institution) and one question to determine their job satisfaction. A visual scale was used to determine the nurses' job satisfaction. Nurses were asked to assign a number of 1–10 (1-lowest satisfaction, 10-highest satisfaction) for their perceptions of job satisfaction. In the second part, the Nursing Activity Scale (NAS), which was first developed by Schutzenhofer[14] in 1983 and reviewed in 1992, and whose Turkish validity and reliability study was performed by Saraçoğlu[27] in 2010, was used. This is a 30-item four-point Likert-type scale, ranging from "1-very unlikely of me" to "4-very likely of me" to act in this manner. The total scale score is calculated by multiplying the numerical value of each response by its assigned weight (3 for the items 1, 2, 3, 4, 5, 6, 11, 12, 18, and 28; 2 for 7, 10, 13, 16, 19, 20, 21, 23, 24, and 27; and 1 for 8, 9, 14, 15, 17, 22, 25, 26, 29, and 30). Scale scores range from 60 to 240, with scores of 60–120, 121–180, and 181–240 representing lower, middle, and higher levels of professional autonomy, respectively. A higher score indicates a higher level of professional autonomy. Cronbach's alpha values of the original and Turkish versions of the scale were 0.92 and 0.90,

respectively. In this study, Cronbach's alpha value of the scale was 0.90.

Data Collection

The questionnaire was administered through electronic media (google forms). The purpose of the study was explained over the phone to the nurses in the 57 hospitals with active radiation oncology units. Then the e-mail addresses of those who wanted to participate were recorded. The questionnaire link was sent to them twice via e-mail at one-month intervals. Due to the small number of questionnaires that were answered and returned (45 questionnaires), hospitals with more than one nurse were visited, and the relevant nurses were interviewed face-to-face and invited to participate in the study. In these interviews, the nurses who previously did not respond to the questionnaire and wanted to participate in the study were resent the questionnaire via e-mail and asked to fill it out. Questionnaires filled out by the participants were submitted anonymously, whereby their e-mail addresses and private information were not received. The questionnaire took approximately 10 minutes to complete.

Ethical Considerations

For conducting the study, ethical approval was obtained from a university (2015.131.IRB3.064). In addition, a permit for using the NAS in the study was received via e-mail from Saraçoğlu, who adapted the scale into Turkish. The study was explained to the participating nurses and their written consent was obtained with the data collection forms.

Data Analysis

Data were statistically analyzed using the Stata.13.0 program. Nurses' sociodemographic and professional characteristics, job satisfaction, and perceived autonomy level were evaluated using descriptive statistics (number, percentage, mean, and standard deviation). Multiple stepwise forward regression was used to examine the effect of independent variables on dependent variables (professional autonomy and job satisfaction). Nurses' perceived autonomy and job satisfaction scores were arranged as dichotomous data, where the group with medium and low autonomy was encoded with "0" and the group with high autonomy with "1;" the group with job satisfaction scores of 5 and below with "0" and the group with job satisfaction scores of six and above with "1." Table 1 presents the independent variables which were arranged as dichotomous data, including age (1=<35, 2=≥35 years), gender (1=male, 2=female), education (1=bachelor's/master's degree, 2=associate's degree, vocational school of health), type of hospital (1=public hospital, 2=university or private hospital), job position (1=service nurse, 2=unit head, outpatient nurse), professional experience (1=<25, 2=≥25 years), and radiation oncology experience (1=<6, 2=≥6 years). The first regression model, in which the effect of independent variables on professional autonomy in

nurses was examined, included seven independent variables including age, gender, education, hospital type, position, professional experience, and radiation oncology experience. The second regression model, in which the factors affecting job satisfaction of nurses were determined, included eight independent variables, including the seven independent variables mentioned above and nurses' perceived autonomy.

Results

Table 1 presents the nurses' sociodemographic and professional characteristics. Accordingly, 69.6% were 35 years old and above, 95.7% were female, 54.3% had a bachelor's degree, 60.1% worked in public hospitals, and 57.2% were outpatient nurses or nurse managers.

The NAS mean score was 173.8±27.8. Of the radiation oncology nurses, 5% had low perceived autonomy, 50% had middle perceived autonomy, and 45% had high perceived autonomy (Table 2). The nurses' perceived job satisfaction mean score was 6.3±2.5 (min=1, max=10). A positive relationship was

Table 1. Demographic and professional characteristics of nurses (n=138)		
	n	**%**
Age		
<35 years	42	30.4
≥35 years	96	69.6
Mean/Std = 38.1/9.0 (min-max. 20–60) years		
Gender		
Male	6	4.3
Female	132	95.7
Education		
Vocational school of health	18	13.1
Associate's degree	37	26.8
Bachelor's degree	75	54.3
Master's degree	8	5.8
Hospital		
Public hospital	83	60.1
Private hospital	15	10.9
University hospital	40	29.0
Position		
Department/unit head	20	14.4
Outpatient nurse	59	42.8
Service nurse	59	42.8
Total professional experience		
<25 years	101	73.2
≥25 years	37	26.8
Mean/Std. = 17.3/9.8 (min-max. 0.5–40) years		
Radiation oncology experience		
<6 years	81	58.7
≥6 years	57	41.3
Mean/Std. = 6.8/7.1 (min-max. 0.5–30) years		

Table 2. Autonomy level according to Nurse Activity Scale (n=138)

Autonomy level	Number	%	Minimum	Maximum	Mean	Standard deviation
Low (60–120)	7	5	69	120	105.0	17.5
Middle (121–180 puan)	69	50	122	180	160.4	16.3
High (181–240 puan)	62	45	181	228	196.5	11.9
Total score (60–240)	138	100	69	228	173.8	27.8

Table 3. Regression analysis: Factors affecting professional autonomy and job satisfaction in nurses (n=138)

	Unadjusted OR	Adjusted OR*
Professional autonomy		
Radiation oncology experience (≥6 years)	3.16 [1.52–6.59] p<0.01	2.90 [1.32–6.35] p<0.01
Position (unit head, outpatient nurse)	2.74 [1.36–5.51] p<0.01	2.62 [1.22–5.65] p<0.05
Education (vocational school of health, associate degree)	2.86 [1.37–5.96] p<0.01	2.56 [1.16–5.65] p<0.05
Job satisfaction		
Hospital (university/private hospital)	3.98 [1.77–8.96] p<0.1	4.05 [1.59–10.28] p<0.05
Professional autonomy (high)	3.0 0 [1.45–6.17] p<.01	3.23 [1.37–7.57] p<0.01
Position (unit head, outpatient nurse)	4.32 [2.05–9.07] p<.001	2.35 [1.01–5.43] p<0.01

*Forward stepwise logistic regression. OR: Odds ratio; 95% CI [lower and upper bound].

found between the nurses' perceived autonomy and job satisfaction (r=.27; p<.01).

The multiple regression analysis revealed that three of the seven independent variables, including having six years or more experience in a radiation oncology department, being a nurse manager or outpatient nurse, working in a public hospital, and having a vocational school of health diploma/two-year associate's degree, were associated with the perceived autonomy of radiation oncology nurses. In addition, three of the eight independent variables, including working in a university or private hospital, having a level of perceived professional autonomy, and being a nurse manager or outpatient nurse, affected the job satisfaction of nurses (Table 3).

Discussion

This study has shown that nurses had moderate perceived professional autonomy according to their NAS scores. Although different measurement tools are used, this result is consistent with those of other studies about the professional autonomy of nurses in different countries, including Turkey. [6,15,17,28,29] Papathanassoglou et al. (2012)[7] conducted a study with 250 intensive care nurses from 17 countries and found their mean autonomy score was slightly above average, their autonomy scores varied by country and work unit, but differences in autonomy scores between countries/units were not significant. On the other hand, some Turkish studies on professionalism show nurses have the lowest mean score on professional autonomy.[18,22] Another study reported that only 6.7% of nurses had full autonomy.[30] In Turkey, the hierarchical structure in hospitals, communication problems between physicians and nurses, deficiencies in legal regulations, job descriptions not prepared according to education and competence, and unhealthy working environments such as doing non-nursing work and excessive workload negatively affect professional autonomy in nurses.[3,24,30]

In this study, radiation oncology experience had the greatest effect on nurses' professional autonomy. Nurses working in radiation oncology units for six or more years had approximately three times higher autonomy than those with less experience. Similarly, other studies show that professional experience increases professional autonomy.[7,12,15,17,28,31,32] Wynd (2003)[12] argues that professional autonomy is an important component of professionalism. Varjus et al. (2011)[13] report that decisions in practice should be based on professional practice standards and legal regulations. In addition to standards and rules, clinical experience, as stated by Traynor et al. (2012),[33] is a key element for making more accurate decisions in the clinical field.

Position was another factor affecting the professional autonomy of radiation oncology nurses. Nurse managers and outpatient nurses had 2.62 times higher perceived autonomy than others had. Studies show that nurse managers have high autonomy.[6,16,17,28] This may be because nurse managers use more authority in organizational functioning and therefore feel more autonomous. Similarly, the high-perceived autonomy in outpatient nurses may be because they both plan and perform patient care and education.

In this study, nurses with low vocational education had a higher perception of autonomy. This result is not compatible with those from studies conducted in many other countries, which suggests that education level is a predictor of autonomy, and

nurses with higher education have higher perceived autonomy.[6,7,15,32] However, Turkish studies have different results on this subject. Some suggest that nurses with higher education have higher perceived autonomy,[18,30] whereas others report that nurses' perceived autonomy does not vary by education[29] or that nurses with a low education level have a higher perception of autonomy.[31] In Turkey, all nurses have similar job descriptions and authority regardless of the differences in nursing education they received. This may explain the differences between their education and perceived autonomy levels. In addition, because this study measured nurses' perceived autonomy, the result may have been affected by their cultural values, whereby the nurse may feel autonomous within the scope of duties and responsibilities they are assigned. As a result, although there are many nurses with bachelor's degrees in the health system, the above-mentioned reasons may have prevented them from transferring the knowledge and skills they gained in undergraduate education to practice, causing them to perceive having low autonomy. In addition, nurses with lower education levels may have performed more applications in the field, making them feel better and have a high-perceived autonomy.

This study determined predictors of job satisfaction in nurses, including institution,[19] high level of professional autonomy,[6,7,16,19–21,31] and position.[34] It is noteworthy that there are some supportive organizational arrangements for nurses' autonomy in magnet hospitals with a positive work environment. For example, nurses are empowered by continuous education, when their workload is reduced, and management support is provided, all of which increase their job satisfaction.[35,36] These structural empowerment is directly associated with employees' feelings of autonomy and control over the work. This formal power provides nurses the flexibility, adaptability, creativity, and decision-making abilities within organization and prevents burnout.[20]

As stated by Seago (2006),[37] occupational groups with high psychological demands and low horizontal decision-making experience have intense work pressure and job stress, which reduces job satisfaction and causes burnout. As nurses cooperate more with physicians by participating in the decision-making processes and have a higher sense of control over their work, their job satisfaction increases. Lack of this well-accepted work environment or autonomy indicates that nurses do not receive sufficient training or have adequate practice to develop professional autonomy.[37] Although Turkey started to offer nursing undergraduate education 60 years ago, a low level of autonomy in practice suggests that exercises to develop autonomy are not performed sufficiently or necessary steps are not taken in this regard.

Limitations

Although this study was applied across Turkey, some units with just one single nurse could not be reached. In such units, there is a higher probability for the nurse to interact with physicians and other healthcare workers, and thus to have a higher sense of autonomy and job satisfaction. This may be a limitation in this study.

Conclusion

The results of this study demonstrated that radiation oncology nurses in Turkey had moderate perceived professional autonomy and job satisfaction. Nurses with six years or more experience in radiation oncology units or nurse managers/outpatient nurses had higher levels of autonomy than others did. University-level education is an important indicator of professionalism; however, nurses with undergraduate/graduate education had lower perceived professional autonomy than those with lower education. In addition, nurses working in university or private hospitals, those with a higher sense of professional autonomy, and nurse managers/outpatient nurses had higher job satisfaction.

The fact that radiation oncology nurses generally had moderate professional autonomy and job satisfaction and those with undergraduate/graduate education had lower perceived autonomy points to an important problem in the clinical field. Therefore, there is a need to provide radiation oncology nurses with autonomy to increase their job satisfaction and their professional experience, protect them from possible job stress and burnout, and to create a working environment conducive to offering qualified patient care. Hospital and nurse managers have key roles in this regard. They should arrange to increase physician-nurse cooperation and enable nurses to participate in decision-making processes, assign nurses to positions suitable for their education, and enrich their experiences. Undoubtedly, radiation oncology nurses play a major role in ensuring integrity in care, which has become one of the important goals of healthcare today. Further studies are needed to fully know and understand the autonomy and job satisfaction outcomes of radiation oncology nurses.

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