

ORIGINAL PAPER**Determination of Professional Behaviours of Nurses Working in an Educational and Research Hospital****Dilek Konukbay, MSc, RN**

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Correspondence: Dilek Konukbay, Gülhane Military Medical Academy, School of Nursing Etlik-Ankara, Turkey e-mail: dilek.konukbay@yahoo.com**Abstract****Background:** The word "professional" generally means a person who has training, experience and specialized knowledge maintenance in the field which one is practicing. Thus nurses' professional behavior, patient care quality and maintaining safety during their practice becomes very important.**Aim:** This study provides a comprehensive assessment of nurses' professional behaviour.**Design and Method:** A cross-sectional and descriptive study was carried out to determine the professional behavior of the nurses working in an education and research hospital in Ankara (Turkey) between September-November 2010. The Behavioral Inventory for Professionalism in Nursing (BIPN) and descriptive characteristics questionnaire were used to collect data. The research sample comprises nurses (n = 115) working at the selected institution who agreed to participate in this study.**Results:** Nurses (n = 115) received high scores in the fields of Competence and Continuing Education, use of Theory, Education, Research, Social Services and Nursing Code, but low scores in the fields of professional organization, publishing and autonomy.**Conclusion:** Nurses in the study received low scores for their professional behaviour. Increase in the level of education was found to be the most important feature affecting the level of professionalism in nursing.**Key words:** Nurse, Professional Behaviour, Education, Care.**Introduction**

The presence of occupational groups of professionals is one of the characteristics of modern advanced societies. The most important measure of professionalism is the realization of the requirements of a job in most perfect way (Karamanoglu, Ozer & Tugcu 2009). A person who comprehends the duties of a profession in detail, and implements and maintains them perfectly by training and experience, is called a

professional. There are three main factors for being qualified as a professional person. These are: strong knowledge, autonomy and high level of consciousness of responsibility to serve the community. A professional individual should have skills required in the fields of specialty and competence (Sandra & Eric 2011; Sheri 2009).

To achieve professional status is a significant achievement for all professional occupational groups, because professionals are respected by

both society and other disciplines (Karadag, Hisar & Elbas 2007). Each professional takes part in some general functions as well as their specific duties, roles and functions that are specific to the professional qualification (Yıldız 2003). A professional occupation is an occupation that has a specified control level on producing and delivering a particular type of information demanded by society. By attaining a high level of education and committing to lifelong learning, the professional has credibility which has been proved by subjective and objective aspects. The professional has financial rewards as well as the occupational status obtained through their knowledge. They have also gained a deeper understanding of their role in areas such as community membership and corporate identity, and have personally developed behavioural characteristics such as commitment, responsibility and awareness of collegiality. Membership of a profession has its own lifestyle dimension, presenting its difference from other jobs and occupations because of all of these features (Karadag, Hisar & Elbas 2007). Definitions of professional occupation have many common aspects. There is "knowledge" at the centre of the phenomenon of professional occupation. There are also other factors, such as acting according to ethical rules, meeting social needs and determining professional standards, besides providing information (Pellegrino 2002; Numminen, Arend & Kilpi 2009).

Nursing is one of the professional occupation groups has been defined by the International Nursing Council (ICN) as an occupation that helps to protect and improve the health of individual, family and community and participates in rehabilitation work. A nurse is also a member of the profession having an active role in developing and implementing the therapeutic and educational plans of the health team (Karamanoglu, Ozer & Tugcu 2009). According to these definitions, a professional nurse is responsible for ensuring the best quality care of each individual / patient.

Health-related knowledge and practices are updated and developed every day in parallel with developments in science and technology. As a member of the health team, a professional nurse must closely follow developments in the field of health, should be committed to a plan of continuous education such as postgraduate and doctoral programs, participate in congresses,

symposia and courses organised by the occupational organisations and monitor periodicals and relevant literature. Nurses' motivation, job satisfaction, morale and practice of evidence-based practices will also be effective in performing professional nursing care (Kim-Godwin, Baek & Wynd 2010; Barazzetti, Radaelli & Sala 2007). Nurses' professional behaviours are very important to obtain and develop quality and safety in practices and patient care, and to maintain the standards of the profession. Therefore, it is intended to determine the professional behaviour of nurses by this study providing a comprehensive assessment.

Methodology

Method

This study is a cross-sectional and descriptive study in order to determine the professional behaviours of nurses working in the selected institution between September and November 2010. The target population of the study is all nurses working in this education and research hospital. The research sample comprises the 115 nurses who agreed to participate in this study. Necessary permissions (IRB, etc.) were obtained for the implementation of the study. The questionnaire, including demographic characteristics of the nurses, was developed by researchers as a result of the literature study and the "Behavioural Inventory for Professionalism in Nursing" (BIPN) developed by Miller et al (Miller, Adams & Beck 1993). The study of its validity and reliability for Turkey is done by Karadag et al. (Karadag, Hisar & Elbas 2004).

The BIPN is composed of 46 questions. Questions 1-7 are related to the demographic characteristics of the nurses, and questions 8-46 are related to the behavioural inventory. Each question is asking whether or not the nurses are showing professional behaviours. BIPN consists of nine sub-groups, and weighted scores are calculated under these dimensions (Education, Publishing, Research, Participation in Occupational Organisations, Community Service, Qualification and Continuing Education, Nursing Codes, Theory, Autonomy). The maximum total score is 27.

Analysis of Data

In the study, BIPN subscale and total scores were calculated from information collected from the nurses with the scale method. Conformity of the

calculated subscale and total scores with the normal distribution was investigated graphically and by Shapiro-Wilk test. It was observed that the whole set of subscales and total scores were not in conformity with the normal distribution. In the display of descriptive statistics number and percentage were used for categorical variables (marital status, education level, etc.) and median (IQR-interquartile range) indication was used for the scale scores. A Mann-Whitney test was used to compare the scale scores between the two groups (marital status, unit of duty) and Kruskal-Wallis non-parametric variance analysis was used to compare the scale scores between more than two groups, such as age group, educational level, duty period in profession and type of duty. In cases where some differences were found between the groups, Bonferroni-corrected Mann-Whitney for post-hoc binary comparisons was

consulted in order to find the source of the difference. MS-Excel 2003 and SPSS for Win.Ver. 15.0 (SPSS Inc., ILL., USA) package programs were used for the statistical analysis and calculations. In statistical decisions, $p < 0.05$ was accepted as an indicator of significant difference.

Results

The study has been carried out on 115 nurses with ages ranging from 22 to 50 years, and an average of age of 31 (IQR = 8) years. Sixty-nine nurses (60.0%) were married, while 46 (40.0%) were single (Table 1). In the study, total score received from BIPN scale applied on the nurses was determined as minimum 0.0 and maximum 15.5. BIPN scale scores are shown in Table 2, and the average scores according to demographic characteristics are shown in Table 3.

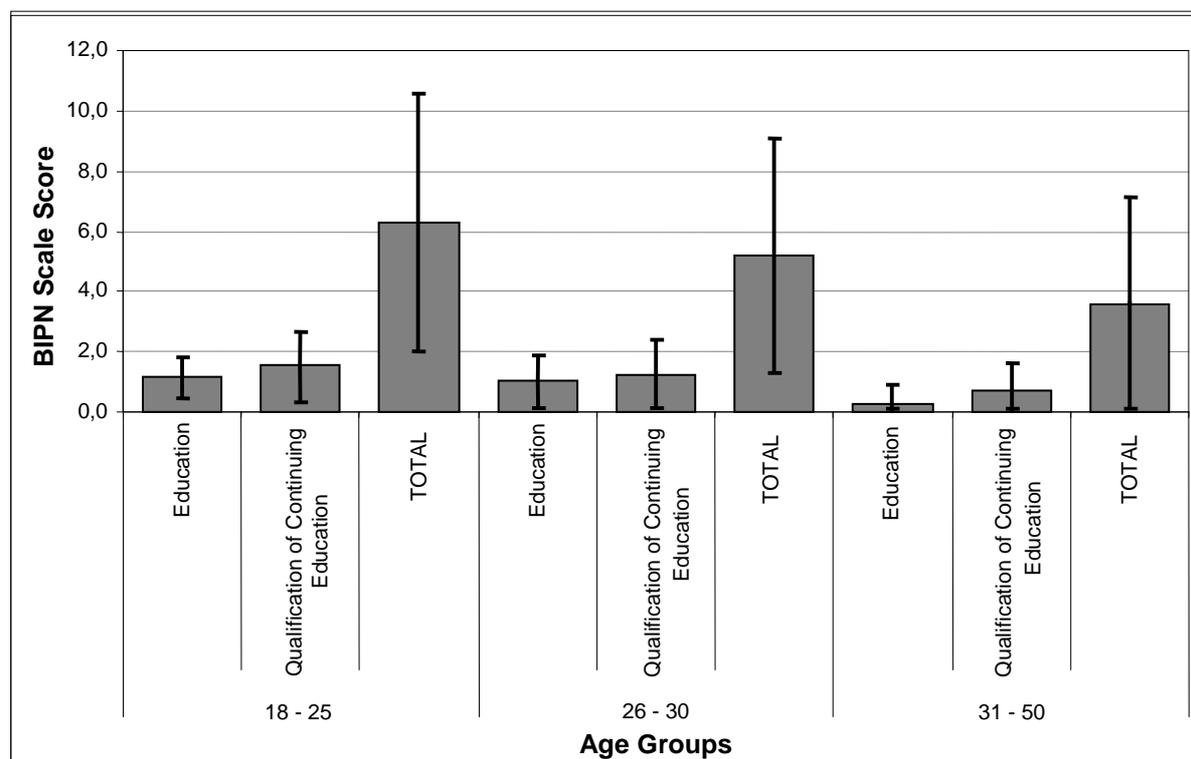
Table 1. Demographics of Nurses

Demographics	Subgroups	n	%
Age groups	18 – 25	20	17.4
	26 – 30	38	33.0
	31 – 50	57	49.6
Marital Status	Married	69	60.0
	Single	46	40.0
Education Level	Associate degree	52	45.2
	Bachelor's Degree	49	42.6
	Master's Degree	14	12.2
Length of term for the profession	1 – 5 years	33	28.7
	6 – 10 years	32	27.8
	11+ years	50	43.5
Unit of duty	Surgical	58	50.4
	Medical	57	49.6
	Clinic	91	79.1
Type of duty	Intensive care	11	9.6
	Other	13	11.3

Table 2. BIPN Scale Scores

Behavioural Category	Min.	Max.	Median	IQR
Education	0.0	3.0	1.0	1.0
Publications	0.0	1.0	0.0	0.0
Research	0.0	3.0	0.0	0.5
Occupational organisations	0.0	1.5	0.0	0.0
Social Service	0.0	3.0	0.0	0.0
Qualification and Continuing Education	0.0	5.0	1.0	1.8
Nursing codes	0.0	3.0	0.0	3.0
Theory	0.0	4.5	1.0	1.5
Autonomy	0.0	1.0	0.0	0.0
Total	0.0	15.5	3.5	5.8

Figure 1. Mean values of education, qualification of continuing education and BIPN total scores (with standard deviations)



*: to improve visual understanding, mean \pm standard deviation values are shown.

Table 3. BIPN and Subscale Scores According to Demographic Characteristics (Median (IQR))

Demographics	Subgroups	Education	Publications	Research	Occupational organisations	Social Service	Qualification, Continuing Education	Nursing codes	Theory	Autonomy	Total
Age groups	18 – 25	1.0 (0.0)	0.0 (0.0)	0.0 (1.0)	0.0 (0.0)	0.0 (0.0)	1.5 (1.0)	1.5 (3.0)	1.0 (1.0)	0.0 (0.0)	5.8 (6.4)
	26 – 30	1.0 (0.3)	0.0 (0.0)	0.0 (0.5)	0.0 (0.0)	0.0 (0.0)	1.0 (2.5)	0.0 (0.3)	1.0 (1.0)	0.0 (0.0)	4.8 (6.8)
	31 – 50	0.0 (0.0)	0.0 (0.0)	0.0 (0.5)	0.0 (0.0)	0.0 (0.0)	0.5 (1.5)	0.0 (0.3)	1.0 (1.0)	0.0 (0.0)	2.5 (4.5)
Marital Status	Married	0.0 (1.0)	0.0 (0.0)	0.0 (0.5)	0.0 (0.0)	0.0 (0.0)	1.0 (1.5)	0.0 (3.0)	1.0 (1.5)	0.0 (0.0)	3.0 (5.5)
	Single	1.0 (1.0)	0.0 (0.0)	0.0 (1.0)	0.0 (0.0)	0.0 (0.0)	1.0 (2.0)	0.0 (3.0)	1.0 (1.5)	0.0 (0.0)	3.8 (6.6)
Education Level	Associate degree	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (1.0)	0.0 (0.0)	1.0 (1.0)	0.0 (0.0)	1.0 (3.5)
	Bachelor's Degree	1.0 (0.0)	0.0 (0.0)	0.0 (1.0)	0.0 (0.0)	0.0 (0.0)	1.5 (1.5)	0.0 (3.0)	1.0 (1.5)	0.0 (0.0)	4.5 (6.0)
	Master's Degree	3.0 (1.5)	0.0 (0.0)	1.0 (2.8)	0.0 (0.0)	0.0 (0.0)	2.0 (1.3)	3.0 (3.0)	1.5 (2.0)	0.0 (0.0)	11.5 (5.3)
Length of term for the profession	1 – 5 years	1.0 (0.0)	0.0 (0.0)	0.0 (1.0)	0.0 (0.0)	0.0 (0.0)	1.5 (1.3)	0.0 (3.0)	0.0 (0.0)	1.0 (1.0)	5.0 (6.3)
	6 – 10 years	1.0 (1.0)	0.0 (0.0)	0.0 (1.0)	0.0 (0.0)	0.0 (0.0)	1.0 (2.5)	0.0 (3.0)	0.0 (0.0)	1.0 (1.5)	4.0 (8.5)
	11+ years	0.0 (0.0)	0.0 (0.0)	0.0 (0.3)	0.0 (0.0)	0.0 (0.0)	0.0 (1.0)	0.0 (0.0)	0.0 (0.0)	1.0 (1.0)	1.5 (3.8)
Unit of duty	Surgical	0.5 (1.0)	0.0 (0.0)	0.0 (0.5)	0.0 (0.0)	0.0 (0.0)	0.5 (1.5)	0.0 (3.0)	1.0 (1.5)	0.0 (0.0)	3.0 (5.0)
	Medical	1.0 (1.0)	0.0 (0.0)	0.0 (1.0)	0.0 (0.0)	0.0 (0.0)	1.0 (2.0)	0.0 (3.0)	1.0 (1.5)	0.0 (0.0)	3.5 (7.0)
Type of duty	Clinic	0.3 (1.0)	0.0 (0.0)	0.0 (0.5)	0.0 (0.0)	0.0 (0.0)	1.0 (1.5)	0.0 (3.0)	1.0 (1.1)	0.0 (0.0)	3.0 (5.5)
	Intensive care	1.0 (0.0)	0.0 (0.0)	0.0 (0.5)	0.0 (0.0)	0.0 (0.0)	1.5 (2.5)	0.0 (3.0)	1.0 (1.5)	0.0 (0.0)	7.0 (7.0)
	Other	0.5 (1.8)	0.0 (0.0)	0.0 (1.3)	0.0 (0.0)	0.0 (0.0)	0.3 (1.9)	3.0 (3.0)	1.0 (3.1)	0.0 (0.0)	5.3 (8.5)

When it was investigated whether or not a significant difference occurred in BIPN scale and total scores by age, it was detected that except for BIPN subscales Education ($\chi^2 = 41.589$; $p < 0.001$), Qualification of Continuing Education ($\chi^2 = 10.040$; $p = 0.007$) and scale total score ($\chi^2 = 10.211$; $p = 0.006$), there were no significant differences according to age groups in the other subscales. A Bonferroni-corrected Mann-Whitney test was used for post-hoc binary comparisons in order to determine which age groups constituted differences on Education, Qualification and Continuing Education, and BIPN total score.

According to the results of post-hoc binary comparisons, Education, Qualification and Continuing Education and BIPN total score medians of the age groups of 18 to 25 years, and 26 to 30 years, were statistically the same. Between the age groups 18 to 25 years and 31 to 50 years, each of the three point medians showed a statistically significant difference (respectively, $Z = 5.606$, $p < 0.001$, $Z = 2.935$, $p = 0.003$ and $Z = 2.863$, $p = 0.004$). Nurses in the age group 18 to 25 years had higher Education, Qualification and Continuing Education, and BIPN total score medians than the medians of nurses in the age group 31 to 50 years. Between the age groups 26 to 30 years, and 31 to 50 years, there was a statistically-significant difference only in the Education subscale median ($Z = 5.220$, $p < 0.001$), but Qualification of Continuing Education and BIPN total score medians were similar (respectively, $Z = 2.209$, $p = 0.027$ and $Z = 2.290$, $p = 0.022$). The nurses in the age group 26 to 30 years had higher medians than the medians of the nurses in the age group 31 to 50 years in each of the three scale scores, but only in the Education subscale score was this difference statistically extremely high (Figure 1).

Examining the marital status, it was observed that in the Education subscale, the medians of the single nurses were higher ($Z = 2.011$, $p = 0.044$) than the medians of the married nurses, but in the Autonomy subscales, the medians of the married nurses were significantly higher ($Z = 2.045$, $p = 0.041$) than the medians of the single nurses. The other subscales and BIPN total score median showed no difference ($p > 0.05$) with marital status.

When it was investigated whether or not the BIPN subscale and total scores showed any difference according to the level of education, it was observed that except for Occupational organizations ($\chi^2 = 0.437$; $p = 0.804$) and Autonomy ($\chi^2 = 2.704$; $p =$

0.259) subscales, all other subscales and BIPN total scores showed significant differences ($p < 0.05$) according to education level. When it was investigated with post-hoc binary comparisons to see which education level caused the difference, it was observed that the graduate nurses had much higher median than that of the associate degree nurses, according to Education, Research, Qualification and Continuing Education, and BIPN total score, while the other subscale medians were similar. Similarly, it was determined that the post-graduate nurses had higher median than that of associate degree nurses in all subscales and BIPN total scores, except for Social Service subscale. Social Service medians of associate degree nurses and post-graduate nurses were similar. Education, Theory and BIPN total score medians of graduate nurses and post-graduate nurses were different, but the other subscale medians were similar. Post-graduate nurses had higher score medians than those of graduate nurses in all subscales and BIPN total scores.

According to analysis of the duty period of the nurses in the profession, Education ($\chi^2 = 65.969$; $p < 0.001$), Research ($\chi^2 = 7.866$; $p = 0.020$), Qualification and Continuing Education ($\chi^2 = 16.046$; $p < 0.001$) and BIPN total score ($\chi^2 = 16.663$; $p < 0.001$) medians showed differences, but the other subscale medians were similar. Post-hoc binary comparisons were used to investigate which duty periods caused significant difference in Education, Research, Qualification and Continuing Education, BIPN total score medians. There was no difference between the subscale and total score medians of the nurses having 1-5 years duty period, and the nurses having 6-10 years duty period. There was no difference between the nurses having 1-5 years duty period and the nurses having a duty period of 11 years or more, in terms of the Research ($Z = 2.219$; $p = 0.026$) subscale. Education ($Z = 7.793$; $p < 0.001$), Qualification and Continuing Education ($Z = 3.777$; $p < 0.001$) and BIPN total score medians ($Z = 3.861$; $p < 0.001$) were found to be higher for the nurses having 1-5 years duty period than that of the nurses having a duty period of 11 years or more.

It was observed according to the unit of duty that only the nurses working in the internal medicine units had higher Research subscale median ($Z = 2.194$, $p = 0.028$) than that of the nurses working in the surgical units, and there was no difference ($p > 0.05$) between the nurses working in the surgical and internal medicine units in all other subscales and BIPN total score.

When the change in BIPN subscales and total score was analyzed according to type of duty of the nurses, it was determined that the Autonomy ($\chi^2 = 9.997$; $p = 0.007$) score median was different, while other subscales and BIPN total score medians were statistically the same ($p > 0.05$). The Autonomy score median of nurses working in other duties was higher ($Z = 2.919$; $p = 0.004$) than that of the clinical nurses, but Autonomy subscale medians of the nurses working in other and intensive care ($Z = 1.664$; $p = 0.361$), and the nurses working in clinical and intensive care ($Z = 0.608$; $p = 0.543$), were statistically the same.

Discussion

In our study, the total score received from the BIPN scale applied to the nurses was determined as minimum 0.0 and maximum 15.5. Nurses have received high points from Qualification and Continuing Education, Use of Theory, Education, Research, Social Services and Nursing Codes out of nine fields of BIPN, and low points from Occupational Organizations, Publications and Autonomy. Kavaklı et al., in their studies examining the behaviour of professional nurses working in intensive care units, have determined that the nurses have received low scores in BIPN fields of membership of Occupational associations, Autonomy and Scientific paper writing, and high scores in the fields of Research, Qualification and Continuing Education (Kavaklı, Uzun & Arslan 2009). Although our study was including all the nurses working in the hospital in clinical, intensive care and other units, our findings showed similarities across all groups. Hisar and Karadag determined in their studies that the nurses have received the lowest scores in the subscale of Educational preparation and Research, and the highest scores in Ethical code and Social Services. They indicated in their study that the reason for the low scores received by the nurses in the Education field is that the one third of the participants were associate degree-qualified, and the scores increased as the education level increased (Hisar & Karadag 2010). In our study the rates of graduates of associate degrees were close to each other; thus, our study has shown differences from the study of Hisar and Karadag in Education and Research results, but has shown similarities in Theory and Social Service fields.

In our study, it was detected that the nurses have received low points in the Occupational organizations field, which is one of indicators of professional behaviour. The purposes of the establishment of the Occupational organizations are

to qualify the person having a profession, to determine the standards of education, to enhance the reputation of the profession, to determine the rules of professional ethics and the principles necessary in professional practice, and to deal with the difficult issues not approached by the individuals related to the profession. Occupational organizations are used in an attempt to develop strategies in order to gain new members and to maintain the existing membership. Despite all of these features, the low participation rate of nurses in occupational organizations is an important and ongoing problem (Korkut 2005). Kocak has determined, in his study performed with 473 nurses working in two university hospitals in order to determine their opinions on the privatisation of the health services and unionisation, that 347 (73.3%) of the nurses were not members of occupational associations and the majority of non-member nurses had the dominant idea that the organizations "takes no action on behalf of the profession" (Kocak 2007). Similarly, the rates of participation in professional associations of nurses working in different positions have also been found low in the studies of Karadag and his colleagues (Karadag, Hisar & Elbas 2007). From the studies performed, it is becoming clear that one of the important indicators of professionalism is the development of activities for the membership in occupational organizations.

It was found in our study that the nurses have also received low scores in the field of Publication. The scores of the nurses in Research were high, but the scores in Publication were low. In our study, the nurses stated that they had participated in research practices, but they were not included in the preparation of research publications. It was thought that this situation was caused because a lower proportion of nurses [14 (12.2%)] (Table 1) included in the study were post-graduates, and the nurses working in clinics had not sufficient time and qualification for publication.

The nurses included in the scope of the study have also received low scores in the field of Autonomy. Autonomy is an important field since it has the characteristics of influencing decisions on gaining professional status, education and application, and being aware of the duty and responsibilities and risks and undertaking them (Oweis 2005). When BIPN is examined, it can be seen that the questions forming the Autonomy field are related mostly to the administrative nurses. Therefore, autonomy score was determined to be low since the majority of nurses included in this study [91 (79.1%)] (Table 1) were working as clinical nurses. The score received

by the nurses in the Autonomy field was also determined to be low (Hisar & Karadag 2010). In examination of the change in the BIPN subscale and total scores according to the type of duty, it was detected that the Autonomy median showed differences, and the nurses working in Other duties had higher autonomy scores than those of the Clinical nurses. In our study, the majority of nurses working in Other duties were responsible nurses, and this situation was considered to affect the result.

When it was investigated in our study whether or not a significant difference occurred in BIPN subscale and total scores according to age, Education, Qualification and Continuing Education and BIPN total score medians showed a statistically significant difference in the age groups of 18 to 25 years, and 31 to 50 years. These results were positively affected because the nurses included in this study, and in the age group of 15-25 years, were experienced graduate or post-graduate nurses, and new-graduate nurses were involved in certification programs related to Qualification and Continuing Education field at higher rate.

When it was investigated in our study whether or not a difference occurred in BIPN subscale and total scores according to Education level, it was determined that except for the Occupational organisations and Autonomy subscales, all subscales and BIPN total score showed significant differences according to education level ($p < 0.05$). In examination of the education level causing the change, using post-hoc binary comparisons, it was determined that graduate nurses had higher scores in terms of Education, Research, Qualification and continuous education and BIPN total score, than those of the associate degree nurses; the post-graduate nurses had higher score medians in all subscales and BIPN total score than graduate nurses, and they had higher score medians in all subscales and BIPN total score, except the Social Services subscale, than the associate degree nurses. High BIPN score averages of graduate and post-graduate nurses show the importance of the level of education.

It is noted that the nurses who research more and use the nursing theories more (and by better knowing their capabilities, follow and read the professional publications), develop critical thinking and a more critical perspective, and these characteristics increase the professional behaviour level of the occupation as their education level gets higher (Orak 2005; Meyer et al. 2007). Similar studies in the literature state that the level of education of the nurses is effective in occupational roles and

professionalism of nurses (Beydag 2008; Derham 2007). Also, in a study executed within the nurse constituency of Korean Americans, it was detected that the nursing education period, as well as the current location of nursing, current employment status, total nursing experience period and membership in professional organisations, are all related to the level of professionalism (Kim-Godwin, Baek & Wynd 2010).

When it was investigated in our study whether or not a difference occurred in BIPN subscale and total scores according to period of duty in profession, it was determined that Education, Qualification and Continuing Education and BIPN total score medians of the nurses having 1-5 years duty period were found higher than those of the nurses having a duty period of 11 years or more. In our study, this was due to the fact that the nurses working 1-5 years had higher levels of education.

Conclusion

It was determined that the scores achieved by the nurses in the professional behaviour inventory elements of the study were low and insufficient to draw conclusions. Of the nine fields of BIPN, nurses had received higher points for Qualification and Continuing Education, Use of Theory, Education, Research, Social Services and Nursing Codes, and lower points for Occupational Organizations, Publications and Autonomy. Based on the results of the whole study, increase in the level of education seems to be the most important feature affecting the level of professional behaviour. Therefore, it is proposed that increasing the level of nursing education and providing qualified educational programs will affect the professional behaviour of nurses. The professional development of the nurses included in the study must be evaluated and supported, and they must be encouraged to participate in scientific activities, educational programs and to value membership of professional organizations.

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