

Experiences of Professionalism Attributes among Undergraduates Nursing Students and Nurses

Lobna K. Mohamed¹, Shereen R. Dorgham², Walaa M. Eid³

¹Nursing Services Administration Department, Faculty of Nursing, Tanta University, Egypt.
e-mail: lobnakhamis2020@gmail.com

²Nursing Services Administration Department, Faculty of Nursing, Tanta University, Egypt
e-mail: d_org_ham7@hotmail.com

³Nursing Services Administration Department, Faculty of Nursing, Tanta University, Egypt.
e-mail: drwalaacid954@gmail.com

Received November 3, 2019, accepted December 5, 2019

doi: 10.47104/ebnrojs3.v2i1.111

ABSTRACT

Context: Professionalism is an essential ingredient in the nursing profession that begins during the foundational educational program when the student nurses learn the knowledge, skills, and attitudes and continue during their practices in the real world.

Aim: This research aimed to assess the main attributes of professionalism among undergraduates nursing students and nurses.

Methods: This study utilized a descriptive comparative correlational design. The current study was conducted in the faculty of nursing, as well as in Intensive Care Units, Neonatal Intensive Care Units, Cardiac Care Units, and Neurology Intensive Care Units at Tanta University Hospital. Subjects. The sample consisted of (897) nursing students and (149) nurses. The data collection's tool was the nursing professionalism attributes' questionnaire that was developed by the authors. It contains three dimensions, including; professional identity (12 statements), professional ethics (12 statements), and professional behaviors (16 statements).

Results: This study suggested that the undergraduate nursing students perceived the high mean score in all professionalism attributes more than the practicing nurses did.

Conclusion: This study concluded that the development of professionalism in nursing is an essential feature of the nursing profession and practice. The nurse students were high in areas of patients and colleagues' rights, obeying orders, commitment and collaboration, physical appearance, continuing education, and caring of the patient. While the nurses had very low scores in membership in the nursing association, autonomy, and research areas, this study recommended the encouragement of nurses and students' participation in scientific research activities, including; membership in professional organizations or associations, attending nursing conferences/workshops/symposium as a producer or consumer, and fellowship.

Keywords: Professionalism, attributes, nurses, undergraduate nursing student

1. Introduction

The presentation of professional experiences among nursing students and practicing nurses in both personal life and clinical field of work depends on many factors. *Adams and Miller (2001)* have established a nursing professionals' wheel that describes the factors leading to overall nursing professionalism, including adherence to code of ethics, continuing education, orientation towards community service, development, use and appraisal of theory or research, autonomous and self-regulating activities, involvement of professional organizations, publication, communication, and educational preparation.

Moreover, recent studies argued that nursing professionalism influenced by the availability of role models in the academic and clinical training field during the teaching process, communication skills, autonomy in decision-making, intellectuality, and entrepreneurial. Additionally, the content of the nursing program curriculum plays significant roles in enabling the development of a

professional identity (*Ousey 2009; Altiok & Üstün 2014; Wills, Wilson, Woodcock, Abraham & Gillum, 2018*).

There is evidence indicated that the educational level increased the commitment towards professionalism and the development of professional attitudes, as well as the acquisition of professional knowledge, skill, ethics, and behaviors that, in turn, influences the future quality of nursing. Professionalism in nursing has many positive consequences that improved patient care, nurses' job satisfaction, and retention (*Karadag, Hisar, Çelik, & Baykara, 2016*).

A literature review on the theme of professionalism in nursing suggested that it has a complex nature with multi-dimensions concepts, including the profession's identity, ethics, and values that restrict abuse actions in personal life and work (*Alidina 2013; Ghadirian, Salsali, & Cheraghi, 2014, Wuerz, 2017*). The professional identity is the crucial factor of nursing socialization that begins with formal education and extends into working in the professional clinical environment over time. It described as values and beliefs held by nurses, which direct thinking, actions, and interactions with their patients, colleagues, and organizations (*Arreciado Maranon, & Isla Pera, 2015*).

¹ Correspondence author: Lobna Khamis Mohamed

In this context, ethics is a fundamental part of nurses' work that refers to the moral and norms of the nursing profession that protect patients' rights and guide nurses to contribute to the development of a healthy society. In nursing, professional ethics is built based on professional and personal commitment, including rights, duties, and responsibilities (Kangasniemi, Pakkanen, & Korhonen, 2015). While professional values are standards for nursing action that give justifications for judgment and choices, as well as a framework for evaluating beliefs and attitudes that influence nurses' behaviors. The fact Generally, professionalism is an elusive term that involves different meanings to different people (Evan, 2008).

Despite frequent use in many organizations and ease to recognize, but it is difficult to define. There is a lack of consensus about the meaning of professionalism (Rowland 2016). Ghadirian Salsali & Cheraghi (2014) defined professionalism as a set of attitudes and behaviors, which seems like the expression of what is required or expected of members toward a specific profession. In other words, Ibrahim and Qalawa (2016) stated professionalism as a personal characteristic that displayed in an approach to an occupation represented in intelligence, integrity, maturity, and thoughtfulness. It involves behaving ethically and fulfilling responsibilities in all situations with appropriate behavior and communication. Furthermore, there is a need for specific applied skills and knowledge that enable people to execute their roles successfully. Professionalism includes attitudes that reflect levels of identification with a particular profession and commitment (Wynd, 2003; Danesh et al., 2013).

Professionalism in nursing is a crucial component to maintain a healthy working environment and is easily enabled by practice (Registered Nurses Association of Ontario (RNAO) 2007). It is a comprehensive concept that provides nurses with opportunities to grow personally and professionally (Alidina, 2013). It requires nurses to illustrate specific behaviors, as well as demonstrate knowledge, attitudes, and skills (Adams & Miller 2001). The term of nursing professionalism possesses characteristics of expertise, autonomy, long academic preparation, commitment, collaboration, and responsibility that contribute to marking a profession or a professional person (Van e De Bragancaa & Nirmalab 2017).

In nursing, the professionalism process begins during the foundational educational program when the student nurses learn the knowledge, skills, and attitudes and continue during practices in the real world. During this process, the student nurses acquire professional standards and develop their own professional identity (Black, 2016). Experiences of professional socialization help the nurse students to develop the skills of communication, organizational and affective commitment, responsibility, intrinsic motivation, autonomy in decision-making, and problem-solving, and professional identity (Ousey, 2009).

This process is required to plan the nursing curriculum and educational activities in both theoretical and clinical training for students to become professionals with the required qualifications (Altiok & Üstün 2014). Hence, nurse

students and practicing nurses should maintain and update their competencies regularly regarding professionalism that affect patients' satisfaction and achieving positive health outcomes (Ghadirian, Salsali & Cheraghi, 2014; Fenwick, 2016; Rowland, 2016). It cannot be overlooked is that nursing has a particular profession identity rooted in professional ethics and ethical values (Altiok & Üstün 2014; Poorchangizi et al., 2019).

2. Significance of the study

The academic nursing leaders have a lack of evidence regarding how the undergraduate nursing students and practicing nurses perceive professionalism and how to maintain it throughout the profession. Understanding the perspectives of undergraduates nursing students and nurses about professionalism is an essential issue for providing appropriate educational activities to enhance and maintain the professional socialization. Additionally, professionalism in nursing has many positive aspects that can be used to attract young students as a viable career choice. Consequently, it becomes imperative for the academicians to re-assess the present status of professionalism in nursing. Therefore, this research investigated the baccalaureate-nursing students' and nurses' experiences regarding professionalism.

3. Aim of the study

This research aimed to assess the main attributes of professionalism as perceived by undergraduate nursing students and nurses.

3.1. Research Questions

The current study aimed to answer the following research questions:

- What are the levels of professionalism as perceived by nursing students?
- What are the levels of professionalism as perceived by nurses?
- Are the demographic characteristics of nurses or nursing students affecting their levels of professionalism?
- Is there a difference between nursing students' professionalism and nurses' professionalism perspectives?

4. Subjects & Methods

4.1. Research design

The present study was utilized as a descriptive comparative correlational design, which used to describe the three attributes of professionalism. This design involves systematic investigation for the nature of relationships or associations between and among variables. It examines whether and to what degree the statistical relationship, as well as to detect its direction, magnitude, and strengths (Polit & Beck 2018).

4.2. Research Setting

This study was conducted in the faculty of nursing, as well as in Intensive Care Units (ICU), Neonatal Intensive

Care Units (NICU), Cardiac Care Units (CCU), and Neurology Intensive Care Units at Tanta University Hospital.

4.3. Subjects

This study utilized a convenience sample, which consisted of (897) undergraduate nursing students from third, fourth, and interns, as well as (149) nurses from the previously mentioned settings according to their attendance and availability during the time of data collection. The overall response rate was 72.7% out of 205 nurses and 82.3% out of 1090 nursing students (males & females) in the academic year of 2018/2019, who agree to participate in data collection.

4.4. Tools of the study

4.4.1. Nursing Professionalism Attributes' Questionnaire

Data collected using a structured interview questionnaire. It was developed by the researchers based on an extensive related literature review (*Danesh et al., 2013; Black, 2016; Dikmen et al., 2016; Doost et al., 2016; Ana Vaz e De Braganca, & Nirmalab, 2017, Poorchangizi et al., 2019*). The nursing professionalism attributes' questionnaire consists of two parts.

The first part involves the nurses' demographic data, age, gender, marital status, educational level, years of experiences, working department, working hours per week, shift preference and type of contract while the nurse students' demographic information are age, gender, marital status, and academic year.

The second part involves 40 statements for measuring the professional attributes that dividing into three dimensions involving:

Professional identity: This dimension showed the significance of nursing profession for a nurse, which reflects nursing image (4 statements), caring of patient (3 statements), professional appearance (1 statement), nursing research (1 statement), decision-making autonomy (1 statement), membership in nursing association (1 statement) and continuing education (1 statement).

Professional ethics: This dimension encompassed the personal and corporate standards of behaviors, which reveals a code of ethics (4 statements), patients' rights (6 statements), and colleagues' rights (2 statements).

Professional values: This dimension stand out for the beliefs and principles that guide nurses' decisions and actions in their career, which incorporates carrying responsibility (5 statements), accepting criticism (1 statements), obeying orders (2 statements), communication skills (3 statements), and showing commitment & collaboration (5 statements).

Scoring system:

The responses for answering the second section of the questionnaire were measured on a 5-point Likert rating scale as 5= strongly agree; 4= agree; 3=unsure; 2=disagree; and 1= strongly disagree with describing how well the nurses' students and nurses' opinions about the

professionalism attributes. There are three statements with an inverse Likert scale; one statement presented in each subscale. The subtotal score for each dimension was calculated separately according to the statements' number. The subtotal score of either professional identity or professional ethics ranged between 12 and 60, while the subtotal score for the dimension of professional values ranged from 16 and 80.

The total scale score ranged from 40-200. The levels of total professionalism attributes determine according to the following:

- The high level has a score that ranged from 160 to 200 that represented between 80% and 100%.
- The moderate level has a score that ranged from 120 to 158 that represented between 60 and 79%.
- Low level has a score of < 120 (less than 60%).

4.5. Procedures

Data were collected through a self-administered questionnaire, which translated into the Arabic language to be clear for all participants' level of education and back-translated to ensure accuracy. The questionnaire took approximately 10 to 15 minutes for each participant. The actual time for data collection between January 2019 and March 2019 during the academic year 2018/2019.

Ethical considerations: The authors obtained approval from the authoritative personnel at the Faculty of Nursing (Dean of the college), Tanta University, and Tanta University hospital (Hospital director) before initiating the data collection. Oral consent was obtained from nursing students and practicing nurses after explaining the aim of the study. The participation in the study was voluntary without penalty from unwilling participants. They were told that their answers would be kept confidential.

A panel of five experts was invited to review the questionnaire from the nursing administration specialty to assess the face and content validity, as well as to check the fidelity. Based on this revision, necessary modifications were done, and a pilot study was conducted on 10% (who are excluded from the study sample). As well as, the tool was examined for reliability by two times (test-retest reliability) with separate two weeks to be sure from the applicability of the questionnaire and stability of the respondents' answers. The value of Cronbach's coefficient alpha test was equal to 0.78, and the test-retest reliability value for nominal data was more significant than 0.8.

4.6. Data analysis

All data were collected, tabulated, and subjected to statistical analysis that was performed by SPSS in general (version 20), while Microsoft Office Excel is used for data recording of the two groups. The Mean and Standard Deviation (SD) describe quantitative variables. Independent samples t-test is used for comparing the means.

Analysis of Variance one-way ANOVA F test was applied for comparing the means of more than two groups. Z-test was used to compare population means to the sample. The Pearson correlation coefficient is applied to

study the correlation between two variables. Proportions and percentages describe qualitative categorical variables. The significance level was considered at $P \leq 0.05$.

5. Results

Table 1 describes the demographic characteristics of nurses at Tanta University Hospital. It was observed that 49% of nurses were in the age group 25 to >30 years old with a mean score of 25.28 ± 2.67 , 89.3% of them were females, and 87.9% of them were married. Slightly more than two thirds (67.8%) of nurses had a Baccalaureate degree, 70.5% had less than five years of experience, and 39.6% of them worked in general intensive care units. Moreover, more than half of the participants (58.4%) worked in the morning shift, and 68.5% of them had a full-time job.

Table 2 represents the demographic characteristics of nursing students. It was apparent that 44.0% of participants were in the age group 23-year-old and more with a mean age of 22.02 ± 0.99 , and 69% were females. The majority of respondents (79.3%) were singles, and 38.9% of them were in the third academic year.

Table 3 displays the nurses' perception of professionalism dimensions' subscales. About professional identity subscale, the nurses stated that they do not disseminate false information 79.9%, wear official uniform and keep physical appearance 70.5, focus all efforts on the patients during caring 71.2%, create positive image about their profession 59.1%, seek for additional continuing education 53.7% and document patients' information accurately and completely 52.4%. While the nurses report that they do not look for membership in the nursing association 87.2%, have not decision-making autonomy 73.1%, and do not participate in nursing research 71.2%.

Concerning professional ethics subscale, the nurses report that they request advice to meet the patient needs 81.2%, keep the patient-related information securely and confidentially 79.2%, treat patients with empathy and rapport 77.2%, safeguard patients' right to privacy 71.1%, treat all patients equally 68.4%, and provide the service in a respectful manner 64.4%. On the other hand, they do not cheat to achieve a higher bonus 92.6% and do not report for any illegal 81.9% or unethical behaviors 66.5%.

Regarding professional values subscale, the nurses reported that they commit to help and care of patients 86.6%, have enough knowledge and skills to do the assigned work 77.2%, follow written rules and regulation in the institution 71.8%, accept orders and decisions from the supervisors 67.8%, communicate effectively 67.1%, organize work on time 57.8% and did not complete work independently 61.8%. On the same scene, they do not show creativity for catching opportunities 80.6% and do not accept either participating in ethical opposition 61.1%, or negative criticism 51%.

Table 4 shows the nurse students' perception of professionalism dimensions' subscales. As regard professional identity subscale, the students documented that they wear official uniform and keep physical appearance

94.9%, seek for additional continuing education 90.8%, document patients' information accurately and completely 90.5%, as well as focus all efforts on the patients caring 90.2%, create a positive image about their profession 87.2%, and do not disseminate false information 79.9%. They have a decision-making autonomy 79.4%, proud to study in nursing 70.2%, be pleased to belong to this profession 66.2%, and participate in nursing research 64% while only 44% of them reported that they look for membership in nursing associations.

According to the professional ethics subscale, the students had high scores in all items. They treat all patients equally 97.2%, keep patients' information securely and confidentially 95.1%, respect the individuals' experiences 94.3%, safeguard patients' right to privacy 93.8%, request advice to meet patient needs 93%, act as an advocate 92.9%, respectfully provide the service 91%, and treat patients with empathy and rapport 90.3%. They also use a code of ethics as a guide for practice 87.2%, report about unethical 85.2% or illegal 81.9% behaviors, and do not cheat for achieving higher bonuses 74.4%.

Concerning professional values dimension, the majority of students reported high scores in all items except 45.1% of them do not accept to participate in patients' care if in ethical opposition to their own professional values.

Table 5 illustrates the comparison between nurses' and nursing students' perceptions of professionalism dimensions. The undergraduate nursing students experienced the highest mean score in their perception regarding professional ethics (83.14), followed by professional behaviors (79.06), while they had the lowest perception of their professional identity (78.07). Moreover, the highest mean score perceived by practicing nurses was in professional identity (62.68), followed by professional ethics (57.07) and, finally, professional behaviors (54.34). In this context, the total mean score of professionalism items among nurses' students (80.11) was higher than in practicing nurses (54.62). Therefore, the student nurses' perception was higher in all professionalism dimensions compared to the nurses with highly statistically significant differences among all professionalism dimensions in both studied groups

Figure 1 presents the total professionalism scales as perceived by nurses and nursing students. The perception of nurses' students for total professionalism scales represented mostly in high (59%) and moderate (37.9%) levels. While the perception of practicing nurses for total professionalism scales represented in low (78.5%) and moderate (21.5%) levels.

Table 6 clarifies the correlation between nurses' perception of professional attributes and their demographic data. There were no significant differences among the nurses' total perception of professional attributes and their demographic characteristics. Otherwise, statistically significant differences were found among nurses' professional identity regarding their age ($r=2.38$, $p<0.01851$), years of experiences ($r=1.99$, $p<0.04831$), educational level ($f=2.2$, $p<0.03883$) and working department ($f=3.88$, $p<0.0105$). On the other side, there

were significant differences among nurses' professional behaviors concerning the working department ($f=3.21$, $p<0.02479$).

Table 7 states the correlation between nursing students' perception of professionalism dimensions and their demographic data. It was apparent that there were statistically significant correlations between the total score of professionalism attributes and students' demographic characteristics (at $p<0.001$, $p<0.05$), except regarding their gender. Additionally, the dimensions of professionalism were significantly correlated with all students' demographic data.

Table (1): Frequency and percentage distribution of studied nurses' demographic characteristics (no. 149).

Nurses' demographic characteristics		
Items	No.	%
Age		
20 to >25 years	65	43.6
25 to > 30 years	73	49.0
30 or more	11	7.4
Mean±SD	25.28±2.67	
Gender		
Male	16	10.7
Female	133	89.3
Marital Status		
Single	18	12.1
Married	131	87.9
Educational level		
Postgraduate studies	17	11.4
Baccalaureate degree	101	67.8
Diploma degree	31	20.8
Years of experiences		
Less than five years	105	70.5
Five years or more	44	29.5
Mean±SD	3.59±2.08	
Working hours per week		
≥18 hrs./wk.	45	30.2
19-36 hrs./wk.	104	69.8
Working department		
NICU (Neonatal)	19	12.8
ICU (Neurology)	33	22.1
CCU (Cardiology)	38	25.5
ICU (General)	59	39.6
Shift preference		
Night	34	22.8
Afternoon	28	18.8
Morning	87	58.4
Type of contract		
Part-time	47	31.5
Full time	102	68.5

Table (2): Frequency and percentage distribution of studied students' demographic characteristics (no. 897).

Nursing students' demographic characteristics		
Items	No.	%
Age		
20-<21	57	6.4
21-<22	251	28.0
22-<23	218	24.3
23 or more	371	44.0
Mean±SD	22.02±0.99	
Gender		
Male	278	31.0
Female	619	69.0
Marital status		
Divorced	2	0.2
Widow	2	0.2
Single	711	79.3
Married	182	20.3
Academic Year		
Third-year	349	38.9
Fourth-year	248	27.6
Interns	300	33.4

6. Discussion

Nowadays, society is overwhelmed with technological changes that led the nursing profession to provide the clients with more significant ethical and philosophical challenges, therefore, creating a new approach of identifying professionalism is an essential demand (Wynd 2003; Ghadirian, Salsali & Cheraghi 2014). The nurses and nursing students have a responsibility and an obligation to demonstrate professionalism in their daily routine practice. The positive aspects of professionalism need to be recognized for facilitating retention of experienced nurses and favor of young students' entry into this viable career (Van e De Braganca & Nirmalab 2017). Thus, it becomes imperative to assess the status of professionalism attributes among undergraduates nursing students and nurses. This research aimed to assess the main attributes of professionalism as perceived by undergraduate nursing students and nurses.

The prominent finding of this study is that the undergraduate nursing students perceived the high mean scores in all attributes of professionalism more than the practicing nurses did with a statistically significant difference between both groups. The possible reason for this finding is that the professionalism curve may be changed considerably during the socialization process of nursing students starting from entry-level into education until they are involved in real situations practice. This finding may also refer to the nursing student is taught under strict discipline, continuous supervision from their teachers, presence of role models, and availability of supportive educational environment.

Table (3): Frequency and percentage distribution of nurses' perception of professionalism dimensions (no. 149).

Professionalism Subscales (nurses)	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
	No.	%	No.	%	No.	%	No.	%	No.	%
Professional identity:										
Be pleased to belong to this profession.	32	21.5	38	25.5	34	22.8	43	28.9	2	1.3
Proud to work or study in this profession.	17	11.4	41	27.5	43	28.9	32	21.5	16	10.7
Create a positive image about this profession with my personality and behaviors.	0	0.0	9	6.0	52	34.9	59	39.6	29	19.5
Think that nursing profession is more essential for society than any other job.	6	4.0	61	40.9	42	28.2	21	14.1	19	12.8
Focus all efforts on the patients while caring them.	1	0.7	7	4.7	35	23.5	71	47.7	35	23.5
Help to disseminate the false information regarding the profession and professional practices.	60	40.3	59	39.6	30	20.1	0	0.0	0	0.0
Document patients' information accurately and completely.	12	8.1	26	17.4	33	22.1	57	38.3	21	14.1
Wear official uniform and keep physical appearance.	7	4.7	17	11.4	20	13.4	69	46.3	36	24.2
Participate in nursing research.	42	28.2	64	43.0	15	10.1	20	13.4	8	5.4
Have decision-making autonomy especially in critical situation.	47	31.5	62	41.6	19	12.8	13	8.7	8	5.4
Seek for additional continuing education to update my knowledge and skills.	12	8.1	29	19.5	28	18.8	65	43.6	15	10.1
Look for membership in nursing association.	99	66.4	31	20.8	8	5.4	11	7.38	0	0.0
Professional ethics:										
Report about unethical behaviors or practices.	35	23.5	64	43.0	28	18.8	16	10.7	6	4.0
Report for any illegal behaviors or practices.	49	32.9	73	49.0	19	12.8	7	4.7	1	0.7
Use code of ethics as a guide for practice.	26	17.4	3	2.0	50	33.6	27	18.1	43	28.9
Cheat for achieving higher bonus.	73	49.0	65	43.6	10	6.7	1	0.7	0	0.0
Treat all patients equally regardless of their religion, education, or economic status.	5	3.4	17	11.4	25	16.8	78	52.3	24	16.1
Safeguard patients' right to privacy.	0	0.0	7	4.7	36	24.2	68	45.6	38	25.5
Keep the patient related information securely and confidentially.	0	0.0	5	3.4	26	17.4	86	57.7	32	21.5
Act as an advocate for patients, family, community and profession.	8	5.4	42	28.2	30	20.1	50	33.6	19	12.8
Provide the service in a respectful manner regardless of patients' personal attributes.	7	4.7	27	18.1	19	12.8	65	43.6	31	20.8
Treat patients with empathy and rapport.	2	1.3	5	3.4	27	18.1	56	37.6	59	39.6
Respect the individuals who have experiences more than I have.	6	4.0	48	32.2	28	18.8	45	30.2	22	14.8
Request consultation or advice when unable to meet the patient needs.	1	0.7	8	5.4	19	12.8	84	56.4	37	24.8
Professional values:										
Know my responsibilities and accept the consequences for own practice.	15	10.1	34	22.8	29	19.5	56	37.6	15	10.1
Complete my assigned work independently without any supervision or monitoring.	29	19.5	63	42.3	22	14.8	29	19.5	6	4.0
Initiate action to produce high quality work.	16	10.7	34	22.8	30	20.1	46	30.9	23	15.4
Work organized, well prepared and timely.	34	22.8	13	8.7	16	10.7	36	24.2	50	33.6
Accept to participate in patients' care if in ethical opposition to own professional values	34	22.8	57	38.3	20	13.4	30	20.1	8	5.4
Accept the negative criticism.	23	15.4	53	35.6	36	24.2	33	22.1	4	2.7
Accept orders and decisions from the supervisors/instructors in authority.	8	5.4	23	15.4	17	11.4	66	44.3	35	23.5
Follow written rules and regulation in the institution.	6	4.0	10	6.7	26	17.4	75	50.3	32	21.5
Establish relationships with all health team members without any discrimination.	23	15.4	29	19.5	22	14.8	60	40.3	15	10.1
Talk with diplomacy when expressing ideas and expressions.	15	10.1	39	26.2	35	23.5	45	30.2	15	10.1
Communicate effectively both verbally and nonverbally with patients and other healthcare	5	3.4	16	10.7	28	18.8	68	45.6	32	21.5
Able to assess patients' problems independently.	14	9.4	32	21.5	30	20.1	50	33.6	23	15.4
Have enough knowledge and skills to do the assigned work.	4	2.7	11	7.4	19	12.8	66	44.3	49	32.9
Show creativity by catching opportunities that enhances nursing profession.	56	37.6	64	43.0	20	13.4	6	4.0	3	2.0
Commit to help and care of patients.	0	0.0	0	0.0	20	13.4	93	62.4	36	24.2
Promote collaboration with other healthcare providers	10	6.7	30	20.1	39	26.2	54	36.2	16	10.7

Table (4): Frequency and percentage distribution of nursing students' perception of professionalism dimensions (no. 897).

Professionalism Subscales (nurse students)	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
	No.	%	No.	%	No.	%	No.	%	No.	%
Professional identity										
Be pleased to belong to this profession.	52	5.8	68	7.6	183	20.4	395	44.0	199	22.2
Proud to work or study in this profession.	40	4.5	73	8.1	154	17.2	426	47.5	204	22.7
Create a positive image about this profession with my personality and behaviors.	10	1.1	20	2.2	85	9.5	419	46.7	363	40.5
Think that nursing profession is more essential for society than any other job.	14	1.6	34	3.8	105	11.7	346	38.6	398	44.4
Focus all efforts on the patients while caring them.	11	1.2	23	2.6	54	6.0	407	45.4	402	44.8
Help to disseminate the false information regarding the profession and professional practices.	500	55.7	217	24.2	58	6.5	75	8.4	47	5.2
Document patients' information accurately and completely.	6	0.7	8	0.9	72	8.0	379	42.3	432	48.2
Wear official uniform and keep physical appearance.	11	1.2	7	0.8	28	3.1	323	36.0	528	58.9
Participate in nursing research.	12	1.3	100	11.1	211	23.5	367	40.9	207	23.1
Have decision-making autonomy especially in critical situation.	7	0.8	46	5.1	131	14.6	431	48.0	282	31.4
Seek for additional continuing education to update my knowledge and skills.	5	0.6	4	0.4	73	8.1	411	45.8	404	45.0
Look for membership in nursing association.	206	23.0	104	11.6	183	20.4	189	20.0	215	24.0
Professional ethics										
Report about unethical behaviors or practices.	19	2.1	23	2.6	91	10.1	389	43.4	375	41.8
Report for any illegal behaviors or practices.	19	2.1	23	2.6	121	13.5	388	43.3	346	38.6
Use code of ethics as a guide for practice.	4	0.4	12	1.3	99	11.0	451	50.3	331	36.9
Cheat for achieving higher bonus (i.e. grades, money etc.).	461	51.4	206	23.0	75	8.4	90	10.0	65	7.2
Treat all patients equally regardless of their religion, education, or economic status.	5	0.6	1	0.1	19	2.1	174	19.4	698	77.8
Safeguard patients' right to privacy.	3	0.3	5	0.6	48	5.4	302	33.7	539	60.1
Keep the patient related information securely and confidentially.	6	0.7	2	0.2	36	4.0	290	32.3	563	62.8
Act as an advocate for patients, family, community and profession.	3	0.3	3	0.3	58	6.5	383	42.7	450	50.2
Provide the service in a respectful manner regardless of patients' personal attributes.	8	0.9	13	1.4	60	6.7	401	44.7	415	46.3
Treat patients with empathy and rapport.	4	0.4	14	1.6	69	7.7	371	41.4	439	48.9
Respect the individuals who have experiences more than I have.	11	1.2	11	1.2	29	3.2	339	37.8	507	56.5
Request consultation or advice when unable to meet the patient needs.	20	2.2	14	1.6	29	3.2	307	34.2	527	58.8
Professional values										
Know my responsibilities and accept the consequences for own practice.	3	0.3	17	1.9	45	5.0	451	50.3	381	42.5
Complete my assigned work independently without any supervision or monitoring.	19	2.1	116	12.9	98	10.9	349	38.9	315	35.1
Initiate action to produce high quality work.	6	0.7	13	1.4	84	9.4	439	48.9	355	39.6
Work organized, well prepared and timely.	6	0.7	14	1.6	79	8.8	396	44.1	402	44.8
Accept to participate in patients' care if in ethical opposition to own professional values	177	19.7	228	25.4	171	19.1	188	21.0	133	14.8
Accept the negative criticism.	67	7.5	53	5.9	142	15.8	413	46.0	222	24.7
Accept orders and decisions from the supervisors / instructors in authority.	8	0.9	13	1.4	75	8.4	447	49.8	354	39.5
Follow written rules and regulation in the institution.	16	1.8	14	1.6	52	5.8	389	43.4	426	47.5
Establish relationships with all health team members without any discrimination.	17	1.9	12	1.3	93	10.4	379	42.3	396	44.1
Talk with diplomacy when expressing ideas and expressions.	4	0.4	29	3.2	118	13.2	455	50.7	291	32.4
Communicate effectively both verbally and nonverbally with patients and other healthcare	26	2.9	25	2.8	89	9.9	442	49.3	315	35.1
Able to assess patients' problems independently.	3	0.3	27	3.0	160	17.8	391	43.6	316	35.2
Have enough knowledge and skills to do the assigned work.	12	1.3	25	2.8	142	15.8	428	47.7	290	32.3
Show creativity by catching opportunities that enhances nursing profession.	7	0.8	10	1.1	108	12.0	396	44.1	376	41.9
Commit to help and care of patients.	4	0.4	3	0.3	62	6.9	367	40.9	461	51.4
Promote collaboration with other healthcare providers	8	0.9	9	1.0	48	5.4	393	43.8	439	48.9

Table (5): Comparison of nurses and nursing students’ perception of professionalism dimensions.

Professionalism dimensions	Nurses		Students’ Nurses		Z	P-Value	
	Mean	SD	Mean	SD			
Professional Identity	62.68	13.05	78.07	14.06	12.50	0.000000	P <0.001
Professional Ethics	57.07	6.88	83.14	11.19	27.56	0.000000	P <0.001
Professional Behaviors	54.34	6.08	79.06	11.55	25.55	0.000000	P <0.001
Total Professionalism	56.62	4.13	80.11	10.07	28.07	0.000000	P <0.001

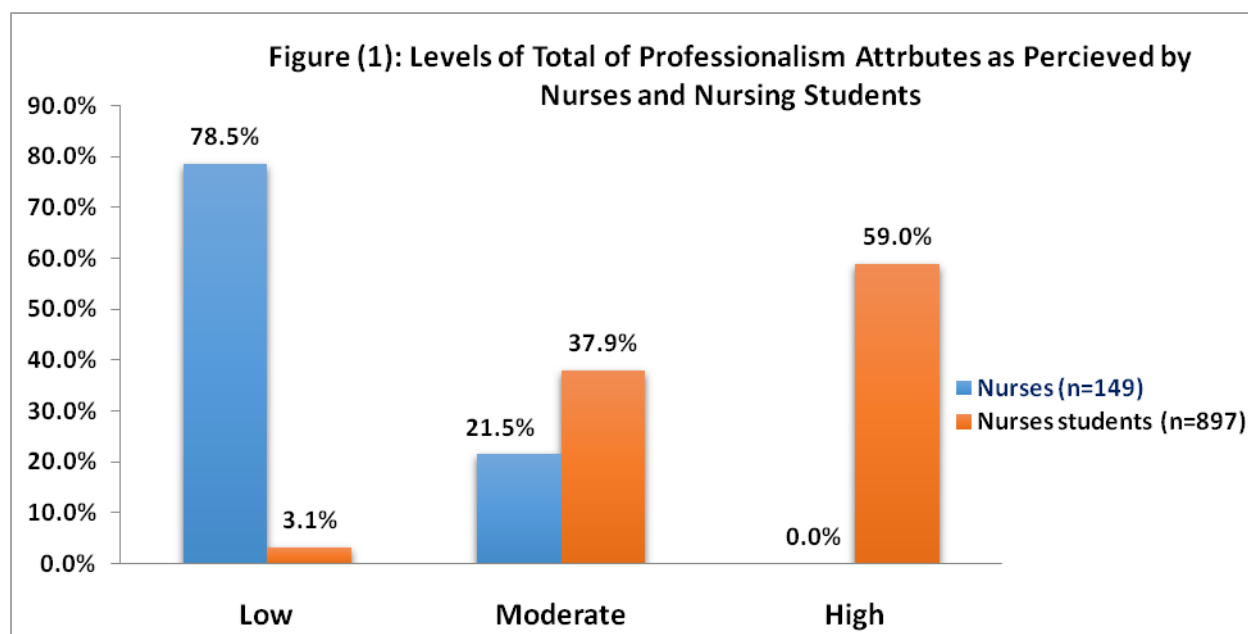


Table (6): Correlation between nurses’ perception of professionalism attributes and their demographic data.

Demographic data		Professional Identity	Professional Ethics	Professional Behaviors	Total Professionalism
Age	20 to 24 years	r	2.38	0.045	0.009
	25 to 29 years	P-value	0.01851	0.58766	0.90988
	30 or more				0.98141
Years of experiences	Less than five years	r	1.99	0.05	0.12
	Five years or more	P-value	0.04831	0.53483	0.14987
Gender	Male	t	0.78	1.02	0.43
	Female	P value	0.43601	0.3117	0.6682
Marital status	Single	t	0.050	0.45	0.46
	Married	P-value	0.54516	0.65676	0.64527
Working hours	18 hrs./wk.	t	1.71	1.13	0.59
	36 hrs./wk.	P-value	0.08965	0.26186	0.55456
Type of contract	Part-time	t	0.04	1.05	0.02
	Full time	P-value	0.64728	0.29653	0.98037
Educational level	Postgraduate	f	2.2	1.55	1.81
	BSN	P-value	0.03883	0.21503	0.16661
	Diploma degree				0.82956
Shift preferences	Night	f	0.74	0.21	2.22
	Afternoon	P-value	0.47745	0.8139	0.11268
	Morning				0.31914
Working departments	Neonatal	f	3.88	0.43	3.21
	Neurology ICU	P-value	0.0105	0.73178	0.02479
	Cardiology ICU				1.68
	Medical ICU				0.17425

Table (7): Correlation between nursing students' perception of professionalism dimensions and their demographic data.

Demographic data			Professional Identity	Professional Ethics	Professional Behaviors	Total Professionalism
Age	20 years					
	21 years	F	3.16	5.23	15.28	11.43
	22 years	P-value	0.02412	0.00139	0.00000	0.00000
Gender	23 years or more					
	Male	t	3.10	3.69	2.25	0.62
	Female	P value	0.00200	0.00024	0.02447	0.53423
Marital status	Divorced					
	Widow	t	3.57	1.83	1.89	2.55
	Single	P-value	0.00037	0.03389	0.05921	0.01088
Academic year	Married					
	Third	F	8.61	32.92	92.27	69.54
		P-value	0.00020	0.00000	0.00000	0.00000

In this aspect, an Iranian study conducted by *Poorchangizi, Borhani, Abbaszadeh, Mirzaee and Farokhzadian (2019)*, who found that nursing students had high awareness and perception regarding the importance of professional values. On the contrary, *Karadag, Hisar, Çelik, and Baykara (2016)* suggested that the total mean score of nursing students' professionalism attitudes subscales was relatively low.

The present study findings illuminated that the undergraduate nursing students experienced the highest mean score in a professional ethics dimension, especially in the areas of patients' rights, followed by colleagues' rights then code of ethics. Concerning professional behaviors' dimension, the students distinguished in the areas of obeying orders, followed by commitment and collaboration, after that communication skills, carrying responsibility, and finally accepting criticism. The students were featured in the areas of physical appearance, continuing education, caring of the patient, decision-making autonomy, nursing image, and research regarding the professional identity dimension. Nevertheless, the students have the lowest score in the area of looking for membership in the nursing associations.

These findings reflected the conscious and deliberate efforts of teachers for creating positive climates that encourage the development of ethical student behaviors. In this scene, *Karadag, Hisar, Çelik, and Baykara (2016)* conducted a study on 1474 undergraduate students of the final academic year that were randomly selected from 25 nursing schools in Turkey. The findings of previous research indicated that the professional attitudes of nursing students were high in subscales of autonomy, community service, and competence, continuous education, while the students were relatively low in contribution to scientific knowledge, and cooperation.

Additionally, *Ayla, Ozyazicioglu, Atak, and Surenler (2018)* found a good level of professional values among a first and fourth academic year of nursing students, and they determined gender, class level, willingness to make an academic career, willingness to attend scientific meeting and satisfaction with the profession as factors affecting development of professional values. *Kim and Kim (2016)* confirmed that nursing professionalism begins to be

developed during clinical training and continuously grows during career practice that becomes stronger between 3 to 5 years after graduation.

On the other hand, the nurses experienced the highest mean score in the professional identity dimension, especially in the areas of caring of the patient, physical appearance, and continuing education. Besides, they obtain a very low score in obtaining membership in the nursing association, decision-making autonomy, and nursing research areas. The nurses recorded a satisfying score in patients' and colleagues' rights of professional ethics' dimension. Also, they had low scores regarding the code of ethics and acceptable scores in the areas of compliance with orders, commitment, and collaboration. However, they obtain a marginal score in the area of accepting criticism, obeying orders, and communication skills. □

These findings can be explained that nursing is a high demand job, has a lack of social support. Therefore, nurses continuously experienced fatigue, exhaustion, and health problems when struggling for adaptation to stressful working conditions. Results were quite similar to a Turkish study offered by *Dikmen, Karatas, Arslan, and Ak (2016)*, who studied the level of professionalism among 89 nurses working in a public hospital, which revealed low nurses' professionalism level where the highest levels of professionalism attributes were in areas of competence and continuing education, while the lowest areas were in autonomy, publication, and research. These findings are incompatible with *Yüksekol and Atalay's (2017)* study, who reported that nurses gained high scores in conducting scientific research, qualifications, and continuous education, while the lowest scores assigned for connection with colleagues and patients.

In this context, *Tanaka, Taketomi, Yonemitsu, and Kawamoto (2015)* compared the professional behaviors among nurse leaders in the United States of America and Japan, which found out that the nurses' professionalism subscales were high in the USA in educational preparation, theory development, self-regulation and autonomy, community service, whereas publication and communication, and research development was high in Japan.

On another scene, Fisher (2014) conducted a study of professional value development among 69 associate degree (AD), 97 diploma, and 39 Bachelor of Science (BSN) nursing students, who revealed no statistical significance between beginning and senior-levels of ADN and BSN students regarding the overall scores of professional values, but significance was seen among levels of diploma participants. The author indicated that personal values and morals should be formulated in the nursing profession code of ethics during students' advancement along the continuum of professionalism.

The study findings reflected that the nurse students' perception of total professionalism attributes represented mostly in both high (59%) and moderate (37.9%) levels. While the nurses' perception of total professionalism attributes represented in both low (78.5%) and moderate (21.5%) levels. These findings were in the same line with Karadag, Hisar, and Elbas, (2007) findings, who showed that nurses working inwards with associate degrees were lower in professionalism attributes. The previous study considered the educational level at the baccalaureate degree as one of the prerequisites of a profession in any discipline, especially in nursing.

Besides, there were statistically significant differences between both groups regarding professionalism subscale. This finding can be explained due to coherent and interference among nursing profession ethics, behaviors, and identity. The students' perceptions of professionalism were promoted by their current educational process that enhances professional ethics, behaviors, and identity. In this perspective, the study of Kavas, Demirören, Koşan, Karahan, and Yalim (2015) pointed out that the structured educational activities concerning professionalism are considerably limited due to informal, hidden curricula.

The result of the current study pointed out that no significant correlation among the nurses' total perception of professionalism attributes and their demographic characteristics. However, a significant correlation was found among nurses' professional identity regarding their age, years of experiences, educational level, and working department. These mean that nurses with increasing age, the greatest amount of experiences, highly qualified education, and place of the working department had the highest mean scores of professionalism attributes and knew the essence of nursing profession identity.

On the other side, the nurses' professional behaviors affected by the place of the working department only. Similarly, Iranian research developed by Doost, Moghadas, Momeni, and Rafiei (2016) on registered nurses in two teaching hospitals found out that nurses had a moderate level of professionalism, which positively and significantly correlated with their age and years of experience at $p < 0.05$.

In this regard, Wynd (2003) argued that nursing is a less attractive profession due to poor working conditions, low salaries, adherent stigma, and lack of power. The view restricted the development of professionalism processes in a nursing career. Therefore, Karadag et al. (2016), Ayla et al. (2018) stated that nursing educators and managers need to provide nurses with unique opportunities for professional

advancement through encouraging them to participate in educational nursing programs for fostering their professionalism, job satisfaction, and retention.

Furthermore, statistically significant correlations were apparent between the total scores of professionalism attributes and students' age, marital status, and academic years. Also, the dimensions of professionalism were significantly correlated with all students' demographic data. These findings may be due to each student enters into the nursing program with a great view about the profession and set of values that magnified during the teaching and learning processes. In this aspect, Donmez and Ozsoy (2016) conducted a cross-sectional study involving 1432 nursing students selecting by stratified sampling from different academic years studying in a nursing faculty in Western Turkey. This study found out that female student aged between 18 and 20 and had intentionally chosen the profession had higher and stronger professional values more than male students.

The truth cannot be overlooked that acquiring nursing professionalism is central to professional development. The professional behaviors bounce both nursing education and profession that shape the present and future education strategies and acquiring the privileges of professional status (Donmez & Ozsoy 2016, Van e De Bragancaa & Nirmalab 2017).

7. Conclusion

In conclusion, the current study findings illuminated that the development of professionalism in nursing is an essential feature of the nursing profession and practice. The study findings illuminated that the perception of nurses' students for total professionalism dimensions represented mostly in high and moderate levels, while the perception of practicing nurses embodied in low and moderate levels. The total mean score of professionalism subscales among nurse students was higher than in practicing nurses. Statistically significant correlations were found between the overall scores of professionalism attributes dimensions and subscales with demographic characteristics of students except for their gender.

In the nursing professionalism dimensions subscales, the nurse students' scores of patients and colleagues' rights, obeying orders, commitment, and collaboration, physical appearance, continuing education, caring of patient, autonomy, positive image, and research were found to be higher. While the nurses' professionalism dimensions subscales were proportionally higher in caring of the patient, physical appearance, and continuing education, while they were very low score in membership in the nursing association, autonomy, and research areas.

8. Recommendations

Because of these findings, the present study recommended the following:

- Involvement of the professionalism issues in different courses of nursing education curriculum accompanied by training.

- Encouragement of nurses and students' participation in scientific research activities, including: Membership in professional organizations or associations, attending nursing conferences/workshops/symposiums as a producer or consumer, and fellowship.
- Establishment of a collaboration between nurse leaders' academicians and hospital administrators to create policies and expand opportunities for the professionalism of nurses as well as getting prestige and value as a career.
- Clinical tutors and school educators act as behavioral models among their nursing students and for nurses in the clinical setting.
- Presenting periodic workshops and seminars about professionalism for both undergraduate nursing students and nurses.
- Planning to carry out projects as an educational strategy aiming to build professionalism process among undergraduate nursing students.
- Conducting longitudinally future studies throughout teaching the nursing curriculum in order to assess the development of professionalism and determine the factors affecting these developments.
- Further researches are recommended on professionalism, particularly among nurses in Egypt.

10. References

- Adams, D., & Miller, B. K. (2001).** Professionalism in nursing behaviors of nurse practitioners. *Journal of Professional Nursing*, 17(4), 203-210. <https://doi.org/10.1053/jpnu.2001.25913>
- Alidina, K. (2013).** Professionalism in post-licensure nurses in developed countries. *Journal of Nursing Education and Practice*, 3(5), 128-137. <https://doi.org/10.5430/jnep.v3n5p128>
- Altiok, H. Ö., & Üstün, B. (2014).** Meaning of professionalism in nursing students. *American International Journal of Social Science*, 3(6), 48-60. https://www.researchgate.net/publication/330753797_Meaning_of_Professionalism_in_Nursing_Students.
- Arceciado Maranon, A. & Isla Pera, M. P. (2015).** Theory and practice in the construction of professional identity in nursing students: A qualitative study. *Nurse Educ Today*, 35(7), 859-863. <https://doi.org/10.1016/j.nedt.2015.03.014>
- Ayla, I. A., Ozyazicioglu, N., Atak, M., & Surenlir, S. (2018).** Determination of professional values in nursing students. *International Journal of Caring Sciences*, 11(1), 254-261. http://www.internationaljournalofcaringsciences.org/docs/29_ozyazicioglu_original_11_1_2.pdf.
- Black, B. P. (2016).** *Professional Nursing: Concepts and Challenges*, 8th ed. St. Louis, Missouri: Elsevier, 52-60.
- Danesh, N. A., Baumann, A., Kolotylo, C., Lawlor, Y., Tompkins, C., & Lee, R. (2013).** Perceptions of professionalism among nursing faculty and nursing students. *Western Journal of Nursing Research*, 35(2), 248-271. <https://doi.org/10.1177/0193945911408623>.
- Dikmen, Y., Karatas, H., Arslan, G. G., & Ak, B. (2016).** The level of professionalism of nurses working in a hospital in Turkey. *Journal of Caring Sciences*, 5(2), 95-102. <https://doi.org/10.15171/jcs.2016.010>
- Donmez, R. O., & Ozsoy, S. (2016).** Factors influencing the development of professional values among nursing students. *Pakistan journal of medical sciences*, 32(4), 988-993. <https://doi.org/10.12669/pjms.324.10616>
- Doost, F. H., Moghadas, T., Momeni, M., & Rafiei, H. (2016).** Factors Influencing Professionalism: A Cross-Sectional Study among Iranian Registered Nurses. *IOSR Journal of Nursing and Health Science (IOSR-JNHS)*, 5(3), 47-49. <https://doi.org/10.9790/7388-0603024749>
- Fenwick, T. (2016).** *Professional responsibility and professionalism: a socio-material examination*. 1st ed., London & New York, Routledge. 1-20.
- Fisher, M. (2014).** A comparison of professional value development among pre-licensure nursing students in associate degree, diploma, and a bachelor of science in nursing programs. *Nurs Educ Perspect*, 35(1), 37-42. <https://doi.org/10.5480/11-729.1>.
- Ghadirian, F., Salsali, M., & Cheraghi, M. A. (2014).** Nursing professionalism: An evolutionary concept analysis. *Iranian Journal of Nursing and Midwifery Research*, 19(1), 1-10. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3917177/>.
- Ibrahim, S. A. E., & Qalawa, S. A. (2016).** Relationship between faculty staff professionalism and nursing students' values. *Journal of Nursing Education and Practice*, 6(9). doi:<http://dx.doi.org/10.5430/jnep.v6n9p38>
- Kangasniemi, M., Pakkanen, P., & Korhonen, A. (2015).** Professional ethics in nursing: an integrative review. *J Adv Nurs*, 71(8), 1744-1757. <https://doi.org/10.1111/jan.12619>
- Karadag, A., Hisar, F., Çelik, B., & Baykar, Z. G. (2016).** Determining professionalism in Turkish student nurses. *International Journal of Human Sciences*, 13(1), 674-682. <https://doi.org/10.14687/ijhs.v13i1.2976>.
- Karadag, A., Hisar, F., & Elbas, N. O. (2007).** The level of professionalism among nurses in Turkey. *J Nurs Scholarsh*, 39(4), 371-374. <https://doi.org/10.1111/j.1547-5069.2007.00195.x>.
- Kavas, M. V., Demirören, M., Koşan, A. M. A., Karahan, S. T., & Yalim, N. Y. (2015).** Turkish students' perceptions of professionalism at the beginning and the end of medical education: a cross-sectional qualitative study. *Medical education online*, 20, 26614-26614. <https://doi.org/10.3402/meo.v20.26614>.
- Kim, I., & Kim, J. (2016).** The Relationship between nurse image and nursing professionalism, according to nursing students' gender. *Advanced Science and Technology*, 132, 30-36. <https://doi.org/10.14257/ASTL.2016.132.06>
- Evans, L. (2008).** Professionalism, Professionality, and the Development of Education Professionals. *British Journal of Educational Studies*, 56(1), 20-38. <https://doi.org/10.1111/j.1467-8527.2007.00392.x>
- Ousey, K. (2009).** Socialization of student nurses—the role of the mentor. *Learning in Health and Social Care*, 8(3), 175-184. <https://doi.org/10.1111/j.1473-6861.2008.00209.x>
- Polit, D. F., & Beck, C. T. (2018).** *Essentials of Nursing Research: Appraising Evidence for Nursing Practice*, 9th ed. Philadelphia: Wolter Kluwer, 137-160.

Poorchangizi, B., Borhani, F., Abbaszadeh, A., Mirzaee, M., & Farokhzadian, J. (2019). The importance of professional values from nursing students' perspectives. *BMC Nursing*, 18(1), 26. <https://doi.org/10.1186/s12912-019-0351-1>

Registered Nurses Association of Ontario (RNAO) (2007). *Professionalism in Nursing: Healthy Work Environments Best Practice Guidelines, available at http://www.rnao.org/Storage/28/2303_BPG_Professionalis m.pdf.*"

Rowland, A. W. (2016). What is Professionalism? The validation of a comprehensive model of professionalism. Masters Theses & Specialist Projects. Paper 1741. <https://digitalcommons.wku.edu/theses/1741/>.

Tanaka, M., Taketomi, K., Yonemitsu, Y., & Kawamoto, R. (2015). An international comparison of professional behaviors among nurse leaders in the U.S.A. and Japan, *J Nurs Clin Pract*, 2, 113. doi: <http://dx.doi.org/10.15344/2394-4978/2015/113>

Vaz e De Braganca, A. & Nirmalab, R. (2017). Professionalism among Nurses: A concept analysis. *International Journal of Business and Management Invention*, 6(7), 60-66.

[https://www.ijbmi.org/papers/Vol\(6\)7/Version4/I0607046066.pdf](https://www.ijbmi.org/papers/Vol(6)7/Version4/I0607046066.pdf).

Wills, N. L., Wilson, B., Woodcock, E. B., Abraham, S. P., & Gillum, D. R. (2018). Appearance of nurses and perceived professionalism. *International Journal of Studies in Nursing*, 3(3). <https://doi.org/10.20849/ijsn.v3i3.466>.

Wuerz, L. A. (2017). The Influence of leadership on nursing professionalism, nursing department. College of Health Sciences, Walden University. Doctoral dissertation: 1-115.

<https://scholarworks.waldenu.edu/cgi/viewcontent.cgi?article=5594&context=dissertations>

Wynd, C. A. (2003). Current factors contributing to professionalism in nursing. *Journal of Professional Nursing*, 19(5), 251-261. [https://doi.org/10.1016/s8755-7223\(03\)00104-2](https://doi.org/10.1016/s8755-7223(03)00104-2)

Yükseköl, Ö. D. & Atalay, M. (2017). Evaluation of professionalism of nurses in the city center of Elazığ, Turkey *International Journal of Health Services Research and Policy*, 2(1), 14-20.

<https://doi.org/10.23884/ijhsrp.2017.2.1.03>