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EVALUATION OF THE INDIVIDUAL INNOVATION STATUS OF THE NURSES

HEMŞİRELERİN BİREYSEL YENİLİKÇİLİK DURUMLARININ DEĞERLENDİRİLMESİ

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ABSTRACT

Objective: Innovation is of great importance in improving the quality of care. Nurses must apply creative techniques and improve existing procedures to create greater care opportunities. Additionally, nurses that have unique ideas should be encouraged to pursue them, and those that are successful should be recognized and rewarded. Because revealing the innovative role of nurses in health care is of great importance in terms of improving both public health and professional knowledge. In line with these importance and suggestions, it was aimed to evaluate the individual innovativeness levels of nurses in this study.

Method: The cross-sectional study was conducted with 427 nurses working at the Health Practice and Research Center of a university, who continued to work between the application dates (April-May 2019) and agreed to participate in the research. Ethics Committee (Decision No: 2019-04/52), institutional permission and written and verbal consent from the nurses were obtained for the research. The data of the research were collected by using the "Personal Information Form" and the "Individual Innovation Scale". The data obtained from the study were evaluated by applying the relevant statistical tests in the SPSS 22.00 program.

Results: In this study, the mean score of the individual innovative scale was found to be 65.19 (8.16). When the individual innovative levels of nurses were evaluated according to this average, it was determined that 34.9% were skeptical, 34.4% questioning, 17.3% traditional, 12.2% pioneering and 1.2% innovative. It was determined that the nurses' being 41 and over, working in the profession for more than 21 years, being a member of a professional association and living in the city center affected their individual innovativeness scores statistically.

Conclusion: The results of the research revealed that being a high school and associate degree graduate, working as a clinical nurse and not needing to follow professional knowledge are risk factors for individual innovativeness. According to these results, it is seen that the innovativeness level of nurses is low. The results of the research revealed the need to increase the individual innovativeness level of nurses.

Key Words: Innovation, Nurse, Quality of Care

ÖZ

Amaç: Bakım kalitesinin iyileştirilmesinde inovasyon büyük önem taşımaktadır. Hemşireler, daha büyük bakım fırsatları yaratmak için yaratıcı teknikler uygulamalı ve mevcut prosedürleri geliştirmelidir. Ayrıca özgün fikirleri olan hemşireler bu fikirlerin peşinden gitmeye teşvik edilmeli, başarılı olanlar tanınmalı ve ödüllendirilmelidir. Çünkü sağlık hizmetinde hemşirelerin yenilikçi rolünün ortaya çıkarılması hem toplum sağlığının hem de mesleki bilginin geliştirilmesi açısından büyük önem taşımaktadır. Bu önem ve öneriler doğrultusunda bu çalışmada hemşirelerin bireysel yenilikçilik düzeylerinin değerlendirilmesi amaçlandı.

Yöntem: Kesitsel tipte olan araştırma, bir üniversitenin Sağlık Uygulama ve Araştırma Merkezi'nde çalışan, uygulama tarihleri (Nisan- Mayıs 2019) arasında görevine devam eden ve araştırmaya katılmayı kabul eden 427 hemşire ile yapıldı. Araştırma için, etik Kurulu (Karar No: 2019-04/52), kurum izni ve hemşirelerden yazılı-sözel onam alındı. Araştırmanın verileri "Kişisel BilgiFormu", "Bireysel Yenilikçilik Ölçeği" kullanılarak toplandı. Çalışmadan elde edilen veriler, SPSS 22.00 programında, ilgili istatistiksel testler uygulanarak değerlendirildi.

Bulgular: Bu araştırmada, bireysel yenilikçi ölçeği puan ortalaması 65.19 (8.16) olarak bulunmuştur. Bu ortalamaya göre hemşirelerin bireysel yenilikçi düzeyleri değerlendirildiğinde, %34.9'nun kuşkucu, %34.4'ünün sorgulayıcı, %17.3'ünün geleneksel, %12.2'sinin öncü ve %1.2'sinin yenilikçi olduğu belirlenmiştir. Hemşirelerin 41 ve üzeri yaşta olması, meslekte 21 yıldan fazla süredir çalışması, mesleki derneğe üye olması ve il merkezinde yaşaması bireysel yenilikçilik puanlarını istatistiksel olarak anlamlı şekilde etkilediği belirlendi.

Sonuç: Araştırma sonuçları hemşirelerin lise ve önlisans mezunu olması, klinik hemşiresi olarak çalışması ve mesleki bilgiyi takip etme gereksinimi duymamasının, bireysel yenilikçilik puanı için risk faktörü olduğunu ortaya koydu. Bu sonuçlara göre hemşirelerin yenilikçilik düzeyinin düşük olduğu görülmektedir. Araştırma sonuçları hemşirelerin bireysel yenilikçilik düzeyinin arttırılmasına yönelik gereksinimi ortaya koymuştur.

Anahtar Kelimeler: İnovasyon, Hemşire, Bakım Kalitesi

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INTRODUCTION

Making something new and different is considered innovation, that is, innovation with its widespread use [1]. The Latin term "innovates," which refers to the use of innovative methods in social, cultural, and administrative situations, is the root of the English word "innovation"[2]. Innovation is also expressed as a permanent feature or tendency that determines how an individual perceives and responds to an innovation.

Today, innovation is widely used in business management, technology, engineering and education [3]. The health care system also places a high value on innovation because advances and innovations in the field immediately impact human lives and quality of life [4]. Additionally, as technology has advanced and consumer expectations for health services have grown, so too have investments in innovation and R&D activities [5]. Producing solutions with cutting-edge technology and education is crucial, in addition to creativity. These solutions must be affordable, accessible, and beneficial [6].

With the rapid development and progress of technology and health services, the demand for health services and the importance of patient care increase, and the role of nurses becomes more prominent [7]. Nurses who contribute to the preservation and promotion of health as well as the diagnosis, care, and rehabilitation of illnesses must continually update their skills to keep up with sociological, technological, economic, and social advancements [8]. With the complexity of patient care, innovative thinking and approaches in nursing are needed to keep up with the health care system, to manage global competition well and to increase the quality of care [9].

The International Council of Nurses (ICN) states that innovation is sorely needed in nursing practice in order to promote health, reduce risk factors for health disorders, prevent disease, improve healthcare attitudes, and enhance treatment strategies and processes [10]. Nursing innovative behavior does not only refer to technology innovation but should also encompass all aspects of the development of the nursing profession, such as management innovation, service innovation, educational innovation, public health, and policy innovation [11]. Today, with the increasing interest in innovation in nursing, many studies have been conducted to examine the innovative behavior level of nurses [12-18]. Studies have reported that nurses have moderate [18] and mostly high innovative behaviors [13,14,16,17,19]. In some studies, it has been found that the innovative behavior of nurses cannot meet the needs for the rapid development of nursing [20,21].

Considering the changes in health needs today, it is clear that the nursing profession needs creative, questioning individuals who can access, produce and use information resources [1]. For this reason, nurses who are open to change and questioning should adopt innovative approaches in their practices and improve existing practices [8,22]. In line with these importance and suggestions, the innovation status of nurses was examined in this study.

Research Questions

What are the individual innovativeness levels of nurses?

Is there a significant difference between the demographic characteristics of nurses and their individual innovativeness score averages?

Is there a relationship between nurses' characteristics of following scientific developments and using technology and their individual innovativeness score averages?

What are the predictors of nurses' individual innovativeness levels?

METHOD

Type of Study

This is a cross-sectional study.

Place, Population and Sample of the Research

The population of the research was formed by the nurses working in the "Health Practice and Research Center" located in the city center (n=527). No sample selection was made in the study. The sample was created with the total population sampling method [23].

427 volunteer nurses working between April 22 and May 6, 2019 were included in the study. The participation rate is 81.024 %.

Accepting to participate in the research and not being on leave between the application dates were taken as inclusion criteria for this research. Participants who wanted to withdraw from the study at any time during the research process were not included in the study.

The dependent variable of the research is the individual innovativeness level. Demographic characteristics, professional characteristics, following scientific developments and using technology were the independent variables.

Data Collection Tools

The data of the study were collected using the "Personal Information Form" and "Individual Innovation Scale" prepared by the researchers by scanning the literature on the subject.

Personal Information Form: The form consists of a total of 30 questions prepared by the researchers using the literature on the subject [24,25]. In form; 11 questions to determine the socio-demographic characteristics of nurses (age, gender, marital status, economic status, etc.), 9 questions about their professional status (department of work, working time, working hours, etc.), and their characteristics about following the innovations (The status of using the internet and technological devices, the status of following professional developments, etc. there are 10 questions to determine). The response time of the form varies between 10 and 15 minutes.

Individual Innovativeness Scale: Individual innovativeness scale (IIS) was developed by Hurt et al. [26] to evaluate individuals' innovativeness levels. The Turkish validity, reliability and nursing adaptation of the scale was made by Kemer and Altuntaş [24], it is a five-point Likert type and consists of 18 items. The scale consists of "opinion leadership: 7 items (1, 3, 4, 7, 8, 10, 11)", "resistance to change: " 7 items (5, 6, 9, 12, 13, 15, 18)" and " risk taking: It has three sub-dimensions: 4 items (2, 14, 16 and 17). 11 of the scale items (1-8, 10, 11, 14, 16, 17), 7 (5, 6, 9 12, 13, 15, 18) are negative. According to the calculation method developed with the adaptation study, negative items are scored in reverse; scale sub-dimension and total score values are obtained by summing the scores obtained from each item. The lowest 18 and the highest 90 points can be obtained from the scale. According to the scores calculated based on the scale, individuals who score above 80 are considered “Innovators,” between 69-80 are “Early Adopters”, between 57-68 are “Early Majority”, between 46-56 are “Late Majority”, and below 46 are “Laggards”. The Croanbach's alpha value of the scale is 0.87. The Croanbach's alpha value in this study is 0.82.

Application of Research

Research data were collected between 22 April and 6 May 2019 by third and fourth researchers. The nurses participating in the study were informed about the study and signed an informed consent form. Appropriate time and environment were planned with the nurses and they were provided to fill in the data collection forms.

Evaluation of Data

The data obtained from the research were analysed in the SPSS (Version: 25.0) program. The normal distribution of the data was

evaluated with the Kolmogrov Smirnov test. Number, percentage, mean and standard deviation were used for the presentation of the data. T-test (independent samples t-test), one-way analysis of variance (One-Way ANOVA) and logistic regression were used to evaluate the data. In statistical analysis, the level of significance was accepted as p<0.05.

Ethical Aspect of Research

The research was conducted in accordance with the Declaration of Helsinki. Ethical approval (decision no: 2019-04/52, date: 17.04.2019) and necessary institutional permissions for the study were obtained. In addition, written consent was obtained from the nurses participating in the study. The nurses were informed that confidentiality would be protected, and the data would only be used within the scope of the research.

RESULTS

88.1% of the nurses are women, 74% are between the ages of 20-40 and the average age is 34.35 (7.93). While 83.4% of the nurses with a bachelor's degree were in the sample group, only 23 nurses have a master's degree. More than half of the nurses are married, and their income is equal to their expenses. 72.6% of the nurses live in the city center. 60.4% of the nurses chose their profession unwillingly, 8% worked for less than a year, 40% worked 41-50 hours a week, 66% were employed in adult hospitals, 91.6% were clinical nurses and 38.6% were contracted. It has been determined that 19.9% of them are members of professional associations (Table 1). In addition, the difference between the nurses' age, place of residence, years of work in the profession, the unit they work, being a member of the association and the total score averages of the IIS is statistically significant (p<0.05) (Table 1).

38.6% of the nurses stated that they followed professional scientific studies through conference-seminar, library databases and journal subscription, respectively. Of those who did not follow, 63.1% stated that they could not follow scientific information due to not being able to allocate time, 30.6% having too many working hours, and 17.4% not needing it. When the methods and guides used by nurses during their nursing practices in the clinic are examined, 67.4% of the nurses exchange information with the healthcare team, 67% participate in in-service trainings, 40.7% participate in course-certificate programs, and 32.6% follow the guidelines for nurses working in the clinic and 25.3% stated that they follow the results of scientific studies. Only 18 nurses stated that they rarely follow technology 91.1% of the nurses stated that they use the internet, 71.9% use computers and 97.2% use smart phones (Table 2). The difference between nurses not needing to follow professional scientific studies, following technological developments, using internet and computer and IIS total scale score averages is statistically significant (p<0.05). At the same time, it was determined that there was a statistically significant difference between nurses' personal experience, participation in course certificate programs and following clinical guidelines for nurses and IIS score averages (p<0.05) (Table 2).
The mean score of the individual innovative scale was found to be 65.19 (8.16). When the individual innovative levels of nurses were evaluated according to this average, it was determined that 34.9% were skeptical, 34.4% questioning, 17.3% traditional, 12.2% pioneering and 1.2% innovative (Table 3).

According to the logistic regression analysis, it was observed that the variables of nurses being high school and associate degree graduates, not being able to follow the unit they work in and professional knowledge were effective on the individual innovativeness scale total score averages (p<0.05). It was determined that the individual innovativeness levels of nurses with high school and associate degree degrees were 2.295 times riskier than nurses who completed undergraduate and graduate education (odd=2.295, 95% CI 1.15-4.54).

Table 1. Distribution of nurses according to their demographic data and their professional characteristics according to the mean score of the IIS (n=427)

Personal characteristics		**n**	**%**	**IIS Total**
Gender	Female	376	88.1	65.26 (8.05)
	Male	51	11.9	64.68(9.01)
Test and *p* value		t=0.436, p=0.664		
Age groups	20-30 years	161	37.7	64.81(7.81)
	31-40 years	155	36.3	64.38(8.39)
	≥41 years	111	26.0	66.88 (8.16)
Test and *p* value		F=3.343, **p=0.036**		
	High School	18	3.0	60.76(3.74)
	Associate degree	35	8.2	63.77(7.10)
	Licence	356	83.4	65.42(8.32)
	Graduate	23	5.4	66.26 (8.41)
Test and *p* value		F=1.868, p=0.134		
Economic situation	Income less than expenses	130	30.4	65.30 (9.05)
	Income equals expense	237	55.5	65.26 (7.78)
	Income more than expenses	60	14.1	64.68 (7.69)
Test and *p* value		F=0.139, p=0.871		
Marital status	Married	290	67.9	65.32(7.97)
	Single	137	32.1	64.92(8.57)
Test and *p* value		t=0.457, p=0.648		
Residential area	Provincial	310	72.6	66.01 (7.95)
	City centre	117	27.4	63.49 (8.65)
Test and *p* value		F=7.039, p=0.001		
Willingly choose the profession	Yes	169	39.6	65.70 (7.75)
	No	258	60.4	64.86 (8.42)
Test and *p* value		F=0.652, p=0.521		
Years of work in the profession	<1 year	34	8.0	64.55 (7.18)
	1-5 years	88	20.6	64.90 (7.73)
	6-10 years	81	19.0	66.35 (8.86)
	11-15 years	73	17.1	62.27 (8.32)
	16-20 years	56	13.1	64.87 (6.77)
	≥21 years	95	22.2	67.13 (8.35)
Test and *p* value		F=3.449, **p=0.005**		
Weekly working hours	≤40 h	256	60.0	65.31 (7.90)
	41-50 h	171	40.0	65.01 (8.56)
Test and *p* value		t=0.370, p=0.711		
Hospital	Oncology	41	9.6	66.09 (7.38)
	Adult	282	66.0	65.03 (8.64)
	Children's	104	24.4	65.27 (7.08)
Test and *p* value		KW=0.510, p=0.775		
Working position	Clinical nurse	391	91.6	64.84 (8.20)
	Manager nurse	36	8.4	68.37 (7.77)
Test and *p* value		F=3.472, **p=0.016**		
How it works	Contractual	165	38.6	64.83 (7.87)
	Permanent staff	262	61.4	65.42(8.35)
Test and *p* value		Z=- 0.986, p= 0.324		
Professional association membership	Yes	85	19.9	67.40 (8.10)
	No	342	80.1	64.64 (8.09)
Test and *p* value		Z =-3.285, **p=0.001**		

Table 2. Distribution of nurses' characteristics of following scientific developments and using technology according to their IIS score averages (n=427)

Personal characteristics		**n**	**%**	**IIS Total**
The status of following professional scientific studies	Yes	108	25.3	67.59(7.38)
	No	319	74.7	64.38(8.26)
Test and *p* value		t=3.782, **p=0.000**		
Magazine subscription*	Yes	25	15.0	66.52(8.41)
	No	140	85.0	67.61(7.87)
Test and *p* value		t=- 0.604, p=0.550		
Attending Conferences-Seminars *	Yes	121	72.9	68.25(7.99)
	No	44	26.5	65.40(7.60)
Test and *p* value		t=2.097, **p=0.039**		
Exchange information with the healthcare team	Yes	288	67.4	65.60(8.38)
	No	139	32.6	64.35(7.64)
Test and *p* value		t=1.535, p=0.126		
Personal experience	Yes	300	70.3	66.15(7.94)
	No	127	29.7	62.94(8.25)
Test and *p* value		t=3.708, **p=0.000**		
Participate in course and certificate programs	Yes	174	40.7	67.65(7.49)
	No	253	59.3	63.50(8.18)
Test and *p* value		t=5.411, **p=0.000**		
Following clinical guidelines	Yes	139	32.6	66.42(7.67)
	No	288	67.4	64.60(8.33)
Test and *p* value		t=2.231, **p=0.026**		
Reason for not following professional scientific studies				
Working hours are too long*	Yes	37	30.6	60.97(7.38)
	No	84	69.4	62.22(9.00)
Test and *p* value		t=-0.802, p=0.425		
Not needing*	Yes	24	17.4	58.28(10.14)
	No	100	82.6	62.59 (8.01)
Test and *p* value		t=-2.132, **p=0.035**		
Inability to spare time*	Yes	79	63.1	62.59(8.48)
	No	45	36.9	60.73(8.57)
Test and *p* value		t=1.163, p=0.248		
The state of following technological developments	Often	202	47.3	**67.14 (7.91)**
	Sometimes	207	48.5	63.80 (7.77)
	Rarely	18	4.2	59.33 (9.65)
Test and *p* value		F=14.215, **p=0.000**		
Internet usage status	Yes	389	91.1	65.51 (8.13)
	No	38	8.9	61.92 (7.86)
Test and *p* value		t=-.683, **p=0.010**		
Use of computer	Yes	307	71.9	65.86 (8.14)
	No	120	28.1	63.49 (8.00)
Test and *p* value		t= 2.718, **p=0.007**		
Smartphone Usage	Yes	415	97.2	65.28 (8.19)
	No	12	2.8	62.16 (1.90)
Test and *p* value		t= 1.305, p=0.193		

**More than one option is marked*

Table 3. Age, IIS sub and total scale score averages and individual innovativeness levels of nurses

Variables	**Mean (SD)**	**Min-Max**
Age	34.35 (7.93)	20-60
Individual Innovation Scale total score average	65.19 (8.16)	31-90
Thought leadership subscale	24.81 (4.30)	8-35
Resistance to change subscale	24.29 (4.65)	9-35
Risk taking subsc	16.09 (2.25)	7-20
Individual innovative levels of nurses	**n**	**%**
Innovative (82 points and above)	5	1.2
Pioneer (75-82 points)	52	12.2
Inquisitor (between 66-74 points)	147	34.4
Skeptical (58-65 points)	149	34.9
Traditionalist (57 points and below)	74	17.3

When the individual innovativeness levels of the nurses are examined according to the unit they work, it was determined that the individual innovativeness levels of clinical nurses are 2.665 times more risky than executive nurses (odd=2.665, 95% CI 1.24-5.85). It was found that nurses who could not follow professional information had 2.170 times more risk in terms of individual innovativeness than nurses who followed professional information (odd=2.170, 95% CI 1.38-3.39) (Table 4).

DISCUSSION

The concept of innovation, which ensures raising the quality of life of the society, integrates with the nursing profession, which is responsible for protecting, maintaining and improving the health of individuals, families and groups living in the society with the care it provides. For this reason, it is important to reflect innovative behaviors in nursing care in order to better understand the individual innovative behavior of nurses and to make appropriate plans [27]. In this direction, the individual innovativeness of nurses was evaluated in this study.

In this study, nurses' individual innovativeness total scale score was 65.19 (8.16). When the studies are examined, it is seen that nurses have moderate [18] and mostly high level innovative behaviors [13, 14, 16, 17,19] have been reported. When the studies conducted in our country are examined, similar to the results of this research; In the study of Erol, Ünsar, Yacan, Güneş [2], the total scale score of individual innovativeness was 65.85±7.56. Öztaş, Kurt, and Uğurlu [28], on the other hand, reported the total mean score of the nurses' Individual Innovation Scale as 60.47±6.18. In Aktas, Bakan, Baysal's [29] study, which is quite lower than the results of this research, the mean score of nurses working in the family health center is 42.62±9.46.

In another study, nurses' individual innovativeness total scale score was found to be 70.71±9.79, which is higher than the result of our study [27]. There are also studies examining the individual innovativeness of student nurses. In the studies conducted, the scores of the student nurses are close to the working nurses and are 59.11±8.29, 63.12±7.70, 65.26±8.66, respectively [30-32]. As can be seen, nurses' innovativeness scores differ. It is thought that this difference is due to the fact that nurses are in different working environments and are exposed to different variables that affect innovative thinking. According to the results of this research, although the innovativeness score of nurses is above the average, it is not at the desired level. Based on this result, it can be said that the innovative thinking skills of the nurses participating in the research should be developed.

Table 4. Predictors of nurses' individual innovation levels

Variables	B	Standard error	Wald X^2 value	p	Odds Ratio	%95 Confidence Interval	
Age group / 20-30 age group	-0.021	0.319	0.004	0.948	0.979	0.525	1.368
Being an high school and associate degree graduate	0.831	0.348	5.687	**0.017**	2.295	1.159	4.542
Choosing/reluctantly choosing a profession	-0.165	0.244	0.458	0.499	0.848	0.525	1.368
Years of work/less than five years of work	-0.267	0.337	0.630	0.427	0.766	0.396	1.481
Being a unit/clinical nurse	0.980	0.401	5.973	**0.015**	2.665	1.241	5.851
No need to follow professional knowledge	0.775	0.229	11.489	**0.001**	2.170	1.387	3.397

Hosmer and Lemeshow Test: 0.802, Nagelkerke R Square: 0.091

Recently, the level of innovation performance of nurses and how to facilitate it has become the key point of nursing management [33]. According to individual innovativeness scale scores, innovativeness levels are classified as innovative, pioneering, questioning, skeptical and traditionalist [24]. The results obtained from this study revealed that the majority of nurses had skeptical and questioning characteristics. This result is similar to studies reporting that nurses are inquisitive [28, 34, 35]. In one study, it was emphasized that nurses were pioneers [27], while in another study, nurses were found to be moderately innovative [36]. In some studies, it has been reported that the innovative behavior of nurses is not at a level to meet the needs for the rapid development of nursing [20, 21]. Nurses, who are an important actor in the health team, need to be innovative in order to transfer technological developments to the health care service. According to these results, it is seen that the innovativeness level of nurses is low. The results of the research revealed the need to increase the individual innovativeness level of nurses.

Individual innovativeness scores of nurses are affected by some demographic characteristics. In this study, nurses' being 41 and over, working in the profession for more than 21 years, being a member of a professional association and living in the province affected the IIS scores statistically. In another study, it was found that there was a significant difference between the years of working in the profession of nurses and their individual innovativeness characteristics [37]. Similarly, in a study, it was stated that there is a positive relationship between professional experience and innovativeness [38]. Age, combined with years of experience, can enable nurses to try different practices in different environments and become open to innovative behaviors. Therefore, this result obtained from our research is an expected result. The high individual innovativeness score of nurses whose settlements are in the city center may be associated with greater exposure to different practices and easier access to technology.

People generally resist change, but by addressing their individual characteristics, obstacles that cause resistance to change can be identified and removed. Implementation of an evidence-based practice can be facilitated when individual barriers are reduced [36]. This study revealed that nurses' being high school and associate degree graduates are risk factors and predictors for individual innovativeness. In a qualitative study, it was emphasized that as the education level of nurses increased, their desire to look, seek, reach innovation, create change and apply the truth increased, education and innovative features were related to each other, and it was reported that education positively affected innovative features [39]. It is well known that when a nurse's education level rises, they work harder to advance themselves by keeping up with recent scientific publications, reading articles frequently, and taking part in activities like courses, conferences, and symposiums [2].

As the leaders who are closest to the point of care, nurse managers must be willing to adapt and use new concepts and innovations so that the clinical nurses they supervise can learn from their experience [40]. This research revealed that being a clinical nurse is a risk factor for individual innovativeness. Change in the practices of other nurses can be achieved through focused initiatives that provide opportunities for leadership and role models for responsible nurses. Developing a structure that includes responsible nurse leadership and allowing to be a role model for others can optimize innovative behaviors [36].

Self-awareness has a key role in initiating change [41]. The fact that not needing to follow professional knowledge is a risk factor and predicts individual innovativeness is another result of this research. On the other hand, nurses' characteristics of following scientific developments can also be effective on individual innovativeness levels. In the current study, it was determined that the individual innovative levels of nurses who do not need to follow professional scientific studies are low. However, it was determined that the individual innovativeness levels of nurses with personal experience, participation in course certificate programs and following clinical guidelines for nurses were higher. In a study, it was found that the individual innovative score average of nurses participating in research activities related to the nursing profession was statistically significantly higher [27]. These results show that these attitudes of nurses, who tend to be open to research and professional development, can positively affect their individual innovativeness levels.

Study Limitations

Only nurses working in a particular area were included in this study; therefore, the results cannot be generalized to other nurses and cannot be considered to be representative of other nurses. In addition, the data obtained in this study are limited to the self-reports of the participants.

CONCLUSION

When promoting an innovation to a target audience, it is important to understand the characteristics of the target audience that will help or hinder the innovation's adoption. When a nurse adopts a new practice, it provides value-added benefits to the organization and patients. For this reason, it is important to know the innovative behavior tendency of nurses. In this study, it was seen that the innovativeness level of the nurses was not at the desired level. Nurses' being 41 years and older, working in the profession for more than 21 years, being a member of a professional association and living in the city center affected the IIS scores statistically. Based on this result, it is suggested that the innovative thinking skills of the nurses participating in the research should be developed and programs should be prepared for risk factors.

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