

Using the Educational App of Administrative and Employment Regulations of Non-faculty Employees: Promoting Nursing Students' Awareness

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Abstract

Introduction: Considering the necessity of nursing students' acquaintance with their administrative and employment regulations, an app was designed in this regard. This research was done to measure their awareness before and after using this mobile app.

Materials and Methods: This quasi-experimental study was conducted during the academic year 2017-2018 among nursing students of Dezful University of Medical Sciences in southwestern Iran. To measure students' awareness (before and after using the application), a researcher-made 11-question questionnaire was used in accordance with the eleven chapters of the Iranian Ministry of Health's administrative and employment regulations. The sampling method was simple random sampling. Descriptive and inferential statistics were used to analyze the data and SPSS version 22.

Results: A total of 60 students participated in this study, of which 27 people (45%) were male and 33 (55%) were female. Students' awareness of the administrative and employment regulations before using the app was very low (6.26 ± 5.90); the application designed could increase their awareness to a high level (28.25 ± 8.29). This difference was significant ($P < 0.001$). Also, 52 people (89/70%) had the form and content of the app and 55 people (91/70%) the categories of topics and the ability to search for this app to be appropriate.

Discussion and Conclusion: Postgraduate nursing students are usually attracted to one of the universities of medical sciences of Iran's Ministry of Health, but there is little information in their units for familiarizing them with administrative and employment regulations, with their organizational rights and responsibilities, so the app can be described as an effective and useful tool for that.

Key words: Mobile app, Administrative and employment regulations, Nursing students' awareness, Iran

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INTRODUCTION

Laws and regulations are an integral part of any profession that knowledge and awareness of them can be effective in the success of a professional. In other words, the awareness of the rules and regulations governing the profession chosen is a major factor in determining the job fate, because it provides the opportunity for the individual to gain power and further career advancement [1]. The existence of law is inevitable in all social relationships that can lead to the growth of society. Medical professions are required to comply with laws, accountability and responsibility [2] because they must play a role in improving the health of the society. Providing and

promoting human health, as the main goal of nursing profession, is achieved by the use of modern scientific principles, utilization of human and moral methods, proper communication with the patient and based on the principles of medical ethics [3,4]. The emergence of administrative, treatment and care errors causes the appearance of dissatisfaction and complaints of patients and clients. In this regard, awareness of the administrative and employment issues and familiarity with modern job descriptions is one of the principles of professional nursing [5]. Familiarity of the nursing community with the science of the day and its accurate implementation, along with familiarity with the tasks defined in each group, in accordance with the Ministry of Health's instructions, as well as the rules proposed in the administrative and employment system of the country, can provide a solid foundation for active and effective participation in Patients' bedside and lead to a performance deprived of

failures and errors [6,7]. In two separate studies, Gilavand investigated the recruitment process and the payment of the benefits of faculty staff in the Ministry of Health and Medical Education of Iran, according to the ministry's administrative and employment regulations [8,9]. In another study, Gilavand studied the pathology of the promotion process of faculty members in the Ministry of Health and Medical Education of Iran, according to the rules of promotion [10]. Studies have shown that teaching contents by using smart phone and tablets possibilities and apps installed on them facilitates students' learning [11-18]. The result of a research conducted among the students of the operating chamber field of Shahroud University of Medical Sciences in Iran showed that the mobile educational applications, in addition to facilitating students' learning, are effective in increasing the practical test scores of the ending semester of the undergraduate students [19]. The result of a research that was conducted among nursing students of Shahid Sadoughi University of Medical Sciences in the center of Iran showed that the design of textbooks in the form of mobile app improves students' learning [20]. The familiarity of employees with the administrative and employment regulations will make them familiar with their organizational rights and duties and prevent their rights from being violated. Considering that in Iran postgraduate nursing students are usually attracted to one of the medical universities of Iran and regarding the necessity of their acquaintance with the administrative and employment regulations, an application was designed. The purpose of this research was to investigate the effect of this mobile app on increasing the awareness of nursing students of Dezful University of Medical Sciences in southwestern Iran about the administrative and employment regulations of non-faculty employees of the Ministry of Health and Medical Education of Iran.

MATERIALS AND METHODS

This semi-experimental study was conducted in the academic year 2018-2019 and among nursing students of Dezful University of Medical Sciences in southwestern Iran. Considering the administrative and employment regulations of non-faculty employees of the Ministry of Health and Medical Education of Iran, the researchers have decided to design in Persian an educational application titled "Administrative and Employment Regulations of the Ministry of Health and Medical Education of Iran". This mobile app includes 11 chapters. That includes: Chapter 1 Definitions of non-faculty administrative employment regulations, Chapter 2 Information technology and administrative services for non-faculty staff, Chapter 3 Entry into non-faculty staffing, Chapter 4 Recruiting non-faculty staff, Chapter 5 Appointments for non-faculty staff, Chapter 6 Empowerment of non-faculty staff, Chapter 7 Salaries and benefits of non-faculty staff, Chapter 8 Monitoring and evaluation of non-faculty staff performance, Chapter 9 Rights and tasks of non-faculty staff, Chapter 10 Retirement and social security of non-faculty staff, and Chapter 11 Other Various regulations of non-faculty staff (Figure 1). This app is available in Iran free of charge

through the markets of the Cafe Bazar, Iran Epps and Myket (A part of the internal images of this application has been displayed). The statistical population of this research includes all MSc nursing students studying at Dezful University of Medical Sciences in southwestern Iran. The method was simple random sampling. Eventually 60 students participated in the study. To measure and compare the familiarity and awareness of students (before and after using the app), a researcher-made 11-question questionnaire was used according to the eleven chapters of the Administrative and employment regulations of non-faculty staff. The students' overall score has been classified in 5 sections of very low (with the score of 0-9), low (with the score of 9-18), moderate (with the score of 18-27), high (with the score of 27-36), very high (With the score of 36-45). Validity and reliability of this standard questionnaire were evaluated by the researchers and its reliability was evaluated 96% using Cronbach's alpha. To do this research, at first and at the beginning of the first semester of the academic year 2017-2018 and before using the app by the students, the questionnaires were provided to them to complete. They were then asked to get the app for free through the Internet markets of café bazar, Iran Apps and Myket and use it. In the next step and at the beginning of the second semester of the same academic year, the questionnaires were again given to them to complete. Then, to assess the impact of this application in raising the level of students' awareness about the administrative and employment regulations of non-academic staff, the scores of the questionnaires were compared before and after using the application. For analyzing data, the descriptive statistics (mean and standard deviation) and inferential statistics (paired t-test, independent t-test and analysis of variance) and software version 22 SPSS have been used.



Figure 1: A part of the internal images of the mobile app

RESULTS

A total of 60 MSc nursing students in education have participated in this research, of which 27 people (45%) were male and 33 people (55%) were female. Also, 47 people (78.33%) were under the age of 20 and 13 people (21.67%) were in the age range of 21-25 year; 3 people (5%) had a one-year academic background, 23 people (38.33%) a two-year academic background, 26 people (43.33%) a three-year educational background and 8 (13.33%) a 4-year educational background; 3 (5%) of them were satisfied with nursing and 57 (95%) of them

were dissatisfied. 8 of them (13.30) were satisfied with their university and 52 (86.7%) of them were not satisfied with their university. 40 of them (66/70%) were

native to Khuzestan province, but 20 (33/30%) were not native of this province (Table 1).

Table 1: Students' individual characteristics

Variable	Number	Percentage (%)
Gender	Male	45
	Female	55
Age	Under 20 years	33/78
	21-25 years	67/21
Educational background	1 year	5
	2 years	33/38
	3 years	33/43
	4 years	33/13
Satisfaction with Field	Yes	5
	No	95
Satisfaction with university	Yes	30/13
	No	86/7
Native	Yes	70/66
	No	30/33

In Table 2, the frequency and percentage of responses before and after the use of the application have been given based on which of the total 660 responses that students had given prior to the use of application, 7 people (1%) had chosen the option high, 60 people (9%) the option Moderate, 241 people (36.4%) the option low

and 355 people (53.6%) the option very low. Of the total 660 responses that students had given after using the software, 115 people (17.3%) had chosen the option very high, 178 people (27%) high, 288 (43.4%) moderate, 66 (10 %) Low, 16 people (2.3%) had chosen the option very low.

Table 2: Frequency and percentage of responses before and after using app

Response	Before invention		After invention	
	Number	Percentage (%)	Number	Percentage (%)
Very high	0	0	115	17/3
High	7	1	178	27
Moderate	60	9	288	43/4
Low	241	36.4	66	10
Very low	355	53.6	16	2/3
Total	660	100	660	100

In Table 3, the effect of demographic variables on the score difference between the awareness before and after using the application. Based on this, only the variable of native of Khuzestan province (yes/no) at a significance

level of 5%, had a significant effect on the score difference between the awareness before and after the application (P=0.002). In other cases, it was not significant (P<0.005).

Table 3: The effect of demographic variables on the score difference between the awareness before and after using the software

Variable	Mean	Standard deviation	Minimum	Maximum	p-value	
Gender	Male	23.85	9.72	4	44	0.193
	Female	20/61	9.11	4	44	

Age	Under 20 years	22/20	9.81	4	44	0.601
	21-25	20/58	7.9	10	42	
Education background	1 year	22	14.14	12	32	0.974
	2 years	22/83	12.24	4	44	
	3 years	21/50	7.11	10	42	
	4 years	21/50	7.43	14	33	
Satisfaction with field	Yes	22/26	9.34	4	44	0.317
	No	16/67	10.21	5	24	
Satisfaction with university	Yes	22/48	9.16	4	44	298
	No	18/75	10.71	4	34	
Native	Yes	16/85	5.83	4	28	0.002
	No	24/55	9.8	4	44	

According to Table 4, Use of application has a significant effect on students' awareness of the administrative and

employment regulations of non-faculty members at the error level of 5% ($P < 0.001$)

Table 4: The effect of application on awareness of students (paired t-test)

Awareness	Mean	Standard deviation	Minimum	Maximum	p-value
Before invention	6.26	5.9	0	24	<0.001
After invention	28.25	8.29	12	44	

In Table 5, the method of calculating the score of the questionnaire options has been given based on which the average score of students' awareness of the non-faculty staffing regulations is very low before using the software

(with a mean of 6.26), as well as the score of Awareness of the employment regulations of non-faculty staff after using the software (with an average of 28.25) is high.

Table 5: Calculation of the score of the questionnaire options

Very low	Low	Moderate	High	Very high
0-9	9-18	18-27	27-36	36-45

According to Table 6, out of a total of 60 people, 52 people (89.71%) had evaluated the form and content of the software and 55 people (91.7%) the categorization of

the topics and the ability to search for this software to be appropriate.

Table 6: Evaluation of the specifications of the application

Application	Number	Percentage (%)
Form and content of application	Appropriate	52 89.7
	Weak	8 13.3
Categorization of subjects and	Appropriate	55 91.7
Ability for searching	Weak	5 8.3

DISCUSSION AND CONCLUSION

This research showed that the awareness of nursing students in Dezful University of Medical Sciences in southwestern Iran of administrative and employment regulations of non-faculty employees of the Ministry of Health and Medical Education of Iran was low before the use of the app. The designed app could play an effective

role in raising their awareness and raise students' awareness from a very low level to a high level. The results of studies done by Gilavand *et al.* [13,14], Babazade *et al.* [15], Shahbazian *et al.* [11] and Salmani *et al.* [12] in Iran showed that the designing educational textbooks in the form of mobile applications improved students' learning. The results of all of them are consistent with our study.

In the study of Babazade *et al.* in Iran, it was found that teaching contents using mobile apps is more effective than traditional education [15]. Also, in the study of Shahbazian *et al.* in Iran, it was found that using mobile education apps has increased students' scores [11]. In the study of Salmani *et al.* in Iran, it was also clarified that nursing students' learning was enhanced by using mobile educational applications [12]. In the study by Gilavand *et al.* in southwestern Iran it was found that dentistry students' awareness increase with the use of mobile educational applications [13]. In another study conducted by Gilavand among students of different disciplines at Ahvaz Jundishapur University of Medical Sciences Ahvaz in southwestern Iran, it was specified that educating the correct habits of the study through the mobile education application improved their awareness and has also resulted in their academic success [14]. Outside of Iran, various studies have been done to confirm our research results. In a study done by Kenny *et al.* in Canada, their students and professors welcomed learning through the mobile technology in a clinical setting [16]. In a study conducted by Albrecht *et al.* in Germany, the medical students also preferred smartphone training to other methods [17]. Montrieux *et al.* also suggested that, due to their varied capabilities, the educational practices using smart tablets could be addressed in educational environments [18]. Of course, some studies also indicated that medical staff was not happy with smartphone mobile apps. A study done by Liu *et al.* in China showed that a large number of physicians have smartphones, but few use medical-related apps [19]. Their results are not consistent with our study. Studies have also been conducted to assess the level of familiarity of nurses working in Iran with their professional rules and regulations. In a study done by Jahanpour *et al.* in Bushehr University of Medical Sciences in southern Iran, the employed nurses were in a moderate condition in terms of knowledge, attitude and awareness of their professional rules and regulations, which it gets better by increased age and background [7]. Also, during a study conducted by Sedghi *et al.* [1] in Gilan University of Medical Sciences in northern Iran, the working nurses were in a relatively desired situation regarding the level of their awareness of professional rules and regulations and in terms of observing the legal aspects of nursing profession. Also, in this study, with the increase of age, the knowledge and awareness of nurses was increased [1]. Also, a study conducted among nurses in India showed that the nurses were not appropriately aware of their professional rules and regulations (about patients' rights as well as their legal obligations towards patients) [6].

The stressful environment on the one hand and the breadth and complexity of the nursing profession on the other hand, puts nurses at risk of excessive occupational tiredness. Therefore, the awareness of professional regulations promotes the timely support of the patient and the nurse. Familiarity with occupational standards and nursing regulations is one of the most important duties and responsibilities of nursing managers in each country. On the other hand, the nurses, with the vigilance

of actions taken in accordance with the standards and laws, can protect themselves against morally and professionally depravity and being called in tribunals. Postgraduate nursing students are usually attracted to one of the universities of medical sciences of the Ministry of Health, but their units do not have much information in order to get familiar with the administrative and employment laws and regulations. They make them learn about their organizational tasks and prevent their rights from being wasted; so it can be used as an effective and useful tool for it. It is also necessary to introduce retraining courses with new educational methods, especially through the design and production of the mobile educational applications about the administrative regulations or as a course unit at different academic levels, as well as educational pamphlets distributed in this regard among the nurses; finally, it is proposed that some similar studies are done in other fields of study and in other universities of medical sciences in Iran to increase the possibility of generalizability of the study.

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CONFLICT OF INTEREST

The authors declared no potential conflicts of interests.

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