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Nurses' Knowledge and Attitudes Regarding Pain in Emergency Departments: A Comparative Study

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Abstract

Background

Effective pain management needs a strong base of pain-related knowledge and an optimal attitude toward pain, which could have a critical impact during treatment course.

Aims

To investigate emergency nurses' knowledge and attitudes regarding pain and to compare pain-related knowledge and pain-related attitudes among emergency nurses working in the government and private hospitals.

Design and Method

A descriptive cross-sectional design was used. A total number of 175 nurses (84 from private hospitals, 91 from governmental hospitals) recruited through a convenient sampling method. Knowledge and Attitudes Survey Regarding Pain was used to collect data. The data were collected in 2017.

Results

It was found that the mean scores of Knowledge and Attitudes Survey Regarding Pain was 16.64 (SD= 4.94). Results revealed that nurses working in private hospitals have higher scores on Knowledge and Attitudes Survey Regarding Pain (M=17.59, SD= 5.6) than nurses working in governmental hospitals (M=15.75, SD= 4.08) (p-value <0.05). There was a significant difference among nurses' scores on Knowledge and Attitudes Survey Regarding Pain which is attributed to nurses' age and their educational level (p-value <0.05).

Finding and Conclusion

Nurses working in emergency departments have a knowledge and attitudes deficits regarding pain management. In-service educational programs about pain management are recommended for all nurses in every health care setting.

Keywords: Attitude, Knowledge, Knowledge and Attitudes Survey Regarding Pain, Nurses, Pain, Pain management

1. Introduction

Pain is a global health-related priority area. The International Alliance of Patients' Organizations (IAPO) promoted pain management as a center of care for affected individuals (Painaustralia, 2017). The Human Right Watch (2011) declared that pain management is an essential human right for everybody around the world. Furthermore, managing pain effectively may achieve the vision of Ministry of Health in Jordan, which is "Toward health and wellness community throughout integrated, competent, and high-quality health care system at the regional level" (MOH, 2013).

Pain is considered as one of the most common reasons that oblige people to seek health care services (Al-Khawaldeh, et al., 2013). Most of people suffering from pain are living in low and middle-income countries (WHO, 2017) and them also suffering from non-communicable diseases, which generally induce their pain. However, Pain management in developing countries precisely is still below the required standard and less than the developed countries (Jordanian Initiative for Pain Management, 2010).

The International Association for the Study of Pain (IASP, 2012) defined pain as an "Unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage". However, pain has a vital function of preventing organism damage as a result of responsive actions (Karabulut, et al., 2015). To highlight the importance of pain in a health field, it was considered as the fifth vital sign for hospitalized patients (American pain Society, 1996).

Pain management is increasingly realized as high priority intervention in health care settings and is a core role of healthcare professionals (Ul-Huda, et al., 2012). Effective pain management must be based on the strong base of pain-related knowledge (Karahan, et al., 2014; Dos Santos Ferreira, et al., 2016). Based on the study result, the researcher may identify any theoretical inadequacy in pain-related knowledge and attitude, therefore educational programs which can conceal the gap of inadequate pain-related knowledge and pain-related attitude as proved by previous interventional related research, will be recommended (Friesgaard, et al., 2017; Dongara, et al., 2017).

Patients who attend emergency department with higher expectation of receiving pain-relieving measures, will feel more comfort and more satisfaction, and will be protected from adverse physiological effects of unrelieved pain (Pierik, 2016). The type of working unit in hospitals may affect the level of knowledge and nurses attitude towards pain because of the characteristics of that unit and its related conditions (Yava, et al., 2013; Latina, et al., 2015).

In Jordan, The number of patients who attended emergency departments in public hospitals was 2.98 million per year, however, 41.8 % of them considered as true emergency cases (Ministry of Health, 2015). This number reflects the burden of time and effort that wasted on assessing and providing caring activities by health care team.

Previous studies highlighted the inadequate nurses' knowledge regarding pain while other reported the unsatisfactory attitudes of nurses and other healthcare professionals toward pain (Al- Khalaileh & Al- Qadire, 2013; Alqahtani & Jones, 2015; Al-Attar and Sameen, 2015; Nimer & Ghrayeb, 2017).

Researcher of the present study found that investigating pain-related knowledge and pain-related attitude among public vs. private hospitals was rarely in empirical research. The researcher through her own observation and depending on her personal experience assumed that nurses who are working in private health sectors are more prepared in term of in-service education and have different attitudes regarding pain than nurses working in public healthcare setting.

This assumption could be attributed to the nature and the context of the private healthcare institutions, in term of the patients' number, number of bed capacity, nurses recruitment standards, nurse-patient ratio, acceptable workload, and availability of a conducive healthy working environment (High Health Council, 2015). On other side, the public health institutions in Jordan considered as low resourced areas (Darawad, et al., 2014). The Ministry of Health in Jordan (2016) reported that public hospitals are characterized by low number of staffs in relation to a number of patients. Additionally, on the national level, the burden of the healthcare service lies on public hospitals since 37.7 % of total bed numbers are referred to public hospitals (MOH, 2016). ‘

2. Methods

2.1 Aims

The aims of this study were; to investigate emergency nurses' knowledge and attitudes regarding pain, and to compare pain-related knowledge and attitudes between emergency nurses working in public and private hospitals.

2.2. Study Design

A descriptive cross-sectional design was used. Data collection took place at one single point of time. This design adopted because of its feasibility and practicality that allows researcher to compare different variables simultaneously.

2.3. Population, Sample and Setting

A convenient sample of emergency nurses working in public and private hospitals was recruited to assess their knowledge and attitude regarding pain. Three public hospitals and three private hospitals were selected.

For the purpose of comparing the knowledge and attitude among nurses working in public hospitals and private hospitals, Cohen's (1987) formula for calculating the sample size was used based on a level of significance at 0.05 and medium effect size, and a power analysis of 80%. Based on these, the estimated sample size for each group was 64 nurses.

2.4. Data Collection

To investigate study variables, the researcher used Knowledge and Attitudes Survey Regarding Pain (KASRP) self-report questionnaire (Ferrell and McCaffery, 2014). The KASRP is composed of 22 true & false questions, 15 Multiple Choice Questions (MCQs) and 2 case studies with 2 sub-questions for each. The KASRP is a validated instrument, and the Cronbach,s alpha coefficient for KASRP was (> 0.70), and the test-retest reliability was (> 0.80) (Ferrell and McCaffery, 2014).

To assure suitability of the tool for the target population, the researcher assesses the face validity of KASRP through a panel of experts. Depending on experts' recommendations, some terms of KASRP have been modified to facilitate readability and understandability. Specifically, the word "solely" was replaced by word "alone". The word "abrupt" was replaced by "sudden", "compulsive" by "uncontrollable". Moreover, the name of drug "Vicodin" was replaced by a name of "Revacod". The main themes of KASRP elements were not affected by linguistically modification.

A sheet of socio-demographical data was provided for subjects to collect data about their gender, age, educational level, years of experience and name of working institution whether its public or private hospitals. A pilot study with 20 nurses was conducted to assess practicability of the study process. A total number of 230 questionnaires were provided to the subjects; only 176 questionnaires were completed and returned to the researcher, the response rate was (76.5%).

2.5. Ethical Considerations

The study proposal was presented and received approval from scientific and ethics committee of the Researcher's University and from scientific research committees in the selected setting. The researcher offered with subjects all needed information regarding their rights during and after the study such as; anonymity and confidentiality. Each nurse signed a written informed consent form.

2.6. Statistical Analysis

Data were analyzed using the Statistical Package for the Social Sciences (SPSS-21, SPSS Inc) software. To calculate the KASRP scores, the researcher gave each correct answer "1" and for each incorrect answer "0". Double data entry, checking of missing and outlier observations and inconsistencies were evaluated and corrected.

The researcher used descriptive and inferential statistics. The total correct score was analyzed in a full manner because the original developer of the KASRP recommended that the items of KASRP not to be divided into knowledge and attitudes (Ferrell and McCaffery, 2014). The t-test statistic was used to examine the differences between dichotomous categorical variables (types of settings and gender) and the dependent variable score. Furthermore, the analysis of variance (ANOVA) was used to evaluate the differences in the KASRP scores among the different group categories (age and educational level).

3. Results

3.1. The Socio-Demographics Characteristics of the Subjects

The total number of subjects was 175 emergency nurses. Table number 1 shows that 58.9% of subjects (n=103) were male, and the majority of subjects aged between 31-35 years old. The vast majority of the subject (80%) were bachelor degree holders (n=140). The mean duration of working experience was 6.27 (SD=4.91), median was 5.0; range was 1 to 20 years. Regarding skewness and kurtosis of length of experience, it was minimally kurtotic but it not deviated significantly from normality.

The total recruited number of subjects working in emergency departments in public hospitals was 91 nurses and in private hospitals were 84 nurses. Both groups were quietly comparable regarding gender and educational level. The mean length of experience was 6.5 (SD=4.23) for nurses working in public hospitals and was 6.03 (SD=5.57) for private hospitals nurses.

3.2. Subjects' Score on KASRP

The total mean scores of KASRP was 16.64 (SD=4.94), the median was 16, and scores were ranged from 8 to 34 out of 41. Regarding skewness and kurtosis of KASRP scores, it was minimally kurtotic but not deviated significantly from normality.

3.3. Nurses' Knowledge and Attitudes Regarding Pain Management

Similar to other studies (Shakya & Shakya, 2016; D'emeh, et al., 2016; Gretarsdottir, et al., 2017; Issa, et al., 2017; Nimer & Ghrayeb, 2017), frequencies and percentages of correct answers of KASRP were calculated. The rate of correct answers for the true and false questions ranged from 31.4 % (item number 17) to 66.9 % (item number 22) and for MCQs items of KASRP, the rate of correct answers was ranged from 16.6 % (item number 28) to 64 % (item number 25). Furthermore, the rate of correct answers of case studies items was ranged from 10.9 % (item number 38. a) to 21.1 % (item number 39. b).

Table 2 shows the first five highest ranked percentages of correct responses of KASRP. The first highest percentage of correct answer was for item number 22.

3.4. The Items with Lowest Correct Answers on KASRP

The first lowest percentage of correct answer was for item number 38.a, which is related to assign the right pain score on pain scale where the patient has normal vital signs, and shows relaxed face and smile then for item number 39.a, which is related to assign the right pain score on pain scale where the patient has normal vital signs, and lying quietly in bed and grimaces as he turns in bed.

3.5. Difference between Public and Private Nurses regarding KASRP Total Scores

Nurses working in private hospitals had higher scores on KASRP (M=17.59, SD= 5.6) than nurses working in public hospitals (M=15.75, SD=4.08). The independent sample t-test result indicated that there was a significant difference between nurses working in public hospitals and in private hospitals on KASRP ($t = 2.49$, p-value = 0.01).

3.6. The Socio-Demographic Characteristics of the Subjects in its Relation to the KASRP

In the current study, there was a significant difference on the total scores of KASRP related to age ($F = 8.64$, $p = 0.00$). Nurses who aged between 20 and 25 years old scored higher on KASRP (M= 19.77, SD= 6.38) than other age groups. Furthermore, there was a significant difference between nurses' educational levels and total score on KASRP ($F = 4.257$, $P = 0.01$), nurses holding a bachelor degree scored significantly higher on KASRP (M =17.05, SD= 5.08) than two years diploma nurses (M= 13.81, SD= 2.80).

There was a negative and medium correlation ($r = -0.51$, $p=.000$) between length of working experiences and total scores on KASRP. Nurses with shorter length of experience showed higher knowledge and attitude toward pain.

There was no significant difference between male and female nurses on KASRP scores ($t = 0.09$, p-value = 0.92).

4. Discussion

In the present study, the mean total score of KASRP is quietly similar to previous national and international studies (Al-Khalaileh & Al- Qadire, 2013; Eid, et al., 2013; Dongara, et al., 2015). This result indicates that Jordanian emergency nurses have knowledge deficits and unacceptable level of attitudes regarding pain (M=16.64, SD=4.94).

The unsatisfactory level of knowledge and attitude scores in the present study could be associated with the structure of the undergraduate nursing curricula in the educational institutions. These educational institutions do not prepare students with adequate pain-related knowledge and attitude throughout theoretical content and pain-related factual situation. This assumption was confirmed by previous studies (Al-Khalaileh & Al- Qadire, 2013; Duke, et al., 2013).

The present study aimed to compare pain-related knowledge and attitudes between emergency nurses working in public and private hospitals. Nurses working in private hospitals had significantly higher knowledge and attitude regarding pain than nurses working in public hospitals.

Private health institutions in Jordan are paying great consideration to the in-service education and staff development activities, in addition to recruiting of quality workforce, including nurses and they have constant updating policies, procedures, and regulation in addition to complying with a standard patient to nurse ratio.

In the current study, there was no significant difference between male and female nurses on KASRP scores. This result could be attributed to that both male and female nurses receive the same curriculum and pain content during their academic preparation. This result was confirmed by previous studies (Al-Khawaldeh, et al., 2013; Alqahtani & Jones, 2014; Al-Qadire & Al-Khalaileh, 2014).

Regarding to nurses' age, nurses who were younger in their age have higher scores on KASRP than older nurses, which may be attributed to the fact that new graduates still have a residual bulk of theoretical knowledge and residual of gained attitude from their tutors and their own role models. This result contradicted to the result of Manwere, et al. (2015) who found that older nurses have higher knowledge and attitude regarding pain.

Despite the KASRP score is low among the three educational levels, the Bachelor degree nurses have a higher knowledge and attitudes regarding pain scores than the associated degree, and three years diploma nurses. This can be associated with the extended period of exposing students who enrolled in higher educational institution nursing programs to different learning experiences than the community colleges nursing program.

Similar to a previous finding (Ekim & Ocakci, 2013). Nurses with long years of working experience may forget the basics knowledge of pain and pain medication over time, and they focus on psychomotor skills than knowledge aspects, this result contradicted to the result of Manwere, et al. (2015) who revealed that when nurses possess more experience, their knowledge subsequently increased.

5. Limitations

The design of this study was descriptive and cross-sectional which provided a relationship between study variables but did not examine the causality. The convenience sample may limit the generalizability of the findings. The use of self-reported questionnaire is not enough to evaluate the problem, therefore researcher recommend using other methods such as an interview method.

6. Conclusions

Jordanian nurses working in emergency departments have a knowledge and attitudes deficits regarding pain management. In-service educational programs about pain management are recommended for all nurses in every health care setting.

Nursing students have limited knowledge of pharmacology and calculation skills therefore educational degrees requirements must be reviewed in educational institutions. A quality of pain-related content needs to offer in a holistic way and preferably within a separated course and to allocate clinical training hour for pain management

in the course plan. The researcher proposes further effort to integrate attending pain-related in-service educational activities as a performance indicator for quality assurance system within health care institutions and as a recruitment criterion for nurses' job positions.

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Table 1: Description of Subjects' Socio-Demographic Characteristics (n=175)

Characteristics		*n	%	Mean **(±)
Gender	Male	103	58.9 %	
	Female	72	41.1 %	
Age (Y)	20-25	40	22.9 %	
	26-30	53	30.3 %	
	31-35	60	34.3 %	
	≥ 36	22	12.6 %	
Educational Level	Diploma 2 years	22	12.6 %	
	Diploma 3 or 4 years	13	7.4 %	
	Bachelor	140	80 %	
Working Institution	Nurses in public hospitals	91	52 %	
	Nurses in private hospitals	84	48 %	
Length of Experience (year)				6.27 (±4.91)

* n=sample size ** ± = standard deviation

Table 2. The Items with Highest Percentage of Correct Answers on KASRP

Ranking Number	Item NO.	Item Content	Correct Responses	
			N	%
1	22	Sedation assessment is recommended during opioid pain management because excessive sedation precedes opioid-induced respiratory depression.	117	66.9%
2	13	Patients' spiritual beliefs may lead them to think pain and suffering are necessary.	115	65.7%
3	06	Respiratory depression rarely occurs in patients who have been receiving stable doses of opioids over a period of months	115	65.7%
4	25	Which of the following analgesic medications is considered the drug of choice for the treatment of prolonged moderate to severe pain for cancer patients?	112	64.0%
5	14	After an initial dose of opioid analgesic is given, subsequent doses should be adjusted in accordance with the individual patient's response	110	62.9%