

Effect of Educational Program on Nurses 'performance Regarding Patients with Acute Pancreatitis

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Abstract

Background: Acute pancreatitis is the inflammation of the pancreas that results in auto-digestion by its own pancreatic enzymes. The educational program is considered to be an important means to provide nurses with theoretical and technical information needed to acquire skills and competencies necessary to continually improve nursing practice. **Objective:** The aim of this study was to evaluate the effect of educational program on nurses' performance regarding patients with acute pancreatitis. **Design:** A quasi-experimental research design was used to conduct this research. **Setting:** The study was conducted in intensive care unit at Assiut University Rajhy Hospital for Liver. **Subjects:** All available nurses about 40 nurses. **Tools:** Data were collected using: tool I nurse's knowledge assessment questionnaire, tool II nurse's observation checklist. **The Results** revealed that majority of the nurses their age less than 40 years old, with mean age of 25.98 ± 6.46 , female, where about 52.5% of study nurses had married. The majority of nurses had unsatisfactory total knowledge pre education program. It improved immediately post education program. **Conclusion:** The study concluded that the education program lead to significant improvement in nurses' knowledge and practice about acute pancreatitis. **Recommendation:** Continue educational nursing program about care of acute pancreatitis patients.

Keyword: *Acute Pancreatitis, Education Program & Performance.*

Introduction

Acute pancreatitis is the inflammation of the pancreas that results in auto-digestion by its own pancreatic enzymes. Pancreatitis has a variety of etiologies. The severity of the disease can range from its mildest form, which rapidly decomposes with some complications, to its most severe forms, necrotizing pancreatitis, which is associated with an increased risk of multiple system organ failure and mortality (Andris, 2013).

Acute pancreatitis affects people of all ages, but the mortality rate associated with acute pancreatitis increases with age. The incidence of multiple organ failure increases with age, possibly as a result of the gradual decline in the physiological function of the major organs with age. Closely monitoring the function of the main organ (ie, lungs and kidneys) is necessary, and aggressive treatment is necessary to reduce deaths from acute pancreatitis in the elderly (Webb, 2014).

Acute pancreatitis is a common diagnosis seen in intensive care units worldwide. The incidence of pancreatitis has increased over the last decade. It ranks third amongst the gastrointestinal diseases resulting in hospital admissions. The destructive complications of pancreatitis make it a life-threatening disease. If pancreatitis progresses to the severe form the mortality rate significantly increase from one percent to upwards of thirty percent. Pancreatitis is associated with high rates of

morbidity, mortality, and prolonged hospital admissions (Gooszen et al., 2013).

The clinical manifestations of acute pancreatitis range from mild to severe and often mimic those of other disorders. Acute onset of abdominal pain, nausea, and vomiting are hallmark symptoms. Epigastric to periumbilical pain may vary from mild and tolerable to severe and incapacitating. Many patients report a twisting or knifelike sensation that radiates to the low dorsal region of the back. The patient may obtain some comfort by leaning forward or assuming a semi fetal position. In mild case of acute pancreatitis. Pain may resolve within 1 or 2 days, or can potentially persist for weeks. Interestingly, it is also not uncommon for patients to have pancreatitis, but have minimal or no pain symptoms (Urden et al., 2016).

Acute pancreatitis can affect every organ system, and recognition and treatment of systemic complications are crucial to management of patient. The most serious complications are hypovolemic shock, acute respiratory distress syndrome (ARDS), acute kidney injury (AKI), and gastrointestinal hemorrhage. Hypovolemic shock is the result of intravascular volume and vasodilatation caused by the release of inflammatory immune mediators. These mediators also contribute to the development of ARDS and AKI. Other possible pulmonary complications include pleural effusions, atelectasis, and pneumonia (Urden et al., 2016).

Early recognition and diagnosis of pancreatitis is key to preventing disease progression and associated complications. Advanced practice nurses must be able to complete a thorough history and physical in order to correctly identify pancreatitis, and to eliminate differential diagnoses of similar presentation. The Advanced practice nurses must be able to identify risk factors associated with pancreatitis, have astute assessment skills, and know what diagnostics tests to order. In order to prevent disease progression the cause of pancreatitis must also be identified (Skidmore, 2015). Nurses play an important role in improving health standards. Hence, they must be updated on theoretical and practical knowledge in this area. In-service training, in fact, serves to update the professional knowledge and professional skills of staff and improve best practices to carry out various tasks and responsibilities (Chaghari et al., 2017).

Nursing management of the patient with pancreatitis include providing pain relief and emotional support. The nurse must monitor the patient for signs of local or systemic complications. The patient must be closely monitored for signs and symptoms of pancreatic infection, which include increased abdominal pain and tenderness, fever, and increased white blood cell count (Urden et al., 2016).

The educational program is considered to be an important means to provide nurses with theoretical and technical information needed to acquire skills and competencies necessary to continually improve nursing practice (Booth et al., 2016). It helps them to accept responsibility for their professional development. The educational program is designed to assist health worker to maintain and improve their competencies and to acquire new knowledge (World health Organization, 2015).

Significance of the Study

Acute pancreatitis is a common diagnosis seen in intensive care unit at Assiut University Rajhy Hospital for Liver. The incidence of pancreatitis has increased over the last decade. Number of patients admitted to intensive care units at Assiut University Rajhy Hospital for Liver in the last two year (2016 & 2017) were 1925 patients and 320 of them were diagnosed as acute pancreatitis (Hospital records of Assiut University (2016 & 2017) Due to this increase in incidence of acute pancreatitis, however a theoretical and practical nursing care basis are essential for effective in therapeutic patients' outcomes. So there is a need for a study to promote the nurses knowledge that could help them to contribute a successful patient care outcome.

Aim of the study

This study aimed to evaluate effect of educational program on nurses' performance regarding patients with acute pancreatitis.

Hypothesis

- Nurse's knowledge regarding acute pancreatitis will be higher post implementation of education program than preprogram.
- Nurse's practice regarding care of patient with acute pancreatitis will be improved post program implementation.

Subjects & Methods

Research design: A quasi-experimental research design was used in the study.

Setting: The study was conducted in intensive care unit at Assiut University Rajhy Hospital for Liver.

Subjects of the study

All available nurses (40 nurse) 12 were nursing diploma, 5 were Technical institute of health, 17 were Technician Institute of nursing, and 6 were bachelor of nursing, working in intensive care unit at Assiut University Rajhy Hospital for Liver.

Study Tools

Two tools were used in this study; these tools were designed by the researcher in a simple Arabic language after reviewing the related literature to assess nurses' knowledge and practice about acute pancreatitis (Lewis et al, 2015, Urden et al., 2016, Hinkle & Cheever 2014, Morton & Fontaine 2018, Andris 2013, Hickey 2014, Lynn 2015, Berman et al., 2016 & Niciol et al., 2012).

Different types of questions used including open questions, true or false questions and multiple-choice questions.

Tool 1: Nurses' knowledge assessment questionnaire

It was divided into parts

Part (I): Demographic data for nurses' such as age, marital status, Qualifications, years of experience and previous attendance of training course related to acute pancreatitis. It includes 5 items.

Part (II): Predesigned questionnaire (pre and post-test and follow up) to assess nurses' knowledge about anatomy and physiology of pancreas (Lewis et al., 2015), definition of acute pancreatitis (Urden et al., 2016), causes of acute pancreatitis (Hinkle & Cheever, 2014), pathophysiology of acute pancreatitis (Morton & Fontaine, 2018), clinical manifestations of acute pancreatitis (Urden et al., 2016), classification of acute pancreatitis, criteria for predicting severity of pancreatitis "Ranson's criteria", Acute Physiology and Chronic Health Evaluation {APACHE} 11 criteria and Bedside Index for Severity in Acute Pancreatitis {BISAP

Score}"(Andris, 2013), complication and nursing management (Urden et al., 2016 & Morton & Fontaine, 2018).

Scoring system of the tool I

The tool included 39 questions; twenty seven of them were in multiple choice questions, six true or false questions and six open questions. Multiple choice questions scored as one score for correct answer and zero for wrong answer. True or false question as one score for correct answer and zero for wrong answer. The open questions scored as one score for one point answer. The scores of items were summed –up and then converted into percent score knowledge was considered poor if less than 75%, satisfactory if the percent score was 75% or more (Ahmed 2016) Because all nurses worked in intensive care unit must be qualified and competence in their working than others nurses.

Tool two: Nurses' Observational Checklist: The check list was constructed and base on the identified guidelines care. This tool covered all the procedures to assess of nurses' practices for patients diagnosed with acute pancreatitis. It was used before and immediately after the implementation of education program as well as three months later. It consists of the following procedures:

- Glasgow coma scale which included fifteen steps and calculated thirty scores (Hickey2014).
- Pain assessment and management which included ten steps and calculated twenty scores (Lynn 2015).
- Blood glucose monitoring which included twenty steps and calculated forty scores (Bermanet al,2014).
- Injection of insulin which included thirty five steps and calculated seventy scores(Lynn2015).
- Central venous pressure measurement (C.V.P) which included thirteen steps and calculated twenty six scores (Niciol et al, 2012).
- Monitoring fluid balance which included thirteen steps and calculated twenty six scores (Niciol et al, 2012).
- Monitoring and care of nasogastric tube which included sixteen steps and calculated thirty two scores (Lynn 2015).

Scoring system of the tool II

The total score for all steps was 244 and every step was evaluated as follows:-

1. Correctly done was scored 1
2. In-correctly done was scored 0

The scores of items were summed –up and then converted into percent score practice was considered poor if less than 75%, satisfactory if the percent score was 75% or more(Ahmed 2016). Because all nurses worked in intensive care unit must be qualified and competence in their working than others nurses.

Methodology

General objectives of the educational program:

The overall objective is to evaluate effect of educational program on nurses' performance regarding patients with acute pancreatitis.

The study was conducted throughout three main phases, which are preparatory phase, implementing phase and evaluation phase.

1-preparatory phase:

Permission to conduct the study was obtained from the hospital responsible authorities after explanation of the aim of the study. Tool one and two used in this study was developed in Arabic by researcher based on reviewing the relevant literature.

Content validity and reliability of tools

The tools were tested for content related validity by jury of five specialists in the field of critical care nursing and critical care medicine at Assiut University and the necessary modifications were done, the subjects included in the pilot study were included in the study sample.

- The reliability was tested tools nurses' knowledge assessment questionnaire and observation checklist by using Cronbach's alpha coefficient $r = 0.817$ and 0.794 respectively which is acceptable.

The pilot study

A Pilot study was conducted on random sample of five nurses to test the feasibility and applicability of the tool and the necessary modifications that were done.

Ethical considerations

Approval was obtained from the local ethical committee and the study was followed the common ethical principles in clinical research.

2- Implementing phase

All nurses divided into groups every group contain four nurses, every group was interviewed during break time in different days and shifts or before beginning of shift according to work.

•Assessment of knowledge was done as follows:

- Data was collected by the researcher during approximately six months starting from April 2018 to September 2018.
- Once at beginning of study was considered as pre-test assessment and as baseline data and later comparison with future post-test.
- The second administration of questionnaire was carried out after implementation of the educational program to identify its effect on nurses' knowledge.
- The third administration of questionnaire was carried out after three month from implementation of the educational program to identify its effect on nurses' knowledge.

•Assess nurses' practices:

The researcher observes the nurses' practices using observational checklist tool two before, immediately and after three month of program implementation.

Theoretical part included

Three sessions for theoretical part included anatomy and physiology of pancreas, definition of acute pancreatitis, causes, pathophysiology, clinical manifestations, classification, and criteria for predicting severity of pancreatitis, complication and nurses' management.

Practical part included

Three sessions for practical part included Glasgow coma scale, pain assessment, blood glucose monitoring, and injection of insulin, measuring of central venous pressure, fluid balance monitoring and care of nasogastric tube procedure.

Learning environment

The program was conducted in a classroom of liver intensive care unit.

Teaching methods

- Lecture, discussion and demonstration by using audiovisual aids, power point presentation and booklet which developed in Arabic by the researcher based on reviewing the related literature and poster about skills included steps for Glasgow coma scale procedure, pain assessment procedure, central venous pressure measurement procedure, blood glucose monitoring procedure, injection of insulin.

Learning activities

Practice, used leaning activities.

Arranging the subgroup

The total sample was divided into ten subgroups and included four nurses each session for better performance and understanding.

Educational program sessions

The education program has been implemented for nurses in terms of sessions and teaching on the spot during their official working hours. Program was aided by using posters and handout about the care of patient with acute pancreatitis. There were a total of six sessions in addition to pre assessment session. These six sessions were repeated 10 times to each group. Three knowledge sessions, based on the nurses needs for knowledge about acute pancreatitis according to gather elements.

The duration of each knowledge session was 60 minutes includes 15 minutes for discussion and feedback except session one was 30 minutes (anatomy and physiology of pancreas and definition of acute pancreatitis).

These were followed by three practice sessions, the duration of each practice session was 60 minutes. Each session usually started by a summary of what has been taught during the previous sessions and the

objectives of the new topics. Feedback and reinforcement of teaching was performed according to the nurses needs to ensure their understanding. Giving praise and / or recognition to the interested nurses were emphasized for motivation during the educational program implementation. Each nurse obtained a copy of the educational program booklet that included all the training content (**tool I & II**).

3- The evaluation phase

- Nurses' knowledge and practices were assessed three times before implementation of the program (pre-test) immediately post the implementation of the program (post-test) and three months later (follow up).

- The nurse whom paced 75% and more of the questionnaire sheet correctly was considered satisfactory but whom paced less than 75% was considered unsatisfactory.

Statistical Analysis

The data were tested for normality using the Anderson-Darling test and for homogeneity variances prior to further statistical analysis. Categorical variables were described by number & percent (No, %), where continuous variables described by mean and standard deviation (Mean \pm SD). Chi-square test and fisher exact test used to compare between categorical variables where compare between continuous variables by t-test and ANOVA test. A two-tailed $p < 0.05$ was considered statistically significant. We are used person Correlation to appear the association between scores. All analyses were performed with the IBM SPSS 20.0 software.

Table(1): Frequency distribution of demographic characteristics of the studied.

Variable	No	%
Age:		
>40 years	39	97.5
< 40 years	1	2.5
Mean \pm SD	25.98 \pm 6.46	
Sex:		
Female	40	100.0
Marital status:		
Single	19	47.5
Married	21	52.5
Qualification		
Nursing Diploma	12	30.0
Technical institute of health	5	12.5
Technician Institute of nursing	17	42.5
Bachelor of nursing	6	15.0
Years of experience		
> 10 years	29	72.5
<10 years	11	27.5
Mean \pm SD	5.23 \pm 4.70	
Attendance training courses about acute pancreatitis		
No	40	100.0

Table (2): Distribution of total mean Knowledge and practices scores obtained by nurses throughout the study phases(n=40).

Variable	Pre Mean \pm SD	Post Mean \pm SD	Follow up Mean \pm SD	P. value	P1	P2	P3
Total Knowledge Scores	15.9 \pm 4.06	67.28 \pm 1.6	60.58 \pm 4.25	<0.001**	<0.001**	<0.001**	<0.001**
Total Practices Scores	150.23 \pm 19.27	243.63 \pm 0.9	229 \pm 10.8	<0.001**	<0.001**	<0.001**	<0.001**

One way ANOVAs with LCD Method (* Significant difference at p . value<0.05, ** Significant difference at p . value<0.01)

P. value: - comparison between 3 phases (Pre- Post and Follow up)

P1:- comparison between Pre &Post

P2:- comparison between Pre & Follow up

P3:- comparison between Post & Follow up
nurses (n=40)

Data described as (no& %) chi-square and mean \pm SD independent sample t-test.

Table (3): Relationship between nurses' knowledge score and their demographic characteristics pre, immediately post and 3months after implementation of education program (n=40).

Demographic data	Total Knowledge Score		
	Pre education Mean ±SD	Post education Mean±SD	Follow up education Mean±SD
Age			
>40 years	15.77±4.02	67.31±1.61	60.49±4.27
< 40 years	21±0	66±0	64±0
P. value	0.207	0.427	0.422
Marital status			
Single	14.53±3.73	67.42±1.35	60.16±5.16
Married	17.14±4.02	67.14±1.82	60.95±3.32
P. value	0.040*	0.590	0.562
Educational level			
Nursing Diploma	16.92±3.34	67.58±0.79	61.33±3.92
technical Institute of Health	16±3.67	67.6±0.89	59.4±2.61
Nursing Technician Institute	13.82±3.28	66.82±2.24	60.24±5.25
Bachelor of Nursing	19.67±4.93	67.67±0.82	61±3.22
P. value	0.010*	0.516	0.830
Yearsof experience			
> 10 years	15.38±4.22	67.14±1.81	60.38±4.48
<10 years	17.27±3.38	67.64±0.81	61.09±3.73
P. value	0.191	0.386	0.643

- Independent T- test* Significant difference at p. value<0.05

- Anova Test * Significant difference at p. value<0.05

Table (4): Relationship between nurses' practicescore and their demographic characteristics pre, immediately post and 3months after implementation of education program (n=40).

Demographic data	Total Practice Score		
	Pre education Mean±SD	Post education Mean±SD	Follow up education Mean±SD
Age			
>40 years	148.77±17.15	243.62±0.91	229.18±10.88
< 40 years	207±0	244±0	222±0
P.value	0.002**	0.678	0.518
Marital status			
Single	140.79±9.35	243.53±1.02	227.05±12.58
Married	158.76±22.01	243.71±0.78	230.76±8.84
P.value	0.002**	0.515	0.284
Educational level			
Nursing Diploma	157.5±16.16	243.92±0.29	233±8.34
technical Institute of Health	136.8±7.05	243.8±0.45	232.4±4.28
Nursing Technician Institute	139.41±7.6	243.24±1.25	224.18±13.14
Bachelor of Nursing	177.5±22.37	244±0	231.83±7.08
P.value	<0.001**	0.123	0.110
Yearsof experience			
> 10 years	145.66±15.99	243.52±1.02	228.41±11.57
<10 years	162.27±22.63	243.91±0.3	230.55±8.72
P.value	0.013*	0.222	0.584

- Independent T- test* Significant difference at p. value<0.05

- Anova Test ** Significant differenceat p. value<0.01

Table (5): Correlation between Nurses' Knowledge and Practice scores pre, immediately post and 3months after implementation of education program (n=40).

Correlations	Total Knowledge					
	Pre		Post		Follow Up	
	R	P	R	P	R	P
Total Practice	0.376	0.017*	0.145	0.372	0.545	<0.001**

*Statistically Significant Correlation at p . value<0.05

**Statistically Significant Correlation at p . value<0.01

Table (1): Shows that the demographic of the studied groups recruited at age less than 40 years with mean age 25.98 ± 6.46 , where about 52.5% study nurses had married, about 42.5 had Technician Institute of nursing qualified, about 72.5% had less than 10 years of nursing experience with mean years of experience 5.23 ± 4.70 . It is also apparent that 100% all of them didn't attend any previous training courses about acute pancreatitis.

Table (2): This table shows that there was statistically significant difference related to total scores knowledge and practices in pre, immediately post and three month after implementation of the educational program, as well as between immediately post and three month after implementation of the educational program (p value < 0.001).

Table (3): This table shows that: the relationship between nurses' knowledge score and their demographic characteristics pre, immediately post and 3months after implementation of education program. It illustrated that there was significance differences between nurses' knowledge and marital status and level of educational pre implementation of education program ($p= 0.040, 0.010$ respectively), and there was no statistical significance differences relation between demographic characteristics and total score of knowledge immediately post and 3months after implementation of education program.

Table (4): This table shows that: the relationship between nurses' practice score and their demographic characteristics pre, immediately post and 3months after implementation of education program. It illustrated that there was significance differences relation between nurses' practice and demographic characteristics pre implementation of education program ($p= 0.002, 0.002, <0.001, 0.013$ respectively), and there was not statistical significance differences relation between demographic characteristics and total score of practice immediately post and 3months after implementation of education program.

Table(5): Shows a positive Correlation between nurses' knowledge and practices scores pre and 3 months after implementation of education program

($r= 0.376, 0.545$ respectively), ($p=0.017, 0.001$ respectively), and there was no positive Correlation between Nurses Knowledge and Practices scores immediately post implementation of education program ($r=0.145, P =0.372$).

Discussion

The Educational programs for nursing staff constitute an important part. These programs are urgently designed to assist staff nurses in developing and enhancing the skills needed to provide high standards of care (Chaghari et al, 2017). Effective continuing education programs in nursing have been credited with the ability to enhance the quality of nursing care by improving the knowledge base of staff with the consequence of raising standards and producing a more cost-effective service (Estamian et al., 2015). Therefore the aim of this study was to evaluate the effect of educational program on nurses' performance regarding patients with acute pancreatitis.

The result of the present study showed that the majority of studied nurses were at the age group less than 40 years, married, most of them have years of experience less than 10 years.

The result agree with (Musleh, 2015) who stated that the majority of nurses were at the age group less than 40 years, married, most of them had Technician Institute of nursing. More than half of the studied nurses had an average work experience less than 10 years. This not agree with (Abdulatif, 2016) who found that the majority nurses were aged from 20-45 years, also the majority of nurses were males.

The result also, showed that all of nurses didn't receive training program about acute pancreatitis. This was similar to the result revealed by (Al-Janabi & Al-Ani, 2014) they concluded that the most of the sample didn't have any formal training courses.

The current study tabled that, the level of knowledge about acute pancreatitis of the majority of the studied nurses generally was poor; this might be related to the fact that all of them were not receiving any previous training program about acute pancreatitis (deficiencies in training), there is not updating for their knowledge received during undergraduate and there is no motivation from the administration, no pre

employment orientation program and insufficient number of nurses.

The result similar to the result revealed by **(Abd El-Naeem, 2015)** who stated that the majority of the studied nurses, generally was poor level of knowledge and practice before implementation of an educational program, due to no pre employment orientation, deficiencies in training, courses increased work load which may hinder the ability to read and upgrade their knowledge.

The present study showed that, there were statistically significant improvement in nursing staff knowledge and practice of studied nurses immediately after implementation of the educational program. ($p < 0.001$) this because the educational program was effective and they were need to an educational program.

The results agree with **(Abdelmonem, 2018)** who stated that after the educational module, there significant improvement in knowledge scores of nurses. **(Abd El- Aziz et al., 2018)** figured out that , there was a significant improvement in nursing staff knowledge and practice after application of the training program.

Most of the studies concluded that nurses have insufficient knowledge regarding acute pancreatitis. Also recommended the importance of educational program in improving the knowledge. This was in line with **(Skidmore, 2015)** who stated that Advanced practice nurses (APN) must be able to complete a through history and physical in order to correctly identify pancreatitis, and to eliminatedifferential diagnoses of similar presentation. The APN must be able to identify risk factors associated with pancreatitis, have astute assessment skills, and know what diagnostics tests to order. In order to prevent disease progression the cause of pancreatitis must also be identified. Also **(Rooyen et al., 2016)** stated that, in-service education program are an effective method for inducing behavioral changes in nurses. This result agree with **(Abd El- Aziz et al., 2018)** who found that the nurses' knowledge and practice improved immediately after exposure to the training program.

The result show that the total scores of nurses' knowledge and practice in follow up of the implementation of the educational program decreased slightly than the result immediately after the implementation of the educational program but still better than scores in pre implementation of educational program, so repeat training and facilitates it by management to maintain knowledge and practice level is required. Also the clinical experience should be followed by refreshing course for in- service education to be effective. This finding was the same results done by **(Green, 2011)** who stated that

important for new graduated nurses (NGN) to have an open line of communication with leadership and to be informed of the expectations of their performance. As for as improving the work experience, the (NGN) would like additional staff, to be more knowledgeable of the available recourses and support from management.

The results of the present study are in agreement with **(Abdulatif, 2016)** who reported that, after 3 months post-test, the percentages were slightly reduced as the majority of nurses were having satisfactory and good levels in all items of knowledge.

The results of the present study agree with **(Hussein, 2011)** who stated that, nursing skills must be maintained and improved through training, continuing education, professional conferences, practical experience and mentors. This provides quality and effective health care to patients and is necessary to improve nursing skills in order to keep pace with new techniques and procedures. An ongoing course in which interactive simulations and skill development scenarios provide an excellent opportunity for improvement in nursing practices.

As well, **American University of Beirut Medical Center (2010)** stated that, In-service education Nurses are helping bedside nursing care providers, maintain, or increase their competence in specific areas of practice. And enhances their skills, knowledge and attitude with regard to specific aspects of their role in the development of work.

The present study revealed that, there was no statistical significant difference relation between demographic characteristic & total score of nurses' knowledge and practice (immediately after and follow up implementation of the educational program. Because there was positive effective of educational program regarding knowledge and practice, also continues revision and updating their knowledge and practice and there is no previous training about acute pancreatitis.

This result was agreed with **(Parajulee & Selvaraj 2011)** who reported that there were no significant association between the total knowledge score and age. Also, **(Amatya & Gorkhali 2015)** finding indicate that there was non-significant association between the total knowledge and their age group.

This result also was agreed with **(Abd El-naeem, 2015)** who found that there were no significant difference between knowledge and educational level, it indicate that there was no effect of educational level on teaching program regarding knowledge after implementation of the program.

This result is in agreement with **(Thomas 2013)** who reported that no significant association was found between knowledge and practice scores of studied nurses with demographic variables. This finding was

agree with (Lin et al., 2008) who found that qualifications and their relation to nurses knowledge and practice could not reveal association of statistical significance.

This finding was disagree with the result of (Abdulatif, 2016) who stated that technical institute nurse had significantly higher score than those who having baccalaureate degree in nursing, or those who having nursing diploma. This finding was disagree with the result of (Abolwafa 2009, Mohamed 2009 & Hassan & Aboulazem 2007) stated that the highest knowledge score was found among nurses having baccalaureate degree in nursing.

Moreover, these finding were disagree with study of (Abdlrahim et al., 2011) who mentioned that longer nursing experience indicated better than nursing background, which paves the way of interacting with knowledge and practice.

The present study revealed that, there was a positive correlation between total knowledge scores and practice after implementation of educational program. This result is in agreement with (Elazazy et al., 2012) & (Alshonee et al., 2014) mentioned that a positive significant correlation between nurses' knowledge and performance pre and three months post the training program.

So, we can conclude from the data collected and analysis in the present study that all studies nurses weren't properly prepared prior to their working and or dealing with such acute pancreatitis patients and really they got their experiences while being there working and managing the patients in the real life emergency situations.

Conclusion

The current study evaluates effect of educational program on nurses' knowledge and performance regarding patients with acute pancreatitis. Based on the results of this study, it can be concluded that:

- A statistical significant improvement was found between the nurses' levels of knowledge before, immediately after and three months after implementation of the program regarding the care offered to acute pancreatitis patients.
- A statistical significant improvement was found between the nurses' levels of practices before, immediately after and three months after implementation of the program regarding the care offered to acute pancreatitis patients.
- There is no statistically significant between nurses' knowledge scores and practice and their demographic characteristics after implementation of educational program.
- There is correlation found between knowledge and practices score obtained by nurses receiving education program.

Recommendations

Continues educational nursing program about care of acute pancreatitis patients.

References

- 1- **AbdEl Aziz D., Abd El Aziz M., Adly R., & El Sallab S., (2018):** Improving Nurses' Performance Towards Non Pharmacological Pain Management Among Neonates In Neonatal Intensive Care Unit, IOSR Journal of Nursing and Health Science , Volume 7, Issue 4 Ver. XI , PP. 83-97 .
- 2- **Abdelmonem S., (2018):** Effect of Teaching Program on Nurses' knowledge for GuillianBarre Syndrome Patients at Intensive Care Unit, Unpublished doctorate thesis in Medical Surgical Nursing, Assiut University, Pp.87-90.
- 3- **Abd El-naeem M., (2015):** Effect of implementing cardiopulmonary resuscitation teaching program on knowledge and skills of critical care nursing, Doctorate degree, critical care nursing department, Faculty of Nursing, Assiut University, discussion part, Pp.90-96.
- 4- **Abdlrahim U., Majali A., & Stomberg M., (2011):** The effect of post operative pain management program improving nurses' knowledge and attitude toward pain, NursEdu. Pract, II (14), Pp. 250-255.
- 5- **Abdulatif N., (2016):** Effect of an Educational Program on Nurses' Knowledge and Practice regarding Emergency Medications, Master degree, Critical care Nursing department, Faculty of Nursing, Assiut University, discussion part, Pp.89-95.
- 6- **Abolwafa N., (2009):** Assessment of Nurses' Knowledge and Performance related to infection control in neonatal units at El Minia City Hospital, Pp. 83-85. Thesis Assiut University.
- 7- **Ahmed M., (2016):** Knowledge and practices of health team toward radiation hazards and it's safety measures at AssiutUniversity Hospital , Un published doctorate thesis in Community health Nursing, Assiut University, Pp.56-57.
- 8- **Al-Janabi M., & Al-Ani B., (2014):** Assessment of Nurses' Knowledge toward Cardiopulmonary resuscitation at Al.Ngaf city, Teaching Hospital, journal of Kufa for Nursing Science, vol.4no.1 Pp 1-10.
- 9- **Alshonee S., Elsayed E., Elsarkawy H., & Mohamed A., (2014):** Effect of educational training about cardiopulmonary resuscitation on pediatric nurses' practice International Journal of Current Research Vol. 6, Issue, 09, Pp. 8781-8788.

- 10- **Amatya M., & Gorkhali B., (2015):** Cardiopulmonary resuscitation: knowledge amongst Nepalese health personnel, Janaki Medical College Journal of Medical Sciences, Vol.3 (1):25-30.
- 11- **American university of Beirut medical center(2010):** Education & training / continuing Education. Accessed October 1, 2010. Available at <http://www.aub.edu.lb/maingate>.
- 12- **Andris A., (2013):** Pancreatitis: understanding the disease and implications for care. Accessed Jul 1, 2013. Available at <http://www.ncbi.nlm.gov/pubmed/20431448>.
- 13- **Berman A., Snyder S., and Frandsen G., (2016):** Kozier & Erb's Fundamentals of Nursing Concepts, Process, and Practice, 10th ed. Pearson, Pp 765, 821.
- 14- **Booth T., Emerson C., Hackney M., & Souter S., (2016):** Preparation of academic nurse educators, Nurse Education in Practice (19) 54-57.
- 15- **Chaghari M., Saffari M., Ebadi A., & Ameryoun A., (2017):** Empowering education: A new model for in-service training of nursing staff, J Adv Med Educ Prof. Vol 5 No 1 26-32
- 16- **Elazazy H., Abdelazez A., & Elsaie O., (2012):** Effect of Cardiopulmonary Resuscitation Training Program on Nurses Knowledge and practice Life Science Journal; 9(4) Pp. 3494- 3503.
- 17- **Estamian J., Moeini M., & Soleimani M., (2015):** Challenges in nursing continuing education: A qualitative study, Iran Journal Midwifery Res. 20(3):378-386.
- 18- **Gooszen H., Besselink M., Van Santvoort H., & Bollen T., (2013):** Surgical treatment of acute pancreatitis. Langenbeck's Archives Of Surgery/ Deutsche Gesellschaft Fur Chirurgie, 398(6), 799-806. doi:10.1007/s00423-013-1100-7. 10.1111/j.1440-1746.2011.07004.x
- 19- **Green T., (2011):** Does the perceived effectiveness of new graduate nurse orientation impact retention the acute care, Med Surgical Setting Nursing thesis caposton project, p157.
- 20- **Hassan H., & Abdulazem S., (2007):** Infection control education, new Egyptian journal of medication, 36(1): Pp. 67-73.
- 21- **Hickey J., (2014):** The clinical practice of neurological and neurosurgical nursing 7th ed. Philadelphia: wolters Kluwer health/ Lippincott Williams & Wilkins; 17(10), 28-31.
- 22- **Hinkle J., & Cheever K., (2014):** Brunner & Sunddarth's Textbook of Medical-Surgical Nursing 13th ed. India: Lippincott William & Wilkins, Ch(50) Pp. 1390-1403.
- 23- **Hospital records of Assiut University (2016&2017).**
- 24- **Hussein A., (2011):** Skin graft: Impact of training program on nurses' performance and patients' outcome, Doctorate degree thesis in Medical Surgical Nursing department, Assiut University, Pp.99-100.
- 25- **Lewis S., Heitkemper M., Dirksen S., O'Brien P., & Bucher L., (2015):** Medical Surgical Nursing Assessment and Management of clinical problems (2nd South Asia ed.). Elsevier, printed in India : Ch(48), Pp.1191-1192.
- 26- **Lin P., Chaing H., Chaing F., & Chen C., (2008):** Evaluate the effectiveness of educational program for surgical nursing staff, journal of clinical nursing. 17(15), Pp. 2032-2041.
- 27- **Lynn P., (2015):** Taylor's Clinical Nursing Skills, 4th ed. Philadelphia: Wolters Kluwer Health Lippincott Williams & Wilkins, Pp 206-210, 571-573, 1032-1058.
- 28- **Mohamed H., (2009):** Assessment of nurses' knowledge and intervention related to post stroke patient's rehabilitation in El Minia University Hospital and El Minia General Hospital, Pp. 58-68. Thesis Assiut University.
- 29- **Morton P., & Fontaine D., (2018):** Critical care nursing(A Holistic Approach) 11th ed. Wolters Kluwer ; Lippincott William & Wilkins. Ch (41), Pp 812-817.
- 30- **Musleh B., (2015):** Impact of educational program about acute cancer pain management on nurses at intensive care unit, Master degree, critical care nursing department, Faculty of Nursing, Assiut University, discussion part, Pp.55-62.
- 31- **Niciol M, Bavin C, Cronin P, Anderson K, Cole E and Hunter J.(2012):** Essential Nursing Skills Clinical skills for caring. 4th ed. Mosby: Elsevier, Pp131-132, 236-237.
- 32- **Parajulee S., & Selvaraj V., (2011):** Knowledge of nurses towards Cardiopulmonary Resuscitation in tertiary Care Teaching Hospital in Nepal Journal of Clinical and Diagnostic Research; 5(8): 1585-1588.
- 33- **Rooyen D., Norushe T., & Strumpher J., (2016):** In-service education and training as experienced by registered nurses, in Curationis 27(4):63-72.
- 34- **Skidmore L., (2015):** Acute Pancreatitis, Medical Surgical Nursing Student Scholarship p.105. Available at: http://digitalcommon.otterbein.edu/stu_msn.
- 35- **Thomas M., (2012):** A study to evaluate the effectiveness of video assisted teaching program on knowledge and practice regarding cardio-

- version & defibrillation among staff nurses working in cardiac unit in selected hospitals of Bagalkot, Master thesis, Rajiv Gandhi University of Health Science, 14 (22), Pp. 50-56.
- 36- **Urden L., Stacy K., MandLough M., (2016):** Critical Care Nursing , 7thed.Ch(22) gastrointestinal disorders and therapeutic management , Pp 433-435.
- 37- **Webb J., (2014):** Brunner &Suddarth's Textbook of Medical-Surgical Nursing 10th edition.Ch (40), Assessment and Management of Patients with Biliary Disorders, Pp. 1135-1142.
- 38- **World Health Organization.(2015):**Nurse educator core competencies. World Health Organization . Avilable at <http://www.who.int/iris/handle/10665/258713>.