

Assessment of Nurses' Performance Regarding Management of Patients Undergoing Peripheral Vascular Access

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ABSTRACT

Background: The vascular catheters uses is common in both inpatient and outpatient care that play an integral role in modern health care and are of great clinical value for supporting patient's status. Nursing management of peripheral vascular lines is important. A Comprehensive understanding of the procedure has a great value in order to reduce the complications arising from peripheral vascular lines. All staff must be aware of all aspect of care and the principles of safe insertion, injection, dressing change and flushing procedure. **Aim:** of the study was to assess nurses' performance regarding management of patients undergoing peripheral vascular access. **Subjects and methods:** A descriptive research design was utilized in this study. The study setting was conducted at the Intensive Care Unit (ICU) and medical departments at El –Azhar University hospital in Damietta. **Subjects** consisted of 50 nurses. **Tools:** two tools were used for data collections and developed by the investigators. First tool: interview questionnaire sheet to assess nurses' demographic characteristics, information regarding peripheral vascular access and factors affect nurses' performance regarding peripheral vascular access. Second tool: observational checklist for nurses practice. **Results:** reveled that nurses' total score of knowledge was 78% and total score of practice was 74%, no relation could be revealed between nurses' knowledge and practice whereas (p value <0.05). **Conclusion:** nurses' total score of knowledge and practice were satisfactory, no significant relation could be revealed between nurses' knowledge and practice. **Recommendations:** The study recommended development of educational courses and in-service training to increase nurses' knowledge and practice.

Key Words: Nurses' performance, vascular catheter and peripheral vascular lines.

INTRODUCTION

Peripheral vascular access is almost universal in current institutional health care (*Chittick and Robert, 2013*) which indispensable in modern-day medical practice (*Hadaway, 2009*). Vascular Access Devices (VADs) were developed to ease the administration of infusion therapy for both clinicians and patients. To a great degree, these devices have allowed individuals to safely receive intensive infusion therapy (*Sansivero, 2010*).

The ability to obtain Intravenous Access (IVA) is an essential skill in medicine and is performed in a variety of settings by paramedics, nurses and physicians. Although the procedure can appear deceptively simple when performed by an expert, it is in fact a difficult skill which requires considerable practice to perfect (*Hignell, 2012*).

Arterial line is a sterile tube that is inserted directly into an artery to give direct access to that artery and allows connection to a fluid filled transducer monitoring kit. The cannula is small enough to allow the blood to flow (*Vaughan & Hunt, 2011*).

Certified nurses are permitted to perform peripheral intravenous Cannulation for patients who require intravenous therapy. Therefore, from initiating Cannulation to catheter removal, nurses play an important role in caring for, and maintaining the catheter to prevent complications such as infection and occlusion (*Lang, 2012*).

Arterial lines can be used in patients with any condition that necessitates continuous or very frequent hemodynamic monitoring. The placement of arterial lines is undertaken in normal circumstances by a doctor, However it is essential for nurses involved in managing these patients to be familiar with the insertion procedure so that they can anticipate problems or patient needs (*Harris, 2011*). The nursing care of an arterial catheter is directed to dressing type and frequency, security of the arterial catheter and transducer lines, the fluid used to maintain patency, type of transducer lines and assessment of catheter and insertion site integrity (*Jones, 2010*). Use of vascular catheters is common in both inpatient and outpatient care that play an integral role in modern health care (*Kusek et al, 2012*). Insertion of peripheral intravenous catheters is one of the most common invasive procedures performed in hospitals. It is estimated that 330 million peripheral intravenous catheters are used annually in the US, while according to the Scottish National Prevalence Survey; one in three UK Inpatients have at least one peripheral venous catheter *in situ* (*Franklin et al, 2012*)

A recent estimate reported as many as 10000 *Staphylococcus aureus* bacteremia as from peripheral catheters annually in the United States. This integrative literature review identified soft tissue, bone, and bloodstream infections. Analysis of 45 studies revealed significant knowledge gaps and inadequate clinical practices associated with one of the most common devices used in all health care settings (*Hadaway, 2012*) It is important to provide a framework for the insertion and maintenance of peripheral

vascular access with best practice. In order to reduce cost length of stay, the risk of infection and other complications to our patients (**Lowry, 2010**).

Regarding the number of patients undergoing peripheral vascular access was 985, 3270 patients respectively in ICU and medical department in year 2014 at El –Azhar University Hospital. Complications are more likely to occur if nurses caring for these patients do not have the necessary skills and training.

AIM OF STUDY:

Assess nurses' performance regarding management of patients undergoing peripheral vascular access.

SUBJECT AND METHODS:

A descriptive study design was used.

Subjects: A convenient sample of all available nurses working with peripheral vascular lines at the time of the, their number was 50 nurses.

The **setting** was conducted at the Intensive Care Unit (ICU) and medical departments at El –Azhar University hospital in Damietta. The data collection took a period of approximately six months at the beginning of November 2013 and was completed by the end of April 2014.

Tools for data collection:

Two tools were used in the study, as the following:

Tool I: structured interview sheet

It included three parts and was adapted from (*Abd El-Azeem H. 2009*)

Part (1): It consisted of demographic characteristics of nurses under study as age, gender, and years of experience, etc.

Part (2): It included nurses' knowledge regarding peripheral vascular access, its complications and nurses' role before, during and after the insertion of peripheral vascular lines. It constituted 40 questions covered the following areas:

- 1- Insertion of arterial line (13 questions) which consisted of 10 multiple choice questions and 3 short essay questions.
- 2- Taking blood sample for blood gases (7 multiple choice questions)
- 3- Measurement of arterial blood pressure (4 multiple choice questions, 1 open question)
- 4- Venous cannula (1 short essay question, 4 multiple choice questions & 1 matching question)
- 5- Complications of venous cannula and their prevention (5 multiple choice questions)
- 6- Blood transfusion (4 multiple choice questions)

Part (3): It included factors affecting nurses' performance regarding management of patients undergoing peripheral vascular access.

Scoring system: the correct answer scored 1, and the incorrect one scored 0. Regarding the factors affecting nurses' performance, the nurses whose answers by Yes or No, their scores were converted into a percent score. The nurse knowledge was considered satisfactory if the percent score was 60% or more and unsatisfactory if percent score was less than 60%.

Tool II: Observation checklist

Checklist was intended for assessment of nurses' practice related to peripheral vascular line. It was adapted from (*Abd El-Azeem H. 2009*) with some modifications such as adding some steps to insertion of intravenous cannula procedure, blood transfusion procedure, change dressing and flushing procedure. It was done through reviewing the relevant review of literature (*Delaune & Ladner, 2011; Potter et al, 2013; Ignativicius & Workman, 2013*).

Scoring system: for nurse practice, items divided into done and not done with scored one (1) for correct practice and zero (0) for incorrect practice, respectively, then frequency & percent given to correct & incorrect practice. The nurse practice was considered satisfactory if the percent score was 60% or more and unsatisfactory if less than 60%.

Validity & reliability:

Alpha Cronbach's test was used to measure the internal consistency of the tools. Testing the validity of the proposed tools, was achieved by using face and content validity.

Pilot study:

The pilot study was carried out on 10% of nurses working in intensive care unit and medical department at El –Azhar University hospital in Damietta. Some modifications were done and the results from the pilot study were not included in the main statistical sample.

Ethical Considerations:

The verbal agreement for participation of the subjects was taken after aims of the study have been explained to them. The study interventions could not have any harmful effect on participants and they were assured that the information collected would be treated confidentially and used for the research purpose only.

RESULTS:

Table (1): shows that less than three quarters of the study nurses 72% are at age group 20- < 25years, while the minority of them 6% at age group >30 years with the mean 24.36 ± 3.69 . Regarding gender, all of nurses in the study 100% are female. In relation to nurses' qualification, more than half of the studied nurses (56%) are nursing school diploma, while 22% of them were technical institute of nursing and bachelor of nursing. Regarding years of experience, less than two thirds of the studied nurses (62%) are 5-<10 years of experience, while the minority of them (4%) were >10 years of experience. As regard to Nurses numbers per shift, three fifths of the studied nurses 60% are 3-<6 nurses, while the minority of them 4% is more than 6

nurses. Related to Nurse/ Patient Ratio, more than half of nurses (56%) are one nurse / less than 10 patients, while 16% of them mentioned 10 nurses/ less than 20 patients.

Table (2): shows that less than half of nurses working in ICU (44%) are 5- <10 years of experience, while 18% of nurses working in medical ward are 5- <10 years of experience. As regard to Nurses number per shift, more than half of nurses working in ICU (58%) are 3- < 6 nurses per shift, while more than one quarter of them (28%) working in medical ward are 1- < 3 nurses per shift.

Table (3): depicts the total nurses' knowledge regarding the arterial line and intravenous cannula; it shows that 78% of nurses has satisfactory total score of knowledge.

Table (4): reveals factors affecting nurses' performance regarding management of patients undergoing peripheral vascular access. As regard to nurse related factors, the majority of nurses reported that unavailability of time to nurse due to work load & deficiency of nurses' number (82%, 72%) respectively, while less than one quarter of them (24%) reported absence of monitoring & follow up during work. As regard to work related factors, more than three quarters of nurses (76%) reported that absence of written nursing procedures for dressing on peripheral vascular lines. while less than half of them (48%) reported absence of written nursing procedures to follow necessary procedures for infection control. Related to patient related factors, less than three quarters of nurses in the study (72%) reported that e patient unable to cooperate during nursing care, and less than half of them (46%) are relating to pain.

Table (5): illustrates the total nurses' practice regarding the arterial and intravenous cannula; it shows that 74% of nurses has satisfactory total score.

Table (6): clarifies that, there is no statistically significant relation between nurses' total score of knowledge and practice whereas (p value <0.05).

Table (7): illustrates that, there are statistically significant relation between nurses' knowledge and their demographic data characteristics regarding to age and experience whereas ($p <0.05$).

Table (8): depicts that, there is no statistically significant relation between nurses' practice and their demographic characteristics ($p <0.05$).

Table (1): Percentage distribution of nurses according to their demographic characteristics (n =50)

Demographic characteristics	NO	%
Age (years)		
20- < 25years	36	72.0
25- < 30years	11	22.0
+30 years	3	6.0
Mean =24.36		
SD=3.69		
Gender		
Female	50	100.0
Nursing qualification:		
Nursing school diploma	28	56.0
Technical institute of nursing	11	22.0
Bachelor of nursing	11	22.0
Years of Experience:		
1-<5 years	17	34.0
5- <10 years	31	62.0
+10 years	2	4.0
Training courses related to peripheral vascular access		
Yes	7	14.0
No	43	86.0
Nurses number per shift		
1-<3 nurses	18	36.0
3-<6 nurses	30	60.0
+ 6 nurses	2	4.0
Nurse/Patient Ratio		
1- less than10 patients	28	56.0
10- less than 20 patients	8	16.0
> 20 patients	14	28.0
Setting		
ICU	35	70.0
Medical ward	15	30.0

Table 2: Demographic characteristics of the studied nurses according to the setting (n =50)

Demographic characteristics	ICU		Medical ward	
	No	%	No	%
Years of Experience:				
1-<5 years	13	26%	4	8%
5- <10 years	22	44%	9	18%
+ 10 years	0	0.0	2	4%
Nurses number per shift				
1- <3 nurses	4	8%	14	28%
3- <6 nurses	29	58%	1	2%
+ 6 nurses	2	4%	0	0.0%
Nurse/Patient Ratio				
1- less than10 patients	28	56%	0	0.0%
10- less than 20 patients	7	14%	1	2.0%
> 20 patients	0	0.0	14	28%

Table (3): Percentage distribution of nurses' total score of knowledge regarding arterial line and intravenous Cannula (n =50)

Nurses' knowledge	Satisfactory (+60%)		Unsatisfactory (<60%)	
	No	%	No	%
Insertion of arterial line	37	74.0	13	26.0
Taking blood sample for blood gases	31	62.0	19	38.0
Measurement of arterial blood pressure	32	64.0	18	36.0
Intravenous Cannula	42	84.0	8	16.0
Complications of venous cannula and prevention	48	96.0	2	4.0
Blood transfusion	37	74.0	13	26.0
Total score	39	78.0	11	22.0

Table (4): Percentage distribution of factors affect nurses' performance regarding patient undergoing peripheral vascular access. (n =50)

Factors affecting on nurses performance	Yes		No	
	No	%	No	%
Nurse related factors				
Absence of clear job description to nursing staff	16	32.0	34	68.0
Absence of self confidence	13	26.0	37	74.0
Deficiency of nurses number	36	72.0	14	28.0
Deficiency of nurse information during work	31	62.0	19	38.0
Deficiency of nursing experiences	20	40.0	30	60.0
Deficiency of continuous training	32	64.0	18	36.0
Conflict between nursing staff	31	62.0	19	38.0
Unavailability of time due to increasing of nursing work	41	82.0	9	18.0
Absence of monitoring & follow up during work	12	24.0	38	76.0
Absence of cooperation between nursing staff	23	46.0	27	54.0
Work related factors				
Absence of written nursing procedures to follow necessary procedures for infection control	24	48.0	26	52.0
Absence of nursing procedures books	36	72.0	14	28.0
Absence of written nursing procedures for dressing on peripheral vascular lines	38	76.0	12	24.0
Absence of written medical instructions for nursing care	30	60.0	20	40.0
Patient related factors				
Level of education	24	48.0	26	52.0
Pain	23	46.0	27	54.0
Psychological condition of patient	33	66.0	17	34.0
The patient unable to cooperate during nursing care	36	72.0	14	28.0

Table (5): Percentage distribution of nurses' total score of practice regarding arterial and intravenous Cannula as observed among studied nurses. (n =50)

Nurses' practice	Satisfactory (+60%)		Unsatisfactory (<60%)	
	No	%	No	%
Preparing equipment of arterial line	44	88.0	6	12.0
Nursing role of caring arterial line	40	80.0	10	20.0
Removal of arterial line	25	50.0	25	50.0
Obtaining blood sample from arterial line	49	98.0	1	2.0
Intravenous cannula				
Equipment	15	30.0	35	70.0
Procedure	29	58.0	21	42.0
Adding medication to IV container	36	72.0	14	28.0
Changing IV dressing	29	58.0	21	42.0
Flushing procedure	18	36.0	32	64.0
Blood transfusion				
Equipment	46	92.0	4	8.0
Procedure	40	80	10	20.0
Total score	37	74.0	13	26.0

Table (6): Relation between nurses' total score of knowledge and practice related to care of arterial line and IV Cannulation. (n =50)

Knowledge				Practice				r	p. value
Satisfactory (+60%)		Unsatisfactory (<60%)		Satisfactory (+60%)		Unsatisfactory (<60%)			
No	%	No	%	No	%	No	%		
39	78.0	11	22.0	37	74.0	13	26.0	0.076	0.503

*Statistically significant (<0.05)

Table (7): Relation between nurses' knowledge and their demographic data characteristics. (n =50)

Demographic data characteristics	Knowledge				Chi square test	p-value
	Satisfactory (+60%)		Unsatisfactory (<60%)			
	No	%	No	%		
Age						
20- < 25 y	32	82.0	4	36.4	22.408	0.033*
25- < 30 y	7	17.9	4	36.4		
+ 30 y	0	0.0	3	27.3		
Gender						
Female	39	100.0	11	100.0	---	---
Nursing qualification:						
Nursing school diploma	24	61.5	4	36.4	2.472	0.291
Technical institute of nursing	7	17.9	4	36.4		
Bachelor of nursing	8	20.5	3	27.3		
Years of Experience						
1- <5 y	11	28.2	6	54.5	11.585	0.003*
5-<10 y	28	71.8	3	27.3		
+ 10 y	0	0.0	2	18.2		
Training courses related to peripheral vascular access						
Yes	5	12.8	2	18.2	3.674	.159
No	34	87.2	9	81.8		
Number of nurses/shift						
1-<3 nurses	13	33.3	5	45.5	.984	0.611
3-<6 nurses	24	61.5	6	54.5		
+ 6 nurses	2	5.1	0	0		
Patient/Nurse Ratio						
1-10	22	56.4	6	54.5	2.508	0.285
10-20	6	15.4	2	18.2		
20-30	11	28.2	3	27.3		
setting						
ICU	28	71.8	7	63.6	0.272	0.602
Medical	11	28.2	4	36.4		

*Statistically significant (<0.05)

Table (8): Relation between nurses' practice and their demographic characteristics (n =50).

Demographic data characteristics	Practice				Chi square test	p-value
	Satisfactory (+60%)		Unsatisfactory (<60%)			
	NO	%	No	%		
Age						
20-25 y	26	70.3	10	76.9	15.586	0.211
25-30 y	8	21.6	3	23.0		
> 30 y	3	8.1	0	0.0		
gender						
Female	37	100.0	13	100.0	----	----
Nursing qualification:						
Nursing school diploma	20	54.1	8	61.5	0.455	0.797
Technical institute	9	24.3	2	15.4		
Bachelor of nursing	8	21.6	3	23.1		
Years of Experience						
1-<5 y	13	35.1	4	30.8	0.653	0.721
5-<10 y	23	62.2	8	61.5		
+ 10 y	1	2.7	1	7.7		
Training courses related to peripheral vascular access						
Yes	4	10.8	3	23.1	2.316	0.314
No	33	89.2	10	76.9		
Number of nurses/shift						
1-<3	13	35.1	5	38.5	0.739	0.691
3-<6	22	59.5	8	61.5		
+ 6	2	5.4	0	0.0		
Patient/Nurse Ratio						
1-<10	19	51.4	9	69.2	3.408	0.182
10-<20	8	21.6	0	0.0		
>20	10	27.0	4	30.8		
Setting:						
ICU	27	73.0	8	61.5	.599	.439
Medical	10	27.0	5	38.5		

*Statistically significant (<0.05)

DISCUSSION:

The decision to obtain vascular access can be a major challenge in the emergency situations. Vascular access is frequently required in hospitalized patients for a variety of clinical indications. Intra vascular access is indicated when access to the venous or arterial circulations is necessary (*Roberts and Hedges ,2010*) The most common methods of treatment in each hospital is placement of intravascular devices that is used to provide fluids, medications, blood transfusion and its compounds, preparation of blood samples and even advanced procedures such as angiography and etc. Although the extents of using the intravascular devices is unknown, however, it is estimated that annually more than 500 million intravenous catheters be placed for patients in the world (*Abadi, Etemadi and Saeedi, 2013*).

The aim of this study was to assess nurses' performance regarding management of patients undergoing peripheral vascular access.

The present study shows that less than three quarters of the studied nurses were at age group 20-<25years, while the minority of them at age group>30 years. In relation to nursing qualification, more than half of the studied nurses were nursing school diploma, while only one fifth of them were technical institute of nursing and bachelor of nursing. The majority of nurses in the current study found to have no chance for training courses regarding peripheral vascular access , three fifths of the studied nurses were 3-<6 nurses per shift, while the minority of them was more than 6 nurses per shift. Regarding years of experience, less than two thirds of the studied nurses were 5-<10 years of experience, while the minority of them was >10 years of experience. Related to nurse/ patient ratio and more than half of nurses were 1 nurse to less than 10 patients.

The present study showed less than half of nurses working in ICU were 5- <10 years of experience, while nearly one fifth of nurses working in medical ward were 5- <10 years of experience. As regard to nurses number per shift, more than half of nurses working in ICU were 3- < 6 nurses per shift, while more than one quarter of them working in medical ward were 1- < 3 nurses per shift. Concerning nurse/patient ratio more than half of nurses working in ICU were 1- less than10 patients, while 28% of nurses working in medical ward were > 20 patients.

According to the result of present study, more than three quarter of nurses had total satisfactory score of knowledge and the factors affect nurses performance, the majority of nurses had mentioned that unavailability of time to nurse due to increasing of nursing work, absence of written nursing procedures for dressing on peripheral vascular lines and unable patient to cooperate during nursing care. This result was congruent with (*Negussie , 2010*) who studied factors affecting performance of nurses in public hospitals and health centers in Addis Ababa, the study found that the majority of nurses reveal that the allocated staff in their ward is not sufficient to cover the current workload.

The current study has also assessed nurses practice related to peripheral vascular lines. Nurses total score of practice was slightly lower than their knowledge. About three quarters of the present study nurses had satisfactory total score of practice with peripheral vascular lines. This result was agreed with (*Vizcarra et al, 2013*) who mentioned the placement of a short peripheral catheter is invasive but perceived as a simple treatment procedure. For this reason, placement is performed without consideration for the health care practitioner (HCP) and patient safety as well as the associated risks for potential complications. Often, registered nurses (RNs) and other HCPs do not receive formal education and training related to the all-encompassing practice of short peripheral catheters (SPC) (pre insertion, insertion, post insertion) which may indicate the lack of a standardized nursing school curriculum on (SPC); a lack of specific SPC employee orientation and programs; and limited or no ongoing training and competency assessment, which affects HCP and patient safety and clinical outcomes.

As regard to the relation between nurses' knowledge and their demographic data, the current study revealed that there was significant relation between age and years of experience of nurses and their knowledge. This was clear the more years of experience the more training and good work. This result was agreed with (*Stanley & Pollard, 2013*) who noted that, the years of experience demonstrated a positive relationship to knowledge. But in difference with present study (*Mustafa, 2014*) illustrated that, there was non-significant association between the nurses' knowledge toward ICU procedures especially cardiopulmonary resuscitation procedure (CPR) and their gender, age group. The study results indicate that there was significant association between the overall nurses' knowledge toward CPR and their Academic qualification. Also (*Tatu, 2012*) noted that ICU nurses' knowledge was adequate but their practice was found to be poor. No significant association between ICU training, level of education, years of working experience and knowledge.

Regarding correlation between practice and, nurses' demographic data, the current study showed no significant correlation between practice and selected demographic data. This result was agree with (*Mohamed & Wafa, 2011*) who studied the effects of an educational program on nurses knowledge and practice related to Hepatitis C Virus at Mansoura University Hospital, the results found no significant statistically differences between practice score and age of nurses. Also according to (*Shahin, Mohamed & Sayed, 2012*) who discussed nurses' knowledge and practices regarding enteral nutrition at the critical care department of Al- Manial University Hospital in Egypt, the results reflected also highly negative statistically significant correlation between the participants' years of experience and scores of knowledge and practice regarding enteral feeding in pre-program, post program, 1 month and 2 months following the instructional program.

The incongruence to the current study (*Taha & Mohammed, 2014*) showed a positive correlation between practice, age and years of experience, reporting that more the years of working in ICU and years of experience the higher efficiency of nurses

clinical practices as years of experience were positively correlated to their knowledge and practice.

As regard to relation between knowledge and practice, in our study there was no significant relation between nurses' total score of knowledge and practice. In this aspect and in dissimilarity with (*Paolucci , Nutter and Albert,2011*) who emphasized that Minimal research is available on nurses' knowledge of managing (VAD) catheters. However, he explored Education of nursing staff about VAD management can improve quality of care and assure standards of practice are maintained. In contrast (*Ghazali & Arbaee, 2014*) mentioned in a study conducted in Pantai hospital in Malaysia to determine the knowledge and practice towards caring and maintaining peripheral intravenous (IV) cannulation among nurses, almost all nurses have the knowledge how to care and maintain IV cannula but there are some nurses still do not know about this procedure. In his study, it was found out that 75.9 per cent of them have the knowledge in caring and maintaining IV cannula and 24.1 still do not know. 83.7 percent followed the correct practice of care and maintenance of IV cannula. Nurses should know about this vital procedure in order to prevent risk and complication to the patient.

CONCLUSION:

Based on the findings of the current study, it can be concluded that:

Most of nurses had satisfactory knowledge about peripheral vascular lines. Nurses' practice was slightly lower than their knowledge, especially related to using aseptic technique and infection control measures. There was no significant relation could be revealed between nurses' knowledge & practice. As regard to nurses' demographic characteristics, age and years of experience were positively correlated with knowledge scores and no correlation could be detected with practices scores.

RECOMMENDATIONS:

The study recommended the followings:

In-service training is needed to areas of low nurses' performance such as those related to aseptic technique and infection control measures.

Frequents supervision and monitoring are needed to ensure quality of care is provided by nurses while peripheral vascular lines skills.

Shortage of nurses and increasing nursing works should be solved for proper quality of care provided by nurses.

Strict applications of aseptic techniques and infection control precautions in order to prevent many of the complications associated with peripheral vascular lines.

More researches should be done to assess the effect of training programs for nurses in decreasing the incidence of peripheral vascular lines complication.

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تقييم أداء الممرضات تجاه رعاية المرضى الخاضعين لوصلات الأوعية الدموية الطرفية

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الخلاصة

إن استخدام قساطر الأوعية الدموية الطرفية شائع وذلك لأنها تلعب دورا هاما فى الرعاية الصحية الحديثة كما ان لها عظيم الأثر فى تقييم حالة المرضى. تعتبر الرعاية التمريضية تجاه وصلات الأوعية الدموية الطرفية من المهارات المهمة ، فالفهم الشامل لهذه المهارات يقلل من حدوث المضاعفات الناجمة عن هذه الوصلات. كل طاقم التمريض يجب أن يكونوا على دراية كاملة بمبادئ التركيب الآمن، الحقن، عمل غيار على مكان التركيب وعمل تسليك للوصلات. ولقد أجريت دراسة وصفية لتقييم أداء الممرضات تجاه المرضى الخاضعين لوصلات الأوعية الدموية الطرفية وذلك لتعدد المخاطر الناتجة عنها والتي تعد من أكثر عدوى المستشفيات حدوثا. وقد أجريت هذه الدراسة بقسمى العناية المركزة والباطنة بمستشفى جامعة الأزهر بدمياط على خمسين ممرضة ، وقد استخدمت فى هذه الدراسة استمارتين : الأولى استمارة استبيان مكونة من ثلاثة أجزاء :الجزء الأول لمعرفة البيانات الشخصية للممرضة والجزء الثانى لتقييم معلومات الممرضة حول وصلات الأوعية الدموية الطرفية والجزء الثالث لتحديد الأسباب أو العوامل التى تؤثر على أداء الممرضات. أما الاستمارة الثانية فهى لملاحظة أداء الممرضات. وقد أظهرت نتائج الدراسة أن أداء الممرضات أقل من معلوماتهن تجاه وصلات الأوعية الدموية الطرفية خاصة عند استخدام الاساليب المعقمة ووسائل مكافحة العدوى. وقد أوصت الدراسة بتزويد الممرضات بالتعليم والتدريب المستمر الذي يركز على ممارسة اسلوب التعقيم والعناية الصحيحة بوصلات الأوعية الدموية الطرفية.

الكلمات الإرشادية : أداء الممرضات، القسطرة الوعائية و وصلات الأوعية الدموية الطرفية